

ORDINANCE NO. 1800

BILL NO. 8 (1989)

A BILL FOR AN ORDINANCE ADOPTING THE
UNIFORM BUILDING CODE (1985),
WITH CERTAIN AMENDMENTS THERETO

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Chapter 16.24 of the Maui County Code pertaining to the Uniform Building Code is hereby repealed in its entirety.

SECTION 2. The "Uniform Building Code, 1985 Edition", as copyrighted and published in 1985 by the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, is hereby incorporated herein by reference and made a part hereof and adopted, subject to the provisions of Chapter 16.26 of the Maui County Code, as hereinafter enacted and as hereafter may be amended.

SECTION 3. There is hereby added to the Maui County Code a new chapter, pertaining to the Building Code, to be designated and to read as follows:

"Chapter 16.26

BUILDING CODE

Sections:

16.26.010	The uniform building code incorporated.
16.26.020	Title.
16.26.030	Definitions generally.
16.26.103	Section 103 amended.
16.26.104(a)	Subsection 104(a) amended.
16.26.202(d)	Subsection 202(d) amended.
16.26.202(e)	Subsection 202(e) amended.
16.26.203	Section 203 amended.
16.26.204	Section 204 deleted; new section 204 added.
16.26.205	Section 205 amended.
16.26.206	Section 206 added.
16.26.301(b)	Subsection 301(b) amended.

16.26.303(d)	Subsection 303(d) amended.
16.26.304(b)	Subsection 304(b) amended.
16.26.304(c)	Subsection 304(c) amended.
16.26.304(d)	Subsection 304(d) amended.
16.26.304(f)	Subsection 304(f) amended.
16.26.306(a)	Subsection 306(a) deleted; new subsection 306(a) added.
16.26.306(b)	Subsection 306(b) amended.
16.26.306(c)	Subsection 306(c) deleted; new subsection 306(c) added.
16.26.350	Table no. 3-A amended.
16.26.403	Section 403 amended.
16.26.404	Section 404 amended.
16.26.407	Section 407 amended.
16.26.409	Section 409 amended.
16.26.417	Section 417 amended.
16.26.420	Section 420 amended.
16.26.427	Section 427 amended.
16.26.428	Section 428 added.
16.26.504(a)	Subsection 504(a) amended.
16.26.504(b)	Subsection 504(b) amended.
16.26.510(a)	Subsection 510(a) deleted.
16.26.510(b)	Subsection 510(b) amended.
16.26.511(b)	Subsection 511(b) amended.
16.26.511(c)	Subsection 511(c) amended.
16.26.511(d)	Subsection 511(d) amended.
16.26.511(e)	Subsection 511(e) added.
16.26.513	Section 513 amended.
16.26.514	Section 514 added.
16.26.515	Section 515 added.
16.26.550	Table no. 5-A amended.
16.26.551	Table no. 5-B amended.
16.26.552	Table no. 5-C amended.
16.26.553	Table no. 5-D amended.
16.26.605	Section 605 amended.
16.26.702(a)	Subsection 702(a) amended.
16.26.705	Section 705 deleted; new section 705 added.
16.26.709(b)(1)	Subsection 709(b)(1) amended.
16.26.709(f)	Subsection 709(f) deleted; new section 709(f) added.
16.26.709(k)	Subsection 709(k) amended.
16.26.750	Table no. 7-B deleted; new table no. 7-B added.
16.26.802(c)	Subsection 802(c) amended.
16.26.802(d)	Subsection 802(d) amended.
16.26.805	Section 805 amended.
16.26.809	Section 809 amended.
16.26.905	Section 905 deleted; new section 905 added.
16.26.910(b)	Subsection 910(b) deleted; new subsection 910(b) added.
16.26.1009	Section 1009 deleted; new section 1009 added.
16.26.1101	Section 1101 amended.
16.26.1102(a)	Subsection 1102(a) amended.
16.26.1102(b)	Section 1102(b) amended.
16.26.1103	Section 1103 amended.

16.26.1104	Section 1104 amended.
16.26.1105	Section 1105 amended.
16.26.1106	Section 1106 deleted; new section 1106 added.
16.26.1120	Section 1120 added.
16.26.1121	Section 1121 added.
16.26.1150	Table no. 11-A added.
16.26.1151	Table no. 11-B added.
16.26.1202(b)	Subsection 1202(b) amended.
16.26.1203	Section 1203 amended.
16.26.1204	Section 1204 amended.
16.26.1205	Section 1205 deleted; new section 1205 added.
16.26.1206	Section 1206 deleted; new section 1206 added.
16.26.1207	Section 1207 deleted; new section 1207 added.
16.26.1208	Section 1208 deleted; new section 1208 added.
16.26.1210(a)	Subsection 1210(a) amended.
16.26.1211	Section 1211 deleted.
16.26.1213	Section 1213 amended.
16.26.1220	Section 1220 added.
16.26.1706(a)	Subsection 1706(a) amended.
16.26.1710	Section 1710 amended.
16.26.1711	Section 1711 amended.
16.26.1712(b)(3)	Subsection 1712(b)(3) amended.
16.26.1713	Section 1713 amended.
16.26.1716(1)	Subsection 1716(1) amended.
16.26.1803(b)	Subsection 1803(b) amended.
16.26.1807	Subsection 1807 deleted; new section 1807 added.
16.26.2106(e)	Subsection 2106(e) amended.
16.26.2203	Section 2203 amended.
16.26.2350	Table no. 23-C amended.
16.26.2402(b)((6)	Subsection 2402(b)(6) amended.
16.26.2407(h)(2)	Subsection 2407(h)(2) amended.
16.26.2407(i)(7)(C)	Subsection 2407(i)(7)(C) amended.
16.26.2409(e)(7)	Section 2409(e)(7) added.
16.26.2450	Table no. 24-A amended.
16.26.2516(c)(2)	Subsection 2516(c)(2) amended.
16.26.2517(h)(9)	Subsection 2517(h)(9) amended.
16.26.2518	Section 2518 amended.
16.26.2604(h)(1)	Subsection 2604(h)(1) deleted; new section 2604(h)(1) added.
16.26.2901	Section 2901 amended.
16.26.2904(b)	Subsection 2904(b) deleted.
16.26.2908(b)	Subsection 2908(b) amended.
16.26.3207(e)	Subsection 3207(e) amended.
16.26.3303(a)	Subsection 3303(a) amended.
16.26.3304(b)	Subsection 3304(b) amended.
16.26.3305(e)	Subsection 3305(e) amended.
16.26.3306(b)	Subsection 3306(b) amended.
16.26.3306(j)	Subsection 3306(j) amended.
16.26.3307(d)	Subsection 3307(d) amended.
16.26.3309(a)	Subsection 3309(a) amended.
16.26.3310(b)	Subsection 3310(b) amended.
16.26.3310(f)	Subsection 3310(f) amended.
16.26.3310(g)	Subsection 3310(g) amended.
16.26.3313(b)	Subsection 3313(b) amended.

16.26.3313(c)	Subsection 3313(c) added.
16.26.3315(d)	Subsection 3315(d) amended.
16.26.3319(k)	Subsection 3319(k) amended.
16.26.3350	Table no. 33-A amended.
16.26.3801(a)	Subsection 3801(a) amended.
16.26.3801(d)	Subsection 3801(d) amended.
16.26.3802(b)(1)	Subsection 3802(b)(1) amended.
16.26.3802(c)(5)	Subsection 3802(c)(5) amended.
16.26.3805(c)	Subsection 3805(c) amended.
16.26.3805(f)	Subsection 3805(f) added.
16.26.3806	Section 3806 deleted; new section 3806 added.
16.26.3850	Table no. 38-A deleted; new table no. 38-A added.
16.26.3902	Section 3902 amended.
16.26.4005	Section 4005 deleted; new section 4005 added.
16.26.4403	Section 4403 amended.
16.26.4405	Section 4405 amended.
16.26.4406	Section 4406 amended.
16.26.4407(a)	Subsection 4407(a) amended.
16.26.4450	Table no. 44-A amended.
16.26.4501	Section 4501 amended.
16.26.4503	Section 4503 amended.
16.26.4504	Section 4504 amended.
16.26.4505	Section 4505 amended.
16.26.4506(b)	Subsection 4506(b) amended.
16.26.4506(c)	Subsection 4506(c) amended.
16.26.4507	Section 4507 deleted; new section 4507 added.
16.26.4600	Chapter 46 added.
16.26.4900	Chapter 49 added.
16.26.5100	Chapter 51 deleted.
16.26.5300	Chapter 53 added.
16.26.5350	Table no. 53-A added.
16.26.5351	Table no. 53-B added.
16.26.5352	Table no. 53-C added.
16.26.5353	Table no. 53-D added.
16.26.5354	Table no. 53-E added.
16.26.5355	Table no. 53-F added.
16.26.5356	Table no. 53-G added.
16.26.5405	Section 5405 amended.
16.26.5450	Table no. 54-C added.
16.26.5600	Chapter 56 added.
16.26.5700	Chapter 57 added.
16.26.5800	Chapter 58 added.
16.26.8000	Penalty.
16.26.9000	Appendix, chapter 7, division 1 incorporated.
16.26.9010	Appendix, chapter 57 incorporated.

16.26.010 The uniform building code incorporated. The "Uniform Building Code, 1985 Edition", herein referred to as the "Uniform Building Code", as copyrighted and published in 1985 by the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, California 90601, is incorporated by reference and made a part hereof, subject to the amendments set forth in this chapter.

16.26.020 Title. This chapter shall be known as the "Building Code", may be cited as such and is referred to herein as "this chapter".

16.26.030 Definitions generally. When used in this code, unless it is plainly evident from the context that a different meaning is intended, certain terms are defined as set forth in chapter 4 of the uniform building code.

16.26.103 Section 103 amended. Section 103 of the uniform building code is hereby amended to read as follows:

Sec. 103. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair and use of any building or structure within [this] the jurisdiction[,] of the County of Maui, except work located primarily in a public [way] highway, public utility towers and poles, mechanical equipment not specifically regulated in this code, and hydraulic flood control structures.

Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

Wherever in this code reference is made to the appendix, the provisions in the appendix shall not apply unless specifically adopted.

Wherever in this code reference is made to the Mechanical Code, the provisions in the Mechanical Code shall be deemed only guides and not mandatory.

16.26.104(a) Subsection 104(a) amended. Section 104 of the uniform building code is hereby amended by amending subsection 104(a) to read as follows:

Sec. 104. (a) General. Buildings and structures to which additions, alterations or repairs are made shall comply with all the requirements of this code for new [facilities] buildings or structures except as specifically provided in this section[.]; provided, however, that when any portion of a building is cut or altered by necessity because of taking for public use, through condemnation proceedings or otherwise, it shall be lawful to repair the remaining portion with the same class of materials as had been previously used therein, provided, further, that such repairs shall serve only to make the remaining portion of the building whole and not to add thereto. See Section 1210(a) for provisions requiring installation of smoke detectors in existing Group R, Division 3 Occupancies.

16.26.202(d) Subsection 202(d) amended. Section 202 of the uniform building code is hereby amended by amending subsection 202(d) to read as follows:

(d) **Stop Orders.** Whenever any work, occupancy, or use of any structure is being done contrary to the provisions of this code[,] or any other law which is enforced by the code enforcement agency, the building official may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop such work until authorized by the building official to proceed with the work.

16.26.202(e) Subsection 202(e) amended. Section 202 of the uniform building code is amended by amending subsection 202(e) to read as follows:

(e) **Occupancy Violations.** Whenever any building or structure or equipment therein regulated by this code is being used contrary to the provisions of this code[,] or any other law which is enforced by the code enforcement agency, the building official may order such use discontinued and the structure, or portion thereof, vacated by notice served on any person causing such use to be continued. Such person shall discontinue the use within the time prescribed by the building official after receipt of such notice to make the structure, or portion thereof, comply with the requirements of this code[.] or any other law which is enforced by the code enforcement agency.

16.26.203 Section 203 amended. Section 203 of the uniform building code is amended to read as follows:

Sec. 203. (a) All buildings or structures [regulated by this code] which are structurally unsafe or not provided with adequate egress, or which constitute a fire hazard, or are otherwise dangerous to human life [are], or which in relation to existing use constitutes hazard to safety or health, or public welfare, by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard or abandonment, as specified in this code or any other applicable law are, for the purpose of this section, unsafe buildings. [Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is, for the purpose of this section, an unsafe use. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members which are supported by, attached to, or a part of a building and which are in deteriorated condition or otherwise unable to sustain the design loads which are specified in this code are hereby designated as unsafe building appendages.]

All such unsafe buildings[, structures or appendages] are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal in accordance with the [procedures] procedure set forth in [the Dangerous Buildings Code or such alternate procedures, as may have been or as may be adopted by this jurisdiction. As an alternative, the building official, or other employee or official of this jurisdiction as designated by the governing body, may institute any other appropriate action to prevent, restrain, correct or abate the violation.] Subsections (b), (c), (d) and (e) of this Section.

(b) Notice to Owner. The building official shall examine or cause to be examined every building or structure or portion thereof reported as dangerous or damaged and, if such is found to be an unsafe building as defined in this section, the building official shall give the owner of such building or structure written notice stating the defects thereof. This notice may require the owner or person in charge of the building or premises to respond to the building official within 5 calendar days with a plan of action to commence either the required repairs or improvements or demolition and removal of the building or structure or portions thereof. If necessary, such notice also shall require the building, structure or portion thereof to be vacated forthwith and not reoccupied until the required repairs and improvements are completed, inspected and approved by the building official.

Proper service of such notice shall be by personal service, registered mail or certified mail upon the owner of record, provided, that if such notice is by registered mail or certified mail, the designated period within which said owner or person in charge is required to comply with the order of the building official may begin as of the date he receives such notice.

(c) Posting of Signs. The building official shall cause to be posted at each entrance to such building a notice to read "DO NOT ENTER. UNSAFE TO OCCUPY. LAND USE AND CODES ADMINISTRATION, COUNTY OF MAUI". Such notice shall remain posted until the required repairs, demolition or removal are completed. Such notice shall not be removed without written permission of the building official and no person shall enter the building except for the purpose of making the required repairs or of demolishing the building.

(d) Action Upon Noncompliance. In case the owner shall fail, neglect or refuse to comply with the notice to repair, rehabilitate or to demolish and remove said building or structure or portion thereof, the building official may order the owner of the building prosecuted as a violator of the provisions of this code.

(e) Other Proceedings. Nothing contained herein shall be construed to limit or restrict the building official from instituting, on behalf of the County, any other legal or equitable proceedings, in addition to those specified herein to obtain compliance with the notice to repair, rehabilitate or to demolish and remove said building or structure or portion thereof.

16.26.204 Section 204 deleted; new section 204 added. Section 204 of the uniform building code is hereby deleted and a new section 204 is hereby added to read as follows:

Sec. 204. (a) Creation. There shall be and is hereby created a Board of Code Appeals, hereinafter called the board, consisting of 7 members who shall be qualified by experience and training to pass upon matters pertaining to building construction and fire safety and who shall be appointed by the Mayor with the approval of the County Council. At least one member shall be a currently registered engineer or architect with the State of Hawaii, Board of Registration of Professional Engineers, Architects, Land Surveyors and Landscape Architects. At least one member shall be qualified by experience and training to pass upon matters pertaining to electrical work. At least one member shall be qualified by experience and training to pass upon matters pertaining to plumbing work. At least one member shall be qualified by experience and training to pass upon matters pertaining to building construction. At least one member shall be qualified by experience and training to pass upon matters pertaining to fire safety. For purposes of applicable state law, the board is designated the Fire Appeals Board. (Chapter 132, Hawaii Revised Statutes.)

The members of the board shall serve for a term of 5 years. In accordance with the provisions of the Charter of the County of Maui, the terms of the members of the board shall be staggered, as follows: Upon the initial appointment of the members of the board, one shall be appointed for a term of 1 year, one for a term of 2 years, two for a term of 3 years, two for a term of 4 years, and one for a term of 5 years.

Any vacancy occurring other than by expiration of a term of office shall be filled for the remainder of such unexpired term in the same manner as for an original appointment. The board shall select a chairman and vice chairman annually.

(b) Board Action. All board action shall require an affirmative vote of 4 or more board members.

(c) Powers and Duties. The board shall:

1. Hear and determine appeals from the decisions of the building official in the administration of the County of Maui Building Code, Plumbing Code, Electrical Code and Housing Code, and from any order made by the County Fire Chief in the administration of applicable state law (Chapter 132, Hawaii Revised Statutes) and the County of Maui Fire Code relating to matters involving any denial of the use of new or alternate materials, types of construction, equipment, devices or appliances. The jurisdiction of the board as set forth herein shall not be construed to include any matter within the jurisdiction of the Board of Variances and Appeals of the County of Maui.

2. The board may reverse, affirm or modify, wholly or partly, the decision appealed from. The board may grant exceptions relating to any matter within its jurisdiction contained in the Building Code, Plumbing Code, Electrical Code, Housing Code or Fire Code. Exceptions may be granted only if the board finds:

A. That the strict application, operation or enforcement of the code provision or provisions being appealed from would result in practical difficulty or unnecessary hardship to the applicant,

B. That such new or alternate materials, types of construction, equipment, devices, or appliances meet the required standards established by the codes being appealed from,

C. That permitting the use thereof will not jeopardize life, limb or property, and

D. That the granting of the exception would not be injurious to the adjoining lots and the buildings thereon, would not create additional fire hazards, and would not be contrary to the purposes of the applicable code and the public interest. In such appeals, the appellant shall pay all expenses necessary for tests which may be ordered by the board. Arrangements for such tests shall be made by the applicant or the board, at the board's sole discretion and direction. In making its determination, the board shall take into account the character, use and type of occupancy and construction of adjoining buildings, building on adjoining lots and the building involved.

(d) Compensation. Members of the board shall not be compensated, but the members shall be reimbursed for expenses incurred in accordance with established County procedures.

(e) Procedure. The proceedings of the board shall be subject to the provisions of Hawaii Revised Statutes Chapter 91, as amended. The board shall adopt rules and regulations for conducting its meetings, hearings, and investigations in conformity therewith and may impose reasonable fees to cover the costs of such proceedings.

(f) Any petition filed with the board as provided under these rules shall be accompanied by a fee of \$100.

16.26.205 Section 205 amended. Section 205 of the uniform building code is amended to read as follows:

Sec. 205. It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the same to be done in violation of this code.

Any person, firm or corporation violating any of the provisions of this code shall, upon conviction, be deemed guilty of a misdemeanor and shall be punishable by a fine of not more than \$1000 or by imprisonment for not more than one year, or by both such fine and imprisonment. The continuance of any such violation after the period set forth for correction in the citation, shall be deemed a separate offense for each day of such continuance.

16.26.206 Section 206 added. Chapter 2 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 206. Any provision of this code to the contrary notwithstanding, the following shall be at all times in full force and effect, and in case of conflicting requirements, the stricter shall be complied with:

1. Hawaii Revised Statutes;
2. Ordinances of the County of Maui;
3. Rules and Regulations of the Department of Water Supply, County of Maui;
4. Administrative Rules of the Department of Health, State of Hawaii;
5. Rules and Regulations of the Department of Labor and Industrial Relations, State of Hawaii;
6. Fire Code of the County of Maui;
7. Airport Zoning Regulations of the Director of Transportation, State of Hawaii.

16.26.301(b) Subection 301(b) amended. Section 301 of the uniform building code is hereby amended by amending subsection 301(b) to read as follows:

(b) Exempted Work. [A building permit shall not be required for the following:] The following work shall be exempt from the requirement of a permit:

1. [One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the projected roof area does not exceed 120 square feet.] Work located on property of the United States of America.
2. [Fences not over 6 feet high.] Work performed for any State governmental agency, except where permits are specifically requested by said agency.
3. [Oil derricks.] Reroofing work with the same or similar material for dwellings, private garages, carports, sheds and agricultural buildings.
4. [Movable cases, counters and partitions not over 5 feet high.] Temporary tents or other coverings used for private family parties or for camping.
5. Retaining walls, excluding sea revetment walls, which are not over 4 feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding flammable liquids.

6. Water tanks supported directly upon grade if the capacity does not exceed 5000 gallons and the ratio of height to diameter or width does not exceed two to one.

7. [Platforms, walks and driveways not more than 30 inches above grade and not over any basement or story below.] Cases, counters, and partitions not over 5 feet high.

8. Painting, papering, installation of floor covering and similar finish work.

9. Temporary motion picture, television and theater stage sets and scenery.

10. Window awnings supported by an exterior wall of Group R, Division 3 and Group M Occupancies when projecting not more than 54 inches.

11. Prefabricated swimming pools accessory to a Group R, Division 3 Occupancy in which the pool walls are entirely above the adjacent grade and if the capacity does not exceed 5000 gallons.

12. Street light standards.

13. Cabinet work and installation of shelves.

14. Fences not over 6 feet high, curbs and planter boxes.

15. Building used to shelter farm animals, poultry, pets and livestock less than 200 square feet in area in which there is no human habitation and which is not used by the public.

16. Repairs which involve only the replacement of component parts or existing work with similar materials for the purpose of maintenance, do not aggregate over \$500 in valuation in any 12 month period, and do not affect any electrical or mechanical installations. Repairs exempt from permit requirements shall not include any addition, change or modification in construction, exit change, or modification of exit facilities, or permanent fixtures or equipment.

17. Home television and radio antennas supported on roofs.

Unless otherwise exempted, separate plumbing[,] and electrical [and mechanical] permits will be required for the above exempted items.

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

16.26.303(d) Subsection 303(d) amended. Section 303 of the uniform building code is hereby amended by amending subsection 303(d) to read as follows:

(d) **Expiration.** Every permit issued by the building official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced within [180] 90 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of [180] 90 days. Before such work can be recommenced, a new permit shall be first obtained so to do, and the fee therefor shall be one half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided further that such suspension or abandonment has not exceeded one year. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee.

Any permittee holding an unexpired permit may apply for an extension of the time within which he may commence work under that permit when he is unable to commence work within the time required by this section for good and satisfactory reasons. The building official may extend the time for action by the permittee for a period not exceeding [180] 90 days upon written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. [No permit shall be extended more than once.]

16.26.304(b) Subsection 304(b) amended. Section 304 of the uniform building code is hereby amended by amending subsection 304(b) to read as follows:

(b) **Permit Fees.** The fee for each permit shall be as set forth in Table No. 3-A.

The determination of value or valuation under any of the provisions of this code shall be made by the building official. The value to be used in computing the building permit and building plan review fees shall be the total value of all construction work for which the permit is issued as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-extinguishing systems and any other permanent equipment. The minimum unit costs for dwellings, private garages, decks, and patios shall be as follows:

	<u>"Good"</u> <u>Construction</u>	<u>"Average"</u> <u>Construction</u>
1. Dwellings		
Type V - masonry	70.00	55.00
Type V - wood frame.	65.00	50.00
Basements		
Finished	22.00	16.00
Unfinished	16.00	11.00
2. Private garages		
Wood frame		20.00
Masonry.		23.00
Open carports.		13.50
3. Decks and patios		
Open		8.00
Covered.		13.50

Adjustments may be made for special architectural or structural features, type of material and location of project.

16.26.304(c) Subsection 304(c) amended. Section 304 of the uniform building code is hereby amended by amending subsection 304(c) to read as follows:

(c) **Plan Review Fees.** When a plan or other data are required to be submitted by Subsection (b) of Section 302, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be 25 percent of the building permit fee as shown in Table No. 3-A.

Where plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate shown in Table No. 3-A.

The building official may authorize an expedited plan review process provided the applicant pays an additional plan review fee for this purpose.

16.26.304(d) Subsection 304(d) amended. Section 304 of the uniform building code is hereby amended by amending subsection 304(d) to read as follows:

(d) **Expiration of Plan Review.** Applications for which no permit is issued within 180 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the building official. The building official may extend the time for action by the applicant for a period not exceeding 180 days upon request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. [No application shall be extended more than once.] In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

16.26.304(f) Subsection 304(f) amended. Section 304 of the uniform building code is hereby amended by amending subsection 304(f) to read as follows:

(f) **Fee Refunds.**

1. The building official may authorize the refunding of any fee paid hereunder which was erroneously paid or collected.

2. The building official may authorize the refunding of not more than [80] 50 percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.

3. The building official may authorize the refunding of not more than [80] 50 percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan reviewing is done.

The building official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than [180] 15 days after the date of [fee payment.] permit expiration.

16.26.306(a) Subsection 306(a) deleted; new subsection 306(a) added. Section 306 of the uniform building code is hereby amended by deleting subsection 306(a) and adding a new subsection 306(a) to read as follows:

Sec. 306. (a) General. When the higher stresses of masonry construction in Table No. 24-H is used; when footings and foundations are to be constructed of wood; or when required by the building official, the owner or his agent shall employ a special inspector.

16.26.306(b) Subsection 306(b) amended. Section 306 of the uniform building code is hereby amended by amending subsection 306(b) to read as follows:

(b) Special Inspector. The special inspector shall be a qualified person [who shall demonstrate his competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.] approved by the building official. An engineer or architect registered in the State of Hawaii and performing inspection in the branches of engineering or architecture in which such engineer or architect is registered shall be deemed to be a qualified person.

The special inspector shall furnish continuous inspection on the construction and work requiring his employment. Such special inspector shall keep a record of the special inspection(s) made and report any code violations in writing to the building official.

16.26.306(c) Subsection 306(c) deleted; new subsection 306(c) added. Section 306 of the uniform building code is hereby amended by deleting subsection 306(c) and adding a new subsection 306(c) to read as follows:

(c) Approved Fabricators. Special inspections required by this section and elsewhere in this code shall not be required where the work is done on the premises of a fabricator approved by the building official to perform such work without special inspection. The certificate of approval shall be subject to revocation by the building official if it is found that any work done pursuant to the approval is in violation of this code.

16.26.350 Table no. 3-A amended. Table 3-A of the uniform building code is hereby amended to read as follows:

TABLE NO. 3-A—BUILDING PERMIT FEES

TOTAL VALUATION	FEE
\$1.00 to \$500.00	\$15.00
\$501.00 to \$2,000.00	\$15.00 for the first \$500.00 plus \$2.00 for each additional \$100.00 or fraction thereof, to and including \$2,000.00
\$2,001.00 to \$25,000.00	\$45.00 for the first \$2,000.00 plus \$9.00 for each additional \$1,000.00 or fraction thereof, to and including \$25,000.00
\$25,001.00 to \$50,000.00	\$252.00 for the first \$25,000.00 plus \$6.50 for each additional \$1,000.00 or fraction thereof, to and including \$50,000.00
\$50,001.00 to \$100,000.00	\$414.50 for the first \$50,000.00 plus \$4.50 for each additional \$1,000.00 or fraction thereof, to and including \$100,000.00
\$100,001.00 to \$500,000.00	\$639.50 for the first \$100,000.00 plus \$3.50 for each additional \$1,000.00 or fraction thereof, to and including \$500,000.00
\$500,001.00 to \$1,000,000.00	\$2039.50 for the first \$500,000.00 plus \$3.00 for each additional \$1,000.00 or fraction thereof, to and including \$1,000,000.00
\$1,000,001.00 and up	\$3539.50 for the first \$1,000,000.00 plus \$2.00 for each additional \$1,000.00 or fraction thereof

Other Inspections and Fees:

1. Inspections outside of normal business hours. . . . \$30.00 per hour*
(minimum charge—two hours)
2. Reinspection fees assessed under provisions of
Section 305(g). \$30.00 per hour*
3. Inspections for which no fee is specifically
indicated \$30.00 per hour*
(minimum charge—one-half hour)
4. Additional plan review required by changes, additions
or revisions to approved plans. \$30.00 per hour*
(minimum charge—one-half hour)

*Or the total hourly cost to the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.

EXCEPTIONS: 1. Where inspections are required pursuant to Chapter 12B of the Public Health Regulations of the State Department of Health, no fee shall be charged for such inspections.

2. Where inspections for day care centers are required pursuant to the rules governing licensing of group day care centers and group day care homes of the State Department of Social Services and Housing, no fee shall be charged for such inspection.

Where work for which a permit is required by this code is started or proceeded with prior to obtaining said permit, the fees specified herein shall be doubled or increased by an additional amount of \$200, whichever is the greater, but the payment of such fee shall not relieve any persons from fully complying with the requirements of this code in the execution of the work nor from any other penalties prescribed herein.

16.26.403 Section 403 amended. Section 403 of the uniform building code is hereby amended by amending the following definitions to read as follows:

BOILER, LOW-PRESSURE HOT WATER AND LOW-PRESSURE STEAM, is a boiler furnishing hot water at pressures not exceeding 160 pounds per square inch and at temperatures not more than 250°F., or steam at pressures not more than 15 pounds per square inch. This shall not include "water heater" as defined in this code.

BUILDING is any structure used or intended for supporting or sheltering any use or occupancy. The term shall include, without limiting the generality of the foregoing, any structure mounted on wheels or otherwise, such as a trailer, push cart, wagon or powered vehicle, which is parked and stationary and used for business or living purposes, provided, however, that the term shall not include a push cart, wagon or powered vehicle which is used exclusively for the purpose of selling any commercial products and which actually travels on public or private streets.

BUILDING, EXISTING, is a building [erected prior to the adoption of this code, or one] for which a legal building permit has been issued[.], or one which complied with the building code in effect at the time the building was erected.

BUILDING OFFICIAL is the [officer or other designated authority charged with the administration and enforcement of this code,] Director of Public Works of the County, or his duly authorized representative.

16.26.404 Section 404 amended. Section 404 of the uniform building code is hereby amended by adding thereto the following new definitions, to be appropriately inserted and to read as follows:

CARPORT is a private garage which is at least 100 percent open on one side, with 50 percent net openings on another side or which is provided with an equivalent of such openings on 2 or more sides.

A private garage which is 100 percent open on one side and 25 percent open on another side with the latter opening so located to provide adequate cross ventilation may be considered a carport when approved by the building official.

COMPREHENSIVE ZONING ORDINANCE is the Comprehensive Zoning Provisions of the County of Maui.

COUNTY is the County of Maui.

COUNTY COUNCIL is the Council of the County of Maui.

16.26.407 Section 407 amended. Section 407 of the uniform building code is hereby amended by amending the following definitions to read as follows:

FAMILY [is an individual or two or more persons related by blood or marriage or a group of not more than five persons (excluding servants) who need not be related by blood or marriage living together in a dwelling unit.] shall be defined in the Comprehensive Zoning Provision.

FIRE CODE is the [Uniform Fire Code promulgated jointly by the Western Fire Chiefs Association and the International Conference of Building Officials, as adopted by this jurisdiction.] Fire Code of the County.

FLOOR AREA is the area included within the surrounding exterior walls of a building or portion thereof, exclusive of vent shafts and courts. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above[.] or the usable area within the exterior boundaries of a building as defined by any member or group of members such as a guardrail or parapet.

The following is added:

FIRE CHIEF and FIRE OFFICIAL may be used synonymously and shall mean the Fire Chief of the County, or his authorized representative.

16.26.409 Section 409 amended. Section 409 of the uniform building code is hereby amended by adding thereto a new definition to be appropriately inserted and to read as follows:

HOUSING CODE is the Housing Code of the County.

16.26.417 Section 417 amended. Section 417 of the uniform building code is hereby amended by adding thereto a new definition to be appropriately inserted and to read as follows:

PERMITTEE is any person to whom a permit is issued by the building official.

16.26.420 Section 420 amended. Section 420 of the uniform building code is hereby amended by adding thereto a new definition to be appropriately inserted and to read as follows:

STATE shall mean the State of Hawaii.

16.26.427 Section 427 amended. Section 427 of the uniform building code is hereby amended by adding thereto a new definition to be appropriately inserted and to read as follows:

Sec. 427. [No definitions.] ZONING PROVISIONS are the zoning provisions, Title 19 of the Maui County code.

16.26.428 Section 428 added. Chapter 4 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 428. Any term or phrase not specifically included in this code shall have its usual and customary meaning as used in the building trade.

16.26.504(a) Subsection 504(a) amended. Section 504 of the uniform building code is hereby amended by amending subsection 504(a) to read as follows:

(a) **General.** Buildings shall adjoin or have access to a public way or yard on not less than one side. Required yards shall be permanently maintained.

For the purpose of this section, the center line of an adjoining public way shall be considered an adjacent property line. With the exception of an arcade, entry gate, bridge or ramp used for thoroughfare purposes only, such private rights-of-way shall be unobstructed from the ground to the sky and permanently maintained as such.

Eaves over required windows shall be not less than [30] 36 inches from the side and rear property lines. For eaves, see Section 1710.

No building or structure or any portion thereof shall be located on or over a property line except an arcade, entry gate, bridge or ramp used for thoroughfare purposes only, or as otherwise permitted in this code and in the comprehensive zoning provisions of the County.

16.26.504(b) Subsection 504(b) amended. Section 504 of the uniform building code is hereby amended by amending subsection 504(b) to read as follows:

(b) **Fire Resistance of Walls.** Exterior walls shall have fire resistance and opening protection as set forth in Table No. 5-A, Part III, and in accordance with such additional provisions as are set forth in Part IV and Part VII. Distance shall be measured at right angles from the property line. The above provisions shall not apply to walls at right angles to the property line.

Projections beyond the exterior wall shall not extend beyond:

1. A point one third the distance to the property line from an exterior wall; or
2. A point one third the distance from an assumed vertical plane located where fire-resistive protection of openings is first required due to location on property, whichever is the least restrictive.

When openings in exterior walls are required to be protected due to distance from property line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

EXCEPTION: Lot lines established within a joint development under the Comprehensive Zoning Provisions and boundary lines established for condominium ownership purposes only or retail shopping malls shall not be considered as property lines for the purpose of this section.

16.26.510(a) Subsection 510(a) deleted. Section 510 of the uniform building code is hereby amended by deleting subsection 510(a).

16.26.510(b) Subsection 510(b) amended. Section 510 of the uniform building code is hereby amended by amending subsection 510(b) to read as follows:

(b) **Floors and Walls [in Water Closet Compartment and Showers].** [In other than dwelling units, toilet] Toilet room floors shall have a smooth, hard, nonabsorbent surface such as portland cement, concrete, ceramic tile or other approved [material] materials which extends upward onto the walls at least 5 inches. Walls within water closet compartments and walls within 2 feet of the front and sides of urinals shall be similarly finished to a height of 4 feet and, except for structural elements, the materials used in such walls shall be of a type which is not adversely affected by moisture.

EXCEPTIONS: 1. Dwelling units.

2. Private toilets for an office, shop or rooms that are not accessible to the general public and do not exceed an occupant load of 3.

In all occupancies, accessories such as grab bars, towel bars, paper dispensers and soap dishes, etc., provided on or within walls, shall be installed and sealed to protect structural elements from moisture.

Showers in all occupancies shall be finished as specified above to a height of not less than 70 inches above the drain inlet. Materials other than structural elements used in such walls shall be of a type which is not adversely affected by moisture.

Built-up shower receptors shall conform to the Plumbing Code.

16.26.511(b) Subsection 511(b) amended. Section 511 of the uniform building code is hereby amended by amending subsection 511(b) to read as follows:

(b) **Access to Lavatories, Mirrors and Towel Fixtures.** In other than Group R, Division 3; Group M; Group R, Division 1 apartment houses and Group B, Divisions 2 and 4 storage occupancies, toilet room facilities shall be as follows:

1. Except for the projection of bowls and waste piping, a clear unobstructed space 30 inches in width, 29 inches in height and 17 inches in depth shall be provided under at least one lavatory.

2. Where mirrors are provided, at least one shall be installed so that the bottom of the mirror is within 40 inches of the floor.

3. Where towel and disposal fixtures are provided, they shall be accessible to the physically handicapped and at least one shall be within 40 inches of the floor.

EXCEPTIONS: 1. Group R, Division
1 hotel rooms exempted by Section 1213.

2. Where access by means of ramp
or elevator is not required by Table No.
33-A.

16.26.511(c) Subsection 511(c) amended. Section 511 of the uniform building code is hereby amended by amending subsection 511(c) to read as follows:

(c) Water Fountains. Where water fountains are provided[,] on any floor where access by the physically handicapped is required by Table No. 33-A, at least one on that floor shall have a spout within 33 inches of the floor and shall have up-front, hand-operated controls. When fountains are located in an alcove, the alcove shall not be less than 32 inches in width.

16.26.511(d) Subsection 511(d) amended. Section 511 of the uniform building code is hereby amended by amending subsection 511(d) to read as follows:

(d) Telephones. Where public telephones are provided[,] on any floor where access by the physically handicapped is required by Table No. 33-A, at least one on that floor shall be installed so that the handset, dial and coin receiver are within 54 inches of the floor. Unobstructed access within 12 inches of the telephone shall be provided. Such access shall be not less than 30 inches in width.

16.26.511(e) Subsection 511(e) added. Section 511 of the uniform building code is hereby amended by adding thereto a new subsection 511(e), to be designated and to read as follows:

(e) Retail Stores and Supermarkets. A clear unobstructed access not less than 36 inches in width shall be provided for supermarkets and to retail sales areas of stores which have more than 2000 square feet of floor area. On every floor level, at least one checkout counter not more than 36 inches in height shall be provided to handle purchases. The minimum clear aisle width at such counters shall be 36 inches.

16.26.513 Section 513 amended. Section 513 of the uniform building code is hereby amended to read as follows:

Sec. 513. Approved numbers or addresses shall be provided for all [new] buildings [in such a position as to be plainly visible and legible from the street or road fronting the property.] as specified in Chapter 12.32, Maui County Code.

16.26.514 Section 514 added. Chapter 5 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 514. (a) Minimum Vertical Clearance. There shall be a minimum vertical clearance of not less than 30 inches between the cooking top of oil, gas and electric ranges and the underside of unprotected combustible material above such ranges.

When the underside of such combustible material is protected with insulating millboard at least 1/4 inch thick covered with sheet metal of not less than 0.210 of an inch (No. 28 U.S. gauge, or a metal ventilating hood) the distance shall be not less than 24 inches.

(b) Minimum Horizontal Clearance. The minimum horizontal clearance from the burner head(s) of a top (or surface) cooking unit to combustible walls extending above the cooking surface shall be not less than 12 inches.

EXCEPTION: Walls of combustible materials to be installed within 12 inches of a cooking unit shall be provided with protection to 1/2 inch gypsum wallboard covered with laminated plastic or its equivalent.

(c) Surface Finish. Where alternate materials other than as specified in Section 514(a) and the exception to Section 514(b) are used as approved by the building official, the surfaces of such materials shall have a smooth, nonabsorbent finish.

16.26.515 Section 515 added. Chapter 5 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 515. Ceiling Height. Minimum ceiling heights in all occupancies customarily used by human beings shall be as specified in Part III of this chapter; provided that where no minimum height is specified, the ceiling height shall be not less than 7 feet 6 inches. Projections below the ceiling may be permitted provided the clearance is not less than 7 feet.

16.26.550 Table no. 5-A amended. Table no. 5-A of the uniform

building code is hereby amended to read as follows:

**TABLE NO. 5-A—WALL AND OPENING PROTECTION OF OCCUPANCIES BASED ON LOCATION ON PROPERTY
TYPES II ONE-HOUR, II-N AND V CONSTRUCTION:** For exterior wall and opening protection of Types II One-hour, II-N and V buildings, see table below and Sections 504, 709, 1903 and 2203.
This table does not apply to Types I, II-F.R., III and IV construction, see Sections 1803, 1903, 2003 and 2103.

GROUP	DESCRIPTION OF OCCUPANCY	FIRE RESISTANCE OF EXTERIOR WALLS	OPENINGS IN EXTERIOR WALLS
A See also Section 602	1—Any assembly building with a stage and an occupant load of 1000 or more in the building	Not applicable (See Sections 602 and 603)	
	2—Any building or portion of a building having an assembly room with an occupant load of less than 1000 and a stage 2.1—Any building or portion of a building having an assembly room with an occupant load of 300 or more without a stage, including such buildings used for educational purposes and not classed as a Group E or Group B, Division 2 Occupancy	2 hours less than 10 feet, 1 hour less than 40 feet	Not permitted less than 5 feet Protected less than 10 feet
	3—Any building or portion of a building having an assembly room with an occupant load of less than 300 without a stage, including such buildings used for educational purposes and not classed as a Group E or Group B, Division 2 Occupancy	2 hours less than 5 feet, 1 hour less than 20 feet ³	Not permitted less than 5 feet Protected less than 10 feet
	4—Stadiums, reviewing stands and amusement park structures not included within other Group A Occupancies	1 hour less than 10 feet	Protected less than 10 feet
B See also Section 702	1—Gasoline service stations, garages where no repair work is done except exchange of parts and maintenance requiring no open flame, welding, or use of Class I, II or III-A liquids 2—Drinking and dining establishments having an occupant load of less than 50, wholesale and retail stores, office buildings, printing plants, municipal police and fire stations, factories and workshops using material not highly flammable or combustible, storage and sales rooms for combustible goods, paint stores without bulk handling Buildings or portions of buildings having rooms used for educational purposes, beyond the 12th grade, with less than 50 occupants in any room	1 hour less than 20 feet ³	Not permitted less than 5 feet Protected less than 10 feet

TABLE NO. 5-A—Continued
TYPES II ONE-HOUR, II-N AND V ONLY

GROUP	DESCRIPTION OF OCCUPANCY	FIRE RESISTANCE OF EXTERIOR WALLS	OPENINGS IN EXTERIOR WALLS
B (Cont.)	3—Aircraft hangars where no repair work is done except exchange of parts and maintenance requiring no open flame, welding, or the use of Class I or II liquids Open parking garages (For requirements, See Section 709.) Heliports	1 hour less than 20 feet	Not permitted less than 5 feet Protected less than 20 feet
	4—Ice plants, power plants, pumping plants, cold storage and creameries Factories and workshops using noncombustible and nonexplosive materials Storage and sales rooms of noncombustible and nonexplosive materials	1 hour less than 5 feet	Not permitted less than 5 feet
E See also Section 802	1—Any building used for educational purposes through the 12th grade by 50 or more persons for more than 12 hours per week or four hours in any one day 2—Any building used for educational purposes through the 12th grade by less than 50 persons for more than 12 hours per week or four hours in any one day 3—Any building used for day-care purposes for more than six children	2 hours less than 5 feet, 1 hour less than 10 feet ¹	Not permitted less than 5 feet Protected less than 10 feet ¹
H See also Sections 902 and 903	1—Storage, handling, use or sale of hazardous and highly flammable or explosive materials other than Class I, II, or III-A liquids (See also Section 901 (a), Division 1.)	See Chapter 9 and the Fire Code	
	2—Storage, handling, use or sale of Classes I, II and III-A liquids; dry cleaning plants using Class I, II or III-A liquids; paint stores with bulk handling; paint shops and spray-painting rooms and shops (See also Section 901 (a), Division 2.) 3—Woodworking establishments, planing mills, box factories, buffing rooms for tire-rebuilding plants and picking rooms; shops, factories or warehouses where loose combustible fibers or dust are manufactured, processed, generated or stored; and pin-refinishing rooms 4—Repair garages not classified as a Group B, Division 1 Occupancy 5—Aircraft repair hangars	4 hours less than 5 feet, 2 hours less than 10 feet, 1 hour less than 20 feet 1 hour less than 60 feet	Not permitted less than 5 feet Protected less than 20 feet Protected less than 60 feet

¹Group E, Divisions 2 and 3 Occupancies having an occupant load of not more than 20 may have exterior wall and opening protection as required for Group R, Division 3 Occupancies.

H (Cont.)	6—Semiconductor fabrication facilities and comparable research and development areas when the facilities in which hazardous production materials are used are designed and constructed in accordance with Section 911 and storage, handling and use of hazardous materials is in accordance with the Fire Code. [See also Section 901 (a), Division 6.]	4 hours less than 5 feet, 2 hours less than 10 feet, 1 hour less than 20 feet	Not permitted less than 5 feet, protected less than 20 feet
I See also Section 1012	1—Nurseries for the full-time care of children under the age of six (each accommodating more than five persons) Hospitals, sanitariums, nursing homes with nonambulatory patients and similar buildings (each accommodating more than five persons)	2 hours less than 5 feet, 1 hour elsewhere	Not permitted less than 5 feet Protected less than 10 feet
	2—Nursing homes for ambulatory patients, homes for children six years of age or over (each accommodating more than five persons)	1 hour	
	3—Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained	2 hours less than 5 feet, 1 hour elsewhere	Not permitted less than 5 feet, protected less than 10 feet
M ²	1—Private garages, carports, sheds and agricultural buildings, greenhouses and lath houses. (See also Section 1101, Division 1.) 2—Fences (over 6 feet), tanks, towers, retaining walls and swimming pools 3—Agricultural buildings and structures more than 1000 square feet in area, including buildings for storage, livestock and poultry, milking barns, shade and horticultural structures.	1 hour less than 3 feet (or may be protected on the exterior with materials approved for 1-hour fire-resistive construction)	Not permitted less than 3 feet
		Not regulated for fire resistance	
R See also Section 1202	1—Hotels and apartment houses Convents and monasteries (each accommodating more than 10 persons)	1 hour less than 5 feet	Not permitted less than 5 feet
	3—Dwellings and lodging houses	1 hour less than 3 feet	Not permitted less than 3 feet

²For agricultural buildings, see [Appendix Chapter 11] also Section 1108.

³Group A-3 and B-2 Occupancies not located on lots zoned as business districts; planned development-shopping center; and those areas within Historic Districts which allow commercial uses may have unprotected exterior walls if located 10 feet or more from the property line.

NOTES: (1) See Section 504 for types of walls affected and requirements covering percentage of openings permitted in exterior walls.
(2) For additional restrictions, see chapters under Occupancy and Types of Construction.
(3) For walls facing yards and public ways, see Part IV.
(4) Openings shall be protected by a fire assembly having a three-fourths-hour fire-protection rating.

16.26.551 Table no. 5-B amended. Table no. 5-B of the uniform

building code is hereby amended to read as follows:

TABLE NO. 5-B—REQUIRED SEPARATION IN BUILDINGS OF MIXED OCCUPANCY
(In Hours)

	A-1	A-2	A-2.1	A-3	A-4	B-1	B-2	B-3	B-4	E	H-1	H-2	H-3	H-4-5	H-6	I	M ²	R-1	R-3
A-1		N	N	N	N	4	3	3	3	N	4	4	4	4	4	3	1	1	1
A-2	N		N	N	N	3	1	1	1	N	4	4	4	4	4	3	1	1	1
A-2.1	N	N		N	N	3	1	1	1	N	4	4	4	4	4	3	1	1	1
A-3	N	N	N		N	3	N	1	N	N	4	4	4	4	3	3	1	1	1
A-4	N	N	N	N		3	1	1	1	N	4	4	4	4	4	3	1	1	1
B-1	4	3	3	3	3		1	1	1	3	2	1	1	1	1	4	1	3 ¹	1
B-2	3	1	1	N	1	1		1	1	1	2	1	1	1	1	2	1	1	N
B-3	3	1	1	1	1	1	1		1	1	2	1	1	1	1	4	1	1	N
B-4	3	1	1	N	1	1	1	1		1	2	1	1	1	1	4	N	1	N
E	N	N	N	N	N	3	1	1	1		4	4	4	4	3	1	1	1	1
H-1	4	4	4	4	4	2	2	2	2	4		1	1	1	2	4	1	4	4
H-2	4	4	4	4	4	1	1	1	1	4	1		1	1	1	4	1	3	3
H-3	4	4	4	4	4	1	1	1	1	4	1	1		1	1	4	1	3	3
H-4-5	4	4	4	4	4	1	1	1	1	4	1	1	1		1	4	1	3	3
H-6	4	4	4	3	4	1	1	1	1	3	2	1	1	1		4	3	4	4
I	3	3	3	3	3	4	2	4	4	1	4	4	4	4	4		1	1	1
M ²	1	1	1	1	1	1	1	1	N	1	1	1	1	1	3	1		1	N ³
R-1	1	1	1	1	1	3 ¹	1	1	1	1	4	3	3	3	4	1	1		N
R-3	1	1	1	1	1	1	N	N	N	1	4	3	3	3	4	1	N ³	N	

Notes: For detailed requirements and exceptions, see Section 503.

¹The three-hour separation may be reduced to two hours where the Group B, Division 1 Occupancy is limited to the storage of passenger motor vehicles having a capacity of not more than nine persons. This shall not apply where provisions of Section 702 (a) apply.

²For agricultural buildings, see also Appendix Chapter 11, Section 1108.

³See Section 1214.

16.26.552 Table no. 5-C amended. Table no. 5-C of the uniform building code is hereby amended to read as follows:

TABLE NO. 5-C—BASIC ALLOWABLE FLOOR AREA FOR BUILDINGS ONE STORY IN HEIGHT¹
(In Square Feet)

OCCUPANCY	TYPES OF CONSTRUCTION								
	I	II			III		IV	V	
	F.R.	F.R.	ONE-HOUR	N	ONE-HOUR	N	H.T.	ONE-HOUR	N
A-1	Unlimited	29,900	Not Permitted						
A) 2-2.1	Unlimited	29,900	13,500	Not Permitted	13,500	Not Permitted	13,500	10,500	Not Permitted
A) 3-4.2	Unlimited	29,900	13,500	9,100	13,500	9,100	13,500	10,500	6,000
B) 1-2-3.3	Unlimited	39,900	18,000	12,000	18,000	12,000	18,000	14,000	8,000
B-4	Unlimited	59,900	27,000	18,000	27,000	18,000	27,000	21,000	12,000
E	Unlimited	45,200	20,200	13,500	20,200	13,500	20,200	15,700	9,100
H) 1-2 ⁴	15,000	12,400	5,600	3,700	5,600	3,700	5,600	4,400	2,500
H) 3-4-5	Unlimited	24,800	11,200	7,500	11,200	7,500	11,200	8,800	5,100
H-6	Unlimited	39,900	18,000	12,000	18,000	12,000	18,000	14,000	8,000
I) 1-2	Unlimited	15,100	6,800	Not Permitted	6,800	Not Permitted	6,800	5,200	Not Permitted
I-3	Unlimited	15,100	Not Permitted ⁵						
M-6	See Chapter 11								
R-1	Unlimited	29,900	13,500	9,100 ⁷	13,500	9,100 ⁷	13,500	10,500	6,000 ⁷
R-3	Unlimited								

¹For multi-story buildings, see Section 505 (b).

²For limitations and exceptions, see Section 602 (a).

³For open parking garages, see Section 709.

⁴See Section 903.

⁵See Section 1002 (b).

⁶For agricultural buildings, see also Appendix Chapter I ☐ Section 1108.

⁷For limitations and exceptions, see Section 1202 (b).

N—No requirements for fire resistance

F.R.—Fire Resisive

H.T.—Heavy Timber

16.26.553 Table no. 5-D amended. Table no. 5-D of the uniform

building code is hereby amended to read as follows:

TABLE NO. 5-D—MAXIMUM HEIGHT OF BUILDINGS

OCCUPANCY	TYPES OF CONSTRUCTION								
	I	II			III		IV	V	
	F.R.	F.R.	ONE-HOUR	N	ONE-HOUR	N	H.T.	ONE-HOUR	N
	MAXIMUM HEIGHT IN FEET								
	Unlimited	160	65	55	65	55	65	50	40
	MAXIMUM HEIGHT IN STORIES								
A-1	Unlimited	4	Not Permitted						
A) 2-2.1	Unlimited	4	2	Not Permitted	2	Not Permitted	2	2	Not Permitted
A) 3-4 ¹	Unlimited	12	2	1	2	1	2	2	1
B) 1-2-3 ²	Unlimited	12	4	2	4	2	4	3	2
B-4	Unlimited	12	4	2	4	2	4	3	2
E ³	Unlimited	4	2	1	2	1	2	2	1
H-1	Unlimited	2	1	1	1	1	1	1	1
H) 2-3-4-5	Unlimited	5	2	1	2	1	2	2	1
H-6	3	3	3	2	3	2	3	3	1
I-1	Unlimited	3	1	Not Permitted	1	Not Permitted	1	1	Not Permitted
I-2	Unlimited	3	2	Not Permitted	2	Not Permitted	2	2	Not Permitted
I-3	Unlimited	2	Not Permitted ⁴						
M ⁵	See Chapter 11								
R-1	Unlimited	12	4	2 ⁶	4	2 ⁶	4	3	2 ⁶
R-3	Unlimited	3	3	3	3	3	3	3	3

¹For limitations and exceptions, see Section 602 (a).

²For open parking garages, see Section 709.

³See Section 802 (c).

⁴See Section 1002 (b).

⁵For agricultural buildings, see also Appendix Chapter 1 Section 1108.

⁶For limitations and exceptions, see Section 1202 (b).

N—No requirements for fire resistance

F.R.—Fire Resistive

H.T.—Heavy Timber

16.26.605 Section 605 amended. Section 605 of the uniform building code is hereby amended to read as follows:

Sec. 605. [All enclosed portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with natural light by means of exterior glazed openings with an area not less than one tenth of the total floor area, and natural ventilation by means of openable exterior openings with an area of not less than one twentieth of the total floor area, or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating system shall be capable of supplying a minimum of 5 cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.] All buildings or any portion thereof shall be provided with light, ventilation and toilet facilities as specified in the Administrative Rules of the Department of Health, State of Hawaii.

[Toilet rooms shall be provided with a fully openable exterior window at least 3 square feet in area; or a vertical duct not less than 100 square inches in area for the first toilet facility, with 50 additional square inches for each additional facility; or a mechanically operated exhaust system capable of providing a complete change of air every 15 minutes. Such systems shall be connected directly to the outside, and the point of discharge shall be at least 5 feet from any openable window.]

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.]

Division 2.1 or Division 3 Occupancies used for educational purposes and not classed as a Group E or Group B, Division 2 Occupancy shall be provided with toilet facilities for each sex and at least one drinking fountain on each floor.

EXCEPTION: Portable classroom buildings.

For other requirements on water closets, see Sections 510 and 511.

16.26.702(a) Subsection 702(a) amended. Section 702 of the uniform building code is hereby amended by amending subsection 702(a) to read as follows:

Sec. 702. (a) General. Buildings or parts of buildings classed in Group B Occupancy because of the use or character of the occupancy shall be limited to the types of construction set forth in Tables No. 5-C and No. 5-D and shall not exceed, in area or height, the limits specified in Sections 505, 506 and 507.

Other provisions of this code notwithstanding, [a Group B, Division 1 Occupancy] a parking garage (Group B, Division 1 or Division 3 Occupancy) located in the basement or first story of a building housing a Group B, Division 2 or a Group R, Division 1 Occupancy may be classed as a separate and distinct building for the purpose of area limitation, limitation of number of stories and type of construction, when all of the following conditions are met:

1. The Group B, Division 1 or Division 3 Occupancy is of Type I construction.

2. There is a three-hour occupancy separation between the Group B, Division 1 or Division 3 Occupancy and all portions of the Group B, Division 2 or Group R, Division 1 Occupancy.

3. The basement or first story is restricted to the storage of passenger vehicles (having a capacity of not more than nine person per vehicle), but may contain laundry rooms and mechanical equipment rooms incidental to the operation of the building.

4. The maximum building height in feet shall not exceed the limits set forth in Table No. 5-D for the least type of construction involved.

16.26.705 Section 705 deleted; new section 705 added. Section 705 of the uniform building code is hereby deleted and a new section 705 is hereby added to read as follows:

Sec. 705. Light, Ventilation and Sanitation. All buildings or any portion thereof, except Group R, Division 3, Occupancies, shall be provided with light, ventilation and toilet facilities as specified in the Administrative Rules of the Department of Health, State of Hawaii.

Division 2 Occupancies used for educational purposes shall be provided with toilet facilities for each sex and at least one drinking fountain on each floor.

EXCEPTION: Portable classroom buildings.

For other requirements on water closets, see Sections 510 and 511.

16.26.709(b)(1) Subsection 709(b)(1) amended. Section 709 of the uniform building code is hereby amended by amending subsection 709(b)(1) to read as follows:

(b) **Definitions.** 1. **General.** For the purpose of this section, certain terms are defined as follows:

OPEN PARKING GARAGE is a structure of Type I or Type II construction with the openings as described in Subsection 2 on two or more sides and which is used exclusively for the parking or storage of private or pleasure-type motor vehicles.

[EXCEPTION:] EXCEPTIONS: 1. The grade-level tier may contain an office, waiting and toilet rooms having a total area of not more than 1000 square feet, and such area need not be separated from the open parking garage.

2. In buildings housing Groups A-2, A-2.1, A-3 and A-4; B, or R-1 Occupancies, open parking garages are permitted when all of the following conditions are met:

A. The garage portion of the building is of Type I construction.

B. There is a 3 hour occupancy separation between the open parking garage and all portions of Groups A-2, A-2.1, A-3, A-4, B, or R-1 Occupancies.

MECHANICAL-ACCESS OPEN PARKING GARAGES are open parking garages employing parking machines, lifts, elevators or other mechanical devices for vehicles moving from and to street level and in which public occupancy is prohibited above the street level.

RAMP-ACCESS OPEN PARKING GARAGES are open parking garages employing a series of continuously rising floors or a series of interconnecting ramps between floors permitting the movement of vehicles under their own power from and to the street level.

16.26.709(f) Subsection 709(f) deleted; new section 709(f) added.

Section 709 of the uniform building code is hereby deleted and a new subsection 709(f) is hereby added, to be designated and to read as follows:

(f) Location on Property. Exterior walls and openings in exterior walls shall comply with Table No. 7-B. The distance to adjacent property line shall be determined in accordance with Section 504.

16.26.709(k) Subsection 709(k) amended. Section 709 of the uniform building code is hereby amended by amending subsection 709(k) to read as follows:

(k) Ventilation. [Ventilation, other than the percentage of openings specified in Subsection (b), shall not be required.] Ventilation shall comply with the requirements as specified in the Administrative Rules of the Department of Health, State of Hawaii.

16.26.750 Table no. 7-B deleted; new table no. 7-B added. Table no. 7-B of the uniform building code is hereby deleted and a new table no. 7-B is hereby added to read as follows:

TABLE NO. 7-B—OPEN PARKING GARAGES—EXTERIOR WALLS¹

Fire Resistance of Exterior Walls	Openings in Exterior Walls
One hour less than 10 feet	Not permitted less than 5 feet; protected less than 10 feet

¹See Section 709(f).

16.26.802(c) Subsection 802(c) amended. Section 802 of the uniform building code is hereby amended by amending subsection 802(c) to read as follows:

(c) Special Provisions. Rooms in Divisions 1 and 2 Occupancies used for day-care purposes, kindergarten, first or second grade pupils and Division 3 Occupancies shall not be located above the first story.

EXCEPTION: In buildings equipped with an automatic sprinkler system throughout, rooms used for kindergarten, first- and second-grade children or for day-care purposes may be located on the second story, provided there are at least two exits directly to the exterior for the exclusive use of such occupants.

Storage and janitor closets shall be of one-hour fire-resistive construction. Stages and platforms shall be constructed in accordance with Chapter 39. For attic space partitions and draft stops, see Section 2516(f).

16.26.802(d) Subsection 802(d) amended. Section 802 of the uniform building code is hereby amended by amending subsection 802(d) to read as follows:

(d) **Special Hazards.** Rooms or groups of rooms in which Class I, II, or III-A liquids, combustible dust or similar hazardous materials are used, stored, developed or handled shall be separated from other portions of the building by not less than a one-hour fire-resistive occupancy separation.

EXCEPTION: Laboratories, woodworking and metal-working shops, machine shops, paint shops, rooms for storage of flammable materials and similar areas where visual communication is required between such areas and classrooms.

Equipment in rooms or groups of rooms sharing a common atmosphere where flammable liquids, combustible dust or hazardous materials are used, stored, developed or handled shall conform to the requirements of the Fire Code.

16.26.805 Section 805 amended. Section 805 of the uniform building code is hereby amended to read as follows:

Sec. 805. All portions of Group E Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

[Water closets shall be provided on the basis of the following ratio of water closets to the number of students:

	<u>Boys</u>	<u>Girls</u>
Elementary Schools.....	1:100	1:35
Secondary Schools.....	1:100	1:45

In addition, urinals shall be provided for boys on the basis of 1:30 in elementary and secondary schools.

There shall be provided at least one lavatory for each two water closets or urinals, and at least one drinking fountain on each floor for elementary and secondary schools.

For other requirements on water closets, see Section 510.] For requirements in schools, Administrative Rules of the Department of Health, State of Hawaii shall be complied with.

There shall be provided toilet facilities for each sex and at least one drinking fountain on each floor for elementary and secondary schools.

EXCEPTION: Portable classroom
buildings.

For requirements for floors and walls of toilet compartments, see Sections 510 and 511.

16.26.809 Section 809 amended. Section 809 of the uniform building code is hereby amended to read as follows:

Sec. 809. [Approved fire alarms shall be provided for all Group E Occupancies with an occupant load of more than 50 persons. In every Group E Occupancy provided with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system, which shall include an alarm mounted on the exterior of the building.] Fire Alarms. Fire alarm systems shall comply with the Fire Code and be approved by the Fire Chief.

16.26.905 Section 905 deleted; new section 905 added. Section 905 of the uniform building code is hereby deleted and a new section 905 is hereby added to read as follows:

Sec. 905. Light, Ventilation and Sanitation. All buildings or any portion thereof shall be provided with light, ventilation and toilet facilities as specified in the Administrative Rules of the Department of Health, State of Hawaii.

In Group H Occupancy buildings, all enclosed portions customarily occupied by human beings shall be provided with natural light by means of exterior glazed openings with an area equal to 1/10 of the total floor area occupied, or shall be provided with artificial light.

For other requirements on water closets, see Sections 510 and 511.

16.26.910(b) Subsection 910(b) deleted; new section 910(b) added.
Section 910 of the uniform building code is hereby deleted and a new subsection 910(b) is hereby added to read as follows:

(b) Flammable Liquids. Rooms used for dispensing of Class I-B liquids and rooms used for storage or dispensing for Class I-A liquids shall have roofs and/or walls designed of damage limiting construction.

Group H, Division 2 Occupancies involving chemical operations such as oxidation, reduction, polygenization, hydrogenation, alcoholization, polymerization and similar chemical processes shall have walls and/or roofs designed of damage limiting construction.

Structures and portions of structures used to store and dispense flammable liquids or in which the above-mentioned chemical processes are performed shall have pressure resistant or pressure relieving walls and/or roofs. Pressure resistant walls or roofs and their supports shall be capable of resisting explosion forces of at least 100 psf unless documentation is submitted substantiating the use of a lower design force. Pressure relieving walls and/or roofs shall vent the explosion force quickly and safely before excessive damage to the structure occurs.

Pressure relieving walls and/or roofs shall have a desired ratio of one square foot of area for each 30 cubic feet of room volume except where documentation justifying a lower ratio is submitted. Pressure relieving walls and/or roofs shall be designed to vent explosion forces when subjected to a minimum explosion force to 20 pounds per square foot.

When the required resistance to wind forces is greater than the explosion force of 20 pounds per square foot, the pressure relieving walls and/or roofs shall be designed to provide resistance slightly higher than the design wind load. The ratio of design strength of the pressure resistant to the pressure relieving wall or roof shall be five to one.

Alternate design criteria and methods may be used provided justification to these methods is submitted.

16.26.1009 Section 1009 deleted; new section 1009 added. Section 1009 of the uniform building code is hereby deleted and a new section 1009 is hereby added to read as follows:

Sec. 1009. Fire Alarms. Fire alarm systems shall comply with the Fire Code and be approved by the Fire Chief.

16.26.1101 Section 1101 amended. Section 1101 of the uniform building code is hereby amended to read as follows:

Sec. 1101. Group M Occupancies shall be:

Division 1. Private garages, carports, sheds, [and] agricultural buildings, greenhouses and lath houses used as accessories only when not over 1000 square feet in area. See Division 3 for larger agricultural buildings.

[EXCEPTION: Where applicable (See Section 103) for agricultural buildings, see Appendix Chapter 11.]

Division 2. Fences [over 6 feet high], retaining walls, swimming pools, tanks and towers.

Division 3. Agricultural buildings and structures more than 1000 square feet in area, including buildings for storage, livestock and poultry, milking barns, shade and horticultural structures.

For occupancy separations, see Table No. 5-B.

16.26.1102(a) Subsection 1102(a) amended. Section 1102 of the uniform building code is hereby amended by amending subsection 1102(a) to read as follows:

Sec. 1102. (a) General. Buildings or parts of buildings classed in Group M, Division 1 because of the use or character of the occupancy shall not exceed 1000 square feet in area or one story in height except as provided in this section. Any building or portion thereof that exceeds the limit specified in this chapter shall be classed in the occupancy group other than Group M, Division 1 that it most nearly resembles.

EXCEPTION: A carport constructed on a hillside may exceed one story in height provided the space below the carport floor is unused or used for Group M Occupancy only.

For a mixed occupancy building, the total area of a private garage used only as a parking garage for private or pleasure-type motor vehicles with no repair or fueling may be 3000 square feet, provided the exterior wall and opening protection are as required for the major occupancy of the building. The allowable floor area of the building shall be as permitted for the major occupancy of the building. Each portion of a building separated as specified in Section 505 may be considered a separate building. Such increase in area may apply to a single-occupancy building, provided the use of the building is as specified and the exterior wall and opening protection are as required for a Group R, Division 1 Occupancy building.

16.26.1102(b) Subsection 1102(b) amended. Section 1102 of the uniform building code is hereby amended by amending subsection 1102(b) to read as follows:

(b) Special Provisions. Garages in connection with Group R, Division 1 Occupancies shall have an unobstructed headroom clearance of not less than 7 feet above the finish floor to any ceiling, beam, pipe or similar construction except for wall-mounted shelves, storage surfaces, racks or cabinets.

Buildings and structures of Group M, Division 1 Occupancies for horticultural use with covering of wire screen, cheesecloth, or nonrigid plastic sheets are not required to conform to the requirements of Parts III, IV, V, VII, IX, X and XI of this code.

16.26.1103 Section 1103 amended. Section 1103 of the uniform building code is hereby amended to read as follows:

Sec. 1103. For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 504 and Part IV.

EXCEPTION: See Section 1106 for joint garages or joint carports constructed in conjunction with Group R-3 Occupancies.

16.26.1104 Section 1104 amended. Section 1104 of the uniform building code is hereby amended to read as follows:

Sec. 1104. Chimneys and heating apparatus shall conform to the requirements of Chapter 37 [and the Mechanical Code].

Under no circumstances shall a private garage have any opening into a room used for sleeping purposes.

EXCEPTION: Where a fire separation is not required, a one-story carport may have an opening into a room used for sleeping purposes provided such opening is not a required window.

Class I, II or III-A liquids shall not be stored, handled or used in Group M Occupancies unless such storage or handling shall comply with the Fire Code.

16.26.1105 Section 1105 amended. Section 1105 of the uniform building code is hereby amended to read as follows:

Sec. 1105. In areas where motor vehicles are stored or operated, floor surfaces shall be of noncombustible materials or asphaltic paving materials.

EXCEPTION: A carport on a hillside lot may have wood floor planking at least 2 inches in nominal thickness laid with at least 1/4 inch spacing between the planks, provided that plans therefore have been stamped with the approval of a structural engineer.

16.26.1106 Section 1106 deleted; new section 1106 added. Section 1106 of the uniform building code is hereby deleted and a new section 1106 is hereby added to read as follows:

Sec. 1106. Joint Garages or Joint Carports. Joint garages or joint carports may be erected in conjunction with any Group R-3 Occupancy over a common property line between 2 lots without any fire-resistive protection at the common property line with the mutual consent of the owners thereof, provided that:

1. Each portion of the joint garage or carport located on each lot shall be structurally independent of the other portion;

2. Where the distance between a portion of the joint garage or joint carport and the nearest building located on the same lot is less than 6 feet, a one hour fire-resistive wall without openings shall be provided on one of the buildings;

3. The floor area of each portion of the joint garage or joint carport located on each lot shall not exceed 500 square feet and such garage or carport shall not exceed one story in height.

This section in and of itself shall not be construed to permit joint garages or joint carports.

16.26.1120 Section 1120 added. Chapter 11 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 1120. Fences. Fences within required yard space shall be constructed in accordance with the Comprehensive Zoning Provisions. In areas where fence height is not regulated by the Comprehensive Zoning Provisions, fences over 6 feet in height will be subject to the approval of the Department of Fire Control as to access.

No barbed wire shall be used for the construction of any fence, except in enclosing premises of any "public utility" as defined in Section 269-1, Hawaii Revised Statutes, or premises used for industrial industry purposes, or a zoo for keeping animals and birds for public view or exhibition, or the premises of jails, prisons, reformatories and other institutions which are involved in law enforcement or military activities where security against entry is an important factor; in which case barbed wire may be used if placed along or above the height of 6 feet from the ground, subject to the approval of the Department of Fire Control. Barbed wire may be used in fences enclosing premises used for pasturing livestock.

For fences allowed during construction or demolition, see Chapter 44.

16.26.1121 Section 1121 added. Chapter 11 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 1121. Agricultural Buildings. (a) Scope. The provisions of this section shall apply exclusively to agricultural buildings. Such buildings shall be classified as Group M, Division 3 Occupancies and shall include the following uses:

1. Storage, livestock and poultry.
2. Milking barns.
3. Shade structures.
4. Horticultural structures (greenhouses and crop protection).

(b) Construction, Height and Allowable Area.

1. General. Buildings classed as Group M, Division 3 Occupancies shall be of one of the types of construction specified in this code and shall not exceed the area or height limits specified in Sections 505, 506, 507 and Table No. 11-A.

2. Special Provisions. The area of a Group M, Division 3 Occupancy in a one-story building shall not be limited if the building is entirely surrounded and adjoined by public space, street or yards not less than 60 feet in width, regardless of the type of construction.

The area of a two-story Group M, Division 3 Occupancy shall not be limited if the building is entirely surrounded and adjoined by public space, street or yards not less than 60 feet in width and is provided with an approved automatic fire-extinguishing system throughout, conforming to U.B.C. Standard No. 38-1.

Buildings using plastics shall comply with Type V-N construction. Plastics shall be approved plastics regulated by Chapter 52. For foam plastic, see Section 1712.

EXCEPTIONS: 1. When used as skylights or roofs, the areas of plastic skylights shall not be limited.

2. Except where design must consider snow loads, plastic less than 20 mils thick may be used without regard to structural considerations. The structural frame of the building, however, shall comply.

Buildings and structures for horticultural use in agricultural districts with covering of wire screen, cheesecloth or nonrigid plastic sheets are not required to conform to the requirements of Parts III, IV, VII, IX, X and XI of this code.

(c) Occupancy Separations. Occupancy separations shall be as specified in Section 503 and Table No.11-B.

(d) Exterior Walls and Openings. Except where Table No. 17-A requires greater protection, exterior walls of agricultural buildings shall be not less than one-hour fire-resistive construction when less than 20 feet from the property line.

Openings in exterior walls of agricultural buildings which are less than 20 feet from the property line shall be protected by fire assemblies having a fire-protection rating of not less than 3/4 hour.

EXCEPTION: One-story greenhouses and lath houses not exceeding 12,000 square feet in floor area located not less than 5 feet from interior property lines may be constructed without fire-resistive exterior walls.

(e) Exit Facilities. Exit facilities shall be as specified in Chapter 33.

EXCEPTIONS: 1. The maximum distance of travel from any point in the building to an exterior exit door, horizontal exit, exit passageway, or an enclosed stairway shall not exceed 200 feet.

2. One exit is required for each 15,000 square feet of floor area and fraction thereof.

3. Exit openings shall be not less than 2 feet 6 inches by 6 feet 8 inches.

16.26.1150 Table no. 11-A added. Chapter 11 of the uniform building code is hereby amended by adding thereto a new table no. 11-A to be designated and to read as follows:

**TABLE NO. 11-A—BASIC ALLOWABLE AREA FOR A GROUP M, DIVISION 3
OCCUPANCY, ONE STORY IN HEIGHT AND MAXIMUM
HEIGHT OF SUCH OCCUPANCY**

	II			III- 1-Hour or IV		V	
I	F-R	1-Hour	N		III-N	1-Hour	N
ALLOWABLE AREA FOR ONE STORY ¹							
Unlimited	60,000	27,100	18,000	27,000	18,000	21,000	12,000 ¹
MAXIMUM HEIGHT IN STORIES ²							
Unlimited	12	4	2	4	2	3	2

¹See Section 1108(b), for unlimited area under certain conditions.

²For maximum height in feet, see Table No. 5-D.

16.26.1151 Table no. 11-B added. Chapter 11 of the uniform building code is hereby amended by adding thereto a new table no. 11-B to be designated and to read as follows:

**TABLE NO. 11-B—REQUIRED SEPARATIONS BETWEEN GROUP M,
DIVISION 3 AND OTHER OCCUPANCIES (in hours)**

Occupancy	A	E	I	H	B-1	B-2	B-3	B-4	R-1	R-3	M
Rating	4	4	4	4	4	1	1	1	1	1	N

16.26.1202(b) Subsection 1202(b) amended. Section 1202 of the uniform building code is amended by amending subsection 1202(b) to read as follows:

(b) **Special Provisions.** Group R, Division 1 Occupancies more than two stories in height or having more than 3000 square feet of floor area above the first story shall be not less than one-hour fire-resistive construction throughout except as provided in Section 1705(b)2.

Storage or laundry rooms that are within Group R, Division 1 Occupancies that are used in common by tenants shall be separated from the rest of the building by not less than one-hour fire-resistive occupancy separation.

[Every apartment house three stories or more in height or containing more than 15 dwelling units and every hotel three stories or more in height or containing 20 or more guest rooms shall have an approved fire alarm system as specified in the Fire Code.]

Fire alarm systems shall comply with the Fire Code and be approved by the Fire Chief.

EXCEPTION: An alarm system need not be installed in buildings not over two stories in height when all individual dwelling units and contiguous attic and crawl spaces are separated from each other and from public or common areas by at least one-hour fire-resistive occupancy separations and each individual dwelling unit has an exit direct to a yard or public way.

For Group R, Division 1 Occupancies with a Group B, Division 1 or Division 3 parking garage in the basement or first floor, see Section 702(a).

For attic space partitions and draft stops, see Section 2516(f).

16.26.1203 Section 1203 amended. Section 1203 of the uniform building code is hereby amended to read as follows:

Sec. 1203. For fire-resistive protection of exterior walls and openings, as determined by location on property, see Section 504 and Part IV.

EXCEPTION: In residential, apartment and hotel districts openings in exterior walls of buildings of Types I, II-F.R., III or IV-H.T. construction and housing Group R-1 Occupancies which are 10 feet or more but less than 20 feet from the adjacent interior property line shall only be required to have windows or doors constructed of approved noncombustible material, but any glass used for windows and doors shall be wire glass of a minimum thickness of 1/4 inch, except where the building is so designed to prevent the glass from falling below the story on which it is installed; provided that this exception shall not apply to opening protection of exterior exit balconies and as a waiver of the requirements of Section 3306(1) of this code, relating to stairways.

16.26.1204 Section 1204 amended. Section 1204 of the uniform building code is hereby amended to read as follows:

Sec. 1204. Stairs, exits and smokeproof enclosures shall be as specified in Chapter 33.

Every sleeping room below the fourth story shall have at least one operable window or exterior door approved for emergency escape or rescue. The units shall be operable from the inside to provide a full clear opening without the use of separate tools.

All escape or rescue windows from sleeping rooms shall have a minimum net clear opening of 5.7 square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches. Where windows are provided as a means of escape or rescue they shall have a finished sill height not more than 44 inches above the floor.

EXCEPTIONS: 1. Glass jalousie
bladed windows may be used for emergency
escape or rescue.

2. Escape or rescue windows in
Group R, Division 1 Occupancies opening
into an exterior exit balcony serving
more than 2 dwelling units or hotel guest
rooms shall have a finished sill height
not more than 68 inches above the floor.

Bars, grilles, grates or similar devices may be installed on an emergency escape or rescue windows or doors, provided:

1. Such devices are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or effort; and

2. The building is equipped with smoke detectors installed in accordance with Section 1210.

16.26.1205 Section 1205 deleted; new section 1205 added. Section 1205 of the uniform building code is hereby deleted and a new section 1205 is hereby added to read as follows:

Sec. 1205. Light, Ventilation and Sanitation. Light, ventilation and sanitation requirements shall be as specified in the Housing Code.

For requirements for floors and walls of toilet compartments, see Section 510.

16.26.1206 Section 1206 deleted; new section 1206 added. Section 1206 of the uniform building code is hereby deleted and a new section 1206 is hereby added to read as follows:

Sec. 1206. Yards and Courts. Requirements for yards and courts shall be as specified in the Housing Code and the Comprehensive Zoning Provisions.

16.26.1207 Section 1207 deleted; new section 1207 added. Section 1207 of the uniform building code is deleted and a new section 1207 is hereby added to read as follows:

Sec. 1207. Room Dimensions. Requirements for minimum ceiling heights, floor areas and widths of rooms shall be as specified in the Housing Code.

16.26.1208 Section 1208 deleted; new section 1208 added. Section 1208 of the uniform building code is hereby deleted and a new section 1208 is hereby added to read as follows:

Sec. 1208. Efficiency dwelling units shall conform to the requirements of the Housing Code.

16.26.1210(a) Subsection 1210(a) amended. Section 1210 of the uniform building code is hereby amended by amending subsection 1210(a) to read as follows:

Sec. 1210. (a) Fire-warning Systems. Every dwelling unit and every guest room in a hotel or lodging house used for sleeping purposes shall be provided with smoke detectors conforming to U.B.C. Standard No. 43-6. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes. In an efficiency dwelling unit, hotel sleeping room and in hotel suites, the detector shall be centrally located on the ceiling of the main room or hotel sleeping room. Where sleeping rooms are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. All detectors shall be located in accordance with approved manufacturer's instructions. When actuated, the detector shall provide an alarm in the dwelling unit or guest room.

When the valuation of an addition or repair to a Group R, Division 3 Occupancy exceeds \$1,000.00 or when one or more sleeping rooms are added or created in existing Group R, Division 3 Occupancies, the entire building shall be provided with smoke detectors located as required for new Group R, Division 3 Occupancies.

[In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions regulated by the second paragraph of this section.]

Required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

EXCEPTION: Smoke detectors may be battery operated when installed in existing Group R, Division 3 Occupancy buildings.

A smoke detector shall be installed in the basement of dwelling units having a stairway which opens from the basement into the dwelling. Such detector shall be connected to a sounding device or other detector to provide an alarm which will be audible in the sleeping area.

16.26.1211 Section 1211 deleted. Section 1211 of the uniform building code is hereby deleted.

16.26.1213 Section 1213 amended. Section 1213 of the uniform building code is hereby amended to read as follows:

Sec. 1213. Buildings containing more than 20 dwelling units or 20 guest rooms shall be accessible to the physically handicapped by a level entry, ramp or elevator. The number of dwelling units or guest rooms accessible to the physically handicapped shall be not less than the following:

21 through 99.	one unit
100 and over	one, plus one for each additional 100 units or fraction thereof

To determine the total number of accessible units, more than one structure on a building site shall be considered as one building. Habitable rooms, bathrooms, toilet compartments, halls and utility rooms in units that are required to be accessible to the physically handicapped shall be accessible by level floors, ramps or elevators, and doorways to such rooms shall have a clear unobstructed width of not less than 32 inches.

Toilet facilities in accessible units shall comply with [Section] Sections 510 and 511.

16.26.1220 Section 1220 added. Chapter 12 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 1220. Where a carport or garage is separated from a dwelling by walls only, a fire separation is not required between the carport and the dwelling.

Where a carport or garage is constructed over or under any portion of a dwelling, the floor between the garage and dwelling shall be of one-hour fire-resistive construction.

16.26.1706(a) Subsection 1706(a) amended. Section 1706 of the uniform building code is hereby amended by amending subsection 1706(a) to read as follows:

Sec. 1706. (a) General. Openings extending vertically through floors shall be enclosed in a shaft of fire-resistive construction having the time period set forth in Table No. 17-A for "Shaft Enclosures." Protection for stairways shall be as specified in Sections 3309 and 3310. See Section 706 for exception in Group B, Division 4 Occupancies and Section 709(j) for open parking garages.

EXCEPTIONS: 1. In other than Group I Occupancies, an enclosure will not be required for openings which serve only one adjacent floor and are not connected with openings serving other floors and which are not concealed within the building construction.

[2. In buildings housing Group B Occupancies equipped with automatic sprinkler systems throughout, enclosures shall not be required for escalators where the top of the escalator opening at each story is provided with a draft curtain and automatic fire sprinklers are installed around the perimeter of the opening within 2 feet of the draft curtain. The draft curtain shall enclose the perimeter of the unenclosed opening and extend from the ceiling downward at least 12 inches on all sides. The spacing between sprinklers shall not exceed 6 feet.]

2. In buildings housing Groups A-2, A-2.1, A-3, A-4, B or R-1 Occupancies, enclosures shall not be required for escalators or for ramps used solely for vehicular passage, provided the following conditions are met:

a. The top of the escalator or ramp opening at each story is provided with a draft curtain and automatic fire sprinklers are installed around the perimeter of the opening within 2 feet of the draft curtain. The draft curtain shall enclose the perimeter of the unenclosed opening and extend from the ceiling downward at least 12 inches on all sides. The spacing between sprinklers shall not exceed 6 feet.

b. All floors with escalator or ramp openings are equipped with automatic sprinkler systems.

c. There is provided a three-hour fire-resistive separation from floors not equipped with automatic sprinkler systems.

d. In mixed occupancies housing Groups A-2, A-2.1, A-3, A-4 or R-1 Occupancies, the entire building is of Type I construction.

3. In Type V buildings, chutes and dumbwaiter shafts with a cross-sectional area of not more than 9 square feet may be unenclosed if lined on the inside with lath and plaster or gypsum wallboard, with such lining covered with not less than No. 26 galvanized sheet metal gauge with all joints in such sheet metal locklapped. All openings into any such enclosure shall be protected by metal or metal-clad doors with either metal or metal-clad jambs, casings or frames.

4. Exit enclosures shall conform to the applicable provisions of Sections 3309 and 3310.

5. In one- and two-story buildings of other than Group I Occupancies, shafts for gas vents and for ducts or piping which extend through not more than two floors need not comply with Table No. 17-A.

6. Gas vents and noncombustible piping installed in walls of buildings passing through three floors or less need not comply with Table No. 17-A. Such shafts shall be effectively draft-stopped at each floor or ceiling.

7. Noncombustible pipe and conduit may be installed and maintained within the cavity of fire-resistive walls, provided both the floor and wall penetrations are tightly sealed with a noncombustible material impervious to the passage of smoke.

8. In buildings with Group H, Division 6 Occupancies, a fabrication area may have mechanical, duct and piping penetrations which extend through not more than two floors within that fabrication area. Penetrations for tubing, piping, conduit or duct shall be effectively draft-stopped at the floor level. The fabrication area, including the areas through which the ductwork and piping extend, shall be considered a single conditioned environment.

16.26.1710 Section 1710 amended. Section 1710 of the uniform building code is hereby amended to read as follows:

Sec. 1710. Cornices, eave overhangs, exterior balconies and similar architectural appendages extending beyond the floor area as defined in Section 407 shall conform to the requirements of this section. (See Sections 3305 and 3306 for additional requirements applicable to exterior exit balconies and stairways.)

Projections from walls of Type I or II construction shall be of noncombustible materials[.], provided that flame retardant membrane conforming to UBC Standard No. 55-1 projecting not more than 4 feet may be used at the first floor fronting on public ways or extending into yard space not closer than 20 feet from an adjacent property line.

building code is hereby amended to read as follows:

Sec. 1711. Guardrails. All unenclosed floor and roof openings, open and glazed sides of landings and ramps, balconies or porches which are more than 30 inches above grade or floor below, and roofs used for other than service of the building shall be protected by a guardrail. Guardrails shall be not less than 42 inches in height. Open guardrail and stair railings shall have intermediate rails or an ornamental pattern such that a sphere [6] 5 inches in diameter cannot pass through. The height of stair railings on open sides may be as specified in Section 3306(j) in lieu of providing a guardrail. Ramps shall, in addition, have handrails when required by Section 3307.

EXCEPTIONS: 1. Guardrails need not be provided on the loading side of loading docks.

2. Guardrails for Group R, Division 3 and Group M, Division 1 Occupancies may be 36 inches in height.

3. Interior guardrails within individual dwelling units or guest rooms of Group R, Division 1 Occupancies may be 36 inches in height.

4. The open space between the intermediate rails or ornamental pattern of guardrails in areas of commercial and industrial-type occupancies which are not accessible to the public may be increased such that a 12-inch-diameter sphere cannot pass through.

5. Guardrails on a balcony immediately in front of the first row of fixed seats and which are not at the end of an aisle may be 26 inches in height.

6. Guardrails need not be provided on the auditorium side of a stage or enclosed platform.

Openings or portions of openings in exterior walls which are less than 30 inches above a floor shall be provided with guardrails as required by Section 1711 when such openings are located 30 inches or more above grade and are not provided with structurally adequate safety glass installations or other barriers to prevent a person from falling through the openings.

Openable windows or portions of openable windows located above the first floor shall be provided with guardrails as specified in this section, when such windows are less than 42 inches above the floor in Group R, Division 1 Occupancies and less than 36 inches in Group R, Division 3 Occupancies.

16.26.1712(b)(3) Subsection 1712(b)(3) amended. Section 1712 of the uniform building code is hereby amended by amending subsection 1712(b)(3) to read as follows:

3. Cold Storage Construction. Foam plastic installed and meeting the requirements of Subsection 1712(a) [above] when tested in a thickness of 4 inches may be used in a thickness up to 10 inches in cold storage buildings, ice plants, food-processing rooms and similar areas. For rooms within a building, the foam plastic shall be protected by a thermal barrier on both sides having an index of 15.

Foam plastic insulation may be used in freestanding coolers and freezers without the thermal barrier when the foam plastic has a flame-spread rating of 25 or less when tested in the thickness intended for use, is covered by not less than 0.032 inch of aluminum or corrosion-resistant steel having a base metal thickness not less than 0.0160 inch at any point and is protected by an automatic sprinkler system. When such a cooler or freezer is within a building, both the cooler or freezer and that part of the building in which the room is located shall be sprinklered.

EXCEPTION: [Freestanding walk-in]
Walk-in coolers and freezer units having an aggregate floor area less than 400 square feet need meet only the flame-spread and smoke requirements of Section 1712(a) above.

16.26.1713 Section 1713 amended. Section 1713 of the uniform building code is hereby amended to read as follows

Sec. 1713. (a) General. Thermal and acoustical insulation located on or within floor-ceiling and roof-ceiling assemblies, crawl spaces, ducts, plenums, walls, and partitions, and insulation on pipes and tubing shall comply with this section. [Duct insulation and insulation in plenums shall conform to the requirements of the Uniform Mechanical Code.]

EXCEPTION: Roof insulation shall comply with Section 3204.

(b) **Insulation and Covering on Pipe and Tubing.** Insulation and covering on pipe and tubing shall have a flame-spread rating not to exceed 25 and a smoke density not to exceed 450 when tested in accordance with U.B.C. Standard No. 42-1.

EXCEPTION: [Foam plastic insulation shall comply with Section 1712.] Installation in Groups R-3 and M Occupancies.

(c) **Insulation[.] Within Floor-Ceiling Assemblies, Roof-Ceiling Assemblies, Walls, Crawl Spaces or Attics.** All insulation materials including facings, such as vapor barriers or breather papers installed within floor-ceiling assemblies, roof-ceiling assemblies, walls, crawl spaces or attics, shall have a flame-spread rating not to exceed 25 and a smoke density not to exceed 450 when tested in accordance with U.B.C. Standard No. 42-1.

EXCEPTIONS: 1. Foam plastic insulation shall comply with Section 1712.

2. When such materials are installed in concealed spaces of Types III, IV and V construction, the flame-spread and smoke-developed limitations do not apply to facings, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.

(d) **Insulation on or Within Ducts and Plenums.** For the purpose of this section, "duct" is any tube or conduit for transmission of air. This definition shall not include:

1. A vent, a vent connector or a chimney connector.
2. Any tube or conduit wherein the pressure of the air exceeds one pound per square inch; or
3. The air passages of listed self-contained systems.

Only approved materials shall be installed within ducts and plenums for insulating, sound deadening or other purposes. All such materials shall have a mold-, humidity- and erosion-resistant face that has met the requirements of U.M.C. Standard No. 10-1. Duct liners in systems operating at velocities in excess of 2000 feet per minute shall be fastened with both adhesive and mechanical fasteners, and all exposed edges shall have adequate treatment to withstand the operating velocity.

Insulation applied to the exterior surface of ducts located in buildings shall have a flame spread of not more than 25 and a smoke-developed rating of not more than 50 when tested as a composite installation, including insulation, facing materials, tapes and adhesives as normally applied.

EXCEPTION: Insulation having a flame-spread rating of not over 50 and a smoke-developed rating of not over 100 may be installed in dwellings where the duct system serves not more than one dwelling unit.

Faced insulations intended for installation on the exterior of ducts shall be legibly printed with the name of the manufacturer, nominal thickness of insulation and the flame-spread and smoke-developed ratings of the composite material.

16.26.1716(1) Subsection 1716(1) amended. Section 1716 of the uniform building code is hereby amended by amending subsection 1716(1) to read as follows:

1. The construction of a mezzanine shall be consistent with the requirements for the type of construction in which the mezzanine is located, but the fire-resistive time period need not exceed one hour for unenclosed mezzanines constructed in accordance with Item No. 4 below. The clear height above and below the mezzanine floor construction shall be not less than 7 feet[.] 6 inches.

EXCEPTION: In buildings of Type II-N construction, mezzanine floors, including supporting beams, girders and columns, may be of Type V one-hour fire-resistive construction with fire-retardant treated wood or better.

16.26.1803(b) Subsection 1803(b) amended. Section 1803 of the uniform building code is hereby amended by amending subsection 1803(b) to read as follows:

(b) Openings in Walls. All openings in exterior walls shall conform to the requirements of Section 504(b) and shall be protected by a fire assembly having a three-fourths hour fire-protection rating when they are less than 20 feet from an adjacent property line or the center line of a street or public way[.] or open drainageway. Such open drainageway shall be at least 10 feet wide, be unobstructed from the ground to the sky and permanently maintained as such, and extend along the entire length of the structure.

No openings shall be permitted in exterior walls of Groups A, E, I, H and B, Divisions 1, 2 and 3 Occupancies less than 5 feet from the property line, and no openings in Groups B, Division 4, R and M Occupancies less than 3 feet from the property line.

16.26.1807 Section 1807 deleted; new section 1807 added. Section 1807 of the uniform building code is hereby deleted and a new section 1807 is hereby added to read as follows:

Special Provisions for Group R-1 Occupancies and Group B, Division 2 Office Buildings.

Sec. 1807. (a) Scope. These requirements apply to buildings housing Group B, Division 2 Occupancies used as offices and to buildings housing Group R-1 Occupancies.

Such buildings having floors used for human occupancy located more than 75 feet above the lowest grade shall conform to the special requirement of this section in addition to other applicable requirements of this code.

(b) Automatic Sprinkler System. Automatic sprinkler system shall be provided throughout the building. The sprinkler system shall be designed using the parameters set forth in U.B.C. Standard No. 38-1 and the following:

1. Shutoff valves and a water flow device shall be provided for each floor.

2. Fire pumps shall be approved or listed for fire service by a nationally recognized independent testing agency.

EXCEPTION: Fire pumps of 250 gpm or less need not be listed for fire service but shall be approved by the Fire Chief.

(c) Fire Alarm. A manual or automatic fire alarm system shall be provided for each floor.

(d) Smoke Detection Systems. At least one approved smoke detector suitable for the intended use shall be installed:

1. In every mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar room.

2. In every interior exit corridor of a hotel building.

3. In the main return and exhaust air plenum of each air-conditioning system and located in a serviceable area downstream of the last duct inlet.

4. At each connection to a vertical duct or riser serving two or more stories from a return-air duct or plenum of an air-conditioning system. In Group R, Division 1 Occupancies, an approved smoke detector may be used in each return-air riser carrying not more than 5000 cfm and serving not more than 10 air inlet openings.

5. In every storage room, laundry room, furnace room and similar common area in Group R, Division 1 Occupancies.

Smoke detection system conforming to the provisions of Chapter 4 of NFPA Standard 90A will be accepted in lieu of the above.

Every smoke detection system shall be connected to an annunciator and to the fire alarm system under subsection (e) of this section and shall place into operation all equipment necessary to prevent the recirculation of smoke.

(e) Central Control Alarm and Communication Panel. The central control panel shall be installed, approved and tested in accordance with the Uniform Fire Code of the Department of Fire Control and shall contain:

1. The alarm and public address system panels.

2. The Department of Fire Control Closed Communication System.

3. Fire detection and alarm system annunciator panels.

4. Status Indicator and Phase I Fireman's Control for Elevators.

5. Controls for unlocking all stairway doors simultaneously when alarm is sounded (if applicable).

6. Zoned sprinkler valve and water-flow detector display panel.

(f) Alarm and Communications System. The alarm and communications system shall be designed and installed so that damage to any terminal unit or speaker will not render more than one zone of the system inoperative.

The following communication systems shall be provided:

1. Alarm System. The operation of any sprinkler, water flow device or manual fire alarm station shall automatically sound an alert to the designated areas.

The central control panel shall contain controls for the alarm system so that a selective (on a floor by floor basis) or general alarm may be manually initiated.

The alarm shall be designated to be heard by all occupants within the building or designated portions thereof as is required for the public address system.

The system shall be supervised to cause the activation of an audible trouble signal in the central control panel upon interruption or failure of the audio path including amplifiers, speaker wiring, switches and electrical contacts and shall detect open shorts and grounds which might impair the function of the system.

2. Public Address System. A public address communications system designed to be clearly heard by all occupants of the building, on a general or selective basis, with speakers located in the following areas:

A. Elevators.

B. Elevator lobbies.

C. Public restrooms.

D. Corridors.

E. Exit stairways.

F. Tenant occupied spaces.

G. Dwelling units in apartment houses.

H. Hotel guest rooms or suites.

3. Department of Fire Control (Closed) Communications System. Two-way Department of Fire Control Closed Communication Lines consisting of jack or plug receptacles at indicated locations shall be provided for Department of Fire Control use. A jack or plug shall be located at:

A. The central alarm and communication panel or other central location approved by the Department of Fire Control.

B. The designated fireman's elevator.

C. Each elevator lobby on each floor of the building.

D. Stairwell side of each exit into each stairway.

The alarm system and the public address system may be a combined system. The Department of Fire Control Communications System may be combined with the alarm system and the public address system when they are an approved system.

(g) Smoke Control. Natural or mechanical ventilation for the removal of products of combustion shall be provided in every story and shall consist of one of the following:

1. Panels or windows in the exterior wall which can be opened remotely from an approved location other than the fire floor. Such venting facilities shall be provided at the rate of 20 square feet per 50 lineal feet of exterior wall in each story and shall be distributed around the perimeter at not more than 50 foot intervals. Such windows or panels and their controls shall be clearly identified.

EXCEPTION: When a complete automatic sprinkler system is installed, windows or panels manually openable from within the fire floor or approved fixed tempered glass may be used in lieu of the remotely operated openable panels and windows. Such windows shall be clearly identified and shall be of the size and spacing called for in Section 1807(g)(1).

2. When a complete and approved automatic sprinkler system is installed, the mechanical air-handling equipment may be designed to accomplish smoke removal. Under fire conditions, the return and exhaust air shall be moved directly to the outside without recirculation to other sections of the building. The air-handling system shall provide a minimum of one exhaust air change each 10 minutes for the area involved.

3. Any other approved design which will produce equivalent results.

(h) Standby Power and Light Systems. An approved permanently installed standby power-generating system shall be provided. The system shall be equipped with suitable means for automatically starting the generator set upon failure of the normal electrical supply systems and for automatic transfer and operation of all the required electrical functions at full power within 30 seconds of such normal service failure. An on-premise fuel supply sufficient for not less than 2 hours full demand operation of the system shall be provided. Should the standby power unit become inoperable at any time due to breakdown of equipment and cannot be repaired immediately, a portable emergency power unit shall be installed to take its place until the equipment is repaired and in operable condition.

The building official may approve other reliable sources of energy to power the standby power-generating system.

All power, lighting and signal facilities provided under the requirements of this section shall be transferable to the standby power system. The power requirement shall be determined so as to provide service to, but not limited to the following:

1. Fire alarm system.
2. Exit and other emergency lighting.
3. Fire protection equipment.
4. Mechanical ventilation required by this section and/or Section 3310(g).
5. Elevator designated for fire service.
6. Electrically operated exit locks.

The standby power-generating system shall be tested regularly as required by the Fire Chief.

(i) Exits. All stairway doors which are to be locked to prevent entry from the stairway side shall have electric strikes which will be automatically unlocked without unlatching upon actuation of the fire alarm system or in the event of power failure. Controls for electric strikes may be provided with manual override of the automatic system.

(j) Reductions from Code. When a complete approved automatic sprinkler system complying with this section is installed in a building, the following modifications of code requirements are permitted:

The fire-resistive time period reduction as specified herein shall not apply to exterior bearing and nonbearing walls whose fire-resistive rating has already been reduced under the exceptions contained within Section 1803(a) or 1903(a).

1. The fire-resistive time periods set forth in Table No. 17-A may be reduced by one hour for interior bearing walls, exterior bearing and nonbearing walls, roofs and the beams supporting roofs, provided they do not frame into columns. Vertical shafts other than stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.

The fire-resistive time period reduction as specified herein shall not apply to exterior bearing and nonbearing walls whose fire-resistive rating has already been reduced under the exceptions contained within Section 1803(a) or 1903(a).

2. Except for corridors in Group R, Division 1 Occupancies and partitions separating dwelling units or guest rooms, all interior nonbearing partitions required to be one-hour fire-resistive construction by Table No. 17-A may be of noncombustible construction without a fire-resistive time period; provided doors in such walls forming corridors shall be tight-fitting and maintained self-closing or shall be automatic closing in accordance with Section 4306(b)(2).

3. Fixed tempered glass may be used in lieu of openable panels for smoke control purposes.

4. In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.

5. Fire dampers, other than those needed to protect floor-ceiling assemblies to maintain the fire resistance of the assembly, are not required except for those which may be necessary to bypass smoke to outside, those provided to convert from recirculated air to 100 percent outside air, and those which may be required to protect the fresh air supply intake against smoke which may be outside the building.

6. Emergency windows required by Section 1204 are not required.

(k) Elevator Lobbies. Elevator lobbies shall comply with the following:

Elevators on all floors shall open into elevator lobbies which are separated from the remainder of the building, including corridors and other exits, by walls extending from the floor to the underside of the fire-resistive floor or roof. Such walls shall be of not less than one-hour fire-resistive construction. Openings through such walls shall conform to Section 3305(h).

EXCEPTIONS: 1. The main entrance level elevator lobby in office buildings.

2. Elevator lobbies located within an atrium complying with the provisions of Section 1715.

3. In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby.

16.26.2106(e) Subsection 2106(e) amended. Section 2106 of the uniform building code is hereby amended by amending subsection 2106(e) to read as follows:

(e) Floors. Floors shall be without concealed spaces. [Floors shall be of planks, splined or tongue and groove, of not less than 3 inches in thickness covered with 1-inch tongue-and-groove flooring laid crosswise or diagonally, or 1/2-inch plywood, or of plank not less than 4 inches in width set on edge close together and well spiked, and covered with 1-inch flooring or 1/2-inch plywood. The lumber shall be laid so that no continuous line of joints will occur except at points of support. Floors shall not extend closer than 1/2 inch to walls. Such 1/2-inch space shall be covered by a molding fastened to the wall and so arranged that it will not obstruct the swelling or shrinkage movements of the floor. Corbeling of masonry walls under floors may be used in place of such molding.] Heavy timber constructed floors shall be not less than 3 inches nominal splined or tongued-and-grooved plank or may be of laminated slab construction conforming to the provisions of Section 2106(h).

16.26.2203 Section 2203 amended. Section 2203 of the uniform building code is hereby amended to read as follows:

Sec. 2203. Exterior walls shall comply with fire-resistive requirements set forth in Section 504 [and], Table No. 5-A[.], and Table No. 17-A. Openings in exterior walls located where protected openings are required by Table No. 5-A shall be protected by fixed fire windows or automatic-closing fire windows or self-closing doors having a fire-protection rating of at least three-fourths hour and shall comply with Section 504.

EXCEPTION: Nonbearing walls of Type V one-hour buildings fronting on public ways or yards having a width of at least 40 feet may be of unprotected noncombustible construction or of wood studs with 5/8 of an inch exterior-type plywood or similar material having a 15 minute finish rating on the exterior surface and with interior surface treatment as required for one-hour fire-resistive construction.

16.26.2350 Table no. 23-C amended. Table no. 23-C of the uniform building code is hereby amended to read as follows:

TABLE NO. 23-C—MINIMUM ROOF LIVE LOADS¹

ROOF SLOPE	METHOD 1			METHOD 2		
	TRIBUTARY LOADED AREA IN SQUARE FEET FOR ANY STRUCTURAL MEMBER			UNIFORM LOAD ²	RATE OF REDUC-TION r (Percent)	MAXIMUM REDUC-TION R (Percent)
	0 to 200	201 to 600	Over 600			
1. Flat or rise less than 4 inches per foot. Arch or dome with rise less than one eighth of span	20	16	12	20	.08	40
2. Rise 4 inches per foot to less than 12 inches per foot. Arch or dome with rise one eighth of span to less than three eighths of span	16	14	12	16	.06	25
3. Rise 12 inches per foot and greater. Arch or dome with rise three eighths of span or greater	12	12	12	12	No Reductions Permitted	
4. Awnings except cloth covered ³	5	5	5	5		
5. [Greenhouses, lath houses and agricultural buildings. ⁴] <u>Greenhouses and agricultural buildings, not including lath houses⁴</u>	10	10	10	10		

- ¹ Where snow loads occur, the roof structure shall be designed for such loads as determined by the building official. See Section 2305(d). For special purpose roofs, see Section 2305(e).
- ² See Section 2306 for live load reductions. The rate of reduction r in Section 2306 Formula (6-1) shall be as indicated in the table. The maximum reduction R shall not exceed the value indicated in the table.
- ³ As defined in Section 4506.
- ⁴ See Section 2305(e) for concentrated load requirements for greenhouse roof members.

16.26.2402(b)(6) Subsection 2402(b)(6) amended. Section 2402 of the uniform building code is hereby amended by amending subsection 2402(b)(6) to read as follows:

6. Masonry units—other:

A. Calcium silicate:

(i) U.B.C. Standard No. 24-2, Calcium Silicate Face Brick (Sand-lime Brick).

B. Glass block:

(i) Glass block may be solid or hollow and contain inserts.

(ii) All mortar contact surfaces shall be treated to ensure adhesion between mortar and glass.

C. U.B.C. Standard No. 24-14, Unburned Clay Masonry Units.

D. U.B.C. Standard No 24-13, Cast Stone.

E. Reclaimed units:

(i) Reclaimed or previously used masonry units shall meet the applicable requirements as for new masonry units of the same material for their intended use.

F. Stone:

(i) Natural stone shall be sound and clean.

16.26.2407(h)(2) Subsection 2407(h)(2) amended. Section 2407 of the uniform building code is hereby amended by amending subsection 2407(h)(2) to read as follows:

2. **Special provisions for Seismic Zones Nos. 0 and 1.** There are no special design and construction provisions in this section for structures built in Seismic [Zones Nos. 0 and 1] Zone No. 0. When calculating shear or diagonal tension stresses for masonry structures in Seismic Zone No. 1, shear walls which resist seismic forces shall be designed to resist 1.5 times the forces required by Section 2312(d).

16.26.2407(i)(7)(C) Subsection 2407(i)(7)(C) amended. Section 2407 of the uniform building code is hereby amended by amending subsection 2407(i)(7)(C) to read as follows:

C. **Minimum thickness.** [The thickness of stone] Stone masonry [bearing] walls shall not be less than [16] 14 inches[.] thick.

16.26.2409(e)(7) Subsection 2409(e)(7) added. Section 2409 of the uniform building code is hereby amended by adding thereto a new subsection 2409(e)(7) to read as follows:

7. **Wall reinforcement.** All walls shall be reinforced with both vertical and horizontal reinforcement. The sum of the areas of horizontal and vertical reinforcement shall be at least .002 times the gross cross-sectional area of the wall, and the minimum area of reinforcement in either direction shall not be less than .0007 times the gross cross-sectional area of the wall. The spacing of reinforcement shall not exceed 4 feet. The diameter of reinforcement shall not be less than 3/8 inch except that joint reinforcement may be considered as part or all of the requirement for minimum reinforcement. Reinforcement shall be continuous around wall corners and through intersections. Only horizontal reinforcement which is continuous in the wall element shall be considered in computing the minimum area of reinforcement. Reinforcement with splices conforming to Section 2409(e)(6) shall be considered as continuous reinforcement.

Vertical reinforcement not less than 0.2 square inch in cross-sectional area shall be provided continuously from support to support at each corner, at each side of each opening, at the ends of walls and at a maximum spacing of 4 feet apart, horizontally throughout the wall.

Horizontal reinforcement not less than 0.2 square inch in cross-sectional area shall be provided:

1. At the bottom and top of wall openings and shall extend not less than 24 inches nor less than 40 bar diameters past the opening,

2. Continuously at structurally connected roof and floor levels and at the top of walls,

3. At the bottom of the wall or in the top of the foundations when dowelled to the wall,

4. At maximum spacing of 10 feet unless uniformly distributed joint reinforcement is provided. Reinforcement at the top and bottom of openings when continuous in the wall may be used in determining the maximum spacing specified in Item No. 1 above.

16.26.2450 Table no. 24-A amended. Table no. 24-A of the uniform building code is hereby amended to read as follows:

**TABLE NO. 24-A—MORTAR PROPORTIONS BY VOLUME
FOR UNIT MASONRY²**

MORTAR TYPE	PARTS BY VOLUME OF PORTLAND CEMENT ¹	PARTS BY VOLUME OF MASONRY CEMENT	PARTS BY VOLUME OF HYDRATED LIME OR PUTTY ¹	AGGREGATE MEASURED IN A DAMP, LOOSE CONDITION
M	1 1	1 —	— 1/4	Not less than 2 1/4 and not more than 3 times the sum of the volumes of the cements and lime used.
S	1/2 1	1 —	— over 1/4 to 1/2	
N	— 1	1 —	— over 1/2 to 1 1/4	
O	— 1	1 —	— over 1 1/4 to 2 1/2	

¹ When plastic cement is used in lieu of portland cement, hydrated lime or putty may be added, but not in excess of one tenth of the volume of cement.

² Admixtures approved by the building official may be added to the mortar.

16.26.2516(c)(2) Subsection 2516(c)(2) amended. Section 2516 of the uniform building code is hereby amended by deleting subsection 2516(c)(2) and adding a new subsection 2516(c)(2) to read as follows:

2. Under-floor clearance. Minimum clearance between bottom of floor joists or bottom of floors without joists and the ground beneath shall be 20 inches; between bottom of girders and the ground shall be 12 inches.

EXCEPTION: Open slat wood decks shall have ground clearance of at least 6 inches for any wood member. Accessible under-floor areas shall be provided with a minimum 14 inch by 24 inch access opening.

16.26.2517(h)(9) Subsection 2517 (h)(9) added. Section 2517 of the uniform building code is hereby amended by adding subsection 2517(h)(9) to read as follows:

9. Uplift ties. Rafters shall be tied to the exterior plate with a galvanized steel connector having a minimum thickness of 0.0047 inch. Each tie shall be nailed with four 8d face nails to each member.

16.26.2518 Section 2518 added. Chapter 25 of the uniform building code is hereby amended by adding thereto a new section, to be designated and to read as follows:

Sec. 2518. (a) Walls Without Studs. For Type V buildings, single wall construction without studs may be used in accordance with this section.

(b) One-story and the uppermost story of wood frame Type V-N buildings may be of single wall construction with boards of thickness specified in this section, without studs, when requirements of this section are met. Floor to ceiling height shall not exceed 8 feet.

Any provisions of this code to the contrary notwithstanding, studding of not less than 2 inches by 3 inches may be used on one-story buildings of double wall construction.

When wood frame dwellings are supported by posts, 2 inches by 4 inches foundation bracing shall be provided to resist wind and earthquake forces.

(c) Board for Single Wall Construction.

1. One and one-eighth inch boards. Single wall construction with boards of 1 1/8 inch net thickness are not required to have girts.

2. One inch boards. Where single wall construction is with boards of one inch net thickness, no girt is required provided approved stiffeners for any section of such wall is spaced not more than 10 feet along the wall.

3. Three-fourths inch boards. Single wall construction with boards of 3/4 inch net thickness shall have girts and cross partitions at least every 30 feet.

4. Eleven-sixteenths inch boards. Single wall construction with boards of 11/16 inch net thickness shall be limited to the following conditions:

A. The span between load bearing walls shall not exceed 24 feet;

B. The dead load on such walls shall not exceed 150 pounds per lineal foot;

C. Girts shall be provided;

D. There shall be approved stiffeners at least every 10 feet along such wall; and

E. Any openings in such walls for windows and doors shall have full-height jambs or studs where the girt is not continuous.

(d) Approved Stiffeners. Approved stiffeners shall be studs at least 2 inches by 4 inches, full-height window or door, jambs, posts, walls or partitions at right angle to the section of wall under consideration.

(e) Girts. Girts for single wall construction shall be not less than 2 inches by 6 inches belt course or other approved strengthening about mid-height between the floor and the ceiling on all exterior walls.

16.26.2604(h)(1) Subsection 2604(h)(1) deleted; New Section 2604(h)(1) added. Section 2604 of the uniform building code is hereby amended by deleting subsection 2604(h)(1) and adding a new section 2604(h)(1) to read as follows:

1. Strength tests may be required by the building official. When tests are required, samples for strength tests of each class of concrete shall be taken not less than once a day, nor less than once for each 150 cubic yards of concrete, nor less than once for each 5000 square feet of surface area placed. Each strength test result shall be the average of 2 cylinders from the same sample tested at 28 days or the specified earlier age.

When the frequency of testing of the preceding paragraph will provide less than 5 tests for a given class of concrete, tests shall be made from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

16.26.2901 Section 2901 amended. Section 2901 of the uniform building code is hereby amended to read as follows:

Sec. 2901. This chapter sets forth requirements for excavation and fills for any building or structure and for foundations and retaining structures.

Reference is made to Appendix Chapter [70] 23, Maui County Code, for requirements governing excavation, grading and earthwork construction, including fills and embankments.

16.26.2904(b) Subsection 2904(b) deleted. Section 2904 of the uniform building code is hereby amended by deleting subsection 2904(b).

16.26.2908(b) Subsection 2908(b) amended. Section 2908 of the uniform building code is hereby amended by amending subsection 2908(b) to read as follows:

(b) **Determination of Allowable Loads.** The allowable axial and lateral loads on piles shall be determined by an approved formula, by load tests or by a foundation investigation.

A static load test shall be made on at least one pile when the allowable axial load for a single pile exceeds 40 tons. Where the allowable axial load for a single pile is 40 tons or less, static load test shall be made upon request by the building official.

EXCEPTION: The load test may be waived by the building official if substantiated by the soils report.

16.26.3207(e) Subsection 3207(e) amended. Section 3207 of the uniform building code is hereby amended by amending subsection 3207(e) to read as follows:

(e) **Over Public Sidewalk.** [Roof drainage water from a building shall not be permitted to flow over public property.] If roof gutters are provided, the water from the roof of all buildings which would flow by gravity onto a public sidewalk shall be carried by means of conduits under the sidewalk and through the curb into the street gutter.

EXCEPTION: Buildings of Groups R-3 or M Occupancies, the walls of which are 15 feet or more from the street property line, need not comply with the above.

16.26.3303(a) Subsection 3303(a) amended. Section 3303 of the uniform building code is hereby amended by amending subsection 3303(a) to read as follows:

Sec. 3303. (a) Number of Exits. Every building or usable portion thereof shall have at least one exit, not less than two exits where required by Table No. 33-A and additional exits as required by this subsection.

For purposes of this section, basements and occupied roofs shall be provided with exits as required for stories.

Floors complying with the provisions for mezzanines as specified in Section 1716 shall be provided with exits as specified therein.

The second story shall be provided with not less than two exits when the occupant load is 10 or more.

EXCEPTIONS: 1. Except as provided in Table No. 33-A, only one exit [need] shall be [provided from the second story within an individual dwelling unit. Refer to] required for Group R, Division 3 Occupancies. Refer to Section 1204 for emergency escape or rescue requirements from sleeping rooms.

2. Two or more dwelling units on the second story may have access to only one common exit when the total occupant load does not exceed 10.

Such units need not have direct access to an exterior exit balcony in buildings equipped with an automatic fire-extinguishing system throughout.

3. Type I or Type II-F.R. buildings in Group R, Division 1 apartment house occupancies with not more than two dwelling units on any floor may have a single exit that is immediately accessible to all dwelling units served thereby.

4. Buildings of Group R, Division 1 Occupancies of at least one-hour fire-resistive construction, not exceeding three stories in height, may have a single exit serving not more than two units per floor, provided that such exit is an enclosed stairway or an exterior stairway, of heavy timber or other non-combustible material and provided further that such exit is immediately accessible to all units served.

5. Floors and basements used exclusively for service of the building may have one exit. For the purposes of this exception, storage rooms, laundry rooms, maintenance offices and similar uses shall not be considered as providing service to the building.

6. Basements within an individual dwelling unit having an occupant load of less than 10 may have one exit.

7. Storage rooms, laundry rooms and maintenance offices not exceeding 300 square feet in floor area may be provided with only one exit.

8. Occupied roofs on Group R, Division 3 Occupancies may have one exit if such occupied areas are less than 500 square feet located no higher than immediately above the second story.

Occupants on floors above the second story and in basements shall have access to not less than two separate exits from the floor or basement.

EXCEPTIONS: 1. Floors and basements used exclusively for service of the building may have one exit. For the purposes of this exception, storage rooms, laundry rooms, maintenance offices and similar uses shall not be considered as providing service to the building.

2. Basements within an individual dwelling unit having an occupant load of less than 10 may have one exit.

3. Storage rooms, laundry rooms and maintenance offices not exceeding 300 square feet in floor area may be provided with only one exit.

4. Occupied roofs on Group R, Division 3 Occupancies may have one exit if such occupied areas are less than 500 square feet located no higher than immediately above the second story.

For special requirements see the following sections: Group A, Sections 3317 and 3318; Group E, Section 3319; Group H, Section 3320; Group I, Section 3321; Rooms Containing Fuel-fired Equipment and Cellulose Nitrate Handling Rooms, Section 3322; Reviewing Stands, Grandstands and Bleachers, Sections 3323 and 3324; and Open Parking Garages, Section 709(g). For stage exits, see Section 3903(f).

Every story or portion thereof having an occupant load of 501 to 1000 shall have not less than three exits.

Every story or portion thereof having an occupant load of 1001 or more shall have not less than four exits.

The number of exits required from any story of a building shall be determined by using the occupant load of that story plus the percentages of the occupant loads of floors which exit through the level under consideration as follows:

1. Fifty percent of the occupant load in the first adjacent story above and the first adjacent story below, when a story below exits through the level under consideration.

2. Twenty-five percent of the occupant load in the story immediately beyond the first adjacent story.

The maximum number of exits required for any story shall be maintained until egress is provided from the structure. (See Section 3311.)

16.26.3304(b) Subsection 3304(b) amended. Section 3304 of the uniform building code is hereby amended by amending subsection 3304(b) to read as follows:

(b) Swing and Opening Force. Exit doors shall swing in the direction of exit travel when serving any hazardous area or when serving an area having an occupant load of 50 or more. The force required to open a side swinging exit door shall not exceed 30 pounds applied at the latch side. See Section 4507 for doors swinging over public property.

Double-acting doors shall not be used as exits when any of the following conditions exist:

1. The occupant load served by the door is 100 or more.
2. The door is part of a fire assembly.
3. The door is part of a smoke- and draft-control assembly.
4. Panic hardware is required or provided on the door.

EXCEPTION: Double acting screen doors used in conjunction with exit doors having panic hardware in school cafeteriums.

A double-acting door shall be provided with a view panel of not less than 200 square inches.

16.26.3305(e) Subsection 3305(e) amended. Section 3305 of the uniform building code is hereby amended by amending subsection 3305(e) to read as follows:

(e) **Access to Exits.** When more than one exit is required, they shall be so arranged that it is possible to go in either direction from any point in a corridor to a separate exit, except for dead ends not exceeding 20 feet in length.

EXCEPTION: Foyers, lobbies or reception areas which are constructed as required for corridors may have dead ends exceeding 20 feet, provided that the ratio of length of dead end to width does not exceed two to one.

16.26.3306(b) Subsection 3306(b) amended. Section 3306 of the uniform building code is hereby amended by amending subsection 3306(b) to read as follows:

(b) **Width.** [Stairways] Width of stairways shall be determined in accordance with Section 3303 (b); provided that stairways serving an occupant load of 50 or more shall be not less than 44 inches in width[. Stairways]; stairways serving an occupant load of 49 or less shall be not less than 36 inches in width[.]; and provided further that such stairways having Class I or III standpipes installed therein shall be not less than 44 inches in width. Private stairways serving an occupant load of less than 10 shall be not less than 30 inches in width. For the purpose of this section, the occupant load of a stairway shall be the total occupant load of all floors served by the stairway.

Handrails may project into the required width a distance of 3 1/2 inches from each side of a stairway. Stringers and other projections such as trim and similar decorative features may project into the required width 1 1/2 inches on each side.

16.26.3306(j) Subsection 3306(j) amended. Section 3306 of the uniform building code is hereby amended by amending subsection 3306(j) to read as follows:.

(j) **Handrails.** Stairways shall have handrails on each side, and every stairway [required to be] more than 88 inches in width shall be provided with not less than one intermediate handrail for each 88 inches of required width. Intermediate handrails shall be spaced approximately equally across the entire width of the stairway.

EXCEPTIONS: 1. Stairways less than 44 inches in width and stairways serving one dwelling unit in Group R[, Division 1 or 3] Occupancies may have one handrail[. Stairways open on one or both sides shall have handrails on the open side or sides.],except that such stairways open on one or both sides shall have handrails provided on the open side or sides.

2. [Private stairways 30 inches or less in height may have handrails on one side only.] Stairways having less than 4 risers need not have handrails.

[3. Stairways having less than four risers and serving one individual dwelling unit in Group R, Division 1 or 3, or serving Group M Occupancies need not have handrails.]

Handrails shall be placed not less than 30 inches nor more than 34 inches above the nosing of treads. They shall be continuous the full length of the stairs and except for private stairways, at least one handrail shall extend not less than 6 inches beyond the top and bottom risers. Ends shall be returned or shall terminate in newel posts or safety terminals.

Handrails projecting from a wall shall have a space of not less than 1 1/2 inches between the wall and the handrail. The handgrip portion of handrails shall be not less than 1 1/4 inches nor more than [2] 3 3/4 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners.

[Handrails projecting from a wall shall have a space of not less than 1 1/2 inches between the wall and the handrail.]

16.26.3307(d) Subsection 3307(d) amended. Section 3307 of the uniform building code is hereby amended by amending subsection 3307(d) to read as follows:

(d) Landings. Ramps for the physically handicapped having slopes steeper than 1 vertical to 15 horizontal shall have landings at the top and bottom, and at least one intermediate landing shall be provided for each 5 feet of rise. Top landings and intermediate landings shall have a dimension measured in the direction of ramp run of not less than 5 feet. Landings at the bottom of ramps shall have a dimension in the direction of ramp run of not less than 6 feet.

Other ramps with slopes steeper than 1 vertical to 10 horizontal shall have landings as required for stairways.

Doors in any position shall not reduce the minimum dimension of the landing to less than 42 inches and shall not reduce the required width by more than [3 1/2] 7 inches when fully open.

When ramp access is provided in accordance with Table No. 33-A and a door swings over a landing, the landing shall extend at least 24 inches beyond the latch edge of the door, measured parallel to the door in the closed position, and shall have a length parallel to the direction of travel through the doorway of not less than 5 feet.

16.26.3309(a) Subsection 3309(a) amended. Section 3309 of the uniform building code is hereby amended by amending subsection 3309(a) to read as follows:

Sec. 3309. (a) General. Every interior stairway, ramp or escalator shall be enclosed as specified in this section.

EXCEPTIONS: 1. In other than Group H, Division 6 and Group I Occupancies, an enclosure need not be provided for a stairway, ramp or escalator serving only one adjacent floor and not connected with corridors or stairways serving other floors. For enclosure of escalators serving Group B Occupancies, see Chapter 17.

2. Stairs in Group R, Division 3 Occupancies and stairs within individual dwelling units in Group R, Division 1 Occupancies need not be enclosed.

3. Stairs in open parking garages, as defined in Section 709, need not be enclosed[.], provided that such stairs are not a continuation of exits from upper floors which are required to be enclosed.

16.26.3310(b) Subsection 3310(b) amended. Section 3310 of the uniform building code is hereby amended by amending subsection 3310(b) to read as follows:

(b) [When] Where Required. [In a building having a floor used for human occupancy which] Where a floor of any story is located more than 75 feet above the lowest level of fire department vehicle access, all of the required exits shall be smokeproof enclosures.

EXCEPTIONS: 1. For [building] buildings equipped with an automatic sprinkler system throughout in accordance with Section 1807(c) or buildings compartmented in accordance with Section 1807(1), smoke-proof enclosures may be omitted, provided all enclosed exit stairways are equipped with a barometric dampered relief opening at the top and the stairway is supplied mechanically with sufficient air to discharge a minimum of 2500 cubic feet per minute through the relief opening while maintaining a minimum positive pressure of [0.25-inch] not less than 0.05 inch and not more than 0.10 inch water column in the shaft relative to atmospheric pressure with all doors closed. Activation of the mechanical equipment shall be in accordance with Section 3310(g)6.

2. Enclosures need not be provided in open parking garages as defined in Section 709.

16.26.3310(f) Subsection 3310(f) amended. Section 3310 of the uniform building code is hereby amended by amending subsection 3310(f) to read as follows:

(f) **Smokeproof Enclosure by Natural Ventilation.**

1. **Doors.** When a vestibule is provided, the door assembly into the vestibule shall have a one and one-half-hour fire-protection rating, and the door assembly from the vestibule to the stairs shall be a smoke- and draft-control assembly having not less than a 20-minute fire-protection rating. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector.

When access to the stairway is by means of an open exterior exit balcony, the door assembly to the stairway shall have a one and one-half-hour fire-protection rating and shall be maintained self-closing or shall be automatic closing by actuation of a smoke detector.

[2. **Open-air vestibule.** The vestibule shall have a minimum dimension of 44 inches in width and 72 inches in direction of exit travel. The vestibule shall have a minimum of 16 square feet of opening in a wall facing an exterior court, yard or public way at least 20 feet in width.]

2. **Open-air vestibule.** The required vestibule opening to the outside shall be not more than 10 feet from the door opening into the stairshaft, shall be not less than 16 square feet in area with a minimum dimension of 36 inches, shall not be glazed or obstructed in any manner and shall face a public way at least 20 feet in width or a yard at least 20 feet in width leading to a public way at least 20 feet in width.

16.26.3310(g) Subsection 3310(g) amended. Section 3310 of the uniform building code is hereby amended by amending subsection 3310(g) to read as follows:

(g) Smokeproof Enclosures by Mechanical Ventilation.

1. **Doors.** The door assembly from the building into the vestibule shall have a one and one-half-hour fire-protection rating, and the door assembly from the vestibule to the stairway shall be a smoke- and draft-control assembly having not less than a 20-minute fire-protection rating. The door to the stairways shall be provided with a drop-sill or other provision to minimize [the] air leakage. The doors shall [be automatic closing] close automatically by actuation of a smoke detector or [in the event of a] upon power failure.

[2. **Vestibule size.** Vestibules shall have a minimum dimension of 44 inches in width and 72 inches in direction of exit travel.]

2. Dimensions and layout of vestibule. The minimum width of the vestibule shall be not less than 44 inches. The minimum distance between the nearest portions of the opening of the door into the vestibule and the opening of the door from the vestibule into the stairshaft shall not be less than 6 feet.

3. [Vestibule ventilation. The vestibule shall be provided with not less than one air change per minute, and the exhaust shall be 150 percent of the supply.] Air movement in vestibule. Air change in each vestibule shall be not less than 1 1/2 times per minute. Supply air shall enter and exhaust air shall discharge from the vestibule through separate tightly constructed metal ducts used only for that purpose. Supply air shall enter the vestibule within 6 inches of the floor level[.] close to the stairway door. [The top of the exhaust] Exhaust register shall be [down from the top of the smoke trap and shall be entirely within the smoke trap area.] located entirely within the smoke trap area with the top of the register not more than 6 inches down from the top of the trap and close to the strike side of the entry door to the vestibule. Doors, when in the open position, shall not obstruct duct openings. [Duct openings may be provided with controlling dampers] Controlling dampers may be provided in duct openings, if needed, to meet the design requirements but are not otherwise required. Pressure in the vestibule shall be maintained at approximately atmospheric level.

For buildings where such air changes would result in excessively large duct and blower requirements, a specially engineered system shall provide 2500 cfm exhaust from the vestibule when in emergency operation and shall be sized to handle 3 vestibules simultaneously and the smoke detector located outside each vestibule shall release to open the supply and exhaust duct dampers in the affected vestibule.

4. Smoke trap. The vestibule ceiling shall be at least 20 inches higher than the door opening into the vestibule to serve as a smoke and heat trap and to provide an upward-moving air column. [The height may be decreased when justified by engineering design and field testing.] This dimension may be reduced when approved by the building official where the rate of air change is increased above the 1 1/2 times per minute air change required under Item No. 3 above or when the engineered system noted under Item No. 3 is used, but in no case shall be less than 12 inches.

5. **Stair shaft air movement system.** [The stair shaft shall be provided with a dampered relief opening at the top and supplied mechanically with sufficient air to discharge a minimum of 2500 cubic feet per minute through the relief opening while maintaining a minimum positive pressure of 0.05 inch of water column in the shaft relative to atmosphere with all doors closed and a minimum of 0.10 inch water column difference between the stair shaft and the vestibule.] The stair shaft shall be provided with mechanical supply and exhaust air. There shall be a minimum of 2500 cfm discharge at the top of the shaft. The supply shall be sufficient to provide air pressure of not less than 0.05 inch and not more than 0.10 inch water column with respect to atmospheric pressure with all doors closed.

6. **[Operation of ventilating equipment.** The activation of the ventilating equipment shall be initiated by a smoke detector installed outside the vestibule door in an approved location. The activation of the closing device on any door shall activate the closing devices on all doors of the smokeproof enclosure at all levels. When the closing device for the stair shaft and vestibule doors is activated by a smoke detector or power failure, the mechanical equipment shall operate at the levels specified in items nos. 3 and 5.] **Detectors and operation of ventilating equipment.** A detection device shall be installed in the corridor ceiling above the door to the vestibule. Buildings required to have fire alarm systems by governmental regulations shall have the detectors installed as described herein tied in with such alarm systems.

Vestibules and stair shaft mechanical ventilation may be inactive or may operate at reduced levels for normal operations as approved by the building official. The activation of the closing device on any door shall activate the closing devices on all doors of the smokeproof enclosure at all levels. When the closing device for the stair shaft and vestibule doors is activated by a smoke detector or power failure, the mechanical equipment shall operate at the levels specified in items No. 3 and 5. Failure of the mechanical ventilation equipment shall cause an alarm to be set off.

7. **Standby power.** Standby power for mechanical ventilation equipment shall be provided by an approved self-contained generator set to operate whenever there is a loss of power in the normal house current. The generator shall be in a separate room having a minimum one-hour fire-resistive occupancy separation and shall have a minimum fuel supply adequate to operate the equipment for two hours. See Section 1807[(1)](h) for standby power requirements for high-rise Group B, Division 2 offices and Group R, Division 1 Occupancies.

8. **Acceptance testing.** Before the mechanical equipment is accepted by the building official, it shall be tested to confirm that the mechanical equipment is operating in compliance with these requirements.

9. **Emergency lighting.** The stair shaft and vestibule shall be provided with emergency lighting. A standby generator which is installed for the smokeproof enclosure mechanical ventilation equipment may be used for such stair shaft and vestibule power supply. See Section 1807[(1)](g) for emergency lighting requirements for high-rise Group B, Division 2 offices and Group R, Division 1 Occupancies.

16.26.3313(b) Subsection 3313(b) amended. Section 3313 of the uniform building code is hereby amended by amending subsection 3313(b) to read as follows:

(b) **Power Supply.**

1. **Separate branch circuits.** The power supply for exit illumination shall be provided by two separate branch circuits of the normal premises wiring system, unless an emergency system is installed, [where the occupant load served by the existing system exceeds the following:] for the following occupancies:

[A. One hundred in both Group H Occupancies and in Group R, Division 1 Occupancies.

B. Fifty in Group I Occupancies.

C. Three hundred in all other occupancies.]

A. Groups A, Divisions 2, 2.1, 3 and 4, E, and B Occupancies with an occupant load over 100 persons.

B. Groups H, and R, Division 1 Occupancies with an occupant load over 100 persons.

C. Group I Occupancies with an occupant load over 50 persons.

One of the required circuits shall supply only fixtures used for exit illumination or exit signs. The other circuit may supply current to other outlets.

In Group A Occupancies exit illumination in portions of buildings other than the stage shall be on a separate circuit from that of the stage. Such exit illumination shall be controlled from the box office or other approved central control center located in a portion of the building other than the stage.

2. **Separate sources of power.** The power supply for exit illumination shall normally be provided by the premises wiring system. In the event of its failure, illumination shall be automatically provided from an emergency system [where the occupant load served by the existing system exceeds:] for the following occupancies:

[A. Nine hundred and ninety-nine in Group A, Division 1 Occupancies.

B. Five hundred in Group A, Division 2 or 2.1 Occupancies except churches with an occupant load of less than 750.

C. One hundred in Group I Occupancies.

D. One hundred in Group R, Division 1 Occupancies having an interior exit corridor system.

E. Five hundred in Group B, Division 2 Occupancies used for retail sales or offices.]

A. Group A, Division 1 Occupancies.

B. Group A, Divisions 2 and 2.1 Occupancies with an occupant load over 500 persons, except churches with an occupant load of less than 750 persons.

C. Group B Occupancies with an occupant load over 300 persons.

D. Group I Occupancies with an occupant load over 100 persons.

E. Group R-1 Occupancies with more than 500 hotel guest rooms or 300 apartment units.

For high-rise buildings, see Section 1807. For smokeproof enclosures, see Section 3310(g)9.

Emergency systems shall be supplied from storage batteries or an on-site generator set and the system shall be installed in accordance with the requirements of the Electrical Code.

16.16.3313(c) Subsection 3313(c) added. Section 3313 of the uniform building code is hereby amended by adding subsection 3313(c) to read as follows:

(c) Stairway Enclosure Illumination. Enclosed stairways of buildings more than 4 stories in height shall be provided with emergency illumination systems which shall conform with the provisions of Section 3313(a) and be supplied from storage batteries or on-site generator set in accordance with the provisions under Section 3313(b)(2).

16.26.3315(d) Subsection 3315(d) amended. Section 3315 of the uniform building code is hereby amended by amending subsection 3315(d) to read as follows:

(d) Aisle Spacing. With standard seating, aisles shall be so located that there will be not more than six intervening seats between any seat and the nearest aisle.

EXCEPTION: There may be 7
intervening seats between any seat and
the nearest aisle if self-rising seats
are installed.

With continental seating, the number of intervening seats may be increased, provided the seating configuration conforms with the requirements specified in Section 3316.

When benches or pews are used, the number of seats shall be based on one person for each 18 inches of length of pew or bench.

16.26.3319(k) Subsection 3319(k) amended. Section 3319 of the uniform building code is hereby amended by amending subsection 3319(k) to read as follows:

(k) Fences and Gates. School grounds may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with the exit requirements. See Section 3323 for exits from dispersal areas.

EXCEPTION: Security gates may be permitted across corridors or passageways in school buildings if there is a readily visible durable sign on or adjacent to the gate, stating "THIS GATE IS TO REMAIN SECURED IN THE OPEN POSITION WHENEVER THIS BUILDING IS IN USE". The sign shall be in letters not less than one inch high on a contrasting background. The use of this exception may be revoked by the building official for due cause.

16.26.3350 Table no. 33-A amended. Table no. 33-A of the uniform building code is hereby amended as follows:

TABLE NO. 33-A—MINIMUM EGRESS AND ACCESS REQUIREMENTS

USE ¹	MINIMUM OF TWO EXITS OTHER THAN ELEVATORS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST	OCCUPANT LOAD FACTOR ² (Sq.Ft.)	ACCESS BY MEANS OF A RAMP OR AN ELEVATOR MUST BE PROVIDED FOR THE PHYSICALLY HANDICAPPED AS INDICATED ³
1. Aircraft Hangars (no repair)	10	500	Yes
2. Auction Rooms	30	7	Yes
3. Assembly Areas, Concentrated Use (without fixed seats) Auditoriums Bowling Alleys (Assembly areas) Churches and Chapels Dance Floors Lobby Accessory to Assembly Occupancy Lodge Rooms Reviewing Stands Stadiums	50	7	Yes ^{4 5}
4. Assembly Areas, Less-concentrated Use Conference Rooms Dining Rooms Drinking Establishments Exhibit Rooms Gymnasiums Lounges Stages	50	15	Yes ^{4 6}

USE ¹	MINIMUM OF TWO EXITS OTHER THAN ELEVATORS ARE REQUIRED WHERE NUMBER OF OCCUPANTS IS AT LEAST	OCCUPANT LOAD FACTOR ² (Sq.Ft.)	ACCESS BY MEANS OF A RAMP OR AN ELEVATOR MUST BE PROVIDED FOR THE PHYSICALLY HANDICAPPED AS INDICATED ³
5. Children's Homes and Homes for the [Aged] Elderly, the Handicapped, the Developmentally Disabled or the Totally Disabled	6	80 (for one occupant, 70 for two or more occupants)	Yes ⁷
6. Classrooms	50	20	Yes ⁸
7. Dormitories	10	50	Yes ^{[7]10}
8. Dwellings	10	300	No
9. Garage, Parking	30	200	Yes ⁹
10. Hospitals and Sanitariums--Nursing Homes	6	80	Yes
11. Hotels and Apartments	10	200	Yes ¹⁰
12. Kitchen--Commercial	30	200	No
13. Library Reading Room	50	50	Yes ⁴
14. Locker Rooms	30	50	Yes
15. Malls (see Appendix Chapter 7)	--	--	---
16. Manufacturing Areas	30	200	Yes ¹
17. Mechanical Equipment Room	30	300	No
18. Nurseries for Children (Day-care)	7	35	Yes
19. Offices	30	100	Yes ¹
20. School Shops and Vocational Rooms	50	50	Yes
21. Skating Rinks	50	50 on the skating area; 15 on the deck	Yes ⁴
22. Storage and Stock Rooms	30	300	No
23. Stores--Retail Sales Rooms			
Basement	11	20	Yes
Ground Floor	50	30	Yes
Upper Floors	10	50	Yes
24. Swimming Pools	50	50 for the pool area; 15 on the deck	Yes ⁴
25. Warehouses	30	500	No
26. All Others	50	100	

- 1 For all additional provisions on number of exits from Group H and I Occupancies and from rooms containing fuel-fired equipment or cellulose nitrate, see Sections 3320, 3321 and 3322, respectively.
- 2 This table shall not be used to determine working space requirements per person.
- 3 Elevators shall not be construed as providing a required exit.
- 4 Access to secondary areas on balconies or mezzanines may be by stairs only, except when such secondary areas contain the only available toilet facilities[.]; and provided not less than 25 percent of floor areas used for dining and drinking shall be accessible to the handicapped.
- 5 Reviewing stands, grandstands and bleachers need not comply.
- 6 Access requirements for conference rooms, dining rooms, lounges and exhibit rooms that are part of an office use shall be the same as required for the office use.
- 7 Access to floors other than that closest to grade may be by stairs only, except when the only available toilet facilities are on other levels.
- 8 When that floor closest to the grade offers the same programs and activities available on other floors, access to the other floors may be by stairs only, except when the only available toilet facilities are not on other levels.
- 9 Access to floors other than that closest to grade and to garages used in connection with apartment houses may be by stairs only.
- 10 See Section 1213 for access to buildings and facilities in hotels and apartments.
- 11 See Section 3303 for basement exit requirements.
- 12 When the listed occupancy exceeds 3 stories.

16.26.3801(a) Subsection 3801(a) amended. Section 3801 of the uniform building code is hereby amended by amending subsection 3801(a) to read as follows:

(a) **General.** All fire-extinguishing systems required in this code shall be installed in accordance with the requirements of this chapter.

Fire hose threads used in connection with fire-extinguishing systems shall be National Standard hose thread or as approved by the [fire department.] Department of Fire Control.

In buildings used for high-piled combustible storage, fire protection shall be in accordance with the Fire Code.

All buried galvanized steel and other ferrous piping used in connection with fire-extinguishing systems shall be wrapped or otherwise protected against corrosion in accordance with the Plumbing Code provisions for protection of galvanized ferrous piping for potable water.

16.26.3801(d) Subsection 3801(d) amended. Section 3801 of the uniform building code is hereby amended by amending subsection 3801(d) to read as follows:

(d) **Standards.** Fire-extinguishing systems shall comply with U.B.C. Standards Nos. 38-1 and 38-2.

EXCEPTIONS: 1. Automatic fire-extinguishing systems not covered by U.B.C. Standard No. 38-1 or 38-2 shall be approved and installed in accordance with the Fire Code and NFPA 13, as amended.

2. Automatic sprinkler systems may be connected to the domestic water-supply main when approved by the building official, provided the domestic water supply is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements. In such case, the sprinkler system connection shall be made between the public water main or meter and the building shutoff valve, and there shall not be intervening valves or connections. The [fire department] Department of Fire Control connection may be omitted when approved by the [fire department] Department of Fire Control.

16.26.3802((b)(1) Subsection 3802(b)(1) amended. Section 3802 of the uniform building code is hereby amended by amending subsection 3802(b)(1) to read as follows:

1. In every story or basement of all buildings when the floor area exceeds 1500 square feet and there is not provided at least 20 square feet of opening entirely above the adjoining ground level in each 50 lineal feet or fraction thereof of exterior wall in the story or basement on at least one side of the building. [Openings] Each of the required 20 square feet of opening shall have [a] at least one opening with minimum [dimension] dimensions of [not less than 30 inches] 3 feet by 4 feet. Such required openings shall be [accessible to the fire department from the exterior and shall not be obstructed in a manner that fire fighting or rescue cannot be accomplished from the exterior.] unobstructed by sunshades, louvers, grillwork or other construction on the exterior wall which will prevent or hinder access to the openings by the Department of Fire Control personnel.

EXCEPTION: Light "insect" screen or similar device as approved by the building official.

When openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet from such openings, the story shall be provided with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of an exterior wall of the story.

If any portion of a basement is located more than 75 feet from openings required in this section, the basement shall be provided with an approved automatic sprinkler system.

16.26.3802(c)(5) Subsection 3802(c)(5) amended. Section 3802 of the uniform building code is hereby amended by amending subsection 3802(c)(5) to read as follows:

5. Other areas. An automatic sprinkler system shall be installed under the roof and gridiron, in the tie and fly galleries and in all places behind the proscenium wall of stages; over and within permanent platforms in excess of [500] 1000 square feet in area; and in dressing rooms, workshops and storerooms accessory to such stages or [permanent] enclosed platforms.

EXCEPTIONS: 1. Stages or platforms open to the auditorium room on three or more sides.

2. Altars, pulpits or similar platforms and their accessory rooms.

3. Stage gridirons when side-wall sprinklers with 135°F. rated heads with heat-baffle plates are installed around the entire perimeter of the stage except for the proscenium opening at points not more than 30 inches below the gridiron nor more than 6 inches below the baffle plate.

4. Under stage or under platform areas less than 4 feet in clear height used exclusively for chair or table storage and lined on the inside with materials approved for one-hour fire-resistive construction.

16.26.3805(c) Subsection 3805(c) amended. Section 3805 of the uniform building code is hereby amended by amending subsection 3805(c) to read as follows:

(c) **Location of Class I Standpipes.** There shall be a Class I standpipe outlet connection at every floor level above the first story of every required stairway and on each side of the wall adjacent to the exit opening of a horizontal exit. Outlets at stairways shall be located within the exit enclosure or, in the case of smokeproof enclosures, within the vestibule or exterior balcony, giving access to the stairway.

Risers and laterals of Class I standpipe systems not located within an enclosed stairway or smokeproof enclosure shall be protected by a degree of fire resistance equal to that required for vertical enclosures in the building in which they are located.

EXCEPTION: In buildings equipped with an approved automatic sprinkler system, risers and laterals which are not located within an enclosed stairway or smokeproof enclosure need not be enclosed within fire-resistive construction.

There shall be a [three-way] two-way outlet above the roof line when the roof has a slope of less than 4 inches in 12 inches.

In buildings where more than one standpipe is provided, the standpipes shall be interconnected at the bottom.

16.26.3805(f) Subsection 3805(f) added. Section 3805 of the uniform building code is hereby amended by adding a new subsection 3805(f) to read as follows:

(f) Testing. After completion of installation, the following test procedures shall be followed to determine that the system as installed performs properly:

1. Hydrostatic and flow test - Perform to comply with the test procedure for standpipe systems in the National Fire Code.

2. Operate each outlet valve in the system to determine that it will function properly.

The above provision shall be installed under the supervision of the Department of Fire Control.

16.26.3806 Section 3806 deleted; new section 3806 added. Section 3806 of the uniform building code is hereby deleted and a new section 3806 is hereby added to read as follows:

Sec. 3806. During the construction of a building and until the permanent fire-extinguishing system has been installed and is in service, fire protection shall be provided in accordance with the Fire Code.

16.26.3850 Table No. 38-A deleted; new table 38-A added. Chapter 38 of the uniform building code is hereby amended by deleting table no. 38-A and adding thereto a new table no. 38-A, to be designated and to read as follows:

TABLE NO. 38-A—STANDPIPE REQUIREMENTS

<u>Occupancy</u> ¹	<u>NONSPRINKLERED BUILDING</u> ²		<u>SPRINKLERED BUILDING</u> ^{3 4}	
	<u>Stand- pipe Class</u>	<u>Hose Require- ment</u>	<u>Stand- pipe Class</u>	<u>Hose Require- ment</u>
<u>1. Occupancies 4 stories or more in height, except Group R, Div. 3</u>	<u>I and II (or III)</u>	<u>No Yes No</u>	<u>I (or III)</u>	<u>No</u>
<u>2. Group A Occupancies with occupant load exceeding 1000</u>	<u>II</u>	<u>Yes</u>	<u>No require- ment</u>	<u>No</u>
<u>3. Group A, Div. 2.1 Occupancies over 5000 square feet in area used for exhibition</u>	<u>II</u>	<u>Yes</u>	<u>II</u>	<u>Yes</u>
<u>4. Groups I, H, B, Div. 1, 2 or 3 Occupancies less than 4 stories in height but greater than 20,000 square feet per floor</u>	<u>II</u>	<u>Yes</u>	<u>No require- ment</u>	<u>No</u>

- ¹ Class II standpipes need not be provided in assembly areas used solely for worship.
- ² Class II standpipes need not be provided in basements having an automatic fire-extinguishing system throughout such basements.
- ³ Combined systems with their related water supplies may be used in sprinklered buildings.
- ⁴ Portions of otherwise sprinklered buildings which are not protected by automatic sprinklers shall have Class II standpipes installed.

16.26.3902 Section 3902 amended. Section 3902 of the uniform building code is hereby amended to read as follows:

Sec. 3902. Temporary platforms may be constructed of any [materials.] material. The space between the floor and the platform above shall not be used for any purpose other than electrical wiring to platform equipment.

Permanent platforms shall be constructed of materials as required for the type of construction of the building in which the permanent platform is located. When the space beneath the permanent platform is used for storage or any purpose other than equipment wiring or plumbing, the floor construction shall be not less than one-hour fire-resistive construction or of heavy timber fire resistive construction. When the space beneath the permanent platform is not used for any purpose other than equipment wiring or plumbing, the underside of the permanent platform need not be protected.

16.26.4005 Section 4005 deleted; new section 4005 added. Section 4005 of the uniform building code is hereby deleted and a new section 4005 is hereby added to read as follows:

Sec. 4005. Ventilation. Ventilation shall be provided as specified in the Administrative Rules of the Department of Health, State of Hawaii.

16.26.4403 Section 4403 amended. Section 4403 of the uniform building code is hereby amended by amending section 4403 to read as follows:

Sec. 4403. Material and equipment necessary for work to be done [under a permit] shall not be placed or stored on public property so as to obstruct free and convenient approach to and use of any fire hydrant, fire or police alarm box, utility box, catch basin or manhole or so as to interfere with the free flow of water in any street or alley gutter, or to create a hazard to life or limb, health, property, and public welfare without permission from the agency having jurisdiction.

16.26.4405 Section 4405 amended. Section 4405 of the uniform building code is hereby amended to read as follows:

Sec. 4405. [A substantial] An adequate protective frame and boarding shall be built around and over every street lamp, utility box, fire or police alarm box, fire hydrant, catch basin and manhole that may be damaged by any work being done under the permit. This protection shall be maintained while such work is being done and shall not obstruct the normal functioning of the device.

16.26.4406 Section 4406 amended. Section 4406 of the uniform building code is hereby amended to read as follows:

Sec. 4406. A walkway not less than 4 feet wide or the width of existing sidewalk when less than 4 feet shall be maintained on the sidewalk in front of the building site during construction, alteration or demolition unless the public agency having jurisdiction authorizes the sidewalk to be fenced and closed. Adequate signs and railings shall be provided to direct pedestrian traffic. Railings shall be provided when required by Section 4407.

The walkway shall be capable of supporting a uniform live load of 150 pounds per square foot. A durable wearing surface [shall] may be [provided.] required.

16.26.4407(a) Subsection 4407(a) amended. Section 4407 of the uniform building code is hereby amended by amending subsection 4407(a) to read as follows:

Sec. 4407. (a) Protection Required. Pedestrian traffic shall be protected by a railing on the street side when the walkway extends into the roadway, by a railing adjacent to excavations and by such other protection as set forth in Table No. 44-A. The construction of such protective devices shall be in accordance with the provisions of this chapter. In all cases, proper and reasonable devices shall be provided to eliminate hazards to the public.

(b) **Railings.** Railings shall be substantially built and, when of wood, shall be constructed of new material having a nominal size of at least 2 inches by 4 inches. Railings shall be at least 3 feet 6 inches in height and when adjacent to excavations shall be provided with a midrail.

(c) **Fences.** Fences shall be solid and substantially built, be not less than [8] 6 feet in height above grade and be placed on the side of the walkway nearest to the building site. Fences shall extend the entire length of the building site where practical and each end shall be returned to the building line.

Openings in such fences shall be protected by doors which normally are kept closed.

All fences shall be provided with 2-inch by 4-inch plate, top and bottom, and shall be well braced. The fence material shall be a minimum of 3/4-inch boards or 1/4-inch plywood. [Plywood fences shall conform to the following requirements:

1. Plywood panels shall be bonded with an adhesive identical to that for exterior plywood.

2. Plywood 1/4 inch or 5/16 inch in thickness shall have studs spaced not more than 2 feet on center.

3. Plywood 3/8 inch or 1/2 inch in thickness shall have studs spaced not more than 4 feet on center, provided a 2-inch by 4-inch stiffener is placed horizontally at the midheight when the stud spacing exceeds 2 feet on center.

4. Plywood 5/8 inch or thicker shall not span over 8 feet.]

(d) Canopies. The protective canopy shall have a clear height of 8 feet above the walkway. The roof shall be tightly sheathed. [The sheathing shall be 2-inch nominal wood planking or equal. Every canopy shall have a solid fence built along its entire length on the construction side.]

If materials are stored or work is done on the roof of the canopy, the street sides and ends of the canopy roof shall be protected by a tight curb board not less than 1 foot high and a railing not less than 3 feet 6 inches high.

The entire structure shall be designed to carry the loads to be imposed on it[, provided the live load shall be not less than 150 pounds per square foot. In lieu of such design a protection canopy supporting not more than 150 pounds per square foot may be constructed as follows:

1. Footings shall be continuous 2-inch by 6-inch members with scabbed joints.

2. Posts not less than 4 inches by 6 inches in size shall be provided on both sides of the canopy and spaced not more than 12 feet, center to center.

3. Stringers not less than 4 inches by 12 inches in size shall be placed on edge upon the posts.

4. Joists resting upon the stringers shall be at least 2 inches by 8 inches in size and shall be spaced not more than 2 feet, center to center.

5. The deck shall be of planks at least 2 inches thick nailed to the joists.

6. Each post shall be knee-braced to joists and stringers by members 4 feet long, not less than 2 inches by 4 inches in size.

7. A curb not less than 2 inches by 12 inches in size shall be set on edge along the outside edge of the deck.

EXCEPTION: Protection canopies for new, light-frame construction not exceeding two stories in height may be designed for a live load of 75 pounds per square foot or the loads to be imposed on it, whichever is the greater].

16.26.4450 Table No. 44-A amended. Table no. 44-A of the uniform building code is hereby amended to read as follows:

TABLE NO. 44-A—TYPE OF PROTECTION REQUIRED FOR PEDESTRIANS

HEIGHT OF CONSTRUCTION	DISTANCE FROM CONSTRUCTION	PROTECTION REQUIRED
8 feet or less	Less than 6 feet 6 feet or more	Railing None
More than 8 feet	Less than 6 feet	Fence and canopy
	6 feet or more but not more than one-fourth the height of construction	Fence and canopy
	6 feet or more, but between one-fourth to one-half the height of construction	Fence
	6 feet or more but exceeding one-half the construction height	None

Not applicable to construction in conservation, agricultural and residential use districts except when required by the building official.

16.26.4501 Section 4501 amended. Section 4501 of the uniform building code is hereby amended to read as follows:

Sec. 4501. No part of any structure or any appendage thereto, except signs, shall project beyond the property line of the building site, except as specified in this chapter.

Structures or appendages regulated by this code shall be constructed of materials as specified in Section 1710.

The projection of any structure or appendage shall be the distance measured horizontally from the property line to the outermost point of the projection.

[Nothing in this code shall prohibit the construction and use of a structure between buildings and over or under a public way, provided the structure complies with all requirements of this code.]

The right to use and occupy public property may be revoked by the County, upon proper notice, and the owner of the structure shall modify the structure or appendage to comply with this code and pay all expense attendant therewith.

No provisions of this chapter shall be construed to permit the violation of other laws or ordinances regulating the use and occupancy of public property.

16.26.4503 Section 4503 amended. Section 4503 of the uniform building code is hereby amended to read as follows:

Sec. 4503. The space adjoining a building below a sidewalk on public property may be used and occupied in connection with the building for any purpose not inconsistent with this code or other laws or ordinances regulating the use and occupancy of such spaces on condition that the right so to use and occupy may be revoked by the [city] County at any time and that the owner of the building will construct the necessary walls and footings to separate such space from the building and pay all costs and expenses attendant therewith.

Footings located at least 8 feet below grade may project not more than 12 inches.

16.26.4504 Section 4504 amended. Section 4504 of the uniform building code is hereby amended to read as follows:

Sec. 4504. [Oriel windows, balconies,] When permitted by the building official, sun-control devices, [unroofed porches,] roof eaves, cornices, belt courses and appendages such as water tables, sills, capitals, bases and architectural projections which cannot be occupied or used and balconies for business use within Maui Historic Districts Nos. 1 and 2 which can be occupied and used, and which have received prior approval from the Maui Historic Commission, may project over the public [property] street of the building site a distance as determined by the clearance of the lowest point of the projection above the grade immediately below, as follows:

Clearance above grade less than 8 feet--no projection is permitted.

Clearance above grade over 8 feet--1 inch of projection is permitted for each additional inch of clearance, provided that no such projection shall exceed a distance of 4 feet.

If roof gutters are provided, roof eaves shall be sloped to downspouts and/or roof gutters leading back to the building which shall conduct any drainage under the sidewalk area through the curb to the street gutter.

16.26.4505 Section 4505 amended. Section 4505 of the uniform building code is hereby amended to read as follows:

Sec. 4505. (a) General. For the purpose of this section, a marquee shall include any object or decoration attached to or a part of said marquee[.], except signs.

(b) Projection and Clearance. [The horizontal clearance between a marquee and the curb line shall be not less than 2 feet.

A marquee projecting more than two-thirds of the distance from the property line to the curb line shall be not less than 12 feet above the ground or pavement below.

A marquee projecting less than two-thirds of the distance from the property line to the curb line shall be not less than 8 feet above the ground or pavement below.] The marquee shall project not more than two-thirds of the distance from the property line to the face of the curb but in no case reach within 2 feet 6 inches of the face of the curb.

There shall be a minimum of 8 feet vertical clearance between the lowest point of any marquee to the sidewalk below.

[(c) Length. A marquee projecting more than two thirds of the distance from the property line to the curb line shall not exceed 25 feet in length along the direction of the street.

(d) Thickness. The maximum height or thickness of a marquee measured vertically from its lowest to its highest point shall not exceed 3 feet when the marquee projects more than two thirds of the distance from the property line to the curb line and shall not exceed 9 feet when the marquee is less than two thirds of the distance from the property line to the curb line.

(e)] (c) Construction. A marquee shall be supported entirely by the building and shall be constructed entirely of noncombustible material [or, when supported by a building of Type V construction, may be of one-hour fire-resistive construction].

EXCEPTION: Drop-roll curtains of canvas may be suspended below the exterior periphery, provided a minimum clearance of 8 feet from the sidewalk below is maintained.

[(f)] (d) Roof Construction. The roof or any part thereof may be a skylight, provided glass skylights are of laminated or wired glass complying with Chapter 34. Plastic skylights shall comply with Section 5207.

Every roof and skylight of a marquee shall be sloped to downspouts which shall conduct any drainage from the marquee under the sidewalk to the curb.

~~[[g]]~~ (e) Location Prohibited. Every marquee shall be so located as not to interfere with the operation of any exterior standpipe or to obstruct the clear passage of stairways or exits from the building or the installation or maintenance of ~~[electrolliers.]~~ street lighting.

16.26.4506(b) Subsection 4506(b) amended. Section 4506 of the uniform building code is hereby amended by amending subsection 4506(b) to read as follows:

(b) Construction. Awnings shall have noncombustible frames but may have combustible coverings. Every awning shall be collapsible, retractable or capable of being folded against the face of the supporting building. When collapsed, retracted or folded, the design shall be such that the awning does not block any required exit.

[EXCEPTION] EXCEPTIONS: 1. A fixed awning not more than 10 feet in length may be erected over a doorway to the building.

2. Fixed awnings projecting not more than 4 feet from the face of the building and of a total length not more than 50 percent of the street frontage of the building may be erected over the windows along the street.

16.26.4506(c) Subsection 4506(c) amended. Section 4506 of the uniform building code is hereby amended by amending subsection 4506(c) to read as follow:

(c) Projection. Awnings may extend over public property not more than 7 feet from the face of a supporting building, but no portion shall extend nearer than 2 feet 6 inches to the face of the nearest curb line measured horizontally. In no case shall the awning extend over public property greater than two thirds of the distance from the property line to the nearest curb in front of the building site.

16.26.4507 Section 4507 deleted; new section 4507 added. Section 4507 of the uniform building code is hereby deleted and new section 4507 is hereby added to read as follows:

Sec. 4507. No door either fully opened or when opening, shall project beyond the property line.

16.26.4600 Chapter 46 added. The uniform building code is amended by adding thereto a new chapter, to be designated and to read as follows:

CHAPTER 46—IMPROVEMENTS TO PUBLIC STREETS

Sec. 4601. The public streets adjacent to the property on which any new building(s) will be situated, or for any work such as remodeling, reconstruction, repairs, additions and similar work on existing buildings, where the cost of the work exceeds 50 percent of the replacement value of the existing structure before work is started, shall be improved to County standards, which may include, but are not limited to, pavement widening, construction of sidewalks, curbs, gutters and drainage improvements, relocation of utilities, placement of utilities underground and dedication of road widening lots.

EXCEPTION: The requirements of this section shall not apply to single family or farm dwellings and accessory dwellings. The term "County Standards" shall refer to the standards and requirements set forth in Title 18 of the Maui County Code, the subdivision ordinance.

16.26.4900 Chapter 49 added. The uniform building code is amended by adding thereto a new chapter, to be designated and to read as follows:

CHAPTER 49—PATIO COVERS

Sec. 4901. Patio Covers Defined. Patio covers are one-story structures not exceeding 12 feet in height. Enclosure walls may have any configuration, provided the open area of the longer wall and one additional wall is equal to at least 65 percent of the area below a minimum of 6 feet 8 inches of each wall, measured from the floor. Openings may be enclosed with insect screening or plastic¹.

Patio covers may be detached or attached to other buildings as accessories to Group M, Group R, Division 3 Occupancies or to single dwelling units in Group R, Division 1 Occupancies. Patio covers shall be used only for recreational, outdoor living purposes and not as carports, garages, storage rooms, or habitable rooms. For patio covers attached to a building of Group R-3 or Group M Occupancy, the roof covering may be of such plastic materials as may be approved by the building official. Such plastic roof covering when so approved shall project not more than 16 feet, including the overhang, from the face of the exterior wall of the building and shall not exceed 400 square feet in any single continuous area. Such areas of plastic patio covering shall be separated from each other by at least 10 feet.

Sec. 4902. Design Loads. Patio covers shall be designed and constructed to sustain, within the stress limits of this code, all dead loads plus a minimum vertical live load of 10 pounds per square foot. Such covers shall be designed to resist the minimum horizontal wind loads set forth in this code, except that where less than 12 feet high the horizontal wind load shall be 13 pounds per square foot. In addition, they shall be designed to support a minimum wind uplift equal to the horizontal wind load acting vertical upward normal to the roof surface, except that for structures not more than 10 feet above grade the uplift may be 3/4 of the horizontal wind load. When enclosed with insect screening or plastic¹, wind loads shall be applied to the structure, assuming it is fully enclosed.

Sec. 4903. Light and Ventilation. Windows required for light and ventilation may open into a patio structure conforming to Section 4901.

Sec. 4904. Footings. A patio cover may be supported on a concrete slab on grade without footings, provided the slab is not less than 3 1/2 inches thick and further provided that the columns do not support live and dead loads in excess of 750 pounds per column.

¹The plastic referenced in Sections 4901 and 4902 is readily removable translucent or transparent plastic not more than 0.125 inch in thickness.

16.26.5100 Chapter 51 deleted. The uniform building code is amended by deleting Chapter 51.

16.26.5300 Chapter 53 added. The uniform building code is amended by adding thereto a new chapter, to be designated and to read as follows:

CHAPTER 53—ENERGY CONSERVATION

Sec. 5301. (a) Scope. The provisions of this chapter regulate the design and construction of the exterior envelopes and selection of heating, ventilating and air-conditioning, service water heating, electrical distribution and illuminating systems and equipment required for the purpose of effective conservation of energy within a building or structure governed by this code. Compliance with applicable provisions of ASHRAE Standards No. 90A-80 shall be deemed to meet the requirements of this chapter.

EXCEPTIONS: 1. Buildings and structures, or portions thereof, which are not heated or cooled shall be exempt from the provisions of Sections 5303 through 5306 regulating exterior envelope and heating, ventilating and air-conditioning systems.

2. Buildings and structures whose peak design rate of energy usage is less than one watt per square foot or 3.4 Btuh per square foot of floor area for all purposes shall be exempt from all provisions of this chapter.

3. Dwelling unit which is not heated or cooled, or where cooled with air-conditioning systems totaling less than 12,000 Btuh capacity, shall be exempt from all provisions of this chapter except Sections 5308 and 5309 pertaining to the conservation of hot water.

4. For special applications such as hospitals, laboratories, thermally sensitive equipment, computer rooms, and manufacturing and industrial processes, the design concepts and parameters shall conform to the requirements of the application at minimum energy levels.

(b) Plans and Specifications. Plans, specifications and necessary computations shall be submitted to indicate conformance with this chapter. Plans and specifications for work to comply with the provisions of this chapter shall be prepared, designed or approved by a duly registered professional engineer or architect as required by Chapter 464 of the Hawaii Revised Statutes.

(c) Information of Plans and Specifications. The plans and specifications shall show in sufficient detail all pertinent data and features of the building and the equipment and systems as herein governed including but not limited to: exterior envelope component materials, U values of the respective elements including insulation, R values of insulating materials, size and type of apparatus and equipment, equipment and system controls and other pertinent data to indicate conformance with the requirements of this chapter.

(d) Alternative Systems. Alternative building systems and equipment design shall be approved by the building official when it can be demonstrated that the proposed energy consumption will not exceed that of a similar building with similar forms of energy requirement designed in accordance with the provisions of this chapter.

When such alternative systems utilize solar, geothermal, wind or other nondepletable energy sources or utilize waste heat for all or part of its energy sources, such nondepletable energy or recovered waste heat supplied to the buildings may be excluded from the total energy chargeable to the proposed alternative design.

Proposed alternative designs submitted as requests for exception to the standard design criteria must be accompanied by an energy analysis prepared in accordance with established principles of environmental technologies (such as ASHRAE Standard 90).

Definitions.

Sec. 5302. The following terms are defined for specialized use within this chapter.

ASHRAE. American society of heating, refrigerating and air-conditioning engineers, Inc.

Coefficient of Performance (COP) - Cooling.

1. Electrically operated HVAC equipment. The ratio of the rate of net heat removal to the rate of total energy input expressed in consistent units and under designated rating conditions. That rate of net heat removal as used within this definition shall be the change in the enthalpies of the air entering and leaving the equipment (without reheat). The total energy inputs as used within this definition shall be determined by combining the energy inputs to all elements of the equipment, including, but not limited to, compressors, pumps, supply-air fans, return-air fans, condenser-air fans, cooling tower fans and pumps, and the heating, ventilating and air-conditioning system equipment control circuit.

2. Applied HVAC system components. The ratio of the rate of net heat removal to the rate of total energy input expressed in consistent units and under designated rating conditions. The rate of net heat removal as used within this definition shall be the difference in enthalpies of the water or refrigerant entering and leaving the component. The total energy input as used within this system shall be determined by combining the energy inputs to all elements and accessories of the component, including, but not limited to, compressors, internal circulating pumps condenser-air fans, evaporative-condenser cooling water pumps, purge, and the heating, ventilating and air-conditioning system components control circuit.

3. Heat-operated HVAC system equipment. The ratio of the net cooling output to the total heat input. The rate of net heat removal as used within this definition shall be the difference in enthalpies of the water or refrigerant entering and leaving the component. The total energy input as used within this system shall be determined by combining the energy inputs to all elements and accessories of the component, including, but not limited to, compressors, internal circulating pumps, condenser-air fans, evaporative-condenser cooling water pumps, purge and the heating, ventilating and air-conditioning system components control circuit.

Coefficient of Performance (COP) – Heat Pump, Heating. The ratio of the rate of net heat output to the rate of total energy input expressed in consistent units and under designated rating conditions. The rate of net heat output as used within this definition shall be the change in the total heat contents of the air entering and leaving the equipment, excluding supplementary heat.

The total energy input as used within this definition shall be the combined energy inputs to all elements except supplementary heaters of the heat pump, including, but not limited to, compressors, pumps, supply-air fans, return-air fans, outdoor-air fans, cooling-tower fans and the HVAC system equipment control circuit.

Energy Efficiency Ratio (EER). The ratio of net cooling capacity in Btuh total rate of electric input in watts under designated operating conditions.

Exterior Envelope. The elements of a building which enclose conditioned spaces through which thermal energy may be transferred to or from the exterior, or from unconditioned spaces.

Exterior Walls. For the purpose of this chapter, the gross area of exterior walls consists of all opaque wall areas and partition areas, including foundation walls above grade, peripheral edges of floors, window areas including sash, and door areas, where such surfaces are exposed to outdoor air or unconditioned interior space and enclosed, heated or mechanically cooled space.

Fenestration. Any light transmitting opening in a building wall or roof. Included are:

1. The glazing material which may be glass or plastic,
2. The framing, mullions, muntins and dividers,
3. External shading, devices,
4. Internal shading devices, and
5. Integral (between-glass) shading systems.

Floor Area, Gross. Gross floor area shall be the floor area within the perimeter of the outside walls of the building under consideration, without deduction for hallways, stairs, closets, thickness of walls, columns or other features.

Heated Space. A space within a building which is provided with a positive heat supply to maintain air temperature of 50°F. or higher.

HVAC. Heating, ventilating and air-conditioning.

Opaque Areas. All exposed areas of a building envelope which enclose conditioned space, except openings for windows, skylights, doors and building service systems.

Packaged Terminal Air Conditioner. A factory-selected combination of heating and cooling components, assemblies or sections, intended to serve a room or zone.

Power Factor. The ratio of the true power (watts) to the apparent power (volts x amphere); the cosine of the angle of lag between the alternating current and the voltage waves.

Rate of Net Heat Output. The change in the total heat contents of the air entering and leaving the equipment, not including supplementary heat.

Readily Accessible. Capable of being reached safely and quickly for operation, repair or inspection without requiring those of whom ready access is requisite to climb over or remove obstacles or to resort to the use of portable access equipment.

Reheat. The application of sensible heat to supply air that has been previously cooled below the temperature of the conditioned space by either mechanical refrigeration or the introduction of outdoor air to provide cooling.

Roof Assembly. For the purpose of this chapter, a roof assembly shall be considered as all components of the roof/ceiling envelope through which heat flows, thereby creating a building transmission heat loss or gain, where such assembly is exposed to outdoor air and encloses a heated or mechanically cooled space.

The gross area of a roof assembly consists of the total interior surface of such assembly, including skylights, exposed to the heated and/or mechanically cooled space.

Where ceiling air plenums are employed, the roof/ceiling assembly shall:

1. For thermal transmittance purposes, not include the ceiling proper nor the plenum space as part of the assembly.

2. For gross area purposes, be based upon the interior face of the upper plenum surface.

Shading Coefficient (SC).

SC = solar heat gain of fenestration ÷ solar heat gain unshaded DSB

Where: DS means double strength
B means grade class

Supplementary Heat. Heat generated in a heat pump, electrical resistance heat or other heat input not provided through the heat pump cycle.

Terminal Element. The means by which the transformed energy from a system is finally delivered; i.e., registers, diffusers, lighting fixtures, faucets, etc.

Thermostat. An instrument which measures changes in temperature and controls device(s) for maintaining a desired temperature.

Unconditioned. Not heated or cooled.

Zone. A space or group of spaces within a building with heating or cooling requirements sufficiently similar so that comfort conditions can be maintained throughout by a single controlling device.

EXTERIOR ENVELOPE REQUIREMENTS

Sec. 5303. (a) General. The intent of this section is to provide minimum requirements for exterior envelope construction.

In addition to the criteria set forth in this chapter, the proposed design may take into consideration the thermal mass of the building in considering energy conservation in accordance with engineering design standards such as those of ASHRAE.

A building that is designed to be both heated and cooled shall meet the more stringent of the heating and cooling requirements of the exterior envelope as provided in this section when the requirements differ.

(b) Thermal Performance. All buildings and structures, or portions thereof, that are heated or mechanically cooled shall be constructed so as to provide the required thermal performance of the various components.

The required thermal transmittance value (U_o) of any one component such as roof/ceiling, wall or floor may be increased and the U_o value for any other components decreased provided that the overall heat gain or loss for the entire building envelope does not exceed the total resulting from conformance to the required U_o values.

(c) Residential Buildings Not More Than Three Stories In Height. The following provision shall apply to all buildings and structures, or portions thereof, not more than 3 stories in height and housing Group R Occupancies.

EXCEPTIONS: In locations with less than 500 fahrenheit heating degree days there shall not be a maximum U_o requirement if only heating is provided and the U_o shall be not exceeding those specified in Table No. 53-A if the building is mechanically cooled.

1. Walls. The gross area of exterior walls above grade, including foundation walls, shall have a combined thermal transmittance value (U_o not exceeding those specified in Table No. 53-A. The combined thermal transmittance value (U_o) is to be computed using equation 53-1.

$$U_o = U_{wall} A_{wall} + U_{window} A_{window} + U_{door} A_{door} \dots (53-1)$$

$$A_o$$

Where more than one type of wall, window and/or door is used, the $U \times A$ term for that exposure shall be expanded into its subelements, as:

$$U_{wall1} A_{wall1} + U_{wall2} A_{wall2}, \text{ etc.}$$

WHERE U_o = the average thermal transmittance of the gross wall area, $\text{Btu/h} \cdot \text{ft}^2$

A_o = The gross area of exterior walls, ft^2

U_{wall} = the thermal transmittance of all elements of the opaque wall area, $\text{Btu/h} \cdot \text{ft}^2 \cdot \text{F}$

A_{wall} = opaque wall area, ft^2

U_{window} = the thermal transmittance of the window area, $\text{Btu/h} \cdot \text{ft}^2 \cdot \text{F}$.

A_{window} = window area (including sash), ft^2

U_{door} = the thermal transmittance of the door area, $\text{Btu/h} \cdot \text{ft}^2 \cdot \text{F}$

A_{door} = door area, ft^2

2. Roof/Ceiling. Any building that is heated or mechanically cooled shall have a combined thermal transmittance value (U_o) for roof/ceilings not exceeding those specified in Table No. 53-A. The combined thermal transmittance value (U_o) is to be computed using equation 53-2.

$$U_o = U_{\text{roof}} A_{\text{roof}} + U_{\text{skylight}} A_{\text{skylight}} \dots (53-2)$$

$$A_o$$

Where more than one type of roof/ceiling and/or skylight is used, the $U \times A$ term for that exposure shall be expanded into its subelements, as:

$$U_{\text{roof}_1} A_{\text{roof}_1} + U_{\text{roof}_2} A_{\text{roof}_2}, \text{ etc.}$$

WHERE U_o = the average thermal transmittance of the gross roof/ceiling area, Btu/h·ft²·F

A_o = the gross area of a roof/ceiling assembly, ft²

U_{roof} = the thermal transmittance of all elements of the opaque roof/ceiling area Btu/h·ft²·F

A_{roof} = opaque roof/ceiling area, ft²

U_{skylight} = the thermal transmittance of all skylight elements in the roof/ceiling assembly, Btu/h·ft²·F.

A_{skylight} = skylight area (including frame), ft².

3. Floors over unheated spaces. The floor of a heated or mechanically cooled space located over an unheated space shall have a combined thermal transmittance value (U_o) as specified in Table No. 53-A.

(d) Other Buildings. The following provisions shall apply to all buildings and structures, or portions thereof, except those covered within subsection (c) of this section.

1. Heating criteria for walls. All buildings and structures, or portions thereof, that are heated shall have a combined thermal transmittance value (U_o) for the gross area of exterior walls not exceeding those specified in Table No. 53-B. The combined thermal transmittance value (U_o) is to be computed using equation 53-1.

2. Heating criteria for roof/ceiling. All buildings and structures, or portions thereof, that are heated shall have a combined thermal transmittance value (U_o) for roof/ceiling assemblies not exceeding those specified in Table No. 53-B. The combined thermal transmittance value (U_o) is to be computed using equation 53-2.

3. Heating criteria for floors over unheated spaces. The floor of a heated space located over an unheated space shall have a thermal transmittance value (U_o) not exceeding those specified in Table No. 53-B.

4. Cooling criteria for walls. All buildings and structures, or portions thereof, that are mechanically cooled shall have an overall thermal transfer value for the gross area of exterior walls not exceeding those specified in Table No. 53-B. The overall thermal transfer value, OTTV, for the gross area of exterior walls is to be computed using equation 53-3.

$$\text{OTTV} = \frac{(U_{\text{wall}} \times A_{\text{wall}} \times T_{\text{DEQ}}) + (A_f \times \text{SF} \times \text{SC})}{A_o} + \frac{(U_f \times A_f \times \text{AT})}{A_o} \dots (53-3)$$

Where more than one type of wall and/or fenestration is used, the terms shall be expanded into subelements, as:

$$(U_{\text{wall}} \times A_{\text{wall}} \times T_{\text{DEQ}}) + (U_{\text{wall}2} \times A_{\text{wall}2} \times T_{\text{DEQ}2}), \text{ etc.}$$

WHERE OTTV = overall thermal transfer value.

U_{wall} = the thermal transmittance of all elements of the opaque wall area, Btu/h·ft²·F.

A_{wall} = opaque wall area, ft².

U_f = the thermal transmittance of the fenestration area, Btu/h·ft²·F.

A_f = entire exterior wall fenestration area, ft².

T_{DEQ} - value given in Table No. 53-H.

SC - shading coefficient of the fenestration (see definitions).

A_o - gross area of exterior walls, ft^2 .

T - temperature difference between exterior and interior design conditions, F.

SF - solar factor value given in $BTU/h-ft^2$, using value from the following table for the peak load time of the cooling system:

SF (interpolate for other directions and times)									
Time	N	NE	E	SE	S	SW	W	NW	Horiz.
8 am	21	134	227	186	36	20	20	20	116
10 am	32	61	161	168	76	33	32	32	238
12 noon	36	37	39	69	93	69	39	37	282
2 pm	32	32	32	33	76	168	161	61	238
4 pm	21	20	20	20	36	186	227	134	116

5. Cooling criteria for roof/ceilings. All buildings and structures, or portions thereof, that are mechanically cooled shall have a combined thermal transmittance value (U_o) for roof/ceiling assemblies not exceeding those specified in Table No. 53-B. The combined thermal transmittance value (U_o) is to be computed using equation 53-2.

Warm Air Heating, Ventilating and Air-Conditioning Systems (All Occupancies Except Group R, Division 3 Occupancies).

Sec. 5304. (a) Scope. This section applies to air duct systems employing mechanical means for the movement of air used for warm air heating, cooling, ventilation, air-conditioning systems, exhaust systems and combination heating and air-conditioning systems, except that this section shall not apply to systems for the removal of flammable vapors or residues or to systems for conveying dust, stock or refuse by means of air currents.

1. Design parameters. For calculations under this section, the following design parameters shall apply:

A. Outdoor design conditions shall be based on requirements in Chapter 39, air conditioning and ventilating of the Administrative Rules of the Department of Health, State of Hawaii.

B. Indoor design temperature shall be 70°F. for heating and 77°F. for cooling.

C. Indoor design relative humidity for heating shall not exceed 30 percent. For cooling, the design relative humidity shall be 50 percent.

2. Mechanical ventilation. Each mechanical ventilation system shall be equipped with an accessible means for either shutoff or volume reduction and shutoff when ventilation is not required.

3. Simultaneous heating and cooling. Systems that employ both heating and cooling simultaneously in order to achieve comfort conditions within a space shall be limited to those situations where more efficient methods of heating and air conditioning cannot be effectively utilized to meet system objectives. Simultaneous heating and cooling by reheating or recooling supply air or by concurrent operation of independent heating and cooling systems serving a common zone shall be restricted as specified herein.

A. New energy may be used for control of temperature minimized as specified in subsections C through H. New energy is defined as energy, other than recovered, utilized for the purpose of heating or cooling.

B. Recovered energy, provided the new energy expended in the recovery process is less than the amount recovered, may be used for control of temperature and humidity.

C. New energy may be used, when necessary, to prevent relative humidity from rising above 60 percent for comfort control or to prevent condensation on terminal units or outlets.

D. Systems employing reheat and serving multiple zones, other than those employing variable air volume for temperature control, shall be provided with control that will automatically reset the system cold air supply to the highest temperature level that will satisfy the zone requiring that coolest air. Single zone reheat systems shall be controlled to sequence cooling reheating.

E. Dual duct and multizone systems shall be provided with control that will automatically reset the cold air supply to the highest temperature that will satisfy the zone requiring the coolest air and the hot air supply to the lowest temperature that will satisfy the zone requiring the warmest air.

F. Systems in which heated air is recooled, directly or indirectly, to maintain space temperature, shall be provided with control that will automatically reset the temperature to which the supply of air is heated to the lowest level that will satisfy the zone requiring the warmest air.

G. For systems with multiple zones, one or more zones may be chosen to represent a number of zones with similar heating/cooling characteristics. A multiple zone heating, ventilating and air-conditioning system that employs reheating or recoiling for control of not more than 5,000 cfm or 20 percent of the total supply air of the system, whichever is less, shall be exempt from the supply air temperature reset requirements of subsections D and F of this section.

H. Concurrent operation of independent heating and cooling systems serving common spaces and requiring the use of new energy for heating or cooling shall be minimized by one or both of the following:

i. By providing sequential temperature control of both heating and cooling capacity in each zone.

ii. By limiting the heating energy input, through automatic reset control of the heating medium temperature (or energy input rate), to only that necessary to offset heat loss due to transmission and infiltration and, where applicable, to heat the ventilation air supply to the space.

(b) Equipment Performance Requirements. The requirements of this section apply to equipment and component performance for heating, ventilating and air-conditioning systems. Where equipment efficiency levels are specified, data furnished by the equipment supplier or certified under a nationally recognized certification program or rating procedure shall be used to satisfy these requirements.

1. Systems equipment. Heating, ventilating and air-conditioning system equipment whose energy input in the cooling mode is entirely electric shall show a Coefficient of Performance (COP) and Energy Efficiency Ratio (EER) not less than the values specified in Table No. 53-C. These requirements apply to, but are not limited to, unitary cooling equipment (air and water source), packaged air conditioners, and room air conditioners. This paragraph does not apply to equipment used in areas having open refrigerated food display cases.

Heat-operated cooling equipment shall show a Coefficient of Performance (COP) in the cooling mode not less than the values specified in Table No. 53-D. These requirements apply to, but are not limited to, absorption, engine-driven and turbine-driven equipment. The Coefficient of Performance (COP) is determined excluding the electrical auxiliary inputs.

2. System components. Heating, ventilating and air-conditioning system components whose energy input in the cooling mode is entirely electric shall show a Coefficient of Performance (COP) and Energy Efficiency Ratio (EER) not less than the values specified in Table No. 53-E.

3. Heat pumps. Heat pumps whose energy input is entirely electric shall show a Coefficient of Performance (COP), heating, not less than the values specified in Table No. 53-F.

4. Supplementary heater. The heat pump shall be installed with a control to prevent supplementary heater operation when the heating load can be met by the heat pump alone.

Supplementary heater operation is permitted during transient periods, such as start-ups, following room thermostat set-point advance and during defrost.

A two-stage room thermostat which controls the supplementary heat in its second stage shall be accepted as meeting this requirement. The cut-on temperature for the compression heating shall be higher than the cut-on temperature for the supplementary heat, and the cut-off temperature for the compression heating shall be higher than the cut-off temperature for the supplementary heat. Supplementary heat may be derived from any source of electric resistance heating or combustion heating.

5. Combustion heating equipment. All gas and oil-fired comfort heating equipment shall show a minimum combustion efficiency of 75 percent at maximum rated output. Combustion efficiency shall be determined in accordance with acceptable engineering principles.

(c) Insulation of Ducts. All duct systems, or portions thereof, exposed to nonconditioned spaces shall be insulated in accordance with Section 1713(d) of this code.

Warm Air Heating, Ventilating and Air-Conditioning Systems in One- and Two-Family Dwellings (Group R, Division 3 Occupancies).

Sec. 5305. Insulation of Ducts. All duct systems, or portions thereof, exposed to nonconditioned spaces shall be insulated in accordance with Section 1713(d) of this code.

Systems Controls in All Occupancies

Sec. 5306. Systems Controls. All heating, ventilating and air-conditioning systems shall be provided controls for all occupancies as specified herein.

1. Temperature. Each heating, ventilating and air-conditioning system shall be provided with at least one thermostat for the regulation of temperature. Each thermostat shall be capable of being set from 55°F to 75°F where used to control heating only and from 70°F. where used to control cooling only. Where used to control both heating and cooling, it shall be capable of being set from 55°F to 85°F and shall be capable of operating the system heating and cooling in sequence. It shall be adjustable to provide a temperature range of up to 10 degrees fahrenheit. between full heating and full cooling, except as allowed, in Section 5304(a)(3)(H).

2. Humidity. If a heating, ventilating and air-conditioning system is equipped with a means for adding moisture to maintain specific selected relative humidities in spaces or zones, a humidistat shall be provided. This device shall be capable of being set to prevent new energy from being used to produce space relative humidity above 30 percent relative humidity. Where a humidistat is used in a heating, ventilating and air-conditioning system for controlling moisture removal to maintain specific selected relative humidities in space or zones, it shall be capable of being set to prevent new energy from being used to produce a space relative humidity below 60 percent.

3. Temperature zoning. In all Group R, Division 3 Occupancies, at least one thermostat for regulation of space temperature shall be provided for each separate heating, ventilating and air-conditioning system. In addition, a readily accessible manual or automatic means shall be provided to partially restrict or shut off the heating or cooling input to each zone or floor, excluding unheated or uncooled basements and garages.

In all Group R, Division 1 Occupancies, each individual dwelling unit shall be considered separately and shall meet the above requirements for Group R, Division 3 Occupancies.

In all buildings and structures, or portions thereof, other than Group R, Division 3 Occupancies, and in spaces other than dwelling units in Group R, Division 1 Occupancies, at least one thermostat for regulation of space temperature shall be provided for each separate heating, ventilating and air-conditioning system and for each floor of the building.

4. Setback and shut off. In all Group R, Division 3 Occupancies, the thermostat, or an alternative means such as a switch or a clock, shall provide a readily accessible manual or automatic means for reducing the energy required for heating and cooling during periods of nonuse or reduced need.

In all other buildings and structures, or portions thereof, each heating, ventilating and air-conditioning system shall be equipped with a readily accessible means of reducing the energy used for heating, ventilating and air-conditioning during periods of nonuse or alternate uses of the building spaces or zones served by the system, such as with manually adjustable automatic timing devices, manual devices for use by operating personnel, or automatic control systems.

Lowering thermostat set points to reduce energy consumption of heating systems shall not cause energy to be expended to reach the reduced setting.

Piping for Steam and Hot Water Heating Systems

Sec. 5307. Piping Insulation. All piping serving as part of a heating or cooling system installed to serve buildings and within buildings shall be thermally insulated as shown in Table No. 53-G.

Insulation thicknesses are based on insulation having thermal resistance in the range of 4.0 to 4.6 per inch of thickness on a flat surface at a mean temperature of 75°F. Minimum insulation thickness shall be increased for materials having R values less than 4 or may be reduced for materials having R values greater than 4.6 per inch of thickness as follows:

1. For materials with thermal resistance greater than R = 4.6, the minimum insulation thickness may be determined as follows:

$$\frac{4.6 \times \text{Table No. 53-G thickness}}{\text{actual R}} = \text{new minimum thickness}$$

2. For materials with thermal resistance less than R = 4.0, the minimum insulation thickness shall be determined as follows:

$$\frac{4.0 \times \text{Table No. 53-G thickness}}{\text{actual R}} = \text{new minimum thickness}$$

EXCEPTIONS: Piping insulation, except when needed to prevent condensation, is not required in any of the following cases:

1. Piping installed within heating, ventilating and air-conditioning equipment.

2. Piping operating at internal temperatures between 55°F and 120°F.

3. When the heat loss or heat gain of the piping, without insulation, does not increase the energy requirements of the building.

4. Piping installed in basements, cellars or unventilated crawl space with insulated walls in Group R, Division 3 Occupancies.

Where required to prevent condensation, insulation with vapor barriers shall be installed in addition to insulation required above.

Conservation of Hot Water

Sec. 5308. (a) Showers. Showers used for other than safety reasons shall be equipped with flow control devices to limit total flow to a maximum of 3 gpm per shower head.

(b) Lavatories. Lavatories with hot water supplies in restrooms of other than dwelling units in Group R Occupancies shall:

1. Be equipped with outlet devices which limit the flow of hot water to a maximum of 0.50 gpm, or

2. Be equipped with devices which limit the outlet temperature to maximum of 110°F, or

3. Be equipped with self-closing valves that limit delivery to a maximum of 0.25 gallons of hot water.

(c) Piping Insulation. Piping in return circulation systems shall be insulated so that heat loss is limited to a maximum of 17.5 Btuh per linear foot of pipe. Maximum heat loss shall be determined at a temperature differential equal to the maximum water temperature minus a design ambient temperature not higher than 65°F.

EXCEPTION: Conformance with Table No. 53-G for low temperature piping systems shall be deemed as complying with this section.

(d) Pump Operation. Circulating hot water systems shall be arranged so that the circulating pump can be turned off either automatically or manually when the hot water system is not in operation.

(e) Performance Efficiency. All automatic electric storage water heaters shall have a stand-by loss not exceeding 4 watts per square foot of tank surface area. This method of test of stand-by loss shall be in accordance with acceptable engineering principles.

All gas and oil-fired automatic storage heaters shall have a recovery efficiency, E_r , not less than 75 percent and a stand-by loss percentage, S, not exceeding $S = 2.3 + 67/V$, where V = volume in gallons. The method of determining E_r and S shall be in accordance with acceptable engineering principles.

Service water heating equipment shall not be dependent on year-round operation of space heating boilers, that is, boilers that have as another function winter space heating.

(f) Insulation. Unfired hot water storage tanks shall be insulated so that heat loss is limited to a maximum 13.6 Btuh per square foot of external tank surface area. For purposes of determining this heat loss, the design ambient temperature shall be not higher than 65°F.

Controls

Sec. 5309. (a) Temperature Controls. All hot water supply systems shall be equipped with automatic temperature controls capable of adjustments from the lowest to the highest acceptable temperature settings for the intended use.

(b) Shut Down. A separate switch shall be provided to terminate the energy supplied to electric hot water supply systems. A separate valve shall be provided to turn off the energy supplied to the main burner of all other types of hot water supply systems.

Artificial Light

Sec. 5310. Lighting Power Limit for Buildings. (a) General. This section establishes the maximum power limit for interior and exterior illumination systems.

(b) Exempt Buildings. Buildings in Group R-3 Occupancy, and the dwelling unit portion of Group R-1 Occupancy are exempt from the requirements of this section.

(c) Lighting Power Limit. A lighting power limit is the upper limit of the power to be available to provide the lighting needs of a building.

(d) Separate lighting power limit shall be calculated for the building interior and for the building exterior.

(e) Calculation Procedure. To establish a lighting power limit the following procedure shall be used:

1. Interiors.

A. Determine the use categories for the various parts of the building from Table No. 53-1.

B. Multiply the maximum power limit for each category by the gross floor area included in that category.

C. Add the total watts for each area to arrive at the lighting power limit for the building. Where ballasts are used, include wattage of ballasts.

D. In open-concept spaces in excess of 2,000 square feet, with no defined egress or circulation pattern, 25 percent of the area shall be designated as category B.

2. Exteriors.

A. Category E lighting (see Table No. 53-1) - multiply the limit given in Table No. 53-1 by the number of lineal feet in the building perimeter. Except for lighting required for security and safety, category E lighting shall be off from 2:00 a.m. to 15 minutes before sunset.

B. Other exterior lighting - multiply the value in category F in Table No. 53-1 by the area to be illuminated.

EXCEPTION: Lighting for theatrical, television, cleanrooms, spectator sports and like performances shall not be included in the total building limit. Control of this lighting shall have limited access.

(f) Alternates.

1. The installed lighting power for any area may be increased or decreased from the values of Table No. 53-1 provided the total interior building lighting power limit calculated in Section 5310(e) is not exceeded. The task lighting for any area shall not exceed the standards set forth in the latest edition of the Illuminated Engineering Society (IES) handbook.

2. Lighting for retail stores may use 5 watts per square foot for the first 500 square feet and 2.5 watts per square foot for floor area in excess of 500 square feet.

(g) Lighting Switching. In all exterior areas, lighting fixtures shall be switched automatically for nonoperation when natural light is available.

(h) Documentation. Lighting power loads shall be presented to the building official in an acceptable format and shall include the total connected lighting wattage per square foot for the entire structure.

(i) Application to Existing Buildings.

1. General. The provisions of this section shall apply to all existing buildings and structures with a gross floor area in excess of 10,000 square feet.

2. Exempt buildings and lighting. The following are exempt from the provisions of this section:

A. Buildings in Groups R-3 Occupancy and the dwelling unit portion of Group R-1 Occupancy.

B. The manufacturing portion of industrial plants.

C. Exterior lighting, provided that Section 5310(g) shall apply to exterior lighting for existing buildings or portions of existing buildings not exempt under subsections A and B in this section.

3. Existing buildings. For the purposes of this section, existing buildings shall be as defined under Section 403 of this code.

4. Calculation procedure. Lighting power limit for existing buildings shall be established following procedure set forth in Section 5310(e).

5. Alternates. The alternates set forth in Section 5310(f) shall also be applicable to existing buildings.

6. Documentation. Lighting power loads shall be presented to the building official in an acceptable format and shall include the total connected lighting wattage per square foot for the portion of a structure under consideration.

Energy Conservation in Electrical Distribution Systems

Sec. 5311. (a) Power Factor. The power factor of the overall electrical distribution system in a building shall be not less than 90 percent under rated design installed load of the building, either by utilizing equipment design or by the use of power factor corrective devices. The corrective methods shall be based upon an engineering evaluation of each distribution system.

(b) Lighting Switching. Switching shall be provided for each lighting circuit, or for portions of each circuit so that the partial lighting required for custodial or for effective complementary use with natural lighting may be operated selectively.

(c) Separate Metering. In all Group H Occupancies, provisions shall be made to determine the electrical energy consumed by each tenant by separately metering individual dwelling units.

EXCEPTION: Hotels, college dormitories, and other transient facilities.

16.26.5350 Table No. 53-A added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

TABLE NO. 53-A—MINIMUM EER AND COP FOR ELECTRIC HEATING, VENTILATING AND AIR-CONDITIONING SYSTEM EQUIPMENT

<u>STANDARD RATING CAPACITY</u>	<u>EER</u>	<u>COP</u>
Under 65,000BTU/hr. (19,050 watts)	6.1	1.8
65,000 BTU/hr. (19,050 watts) and over	6.8	2.0

16.26.5351 Table No. 53-B added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

**TABLE NO. 53-B—MINIMUM COP FOR HEATING, VENTILATING
AND AIR CONDITIONING SYSTEM HEAT OPERATED COOLING EQUIPMENT**

HEAT SOURCE	MINIMUM COP
Direct fired (gas, oil)	0.40
Indirect fired (steam, hot-water)	0.65

16.26.5352 Table No. 53-C added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

**TABLE NO. 53-C—MINIMUM COP FOR ELECTRICALLY DRIVEN
HEATING, VENTILATING AND AIR-CONDITIONING SYSTEM COMPONENTS**

COMPONENT	CONDENSING MEANS	AIR		WATER		EVAPORATOR	
		EER	COP	EER	COP	EER	COP
Self-contained water chillers	Centrifugal	7.5	2.2	12.9	3.8		
	Positive displacement	7.2	2.1	10.9	3.2		
Condenserless water chillers	Positive displacement	8.9	2.6	10.9	3.2		
Compressor and condenser units 65,000 BTU/hr. (19,050 watts and over)	Positive displacement	7.8	2.3	11.3	3.3	11.3	3.3

16.26.5353 Table No. 53-D added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

TABLE 53-D—MINIMUM COP FOR HEAT PUMPS, HEATING MODE

SOURCE OF OUTDOOR TEMPERATURE (°F)	MINIMUM COP
Air Source - 47 dB/43WB	2.2
Air Source - 17 dB/15WB	1.2
Water Source - 60 Entering	2.2

16.26.5354 Table No. 53-E added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

TABLE NO. 53-E—MINIMUM PIPE INSULATION

Piping System Types	Fluid Temperature Range, °F.	Run-outs Up to 2"	INSULATION THICKNESS IN INCHES FOR PIPE SIZES				
			1" and Less	1 1/4" to 2"	2 1/2" to 4"	5 and 6"	8 and Larger
Heating systems							
Steam and hot water							
High pressure/temp.	306-450	1 1/2	1 1/2	2	2 1/2	3 1/2	3 1/2
Med. pressure/temp.	251-305	1 1/2	1 1/2	2	2 1/2	3	3
Low pressure/temp.	201-250	1	1	1 1/2	1 1/2	2	2
Low temperature	120-200	1/2	3/4	1	1	1	1 1/2
Steam condensate (for feed water)	Any	1	1	1	1 1/2	1 1/2	2
Cooling systems							
Chilled, water, refrigerant, or brine	40-55	1/2	1/2	3/4	1	1	1
	Below 40	1	1	1 1/2	1 1/2	1 1/2	1 1/2

16.26.5355 Table No. 53-F added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

TABLE NO. 53-F—TEMPERATURE DIFFERENCE

WALL CONSTRUCTION MASS PER UNIT AREA - lbs/ft ²	TD - F ^o EQ
0-25	44
26-40	37
41-70	30
71 and above	23

16.26.5356 Table No. 53-G added. Chapter 53 of the uniform building code is hereby amended by adding thereto a new table no. 53-A, to be designated and to read as follows:

TABLE NO. 53-G—LIGHTING LIMIT CONNECTED LOAD FOR LISTED OCCUPANCIES

TYPE OF USE	MAX LIMIT PER SQ. FT. (WATTS)
<u>INTERIOR</u>	
Category A: Classroom, office, automotive mechanical area, museum, conference room, drafting, clerical, laboratory, retail stores, manufacturing, process, industrial, kitchen, examining room, open library stacks, athletic facility	3
Category B: Auditorium, place of assembly, waiting area, spectator area, restroom, dining, working corridor in prison and hospital, transportation terminal, closed book stacks, active storage, hospital bedroom, hotel/motel bedroom, enclosed shopping mall concourse	1
Category C: Corridor, lobby, elevator, stairway, dead storage, bulk manufacturing	0.5
Category D: Indoor parking	0.25
<u>EXTERIOR</u>	
Category E: Building perimeter: wall-wash, facade, canopy	5 (Per linear foot)
Category F: Outdoor parking	0.05

16.26.5405 Subsection 5405 amended. Section 5405 of the uniform building code is hereby amended to read as follows:

Sec. 5405. Regular plate, sheet or patterned glass in jalousies or louvered windows shall be no thinner than nominal 7/32 inch and no longer than [48] 36 inches. When other glass types are used, design shall be submitted to the building official for approval. Exposed glass edges shall be smooth.

Wired-glass with wire exposed on longitudinal edges shall not be used in jalousies or louvered windows.

16.24.5450 Table No. 54-C amended. Table no. 54-C of the uniform building code is hereby amended to read as follows:

TABLE NO. 54-C—MINIMUM GLAZING REQUIREMENTS

Fixed Windows and Openable Windows Other Than Horizontal Sliding					
GLASS AREA	UP TO 6 SQ. FT.	6 TO 14 SQ. FT.	14 TO 32 SQ. FT.	32 TO 50 SQ. FT.	OVER 50 SQ. FT.
1. Minimum frame lap	1/4"	1/4"	5/16"	3/8"	1/2"
2. Minimum glass edge clearance	1/8" <u>1</u> <u>2</u>	1/8" <u>1</u> <u>2</u>	3/16" <u>1</u>	1/4"	1/4" <u>1</u>
3. Continuous glazing rabbet and glass retainer ³	Required				
4. Resilient setting material ⁴	Not required				
Sliding Doors and Horizontal Sliding Windows					
GLASS AREA	UP TO 14 SQ. FT.	14 TO 32 SQ. FT.	32 TO 50 SQ. FT.	OVER 50 SQ. FT.	
5. Minimum glass frame lap	1/4"	5/16"	3/8"	[1/2] 3/8"	
6. Minimum glass edge clearance	1/8" <u>2</u>	3/16"	1/4"	1/4"	
7. Continuous glazing rabbet and glass retainer ³	Required above third story				
8. Resilient setting material ⁴	Not required				Required

¹ Glass edge clearance in fixed openings shall be not less than required to provide for wind and earthquake drift.

² Glass edge clearance at all sides of pane shall be a minimum of 3/16 inch where height of glass exceeds 3 feet.

³ Glass retainers such as metal, wood or vinyl face stops, glazing beads, gaskets, glazing clips and glazing channels shall be of sufficient strength and fixation to serve this purpose.

⁴ Resilient setting material shall include preformed rubber or vinyl plastic gaskets or other materials which are proved to the satisfaction of the building official to remain resilient.

16.26.5600 Chapter 56 added. The uniform building code is hereby amended by adding thereto a new chapter, to be designated and to read as follows:

CHAPTER 56

THATCHED MATERIAL ON EXTERIOR OF BUILDING:

PROTECTION AGAINST EXPOSURE FIRES

Sec. 5601. Applicability. Thatched material on the exterior of buildings shall be permitted only upon buildings located in areas zoned for resort use which primarily service the tourist trade when approved by the building official.

The thatched material permitted in this chapter shall be used for decorative purposes on the roof or wall of buildings. The building, independent of the thatched material, shall comply with all applicable provisions of the Building Code.

When thatched material is used as permitted in this chapter, and an appropriate permit is obtained therefor in accordance with the uniform building code, outside sprinklers for protection against exposure fires shall be required as hereinafter provided.

Sec. 5602. (a) General. Thatched materials used on the roof of a building shall be protected by manually operated sprinkler heads, with adequate water supply, pipe size and sprinkler head spacing in accordance with sprinkler system requirements set forth in this chapter.

(b) Thatched materials used on the wall of a building shall be protected by manually operated outside sprinklers. Size and spacing of sprinklers and pipe size shall be in accordance with Chapter 6, Outside Sprinklers for Protection Against Exposure Fires, of the National Fire Codes of the National Fire Protection Association. Controls shall be as set forth in this chapter.

Sec. 5603. Sprinkler Requirements. (a) General. Sprinklers shall be located at the high point of the roof. Upright or pendant sprinklers shall be used for gable roofs. Sidewall sprinklers shall be used for shed roofs.

(b) Spacing of Sprinklers. The maximum width of roof with one row of sprinklers shall be as follows:

<u>Roof Slope</u>	<u>Orifice Size</u>	<u>Width of Roof</u>
<u>1:3 or greater</u>	<u>3/8"</u>	<u>15'</u>
<u>"</u>	<u>1/2"</u>	<u>20'</u>
<u>"</u>	<u>17/32"</u>	<u>25'</u>
<u>Less than 1:3</u>	<u>3/8"</u>	<u>10'</u>
<u>"</u>	<u>1/2"</u>	<u>15'</u>
<u>"</u>	<u>17/32"</u>	<u>20'</u>

Maximum spacing of sprinklers on branch lines (along ridge) shall be as follows: 3/8 inch orifice - 6 feet; 1/2 inch orifice - 8 feet; 17/32 inch orifice - 10 feet.

Conical roofs may be protected with one sprinkler at the apex if the diameter of the roof does not exceed the width of roof referred to above.

Where the width of a roof exceeds the width allowed for one row of sprinklers, as provided in the table above, two or more rows of sprinklers shall be placed such that the entire roof area is protected.

(c) Areas Protected. Each area (zone) of thatched material that is separated from another thatched area by an open space of 20 feet or more or by noncombustible construction of 20 feet or more shall be considered a separate area (zone).

Risers to each separate zone shall not be less than that shown in subsection (e) of this section, except as modified as follows:

1. More than one zone may be protected by one valve, if the supply is adequate.

2. If one area (zone) is larger than can be protected with the existing supply, the zones can be subdivided into subzones if the following criteria are met; an area of at least 800 square feet is protected by a subzone control valve; there is at least a 10 percent overlap in coverage of adjoining subzones; and operation of the manual control valve will automatically transmit an alarm to the Fire Department.

(d) Water Supply. The sprinkling system shall have a separate connection to the water main in the street, to an approved automatic fire-extinguishing system supply line, to a wet standpipe supply line, or to a domestic supply of adequate size. The water supply required shall be determined from either of the following:

1. Flow per sprinkler for the largest zone, with residual pressure at the highest sprinkler at 15 pounds per square inch with all heads operating, shall be as follows:

Orifice SizeGallons Per Minute

<u>3/8"</u>	<u>15</u>
<u>1/2"</u>	<u>20</u>
<u>17/32"</u>	<u>25</u>

(2) The flow shall be hydraulically calculated so as to discharge at least 0.11 gallons per minute per square foot of surface area to be sprinklered.

(e) Riser and Pipe Size. Pipe sizes shall be determined from the flow as calculated above. However, no pipe less than one inch in size shall be used. The following table may be used in conjunction with this flow calculation for the selection of pipe or riser sizes:

Pipe or Riser Size

1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 3 1/2" 4"

Orifice
SizeNo. of Sprinklers

<u>3/8"</u>	<u>3</u>	<u>4</u>	<u>7</u>	<u>11</u>	<u>21</u>	<u>37</u>	<u>40</u>	<u>40</u>
<u>1/2"</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>8</u>	<u>15</u>	<u>27</u>	<u>40</u>	<u>40</u>
<u>17/32"</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>6</u>	<u>11</u>	<u>19</u>	<u>30</u>	<u>38</u>

(f) Number of Sprinklers Served. The number of sprinklers on a branch line shall not exceed 6. Center feed shall be used for 6 or more sprinklers. The number of sprinklers under control of each control valve shall not exceed 40. At the location of each valve, there shall be a drain connection and a 1/4 inch valve outlet test connection to accommodate pressure gauge.

(g) Material Installed Above Grade. Piping shall be galvanized steel schedule 40 with galvanized malleable iron fittings or hard drawn copper with silver solder fittings. Pipes shall be securely fastened to the structure.

Valves shall be the manual type approved and listed by the Underwriter's Laboratories or by other approved testing agencies. Valves shall be installed outdoors and so located as to be readily accessible in case of fire. Signs indicating the use of valves shall be conspicuously posted.

(h) Local Alarm. Any one system with 20 or more sprinklers under control of one valve shall be complemented with a local fire alarm, either electrically or mechanically operated.

16.26.5800 Chapter 58 added. The uniform building code is hereby amended by adding thereto a new chapter, to be designated and to read as follows:

CHAPTER 58

RELOCATION OF BUILDINGS

Sec. 5801. Application for a Relocation Permit. Any person intending to move any building or structure shall apply to the building official for a building permit in writing upon a form furnished by the building official and shall set forth such information as the building official may reasonably require in order to carry out the purposes of this chapter.

Sec. 5802. Issuance of Permit. If the work described in the application for permit and in the plans and specifications submitted therewith conform to the requirements of Chapter 3 of the Uniform Building Code, utility standard and other pertinent laws and ordinances, and the fee specified in Section 5808 has been paid, the building official shall issue a building permit. In issuing the permit, the building official shall impose therein such terms and conditions as he may deem reasonable and proper including, but not limited to:

1. The designation of route to be followed,
2. The presence of a police officer during the entire period that such building or structure is in the process of being moved from its original site to the new site designated in the permit,
3. Height and width restrictions of the building or structure being relocated to provide adequate clearance from any and all obstructions which may be encountered on the route so designated,
4. The description of the site upon which the building or structure is to be moved,
5. The condition to which such building or structure must be restored while in storage,
6. The repair of or payment for any damage done to any property owned by the County or others in the process of moving a building or structure, such terms and conditions to be written upon the permit or appended in writing thereto. The plans and specifications after approval by the building official shall not be changed, modified, or altered without authorization from the building official and all work shall be done in accordance with the approved plans and specifications. The building official shall retain one set of such plans and specifications.

Sec. 5803. Identification. All buildings or structures which are to be relocated shall be identified with appropriate designations by the building official, after it has been determined by the building official that such buildings or structures may be relocated. No building or structure or any portion thereof, shall be moved without such identification.

Sec. 5804. Police Escorts. The applicant shall apply to the Police Department of the County for escort services of a police officer. The applicant shall bear the cost of such services.

Sec. 5805. Effect of Issuance. The issuance of a permit or approval of plans and specifications shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of any other law.

The issuance of a permit shall not prevent the building official from thereafter requiring the correction of errors in the plans and specification or from halting building operations when in violation of the provisions of this code or of any other law; nor shall it prevent the institution of criminal action and the imposition of penalty as prescribed in Chapter 2 of the Uniform Building Code for violation of any of the provisions of this chapter.

Sec. 5806. Duration and Extension of Time. All work for which a relocation permit is issued under the provisions of this article shall be completed within 90 days from the date of issuance of the permit, unless extended for good cause by the building official. Any request for extension shall be made not less than 15 days prior to the date of expiration of the permit.

Sec. 5807. Denial of Permit. No permit shall be issued to move any building or structure:

1. Which may result in more than one housing accommodation to be situated on any lot in areas determined by the Department of Water Supply to lack sufficient water supply for domestic use, fire protection and/or sanitation; or

2. Which has deteriorated or been damaged to an extent greater than 50 percent of the cost of replacement (new) of such building or structure.

Sec. 5808. Fees for Permits. The fees for the issuance of a permit shall be computed in accordance with Table No. 3A; provided, however, if a permit is issued after the commencement of the relocation of a building or structure for which a permit is required, the fee shall be doubled or increased by an additional amount of \$200, whichever is the greater.

16.26.8000 Penalty. Any person who violates any of the provisions of this chapter shall, upon conviction, be subject to a fine not exceeding \$500 or by imprisonment not exceeding thirty (30) days, or both.

The continuance of any such violation after conviction shall be deemed a new offense for each day of such continuance.

16.26.9000 Appendix, chapter 7, division 1 incorporated. The uniform building code is further amended by adding thereto the provision contained in the appendix, chapter 7, division 1, pertaining to covered mall buildings.

16.26.9010 Appendix, chapter 57 incorporated. The uniform building code is further amended by adding thereto the provision contained in the appendix, chapter 57, pertaining to regulations governing fallout shelters."

SECTION 3. If any provision of this ordinance shall for any reason be held invalid or unconstitutional by a court of competent jurisdiction, such judgment shall not affect the validity of the remaining portions.

SECTION 4. Work performed under a building permit which was issued prior to the effective date of this ordinance and which is inspected on or after said effective date shall be approvable if it meets the requirements of either this chapter or the Building Code being replaced by this chapter.

SECTION 5. Ordinance No. 735, Ordinance No. 744, Ordinance No. 786, Ordinance No. 852, Ordinance No. 856 Ordinance No. 1237, Ordinance No. 1447, and Ordinance No. 1504 are repealed upon the effective date of this ordinance; provided, however, that the applicable standards contained therein shall be effective for enforcement and compliance purposes until the work for which permits were issued thereunder is completed, or such permits expire.

SECTION 6. Material to be repealed is bracked. New material is underscored.
In printing this bill, the County Clerk need not include the brackets, the
bracketed material or the underscoring.

SECTION 7. This ordinance shall take effect ninety days after its approval.

APPROVED AS TO FORM AND LEGALITY:



GLENN M. KOSAKA
Corporation Counsel
County of Maui
bldgcode/ords/c(cs)

WE HEREBY CERTIFY that the foregoing BILL NO. 8 (19 89)

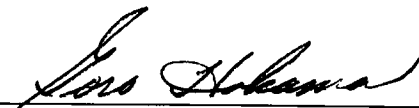
1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of Hawaii, held on the 5th day of May, 19 89, by the following votes:


Linda CROCKETT LINGLE	Goro HOKAMA Chairman	Patrick S. KAWANO	Howard S. KIHUNE Vice-Chairman	Alice L. LEE	Ricardo MEDINA	Wayne K. NISHIKI	Velma M. SANTOS	Joe S. TANAKA
Aye	Aye	Aye	Aye	Aye	Aye	Aye	Excused	Aye

2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 5th day of May, 19 89.

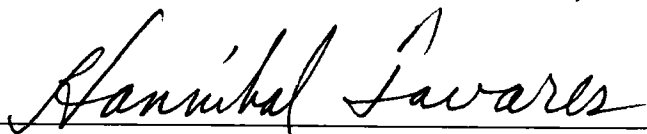
DATED AT WAILUKU, MAUI, HAWAII, this 5th day of May, 19 89.

1989 MAY -5 PM 4:00
OFFICE OF THE MAYOR


GORO HOKAMA, CHAIRMAN
Council of the County of Maui

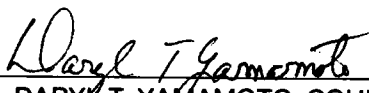

DARYL T. YAMAMOTO, COUNTY CLERK,
County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 11th DAY OF MAY, 1989.


HANNIBAL TAVARES, MAYOR,
County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the said BILL was designated as ORDINANCE NO. 1800 of the County of Maui, State of Hawaii.

Passed First Reading on March 3, 1989.
Effective date of Ordinance August 9, 1989.


DARYL T. YAMAMOTO, COUNTY CLERK,
County of Maui

RECEIVED

1989 MAY 10 AM 10:56

CLERK

I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 1800, the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on

County Clerk, County of Maui