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Por:   
Secretario Auxiliar de Servicios

PUERTO RICO  
BUILDING CODE

1999

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# PUERTO RICO

## BUILDING CODE

1999

The Commonwealth of Puerto Rico adopts under the provisions of the law #75 of June 24, 1975 a new Building Code to apply in all the territory of Puerto Rico. Such Building Code is the 1997 edition of the Uniform Building Code,<sup>TM</sup> with amendments, Volumes 1, 2, and 3 and the amendments and additions expressed in this document of adoption to regulate the construction, erection, enlargement, alteration, repair, moving, removal, demolition, signs, advertising, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and structures in the Commonwealth of Puerto Rico; providing for the issuance of permits and collection of fees therefore; providing for penalties for the violation thereof, repealing Building Regulations (Planning Regulation No. 7), amended in 1968 and all other ordinances and parts of the ordinances in conflict therewith, with the exceptions here stated.

The Regulation and Permits Administration (ARPE) of the Commonwealth of Puerto Rico does ordain as follows:

**Section 1.** That certain documents, three (3) copies of which are on file and are open for inspection of the public in the offices of The Regulation and Permits Administration (ARPE) of the Commonwealth of Puerto Rico, being marked and designated as:

*Uniform Building Code*, 1997 Edition, published by the International Conference of Building Officials, including the generic fire-resistive assemblies listed in the *Fire Resistance Design Manual*, Fourteenth Edition, dated April 1994, published by the Gypsum Association as referenced in Tables 7-A, 7-B and 7-C of the specified *Uniform Building Code*, including Appendix Chapter 12, Division I, Appendix Chapter 16, Division II, Appendix Chapter 31, Division I and Appendix Chapter 34, Division III, and including attached amendments that revise, delete or add to certain sections in said code, and

*Structural Welding Code – Reinforcing Steel*, AWS D1.4-92 (UBC Standard 19-1); American National Standard for Accessible and Useable Buildings and Facilities, A117.1-1992 (see *Uniform Building Code* Section 1101.2) published by the Council of American Building Officials; *Load and Resistance Factor Design Specification for Structural Steel Buildings*, December 1, 1993 (ASD Chapter 22, Division II); *Load and Resistance Factor Design Specification for Cold-Formed Steel Structural Members*, 1986 (with December, 1989 Addendum) (Chapter 22, Division VI); *Specification for Design of Cold-Formed Steel Structural Members*, 1986 (Chapter 22, Division VII); *Standard*

*Specification for Steel Joists, K-Series, LH-Series, DLH-Series and Joist Girders*, 1994 (Chapter 22, Division IX); *Structural Applications of Steel Cables for Buildings*, ASCE 17-95 (Chapter 22, Division XI); Building Code Requirements for Reinforce Concrete, ACI 318-95 and *National Design Specification for Wood Construction*, Revised 1991 Edition (Chapter 23, Division III, Part 1), as modified or amended in the *Uniform Building Code* referenced herein:

Be and the same are hereby adopted as the code of the Commonwealth of Puerto Rico for regulating the construction, erection, enlargement, alteration, repair, moving, removal, demolition, signs, advertising, conversion, occupancy, equipment, use, height, area and maintenance of all buildings or structures in the Commonwealth of Puerto Rico providing for issuance of permits and collection of fees therefore; and each and all of the regulation, provisions, conditions and terms of such *Uniform Building Code*, 1997 Edition, Volumes 1,2, and 3, published by the International Conference of Building Officials and the secondary publications referenced above, all of which are on file in the offices of The Regulation and Permits Administration (ARPE) of the Commonwealth of Puerto Rico are hereby referred to, adopted and made a part hereof as if fully set out in this ordinance.

**Section 2.** Any person, natural or legal, who violates this code after the date of enforcement, will be guilty of misdemeanor, and if convicted, shall be subject to a fine of not more that five hundred dollars (\$500.00) or prison for a period of not more than six (6) months, or both, at the discretion of the court. In addition to the complaints which may be filed for violations of the *Uniform Building Code*, 1997 Edition, Volumes 1,2, and 3, the Secretary of Justice of Puerto Rico, The Regulation and Permits Administration (ARPE) or the Regulations and Permits Administrator, will prevent such violations, on behalf of the Commonwealth of Puerto Rico, or action for injunction, mandamus or any other processing in any court of competent jurisdiction.

**Section 3.** That Building Regulations (Planning Regulation No. 7), Amended 1968 and Adopted Amendments to the Building Regulations (Planning Regulation No. 7), October and December 1987 of the Planning Board of Puerto Rico and all other ordinances in conflict herewith are hereby repealed.

**Section 4.** That if any section, sentence, clause or phrase of this ordinance is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The Government of the Commonwealth of Puerto Rico hereby declares that it would have passed this ordinance, and each section, clause, or phrase hereof, irrespective of the fact that any one or more sections, clauses and phrases be declared unconstitutional.

**Section 5.** That Regulation and Permits Administration (ARPE) of the Commonwealth of Puerto Rico is hereby ordered and directed to cause this ordinance to be published and/or posted in accordance with the governing requirements.

**Section 6.** That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in accordance with certain administrative rules of Regulation and Permits Administration (ARPE) of the Commonwealth of Puerto Rico in full force immediately after the date of its final passage and adoption.

**Section 7.** For projects with some stage of permits legally approved (preliminary design, preliminary development, urbanization or construction) after the effectiveness date, it will be optional for the designers to design or redesign their projects according to the additional requirements established by these rules. If the authorization expired, a new permit shall be obtained in accordance to the new building code adopted (UBC-1997, volumes 1, 2 and 3).

**Section 8. Areas for lactation & diaper change -** The dispositions established by Administrative Order # ARPE-99-6 is hereby made part of the Building Code and remains in all effect.

## **AMENDMENTS TO UNIFORM BUILDING CODE 1997 EDITION VOLUMES 1, 2 AND 3**

The following revisions, deletions or additions to certain sections in said code are amended as follows:

1. Section 104.1 is to be modified as follows:

**104.1 Creation of Enforcement Agency.** As established in this Jurisdiction the code enforcement agency is the Regulation and Permits Administration (ARPE).

2. Section 104.2 is deleted in its entirety.
3. Section 105 is deleted in its entirety.
4. Section 106.1; the following shall be added as a second paragraph:

The Building Official shall be consulted for requirements of special permits of the use of structures such as grandstands, tents and awnings for a limited period of time.

5. Section 106.2; the following exemption shall be added :

### **MISCELLANEOUS REPAIRS AND CONSTRUCTION THAT CAN BE UNDERTAKEN WITHOUT THE NEED OF A BUILDING PERMIT**

The following minor repairs and constructions may be undertaken without the need of obtaining a building permit; provided, however, that this exemption from the requirement of a permit will not apply in Ancient and Historic Zones so declared by the Planning Board:

#### **A. Simple Substitutions:**

1. The change of old material for new material of the same class such wood for wood, galvanized iron for galvanized iron, wood for mood, etc., in walls, partitions, roofs and floors; provided, that these provisions do not include the substitution of exterior walls and concrete or masonry structural members.
2. Erection or change of position of interior partitions in residential buildings provided that one or more additional dwellings are not made available with them, in addition to those existing in the building; and that required ventilation of the rooms is not affected.

3. Substitutions of wooden floors for concrete floors on filled ground or on concrete posts, provided that the height of the floor over the soil shall not exceed one meter.
4. Substitution of wooden posts for concrete posts, provided that the height of it above the ground should not exceed one meter.
5. Installations of new wooden or metal doors, windows and jalousies at a distance of 5 feet from the property line, except in balconies and porches.
6. The substitution of one type of door and window for another.
7. Substitution of cardboard roofing for galvanized iron roofing or of other material with the exception of concrete, or vice versa.
8. The change in the shape of cardboard or galvanized iron roofs.
9. The change or employment of ornamental details that will not result in structural alterations and that will not project over public property a distance greater than that permitted by the Building Regulation.
10. Construction of latrines at a minimum distance of 3 meters from the house.
11. Fences built in conformity with the provisions of the Building Regulation.
12. Painting of existing buildings.

**B. Repairs to Concrete Buildings:**

1. Plastering of existing or permitted concrete constructions.
2. Installations or change of floor tile, ceramic tile, glaze tile, etc.
3. Filling of cracks, leakage's and drips.
4. Structural changes in the facades provide that no structural alterations are made such as new columns and beams, bearing walls or new eaves.

**C. Simple Substitutions in the Plumbing System:**

Only those consisting in changes of deteriorated fixtures, pipes, or other appurtenances for new ones are exempted from the requisite of permits.

Those alterations that include waste stacks or stack vents, the addition of new fixtures and the change in position of existing fixtures require a permit from the Bureau Permits.

D. Simple Substitutions in the Electrical Distribution System:

Only those consisting in the change of deteriorated lines or appurtenances for new ones are exempted from the requisite of permits. A permit shall be required when a new circuit is added.

6. Section 106.3.2; the section is deleted and replaced with the following:

**106.3.2 Submittal documents.** The provisions of the "Act No. 135 of June 15, 1967, as amended" (Certification Law) shall apply.

7. Sections 106.3.4, 106.3.4.1 and 106.3.4.2 are deleted.

8. Section 106.3.5 is deleted and replaced by the following:

**106.3.5 Inspection and observation program.** The provisions of the "Act No. 135 of June 15, 1967, as amended" (Certification Law) shall apply. Every project for which a permit is applied shall be based on a plan certified in accordance of Section 4.00 of the Planning Regulation No. 12 ("Regulation for the Certification of Construction Projects") and shall be under the supervision of an approved inspector.

**Exception:** If the applicant submits plans for a project that are voluntarily certified by the designer, as stated in Section 3.05, paragraphs two (2) and three (3) of the Planning Regulation No. 12 (and other sections to be determined by the Regulations and Permits Administration staff), then the procedure in Section 4.00 does not have to be followed. The applicant shall state the intention to use this exception upon application for permit.

9. Section 106.4.1, 106.4.2, 106.4.3, 106.4.4 and 106.4.5 are deleted and add a new 106.4.4 as follows:

**106.4.4 - Term of enforcement of the Decisions -**

1. Any decision on a construction design or construction preliminary design will remain without effect or value if within the term of one (1) year after it has been rendered the corresponding construction permit has not been obtain. Said decision will also remain without effect, together with the construction permit issued, if the works do not begin within a term of twelve (12) months after the issuance date of said permit. Said decision or permit will also remain without effect if the work is not finished within a year after was started, except when otherwise specified.
2. Any resolution of the Regulations And Permits Administration authorizing a construction or occupancy permit, will remain without effect or value if within a term of one (1) year after the issuance date, the construction or occupancy permit

has not been obtained. Said resolution as well as the permit issued, will also remain without effect if the authorized use is not established within a term of one (1) year after the issuance date of said use permit.

3. The terms here specified will be considered final, with the exception that they can be extended at the request of the interested party, whenever said extension is not contrary to the public interest.

10. Sections 107.2, 107.3, 107.4, 107.5, 107.5.1, 107.5.2 and 107.6 are deleted and add a new 107.2 as follows:

**107.2 Fee Refunds.** The building official may authorize refunding of any fee paid hereunder, which was erroneously paid or collected.

11. Section 108 is deleted in its entirety.

12. Section 109.3 shall be modified as follows:

**109.3 Certificate Issued.** In the conventional permit process after the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the code enforcement agency, the building official shall issue a certificate of occupancy. Under the Certification Law the professional shall certify the required inspections, before the building official issue the certificate of occupancy.

13. Section 109.4 shall be deleted.

14. Section 109.5 shall be modified as follows:

**109.5 Posting.** The certificate of occupancy for industrial and commercial buildings shall be posted in a conspicuous place on the premises and shall not be removed except by the building official.

15. Table 1-A shall be deleted.

16. Section 203; The definition of "Building Official" shall be modified as follows:

**BUILDING OFFICIAL** is the Regulations and Permits Administrator charged with the administration and enforcement of this code, or the Regulations and Permits Administrator's duly authorized representative.

17. Section 214; The definition of "Mechanical Code" is modified as follows:

**MECHANICAL CODE** is the *International Mechanical Code* promulgated by the International Code Council, as adopted by this jurisdiction.

18. Section 217: The definition of "Plumbing Code" is modified as follows:

**PLUMBING CODE** is the *International Plumbing Code*, and *International Private Sewage Disposal Code* promulgated by the International Code council as adopted by this jurisdiction.

19. Section 506; Add a new exception as follows:

**EXCEPTIONS:**

1. Towers, spires and steeples erected as a part of a building and not used for habitation or storage are limited as to height only by structural design if completely of noncombustible materials, or may extend not to exceed 20 feet (6096 mm) above the height limit in Table 5-B if of combustible materials.
2. The height of one-story aircraft hangars and buildings used for manufacture of aircraft shall not be limited if the building is provided with automatic sprinkler systems throughout as specified in Chapter 9 and is entirely surrounded by public ways or yards not less in width than one and one-half times the height of the building.
3. The Height allowances in UBC Chapter 5 are modified, when relevant, without exception to conform to the limitations in the Airport Zone Maps, provided that they are not allowed to be higher than that allowed in Table 5-B.

20. Chapter 8; Add Section 808 as follows:

**SECTION 808 – RAT PROOF CONSTRUCTIONS**

**Section 808.1 -General**

1. This title includes the regulations governing the rat-proofing of buildings or structures which by the nature of their use provide conditions favorable for rodent infestation and propagation.
2. Every building or structure in which feed, food, foodstuff or other materials which may serve as sustenance for rats, are stored, prepared, cooked, served or sold shall be built of rat-proof construction in accordance with the provisions of this Title. This Title will apply especially to buildings or structures occupied or proposed to be occupied for the following uses.
  - a. Markets, stores, slaughter-houses
  - b. Restaurants
  - c. Warehouses

## Section 808. 2 - NEW BUILDINGS

1. Foundation walls Ventilation Openings - All foundation walls ventilation openings shall be covered across their whole area with perforated sheet metal plates of a thickness not less than No. 14 (U.S. Standard Gauge) or with expanded sheet metal of a thickness not less than No. 14 (B&S Gauge). The openings in such coverings shall not exceed one half (1/2) inch.
2. Other Foundations and Exterior Wall Openings - All foundations and exterior wall openings (except those used for doors and windows) such as the openings around pipes and electric conduits and of other types, in masonry or concrete constructions, shall be protected against the passage of rats by closing such openings with cement mortar, concrete or non-corrosible metal.
3. Doors -
  - a. The exposed edges of the lower ten inches of wooden doors door sills and jambs serving as rear or side entrances into business buildings from the ground, basement or cellar floors, and other doors accessible to rats, shall be protected against gnawing by covering doors, door sills and jambs with solid sheet metal of a thickness not less than No. 24 (U.S. Standard Gauge).
  - b. All door on which metal protection has been applied shall be hinged so as to be free of swinging. When closed, doors shall fit snugly so that the maximum clearance between the door, and the jambs or sills not be greater than 3/8".
  - c. Door jambs and sills constructed of metal, concrete, masonry stone or cement mortar will be acceptable without the need of the metal protection as specified in above paragraphs.
4. Windows -
  - a. All windows and openings for light and ventilation purposes located in exterior walls within a distance of two feet above the ground level immediately below such openings, shall be covered for their entire area, including frame, with wire cloth of thickness not less than No. 19 (B&S Gauge) having a mesh which must not exceed one half inch.
  - b. Every window or opening in exterior walls for the purpose of light and ventilation not covered by the provisions of the preceding paragraph, accessible to rats by way of exposed pipes, wires, conduits and other appurtenances, shall be covered with wire cloth of a thickness not less than No. 19 (B&S Gauge) having a mesh not larger than one-half inch; but in lieu of wire cloth covering, said pipes, wires, conduits or

other appurtenances shall be blocked from rat usage by installing sheet metal guards of a thickness not less than No. 24 (U.S. Gauge). These guards shall be fitted snugly around pipes, wires, conduit or other appurtenances and shall extend for a minimum distance of twelve (12) inches beyond the pipe, wire, conduit or appurtenance.

### **808.3 - CONSTRUCTION**

1. Construction of Masonry and Concrete Floors - In new buildings no intervening space between the edge of the floor slab and the walls shall be left. All openings in the floor shall be properly protected against the passage of rats.
2. Wood Construction Less than One Foot Above the Ground -
  - a. In buildings having wood floors mounted on pilasters where the lower sills are less than 12 inches above the surface of the ground, the space between the floor and ground shall be protected by a solid masonry or concrete curtain wall around the entire perimeter of the building. Such wall shall be extended to a depth of not less than 18 inches below the surface of the ground level and shall fit snugly to the exterior wall of the building.
  - b. Where the curtain wall is not desirable, the whole wooden floor may be replaced with concrete of not less than four inches thickness with the exterior walls protected for a height of at least two feet above the concrete floor with masonry, concrete or solid sheet metal of a thickness of not less than No. 24 (U.S. Standard Gauge). This exterior wall protection shall be securely tied into the concrete floor.
3. Wood Construction Over One Foot Above the Ground - In all building having wooden floor mounted on plasters, whose lower sills are more than twelve inches above the ground level, the space between the floor sills and the ground shall be protected against the passage of rats in the manner specified in the preceding paragraph, or instead, a protection consisting of the installation of sheet metal collars of a thickness not less than No. 24 (U.S. Standard Gauge) at top or each plaster and snugly fit around each pipe, wire, conduit or other utility service passing through the wooden floor, shall be permitted. These collars shall not be less than 8 inches greater in diameter than the pipe, wire, conduit or other utility service. All other openings in wooden floors through which rats may gain entrance into double walls or the interior of commercial buildings shall be closed with sheet metal plates of a thickness of not less than No. 24 (U.S. Standard Gauge), or with wire mesh of a thickness of not less than No. 16 (B&S Gauge) having a mesh not exceeding one-half inch, or with concrete or masonry.
4. Foundation Walls - Foundation walls of all buildings shall extend at least one foot above and 1'- 6" below the ground level. If on excavating, rock is found, it will not be necessary to extend the foundation wall deeper than the surface of the rock.

5. Pits - All pits which are constructed inside a building shall have concrete floors and walls.
6. Concrete Floors - All concrete floors which rest directly on the ground shall be made rat-proof by constructing a surrounding concrete wall extended 1'- 6" below the ground level.
7. Walls - Double walls shall be made rat-proof by covering the bottom and interior faces of the panels to a height of six inches from the floor with a metal strip. In the same way, all wooden construction inside a building resting on the ground floor and which, by its form and arrangement, may create a shelter for rats shall be protected in the same way as double walls with a metal strip covering the interior walls of such construction to a height of six inches.

#### **808.4 - AGRICULTURE PRODUCE MARKETS -**

1. The floor of agricultural produce markets in which fruit or vegetables are exposed and offered for sale shall be paved with not less than 4 inches of concrete; the floor shall be protected by a curtain wall of concrete or masonry around the entire perimeter of the building, hermetically sealed to the surface pavement and extending not less than 1'- 6" below the ground.
2. Display racks, stands or platforms on which fruit or vegetables are stored or offered for sales shall be of sufficient height that all such farm products shall be kept at a distance of not less than 18 inches above the floor level and so constructed that rats cannot harbor in or under such racks.

#### **808.5 - Barns and Stables -**

1. Barns and stables for horses or cattle, must comply with the following conditions:
  - a. For each animal being cared for, there must be a space of not less than 54 square feet.
  - b. The floor must be of concrete, with a surrounding wall of thickness not less than 4 inches which extend 1'- 6" feet below the ground surface and which is securely tied into the floor. The floor must have a slope of not less than 1/8 inch per foot and shall be properly drained.
  - c. Wooden flooring, divided into sections, are allowed to be set on this concrete floor provided they can be easily removed. The boards or planks of these floorings shall have a clearance from each other of not less than 1 1/2 inches

- d. All barns and stables must be provided with a pit with concrete walls for the depositing of manure. The pit must have a minimum capacity of 9 cubic feet per animal. The cover of this deposit shall be divided into two sections.
- e. Each manger shall be located at a minimum distance of two feet from the wall or construction and its wall must have a slope of 2 inches to the bottom. This manger shall have a depth of at least 18 inches to avoid the spilling over of food.
- f. Where a room is needed for the storage of feed, it must be built rat-proof and the stands on which the feed is set-out shall be constructed in such a way that rats cannot climb to them.

## **808.6 - OTHER BUILDINGS -**

- 1. All buildings to be used as piers, meat stores, milk deposits, slaughter houses, bakeries or wholesale food warehouses shall have concrete floors. The same applies to any building having its lower floor below the ground or street level.
- 2. The surrounding walls of buildings having the ground floor below the level of the ground or street, shall be of reinforced concrete, to a height of no less than one foot above the level of the ground or street.

21. Chapter 9; Add Section 907 as follows:

### **SECTION 907 - ADDITIONAL FIRE PROTECTION**

Section 907, - The "Additional Fire Protection Regulations For New and Existing Buildings", adopted in October and December 1987, Supplement to the Planning Regulation No. 7, are left in effect and shall be complied with in all designs.

22. Chapter 12; Add Section 12.06 as follows:

**Section 12.06 - Free and Occupied Areas within the same Lot-** Requirements in this Article for yards, set-backs and accessory structures are applicable to non-zoned areas. Provisions in the Zoning Regulation shall be applicable to zoned areas.

### **Section 1206.1- Yards -**

- a. Lateral Yards - The minimum width of lateral yards on to which required doors and windows front in order to provide light and ventilation to habitable rooms, shall be 1/5 of the height of the wall containing said doors and windows, but never less than 1 1/2 meters.
- b. Inner Courts - No dimensions of an inner court shall be less than 3 meter or 1/5 of the vertical distance between the lowest level of said court, whether that is the level of the

ground or of the roof of a lower story, and the highest level of the wall on which the windows are located. The area of any inner court on to which windows required in this Article front in order to provide light and ventilation, shall not be less than 5 square meters on any level per each story the building has over the court, except that when said court serves one or five stories 10 square meters shall required; for three or four stories, 15 square meters; and for five stories, 20 square meters. When said inner court serves three or more stories, an air intake of one (1) square foot shall be provided for each story it serves.

- c. Outer Courts - Any outer court upon which windows required in this Title to provide light and ventilation open, shall have no dimension less than 3 meters, or 1/5 of the vertical distance between the lowest level of said court, whether that is the level of the ground or of the roof of a lower story, and the highest level of the wall on which the windows are located.
- d. Rear Yards - Except as otherwise provided in this Section, every newly erected building shall, have a rear yard separating it from the rear lot line, allowing a rear yard of not less than 3 meters if the lot has a depth of 21 meters or more, and according to the following table in the case where the lots have less depth.

Depth of Lot	Rear Yard
20.00 meters	2.0 meters
18.00 meters	1.9 meters
16.00 meters	1.7 meters
14.00 meters	1.6 meters
12.00 meters	1.5 meters

- e. Concessions for rear yards are applicable only to two story structures.

**Section 12.06.2 - Overhanging Structures** - Cornices, eaves, roofs or other architectural structures may extend into required yards or courts for a distance not exceeding 1 meter (3.28 feet), provided that in the case of inner courts, they shall not extend more than 2 feet. Open overhanging balconies shall be allowed, keeping not less than 5'- 0" from the lot line but being extended not more than one meter over the court, provided that other architectural features shall not affect the ventilation, and that the balconies area at height of not less than 8'- 0" above ground level.

**Section 12.06.3 - Car-ports** - The minimum width for a car-port shall be 8'- 3". It shall be considered as an open terrace to the effects of providing ventilation to habitable rooms.

**Section 12.06.4 - Distance Between Buildings on the Same Lot** - In the cases in which the construction of more than one building is permitted on the same lot, if the windows of either of theses buildings receive light and ventilation from the space between them, the width of

such space shall be not less than the sum of the widths of the required ventilation side yards for each buildings, and not less than 1/5 of the height of the highest building except that the distance between the main building and an accessory building may be 1.5 meters.

#### **Section 12.06.5 - Accessory Buildings**

- a. Accessory Buildings - may be located in required side yards or rear yards provided the Puerto Rico Power Electric Authority does not object to having their right-of-ways occupied. Accessory building shall maintain a minimum distance of 5'- 0" from the main building.
- b. Non accessory building shall be over 7 meters high nor more than two stories.
- c. Accessory buildings may be used as separate dwellings for one or more families, or for any use related to the main use.

**Section 1206.6** - No obstructions shall be allowed in the width or total height of a required ventilation yard. An individual, open, over-hanging balcony shall be allowed in front of each door, and it shall not project more than one meter over ventilation yards having a width of 3 meters or more.

23. Section 1605.1 - General; the exception referring to Chapter 23 for "Conventional Construction" shall be deleted.

24. Section 1605.1, General; the following paragraph shall be added as a second paragraph:

In the event of any doubt regarding the resistance to structural live and dead loads of the building, the Regulations and Permits Administrator can require a load test to determine if such construction is adequate for its intended use. Such tests will be performed under the administration of deputies from the Regulations and Permits Administration Department.

25. Section 1606.2, Partition Loads, shall be modified as follows:

**1606.2 Partition Loads.** Floors in office buildings and other buildings where partition locations are subject to change shall be designed to support, in addition to all other loads, a uniformly distributed dead load equal to 25\_pounds per square foot (psf) (1.20 kN/m<sup>2</sup>) of floor area.

26. Section 1607.4.4, Special Roof Loads; the following paragraph shall be added as a second paragraph and the existing second paragraph will move to third and numbered accordingly.

Roofs shall be designed for the concentrated and distributed loads produced by the weight of water tanks, solar water heaters, parabolic antennae, central air conditioning units or any other equipment proposed for roof installation. When new or additional equipment is to be installed on roofs, the weight of which will exceed the minimum requirements of this

Section or the structural design of the roof, permits shall be applied for and a new design shall be provided and inspections shall be in accordance with the "Certification Law."

27. Section 1611.2, Other Loads; the following paragraph shall be added as a second paragraph:

Where it is possible that heavy vehicles and trucks (such as dumper, fingers and truck and trailer mounted machinery) may use floors that are not supported by earth, their loading in conformance with the provisions of 1607.3.3 shall apply in the structural design of the floor. Section 1612.2.1, Basic Loads Combinations, Exception: 2 should be deleted and the following paragraph shall be added:

28. Section 1612.2.1, Basic Load Combinations, Exception 2. shall be deleted and the following paragraph shall be added:

When loads combination occurs, used 1.4 instead of the 1.2 security factor for fixed loads. (as recommended by the ACI 318 Codes in equations 9.1, 9.2 and 9.3).

29. Section 1615, General; The first sentence of the first paragraph is to be modified and added a four paragraphs as follows:

Every building or structure and every portion thereof shall be designed and constructed to resist the wind effects determined in accordance with the requirements of Chapter 6 of ASCE Standard No. 7, Minimum Design Loads for Buildings and Other Structures, 1995 edition.

The glazing assemblies and producting devices shall be tested in accordance with ASTM E, 1986 and ASTM E 1996, in order for glated openings to be considered as designed to resist wind-borne debris or as specifically protected from wind-borne debris impact, in accordance with Table 6-4 of ASCE 7-95.

30. Section 1618, modify as follows:

Design shall be made for a minimum basic wind velocity of one hundred and ten (110) miles per hour.

31. Section 1630.8.3; the following shall be added as a second paragraph:

The foundations of buildings, except inverted pendulum-type structures, shall be designed for the foundation overturning design moment at the foundation-soil interface with an overturning moment reduction factor of 0.80 for all building heights.

32. Section as foot 1635; modify as follows

## **SECTION 1635 - EARTHQUAKE-RECORDING INSTRUMENTATIONS**

For earthquake-recording instrumentation, the provisions contained in Appendix Chapter 16, Division II including number and location of instruments shall apply when and as determined by the Building Official.

33. Table 16-A shall be amended such that: item 3, Fixed seating areas shows 60 psf and a new category is added to that item that states, Orchestra pit floor 60 psf; and item 6, Garages, General storage and/or repair shows 125 psf; item 7, "Hospitals" is replaced with Hospitals, jails, orphanages and asylums; item 7, as modified, add Operating rooms, laboratories and x-ray rooms 60 psf; item 9, Manufacturing shows 125 psf and 250 psf for light and heavy, respectively; an item 21 is to be added to show, 21. Laundries, bakeries 150 psf; an item 22 is to be added to show, Warehouses, light 125 psf and Warehouses, heavy 250 psf; and footnote 3 to Table 16-A has the word, "bleachers" added between "gymnasiums" and "playgrounds."

Table 16A is modify to include the special load indicate in item 26, section 1611.2.

The minimum loads shown in Table 16-C, Minimum Roof Live Loads for Method 1 and Method 2, item 1 and add a new footnote 6 to this table are modified as follows:

TABLE 16-C – MINIMUM ROOF LIVE LOADS<sup>1,6</sup>

1a. Flat or rise less than 1 unit vertical in 24 unit horizontal (4.2% slope)	40	32	24	40		
1b. Rise one unit vertical in 24 units horizontal (4.2% slope) or rise less than 4 units vertical in 12 units horizontal (33.3% slope). Arch or dome with rise less than one eighth of span.	20	16	12	20	.08	40

6

The tabular values for the roof live load associated with Roof Slope item 1 shall be half of what is shown when the design engineer determines and states in writing that there is sufficient control on the application of loads or some other impediment to the use of such roofs for loads other than the minimum. These loads are minimum ones and the design engineer shall use Live Loads from Tables 16-A or 16-B when the circumstance warrants it.

34. Section 1636.2.2; modify to computed ds as follows:

ds = the total thickness of cohesionless soil layers in the top 40 feet (12200 mm)

35. Section 1636.2.3; modify to compute dc as follows:

dc = the total thickness (100-ds) of cohesive soil layers in the top 40 feet (12200 mm).

36. Section 1636.2.6; modify the last paragraph and add a new paragraph as follows:

The definitions presented herein shall apply to the upper 40 feet (12200 mm) of the site profile. Profiles containing distinctly different soil layers shall be subdivided into those layers designated by a number from 1 to n at the bottom, where there area total fn distinct layers in the upper 40 feet (12200mm). The symbol then refers to any one of the layers between 1 and n.

The depth of 40 ft (12200 mm) stated above shall be extended to 100 ft (30480mm) if the geotechnical investigation indicates conditions corresponding to soil type E.

37. Sections 1701.1 shall be modified as follows:

**1701.1 General.** In addition to the provisions of the "Act No. 135 of June 15, 1967, as amended" (Certification Law), the owner or the engineer or architect of record acting as the owner's agent shall employ one or more special inspectors who shall provide inspections during construction on the types of work listed under Section 1701.5.

**EXCEPTION:** The building official may waive the requirement for the employment of a special inspector if the construction is of a minor nature.

38. Section 1701.2 shall be modified as follows:

**1701.2 Special Inspector.** The special inspector shall be a qualified specialist who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.

39. Section 1701.3; the second paragraph shall be modified as follows:

The special inspector shall furnish inspection reports to the building official, the engineer or architect of record, and other designated persons in accordance with the provisions of the "Act No. 135 of June 15, 1967, as amended" (Certification Law). All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the building official.

40. Section 1701.5 and 1701.5.1 shall be modified as follows:

**1701.5 Types of Work.** Except as provided in Section 1701.1, the types of work listed below shall be inspected by a special inspector on a periodic basis unless otherwise required by the provisions of the "Act No. 135 of June 15, 1967, as amended" (Certification Law).

**1. Concrete.** (Use the American Concrete Institute) During the taking of test specimens and placing of reinforced concrete in structures of five (5) stories or higher. See Item 12 for shotcrete. *(balance of section remains unchanged except as indicated below)*

41. Section 1703; exception 1 is modified as follows:

**EXCEPTIONS:** 1. When approved, the nondestructive testing rate for an individual welder or welding operator may be reduced to 15 percent, provided the reject rate is demonstrated to be 5 percent or less of the welds tested for the welder or welding operator. A sampling of at least 20 completed welds for a job shall be made for such reduction evaluation. Reject

rate is defined as the number of welds containing rejectable defects divided by the number of welds completed. For evaluating the reject rate of continuous welds over 3 feet (914 mm) in length where the effective throat thickness is 1 inch (25 mm) or less, each 12-inch increment (305 mm) or fraction thereof shall be considered as one weld. For evaluating the reject rate on continuous welds over 3 feet (914 mm) in length where the effective throat thickness is greater than 1 inch (25 mm), each 6 inches (152 mm) of length or fraction thereof shall be considered one weld.

*(balance remains unchanged)*

42. Section 1900.1; Scope; modify the first paragraph and add a second paragraph as follows:

**1900.1 Scope.** The design of concrete structures of cast in place or precast construction, plain, reinforced or prestressed may conform to the rules and principles specified in this chapter.

Alternatively, it may conform to the rules and principles specified in the American Concrete Institute Building Code Requirements for reinforced concrete (ACI 318-95) And Commentary (ACI-318 R-95). Exception shall be taken in reference to the factored loads if resistance to specified earthquake loads of forces are included in design. For such case, the load combination of Section 1612.2.1 shall apply.

43. Section 2213.7.1.2; an additional paragraph shall be added to this section:

The engineer may be guided by the provisions contained in the document, "Program to Reduce the Earthquake Hazards of Steel Moment Frame Structures: Interim Guidelines, Advisory No. 1, Supplement to FEMA 267". The document No. 267A, dated March 1997, is obtainable from the Federal Emergency Management Agency, Washington, D.C.

44. Section 2301.2.2 is deleted.

45. Section 2301.3; Add a section as follows:

**2301.3 Workmanship.** All members shall be framed, anchored, tied and braced, temporarily or permanently as the situation requires, in such a manner that they develop the strength and rigidity necessary for the purposes for which they shall be used.

46. Division IV of Chapter 23, Conventional Light Framed Construction, is deleted.

47. Change the wind speeds in the following sections to convert from fastest mile to three-second gust (shown underlined) in order to provide compatibility with the wind design provisions in Chapter 6 of ASCE Standard No. 7, Minimum Design Loads for Buildings and Other Structures, 1995 edition, that are adopted by these amendments.

- a. Section 1404.1 - The reference to 80 miles per hour (129 km/h) shall be changed to read (95 miles per hour 153.3 km/h)".

**1404.1 General.** Vinyl siding conforming to the requirements of this section and complying with UBC Standard 14-2 may be installed on exterior walls of buildings of Type V construction located in areas where the wind speed specified in Chapter 6 of ASCE Standard No. 7. Minimum Design Loads for Buildings and Other Structures, 1995 edition does not exceed 95 miles per hour (153.10 km/h, three-second gust wind speed and the building height is less than 40 feet (12 192 mm) in Exposure C. If construction is located in areas where wind speed exceeds 95 miles per hour (153.10 km/h, three-second gust wind speed building heights are in excess of 40 feet (12 192mm), data indicating compliance with Chapter 16 must be submitted. Vinyl siding shall be secured to the building to provide weather protection for the exterior walls of the building.

- a. Section 1404.1: The reference to 80 miles per hour (129 km/h) shall be changed to read, "110 miles per hour (153.0 km/h)".
- b. Table 15-D-1, footnote 2: The reference to 80 miles per hour (129 km/h) shall be changed to read, "95 miles per hour (153.0 km/h)".
- c. Table 15-D-2, footnote 1: The reference to 80 miles per hour (129 km/h) shall be changed to read, "95 miles per hour (153.0 km/h)".
- d. Table 23-II-B-2: The reference to 80 miles per hour (129 km/h) shall be changed to read, "95 miles per hour (153.0 km/h)" and the reference to 90 miles per hour (145 km/h) shall be changed to "105 miles per hour (142 km/h)".
- e. Section 2104.3.3, item 3; the reference to 15 miles per hour (24 km/h) shall be changed to read, "20 miles per hour (32.3 km/h)".
- f. Section 2109.1; the reference to 80 miles per hour (129 km/h) shall be changed to read, "95 miles per hour (153.0 km/h)".
- g. Section 2401.1, item 1 Exception: the reference to 80 miles per hour (129 km/h) shall be changed to read, "95 miles per hour (153.0 km/h)".

48. Appendix Chapter 31, shall be deleted.

## ADOPTION

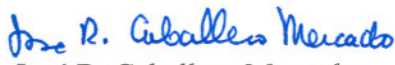
Adopted by me as Administrator of the Regulations and Permits Administration through Administrative Order A.R.P. No. 99-

Today November 23, 1999.

  
Iván Casiano Quiles  
Administrator

## APPROVAL

Pursuant with the dispositions of Act No. 76 of June 24, 1975, this Planning Board APPROVES the Puerto Rico Building Code 1999 which is effective fifteen (15) days after this approval.

  
José R. Caballero Mercado  
President

  
William Figueroa Figueroa  
Associate Member

  
María del C. Gordillo Pérez  
Alternate Member

Approve today: November 23, 1999.

APPROVE CERTIFY:

  
Max Vidal Vázquez  
Secretary

Validity date: December 8, 1999.

**GOBIERNO DE PUERTO RICO  
ADMINISTRACION DE REGLAMENTOS Y PERMISOS  
SANTURCE, PUERTO RICO**

Orden Administrativa  
ARPE-99-12

**ADOPTANDO EL CODIGO DE EDIFICACION  
DE PUERTO RICO**

A tenor con las facultades concedidas por la Ley Número 76 del 24 de junio de 1975 y la Ley Número 170 del 12 de agosto de 1988, según enmendadas, la Administración de Reglamentos y Permisos preparó un Reglamento para adoptar como nuevo Código de Edificación, la Edición 1997 del Uniform Building Code (con enmiendas), Volúmenes 1, 2 y 3.

El proyecto de reglamento fue discutido en vista pública celebrada el 24 de febrero de 1999.

El propósito de este reglamento consiste en la necesidad de enmendar ciertos requerimientos no estructurales y estructurales para el diseño y construcción de edificios y estructuras en Puerto Rico en armonía con los códigos y standards nacionales. Esto incluye tecnologías avanzadas en administración, resistencia a fuego y aspectos estructurales de construcción (incluyendo riesgos a huracanes y terremotos).

Es requisito que todo nuevo proyecto cumpla con los parámetros del nuevo código.

Aprobado por la Junta de Planificación de Puerto Rico, el 23 de noviembre de 1999.

Yo, Iván Casiano Quiles, Administrador de la Administración de Reglamentos y Permisos, en virtud de las facultades que me confieren las Leyes Núm. 76 del 24 de junio de 1975, y Núm. 170 del 12 de agosto de 1988, enmendadas, por la presente **ADOPTO** el Código de Edificación de Puerto Rico, la Edición 1997 del Uniform Building Code (con enmiendas), Volúmenes 1, 2 y 3.

En San Juan, Puerto Rico, a 23 de noviembre de 1999.

  
Iván Casiano Quiles  
Administrador.