

**§ 200.926b**

**24 CFR Ch. II (4-1-04 Edition)**

**§ 200.926b Model codes.**

(a) *Incorporation by reference.* The following model code publications are incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The incorporation by reference of these publications has been approved by the Director of the Federal Register. The locations where copies of these publications are available are set forth below.

(1) *CABO One and Two Family Dwelling Code*, 1992 Edition, including the 1993 amendments, but excluding Chapter I—Administrative, and the phrase “or approved fire retardant wood” contained in the exception of paragraph R-218.2.2(2), but including the Appendices A, B, D, and E of the Code. (Available from the Council of American Building Officials, Suite 708, 5203 Leesburg Pike, Falls Church, VA 22041.)

(2) *Electrical Code for One and Two Family Dwellings*, NFPA 70A, 1990 Edition, including Tables and Examples. Available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

(b) *Model code compliance requirements.* (1) When a one or two family dwelling is to comply with the model codes set forth in §200.926b(a), the following requirements of those model codes shall not apply to those properties:

(i) Those provisions of the model codes that establish energy requirements for one and two family dwellings; and

(ii) Those provisions of the model codes that require or allow the issuance of permits of any sort.

(2) Where the model codes set forth in paragraph (a) of this section designate a building, fire, mechanical, plumbing or other official, the Secretary’s designee in the HUD Field Office serving the jurisdiction in which the dwelling is to be constructed shall act as such official.

(c) *Designation of Model Codes.* When a one or two family dwelling or townhouse is to comply with portions of the model code or the entire model code, the dwelling shall comply with the CABO One and Two Family Dwelling Code 1992 Edition, including the 1993 amendments, or portion thereof as modified by §200.926e of this part and designated by the HUD Field Office

serving a jurisdiction in which a property is located. In addition, the property shall comply with all of the standards which are referenced for any designated portions of the model code, and with the Electrical Code for One and Two Family Dwellings, NFPA 70A/1990.

[50 FR 39594, Sept. 27, 1985, as amended at 58 FR 60249, Nov. 15, 1993]

**§ 200.926c Model code provisions for use in partially accepted code jurisdictions.**

If a lender or other interested party is notified that a State or local building code has been partially accepted, then the properties eligible for HUD benefits in that jurisdiction shall be constructed in accordance with the applicable State or local building code, plus those additional requirements identified below. Depending upon the major area identified in §200.926a which is not adequately regulated by the State or local code, the HUD Field Office will designate, in accordance with the schedule below, those portions of one of the model codes with which the property must comply.

SCHEDULE FOR MODEL CODE SUPPLEMENTS TO LOCAL OR STATE CODES

| Deficient major items from §200.926a as determined by field office review | Portions of the CABO One and Two Family Dwelling Code, 1992 Edition, including the 1993 amendments, with which a property must comply |
|---|---|
| (a) Fire safety .....   | Chapters 2, 9; Section R-402.   |
| (b) Light and ventilation .....   | Chapter 2; Section R-309.   |
| (c) Structural loads and seismic design.                                  | Chapter 2.  |
| (d) Foundation systems .....  | Chapter 3.  |
| (e) Materials standards .....   | Chapter 26.   |
| (f) Construction components   | Part III.   |
| (g) Glass .....   | Chapter 2.  |
| (h) Mechanical .....  | Part IV.  |
| (i) Plumbing .....  | Part V.   |
| (j) Electrical .....  | Electrical code for 1- and 2-family dwellings (NFPA 70A-1990).  |

[50 FR 39594, Sept. 27, 1985, as amended at 58 FR 60249, Nov. 15, 1993; 59 FR 36695, July 19, 1994]

**§ 200.926d Construction requirements.**

(a) *Application—(1) General.* These standards cover the agency requirements for accessibility to physically handicapped people, variations to standards, real estate entity, trespass

and utilities, site conditions, access, site design, streets, dedication of utilities, drainage and flood hazard exposure, special construction and product acceptance, thermal requirements, and water supply systems.

(2) *Requirements for accessibility to physically handicapped people.* The HUD Field Office will advise project sponsors as to the extent accessibility will be required for new construction of one- and two-family dwellings on a project-by-project basis.

(i) *Technical standards.* See HUD Handbook, 4910.1, Sections 100-1.3b and 100-1.3c.

(3) *Variations to standards—(i) New materials and technologies.* See paragraph (d) of this section. Alternatives, nonconventional or innovative methods and materials shall be equivalent to these standards in the areas of structural soundness, durability, economy of maintenance or operation and usability.

(ii) *Variation procedures.* Variations from the requirements of any standard with which the Department requires compliance shall be made in the following ways:

(A) For a particular design or construction method to be used on a single case or project, the decision is the responsibility of the Field Office. Headquarters concurrence is not required.

(B) Where a variation is intended to be on a repetitive basis, a recommendation for a Local Acceptable Standard, substantiating data, and background information shall be submitted by the Field Office to the Director, Office of Manufactured Housing and Regulatory Functions.

(iii) Variances which require individual analysis and decision in each instance are not considered as repetitive variances even though one particular standard is repeatedly the subject of variation. Such variances are covered by paragraph (a)(3)(ii)(A) of this section.

(b) *General acceptability criteria—(1) Real estate entity.* The property shall comprise a single plot except that a primary plot with a secondary plot for an appurtenant garage or for other use contributing to the marketability of the property will be acceptable provided the two plots are in such prox-

imity as to comprise a readily marketable real estate entity.

(2) *Service and facilities—(i) Trespass.* Each living unit shall be one that can be used and maintained individually without trespass upon adjoining properties, except when the windowless wall of a detached dwelling is located on a side lot line. A detached dwelling may be located on a side lot line if:

(A) legal provision is made for permanent access for the maintenance of the exterior portion of the lot line wall, and

(B) the minimum distances from the dwelling to the dwellings on the abutting properties are not less than the sum of the side yard distances computed as appropriate for the type of opposing walls. (minimum distance 10 ft).

(ii) *Utilities.* Utility services shall be independent for each living unit, except that common services such as water, sewer, gas and electricity may be provided for living units under a single mortgage or ownership. Separate utility service shut-off for each unit shall be provided. For living units under separate ownership, common utility services may be provided from the main to the building line when protected by an easement or covenant and maintenance agreement acceptable to HUD, but shall not pass over, under or through any other living unit. Individual utilities serving a living unit may not pass over, under or through another living unit under the same mortgage unless provision is made for repair and maintenance of utilities without trespass or when protected by an easement or covenant providing permanent access for maintenance and repair of the utilities. Building drain cleanouts shall be accessible from the exterior where a single drain line within the building serves more than one unit.

(3) *Site conditions.* (i) The property shall be free of those foreseeable hazards and adverse conditions which may affect the health and safety of occupants or the structural soundness of the improvements, or which may impair the customary use and enjoyment of the property. The hazards include toxic chemicals, radioactive materials, other pollution, hazardous activities, potential damage from soil or other

differential ground movements, ground water, inadequate surface drainage, flood, erosion, or other hazards located on or off site. The site must meet the standards set forth in 24 CFR part 51, and HUD Handbook 4910.1, section 606 for termite and decay protection.

(ii) When special conditions exist or arise during construction which were unforeseen and which necessitate precautionary or hazard mitigation measures, the HUD Field Office shall require corrective work to mitigate potential adverse effects from the special conditions as necessary. Special conditions include rock formations, unstable soils or slopes, high ground water levels, springs, or other conditions which may adversely affect a property. It shall be the builder's responsibility to ensure proper design, construction and satisfactory performance where these conditions are present.

(4) *Access.* (i) Each property shall be provided with vehicular or pedestrian access by a public or private street. Private streets shall be protected by permanent easement.

(ii) Each living unit shall have a means of access such that it is unnecessary to pass through any other living unit.

(iii) The rear yard shall be accessible without passing through any other living unit.

(iv) For a townhouse type dwelling, access to the rear yard may be by means of alley, easement, passage through the dwelling, or other means acceptable to the HUD Field Office.

(c) *Site design*—(1) *General.* (i) A site design shall be provided which includes an arrangement of all site facilities necessary to create a safe, functional, healthful, durable and energy efficient living environment.

(ii) With the exception of paragraph (c)(4) of this section, these site design standards apply only in communities that have not adopted criteria for site development applicable to one and two family dwellings.

(iii) Single family detached houses situated on individual lots located on existing streets with utilities need not comply with the requirements of paragraphs (c)(2) and (c)(3) of this section.

(2) *Streets.* (i) Existing or proposed streets on the site shall connect to pri-

vate or public streets and shall provide all-weather access to all buildings for essential and emergency use, including access needed for deliveries, service, maintenance and fire equipment.

(ii) Streets shall be designed for dedication for public use and maintenance or, when approved by the HUD Field Office, may be retained as private streets where protected by permanent easements.

(3) *Dedication.* Utilities shall be located to permit dedication to the local government or appropriate public body.

(4) *Drainage and flood hazard exposure*—(i) *Residential structures with basements located in FEMA-designated areas of special flood hazard.* The elevation of the lowest floor in structures with basements shall be at or above the base flood level (100-year flood level) required for new construction or substantial improvement of residential structures under regulations for the National Flood Insurance Program (NFIP) (see 44 CFR 60.3 through 60.6), except where variances from this standard are granted by communities under the procedures of the Federal Emergency Management Agency (FEMA) at 44 CFR 60.6(a) or exceptions from this NFIP standard for basements are approved by FEMA in accordance with procedures at 44 CFR 60.6(c).

(ii) *Residential structures without basements located in FEMA-designated areas of special flood hazard.* The elevation of the lowest floor in structures without basements shall be at or above the FEMA-designated base flood elevation (100-year flood level).

(iii) *Residential structures located in FEMA-designated "coastal high hazard areas".* (A) Basements or any permanent enclosure of space below the lowest floor of a structure are prohibited.

(B) Where FEMA has determined the base flood level without establishing stillwater elevations, the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) and its horizontal supports shall be at or above the base flood level.

(iv)(A) In all cases in which a Direct Endorsement (DE) mortgagee or a Lender Insurance (LI) mortgagee seek to insure a mortgage on a newly constructed one-to four-family dwelling

(including a newly erected manufactured home) that was processed by the DE or LI mortgagee, the DE or LI mortgagee must determine whether the property improvements (dwelling and related structures/equipment essential to the value of the property and subject to flood damage) are located in a 100-year floodplain, as designated on maps of the Federal Emergency Management Agency. If so, the DE mortgagee, before submitting the application for insurance to HUD, or the LI mortgagee, before submitting all the required data regarding the mortgage to HUD, must obtain:

(1) A final Letter of Map Amendment (LOMA);

(2) A final Letter of Map Revision (LOMR); or

(3) A signed Elevation Certificate documenting that the lowest floor (including basement) of the property improvements is built at or above the 100-year flood elevation in compliance with National Flood Insurance program criteria 44 CFR 60.3 through 60.6.

(B) Under the DE program, these mortgages are not eligible for insurance unless the DE mortgagee submits the LOMA, LOMR, or Elevation Certificate to HUD with the mortgagee's request for endorsement.

(v) *Streets*. Streets must be usable during runoff equivalent to a 10-year return frequency. Where drainage outfall is inadequate to prevent runoff equivalent to a 10-year return frequency from ponding over 6 inches deep, streets must be made passable for commonly used emergency vehicles during runoff equivalent to a 25-year return frequency, except where an alternative access street not subject to such ponding is available.

(vi) *Crawl spaces*. Crawl spaces must not pond water or be subject to prolonged dampness.

(d) *Special construction and product acceptance*—(1) *Structural features of factory produced (modular or panelized) housing or components*.

(i) For factory fabricated systems or components, HUD Handbook 4950.1, "Technical Suitability of Products Program Technical and Processing Procedures" shall apply.

(ii) The requirements of this part shall apply to structural features, con-

sisting of factory fabricated systems or components assembled either at the factory or at the construction site, if the total construction is covered by these standards and can be inspected on-site for determination of compliance.

(2) *Non-structural or non-standard features*. These features include methods of construction, systems, sub-systems, components, materials and processes which are not covered by these requirements. See HUD Handbook 4950.1 for procedures to be followed in order to obtain acceptance of non-structural components or materials. See HUD Handbook 4910.1, appendix F for a list of Use of Materials Bulletins. Products and methods shall conform to the appropriate Use of Materials Bulletin.

(3) *Standard Features*. These features include methods of construction, systems, sub-systems, components, materials and processes which are covered by national society or industry standards. For a list of standards and practices to which compliance is required, see HUD Handbook 4910.1, Appendix C and Appendices E and F, available from HUD, 451 Seventh Street, SW., Attention: Mailroom B-133, Washington, DC 20410.

(e) *Energy efficiency*. All detached one- and two-family dwellings and one-family townhouses not more than three stories in height shall comply with the CABO Model Energy Code, 1992 Edition, Residential Buildings, except for Sections 101.3.1, 101.3.2, 104, and 105, but Section 101.3.2.2, Historic Buildings, shall remain, and including the Appendix, and HUD intermediate MPS Supplement 4930.2 Solar Heating and Domestic Hot Water Systems, 1989 edition.

(f) *Water supply systems*—(1) *General*.

(i) Each living unit shall be provided with a continuing and sufficient supply of safe water under adequate pressure and of appropriate quality for all household uses. Newly constructed residential property for which a building permit has been applied for on or after June 19, 1988 from the competent authority with jurisdiction in this matter shall have lead-free water piping. For purposes of these standards, water piping is "lead free" if it uses solders and

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flux containing not more than 0.2 percent lead and pipes and pipe fittings containing not more than 8.0 percent lead. This system shall not impair the function or durability of the plumbing system or attachments.

(ii) The chemical and bacteriological standards of the local health authority shall apply. In the absence of such standards, those of the appropriate State agency shall apply. A water analysis may be required by either the health authority or the HUD Field Office.

(iii) Whenever feasible, connection shall be made to a public water system. When a public system is not available, connection shall be made to a community system which complies with HUD Handbook 4940.2, if feasible.

(2) *Individual water systems.* (i) The system should be capable of delivering a flow of 5 gpm over at least a 4 hour period.

(ii) The chemical and bacteriological standards of the local health authority shall apply. In the absence of such standards, those of the appropriate State agency shall apply. A water analysis may be required by either the health authority or the HUD Field Office.

(iii) After installation, the system shall be disinfected in accordance with the recommendations or requirements of the local health authority. In the absence of a health authority, system cleaning and disinfection shall conform to the current EPA Manual of Individual Water Supply Systems.

(iv) Bacteriological or chemical examination of a water sample collected by a representative of the local or state health authority shall be made when required by that authority or the HUD Field Office.

(3) *Location of wells.* (i) A well located within the foundation walls of a dwelling is not acceptable except in arctic or subarctic regions.

(ii) Water which comes from any soil formation which may be polluted, contaminated, fissured, creviced or less than 20 ft. below the natural ground surface is not acceptable, unless acceptable to the local health authority.

(iii) Individual water supply systems are not acceptable for individual lots in areas where chemical soil poisoning

has been or is practiced if the overburden of soil between the ground surface and the water bearing strata is coarse grained sand, gravel, or porous rock, or is creviced in a manner which will permit the recharge water to carry the toxicants into the zone of saturation.

(iv) The following table shall be used in establishing the minimum acceptable distances between wells and sources of pollution located on either the same or adjoining lots. These distances may be increased by either the health authority having jurisdiction or the HUD Field Office.

DISTANCE FROM SOURCE OF POLLUTION

| Source of pollution                             | Minimum horizontal distance (feet) |
|---|------------------------------------|
| Property Line .....                             | 10                                 |
| Septic Tank .....                               | 50                                 |
| Absorption Field .....                          | <sup>1</sup> 100                   |
| Seepage Pit .....                               | <sup>1</sup> 100                   |
| Absorption Bed .....                            | <sup>1</sup> 100                   |
| Sewer Lines w/Permanent Watertight Joints ..... | 10                                 |
| Other Sewer Lines .....                         | 50                                 |
| Chemically Poisoned Soil .....                  | <sup>3</sup> 25                    |
| Dry Well .....                                  | 50                                 |
| Other .....                                     | ( <sup>2</sup> )                   |

<sup>1</sup>This clearance may be increased or decreased depending upon soil and rock penetrated by the well and aquifer conditions. The clearance may be increased in creviced limestone and permeable strata of gravel and sand. The clearance may be reduced to 50 ft. only where the ground surface is effectively separated from the water bearing formation by an extensive, continuous and impervious strata of clay, hardpan, or rock. The well shall be constructed so as to prevent the entrance of surface water and contaminants.

<sup>2</sup>The recommendations or requirements of the local health authority shall apply.

<sup>3</sup>This clearance may be reduced to 15 feet only where the ground surface is effectively separated from the water bearing formation by an extensive, continuous and impervious strata of clay, hardpan, or rock.

(4) *Well construction.* (i) The well shall be constructed so as to allow the pump to be easily placed and to function properly.

(ii)(A) All drilled wells shall be provided with a sound, durable and watertight casing capable of sustaining the loads imposed.

(B) The casing shall extend from a point several feet below the water level at drawdown or from an impervious strata above the water level to 12 in. above either the ground surface or the pump room floor. The casing shall be sealed at the upper opening to a depth of at least 15 feet.

(iii) Bored wells shall be lined with concrete, vitrified clay or equivalent materials.

(iv) The space between the casing or liner and the wall of the well hole shall be sealed with cement grout.

(v) The well casing shall not be used to convey water except under positive pressure. A separate drop pipe shall be used for the suction line.

(vi) When sand or silt is encountered in the water-bearing formation, the well shall either be compacted and gravel packed, or a removable strainer or screen shall be installed.

(vii) The surface of the ground above and around the well shall be compacted and graded to drain surface water away from the well.

(viii) Openings in the casing, cap, or concrete cover for the entrance of pipes, pumps or manholes shall be watertight.

(ix) If a breather is provided, it shall extend above the highest level to which surface water may rise. The breather shall be watertight, and the open end shall be screened and positioned to prevent entry of dust, insects and foreign objects.

(5) *Pump and equipment.* (i) Pumps shall be capable of delivering the volume of water required under normal operating pressure within the living unit. Pump capacity shall not exceed the output of the well.

(ii) Pumps and equipment shall be mounted to be free of objectionable noises, vibrations, flooding, pollution, and freezing.

(iii) Suction lines shall terminate below maximum drawdown of the water level in the well.

(iv) Horizontal segments of suction line shall be placed below the frost line in a sealed casing pipe or in at least 4 in. of concrete. The distance from suction line to sources of pollution shall be not less than shown in the table at paragraph (f)(3)(iv) of this section.

(6) *Storage tanks.* (i) A pressure tank having a minimum capacity of 42 gallons shall be provided. However, prepressurized tanks and other pressurizing devices are acceptable provided that delivery between pump cycles equals or exceeds that of a 42 gallon tank.

(ii) Tanks shall be equipped with a clean-out plug at the lowest point, and a suitable pressure relief valve.

(Approved by the Office of Management and Budget under control number 2502-0474)

[50 FR 39594, Sept. 27, 1985, as amended at 53 FR 11271, Apr. 6, 1988; 56 FR 5350, Feb. 11, 1991; 57 FR 9609, Mar. 19, 1992; 57 FR 27927, June 23, 1992; 58 FR 41337, Aug. 3, 1993; 58 FR 60249, Nov. 15, 1993; 59 FR 19112, Apr. 21, 1994; 62 FR 30225, June 2, 1997; 64 FR 56110, Oct. 15, 1999]

**§ 200.926e Supplemental information for use with the CABO One and Two Family Dwelling Code.**

The following shall be used in Table No. R-202, Climatic and Geographic Design Criteria of the CABO One and Two Family Dwelling Code.

(a) *Roof live loads.*

Roof slope 3 in 12 or less: 20 psf

Roof slope over 3 in 12: 15 psf

Roof used as deck: 40 psf

(b) *Roof snow load.* The roof snow load shall be in accordance with section 7 of ASCE 7-88.

(c) *Wind pressures.* The minimum Design Wind Pressures (net pressures) set forth below apply to areas designated as experiencing basic wind speeds up to and including 80 mph, as shown in ASCE 7-88, Figure 1, Basic Wind Speed Map. These pressures also apply to buildings not over 30 ft. in height above finish grade, assuming exposure C or defined in ASCE 7-88.

(1) *Minimum design wind pressure criteria.* (i) Buildings (for overturning racking or sliding);  $p=20$  psf.

(ii) Chimneys,  $p=30$  psf.

(iii) Exterior walls,  $p=15$  psf inward or outward. Local pressure at corners of walls shall be not less than  $p=30$  psf outward. These local pressures shall not be included with the design pressure when computing overall loads. The pressures shall be applied perpendicularly outward on strips of width equal to 10 percent of the least width of building.

(iv) Partitions,  $p=10$  psf.

(v) Windows,  $p=20$  psf inward or outward.

(vi) Roof,  $p=20$  psf inward or outward. Roofs with slopes greater than 6 in 12 shall be designed to withstand pressures acting inward normal to the surface, equal to the design wind pressure