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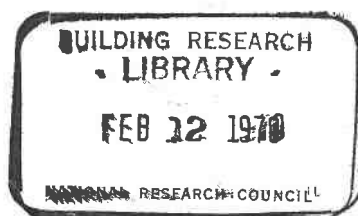
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NATIONAL RESEARCH COUNCIL OF CANADA
DIVISION OF BUILDING RESEARCH

HERE ARE THE LATEST REVISIONS TO THE RESIDENTIAL STANDARDS

by

A. T. HANSEN



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Here are the latest revisions to the Residential Standards

By A. T. HANSEN,
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The sixth revision series to Residential Standards (Supplement No. 5 of the National Building Code) has been issued under the auspices of the Associate Committee on the National Building Code. All comments received during the past year from users of the Residential Standards have been considered, and the newly issued revisions are the result of these considerations. As has been the case in past years, the revisions are published separately and will also be incorporated in a new printing (the fourth) of the Residential Standards in early 1969.

The sixth revision series includes 76 items, over half of which are editorial or represent an up-dating of reference specifications. The remainder comprise a number of significant changes or additions to the Standards, many of which should be of considerable interest.

This paper was prepared to acquaint the users with the significant changes. In the following list the clauses and page numbers of those items affected by the changes are shown in brackets and refer to the third printing of the Residential Standards. These revisions will become effective for all CMHC loans approved on or after May 1, 1969, but NHA borrowers may apply the revisions immediately at their discretion.

Scope of Residential Standards (1A, p. 9; 3A(2), p. 16; 4A(2), p. 19)

One of the changes to be introduced in this revision is that of limiting the scope of Residential Standards. The standards will continue to apply to all houses, but the scope of section 3, "Exits and means of egress", and Section 4 "Fire protection" is now restricted to apartment buildings of not more than three storeys in height and with a ground floor area not exceeding 6,000 sq. ft. For buildings of greater heights or areas,

the requirements in Part 3, Use and Occupancy, of the National Building Code apply.

This should avoid confusion as to whether Part 3 of the Code or Part 9 (with Residential Standards) should apply to apartment buildings. This change should cause little concern for those who have been using Residential Standards for the larger apartment buildings as the requirements in Part 3 are, for the most part, the same as in Residential Standards.

In the past every effort was made to have the requirements in Residential Standards the same as those in Part 3, but slight differences inevitably occurred. It is hoped that this revised division in scope between Part 3 and Residential Standards will avoid any ambiguity in this regard.

Public Hallways (4F(11), p. 21)

Requirements for fire separations between public corridors and dwelling units in an apartment building have been reduced from 1 hour fire resistance to $\frac{3}{4}$ hour to conform to the requirements in Part 3 of the National Building Code for 3 storey residential buildings having a basic floor area of not more than 6,000 sq. ft.

Garages (4H(4), p. 22)

In the fourth revision series issued 2 years ago fire separations were no longer required between garages and one- and two-family houses. This has now been amended to apply only to vertically separated houses (semi-detached). Fire separations between horizontally separated houses (duplexes) and garages will be required.

Flame Spread Limits in Houses (4P(1), p. 25)

Interior wall and ceiling finishes in houses are now limited to a surface flame spread rating of 150 or less, the same as now required for dwelling units in apartment buildings. This will prohibit the use of untreated soft fibreboard or interior finishes but this material can be surface treated with some types of paint to meet the 150 limit.

Refuse Chutes (4R(4) and 4R(8), p. 26)

The areas of intake openings into refuse chutes are now limited to not more than 60% of the opening of the chute. This is to prevent excessively large charges from blocking the chute. This requirement is the same as in Part 6 of the National Building Code.

In addition, a requirement has been added for the provision of an adequate size metal bin or other noncombustible container into which the chute must discharge.

Masonry Veneer (14F(5), p. 39)

The use of 3-in.-thick veneer is now permitted for walls and one-storey buildings provided the wall is not more than 9 ft. in height at the eaves and 15 ft. at the peak or gable end.

Chimneys (15E(7) and (8), p. 45)

The required thickness of masonry for chimney walls must consist of solid units. Previously, solid units were not specified. This means that the brick or block must not contain more than 25% voids according to the usual definition of "solid" masonry.

Flue Pipes (Table 15B, p. 45)

A new table has replaced the existing table for flue pipe thicknesses. This table now differentiates between flue pipes used for solid fuel appliances and those for gas and oil, and now includes aluminum flue pipes for gas-burning appliances.

Wall Framing (17K(3), p. 51; Table 17B, p. 52)

Wall corners and intersections no longer have to be framed with the equivalent of three studs. All that is required is for the walls to be framed in such a manner that vertical edges of the cladding materials are adequately supported. Exterior corners are required to have the equivalent of two studs. There are a number of different ways to support the vertical wallboard edges at wall intersections without using three studs, and this change could lead to a slight saving in

materials. If the support for the vertical edges is not continuous but is at intervals (such as with horizontal blocking), the spacing must not exceed the distance between supports specified in the section on interior finishes. For example, in the case of ½-in. gypsum wallboard, the blocking should not be spaced more than 24 in. o.c.

Table 17B has been extended to include the spacing and size of the exterior wall studs supporting a roof plus three floors. This is intended to apply to three-storey apartment buildings where the basement portion above grade is sometimes constructed of wood frame. The extension to the table permits 2 x 6 studs 12 in. o.c. provided the stud wall height does not exceed 6 ft.

Particle Board (17Q(4), p. 56; 22F, p. 69; 22N, p. 72)

A number of changes have been introduced to facilitate the use of particle board as sheathing, soffit covering and siding. It is now permitted as sheathing where the sheathing acts as a nailing base for siding. It is permitted as a soffit covering, provided it is at least 5/16 in. thick on supports up to 16 in. o.c., and ¾ in. thick on supports up to 24 in. o.c. A new subsection, 22N, sets forth the requirements if used as a siding. Such particle board must be the phenolic bonded type and at least 5/16 in. thick when applied directly against sheathing. If applied over furring strips or without sheathing, it must be at least ¾ in. thick on supports up to 16 in. o.c., and ½ in. thick on supports up to 24 in. o.c.

The application requirements for particle board siding are basically the same as for plywood except that a ¼ in. gap must be provided between adjacent sheets instead of 1/16 in. to allow for expansion. Vertical joints are required to be protected by battens. Horizontal or clap board style applications are not included because there is a possibility that there may be excessive movement at the butt joints due to changes in moisture content in an 8-ft. strip of material.

Sheathing Paper (17R, p. 56)

Sheathing paper may now be omitted beneath panel-style siding provided all edges of the panel are directly supported by framing members and

vertical joints between adjacent panels are caulked and covered with battens.

Plank Frame Walls (Table 19A, p. 58)

Requirements for the minimum thickness for solid plank walls (Quebec-type construction) have been changed so that minimum plank thickness is now dependent on the load to be carried and not on whether wall sheathing is used. Walls supporting only the roof load (with or without attic loads) are required to have a 2 in. minimum thickness; if walls support one or two floors in addition to the roof load the minimum thickness is required to be 3 in. Additional wall sheathing is not required in either case.

Roofing Nails (21A, p. 62)

New requirements have been added to limit the minimum size of roofing nails. Such nails must be long enough to penetrate at least ½ in. into the deck (or penetrate through the deck if the deck is less than ½ in. thick). Nails used with asphalt roofing must have at least a ⅜ in. dia. head, and for wood shingles or shakes a 3/16 in. dia. head. The shank thickness must be at least 0.116 in. respectively.

Plastering (24G(3), p. 76; 24G(6), p. 77)

When electric heating cables are embedded in plaster, there must be at least ⅜ in. plaster over the cables. In addition, lightweight aggregate must not be used in the plaster when it is used to embed heating cables.

Carpeting (15G, p. 82)

This new subsection, G, has been added to cover the application of felted synthetic fibre floor coverings (indoor-outdoor carpeting). This type of floor covering can now be used in all areas including laundry, kitchen, bathroom and washroom. When used in such areas, however, where there is a possibility of excessive water, it must be used without a carpet pad. Such carpeting is to be applied over concrete or panel type subfloor or over a panel-type underlay.

Other types of carpeting require special acceptance by the authority having jurisdiction before being permitted in areas where there may be a possibility of excessive water.

Doors in Fire Separations (27F, p. 86)

Where doors separate a dwelling unit from a means of egress that is common to more than one dwelling unit (such as doors to apartment suites) any opening, such as a mail slot, must be protected with an acceptable cover. This cover must ensure that the fire resistance of the door will not be significantly reduced and that, in the event of a fire, increased passage of smoke will not result.

A new clause has been added requiring that boiler, furnace or incinerator room doors that lead to a corridor or any room used for assembly purposes swing inward or be "sliding" type. In all other cases they must swing outward. In no case, however, shall they lead directly to an exit enclosure. This is to bring the Residential Standards in closer agreement with Part 3 of the National Building Code.

Balcony Doors (271(6), p. 87)

All balcony doors more than 6 ft. above grade must be designed so they will not lock automatically. This is to prevent people being stranded on balconies by accidentally locking themselves out.

Door Glass (Table 27B, p. 88)

Door glass thicknesses have been revised so that they no longer conflict with the thicknesses recommended in CSA specification 0 132.2. These thicknesses are slightly less than those previously permitted in Residential Standards. The thicknesses required for storm doors will no longer be different from those for main doors.

Interior Stairs (28C(2), p. 89)

The requirements for run and rise for main stairs in dwelling units have been revised to permit an 8 in. maximum rise provided the run is at least 8½ in. and the tread width at least 9½ in. This is permitted as an alternative to a 7¾ in. in maximum rise and an 8¼ in. minimum run as is presently specified for such stairs.

Circular Stairs (28E, p. 89)

Requirements have been added to make the dimensions of circular stairs similar to the requirements in Part 3 of the National Building Code.

When such stairs are used in an exit, the tread width must be at least 9 in. when measured 9 in. away from the hand rail at the narrow end; hand

rails must be provided on both sides. When not used in a required exit, the stairs must have an average tread width of at least 9 in. with a minimum tread width at the narrow end of at least 7 in. There must be not more than 44 in. between hand rails. Other circular stair designs may be used if it can be demonstrated that they provide equivalent safety and convenience.

Hose Bibs (30C(6), p. 92)

Requirements for outside hose bibs have been made more specific with regard to multi-family houses. At least one outside hose bib is required for each apartment building and for each ground floor dwelling unit in a house. In row houses, the bibs must be provided alternately at the front and back in adjacent units.

Basement Ventilation (31C, p. 96)

A new clause has been added requiring that basements be ventilated in accordance with the ventilation requirements for crawl spaces when the basements do not contain openable windows.

Kitchen Ventilation (31D(1), p. 96)

When kitchen spaces are combined with living areas, natural or mechanical ventilation must be provided in the kitchen area.

Walkways (Table 35A, p. 107)

The table for minimum width of walkways has been completely revised. The minimum walkway width is now based on the number of dwelling units served, rather than on the type of building. In the case of main walkways, the minimum width is 2 ft. 6 in. when it serves not more than four dwelling units; 3 ft. 0 in. when it serves not more than eight units; 4 ft. 0 in. for up to sixteen units; and 5 ft. 0 in. for more than sixteen units. In the case of secondary walkways, at least a 2-ft. width is required for up to four dwelling units, 2 ft. 6 in. for up to eight units; 3 ft. 0 in. for up to sixteen units; and 4 ft. 0 in. for more than 16 units.

These revisions are the last to be issued to the 1965 version of Residential Standards. The entire Building Code and its supplements will be republished in 1970 and will constitute new editions of these documents.

In the 1965 version of the National Building Code, Part 9, "Housing", was written as brief performance type requirements, and Residential Standards, which form a supplement to the Code, contained the specific requirements (written in bold face type) which were intended to satisfy the intent of the requirements in Part 9.

These specific requirements in Part 9 will be included in the 1970 Code, making reference to Residential Standards unnecessary.

In addition, it is intended that the scope of Part 9 will be broadened somewhat to include requirements for small buildings (e.g. 6,000 sq. ft. of ground floor area and up to three storeys in height) for all occupancies except assembly, institutional and high hazard commercial and industrial occupancies. In effect, the requirements in Part 9 will be identical with the requirements to be included in the Short Form of the Code which will be prepared for use by small municipalities. Identical requirements will be included in the 1970 edition of Residential Standards which will be mainly for CMHC use.

The Standards will continue to include these requirements not considered to be building code requirements e.g. site improvement, kitchen cabinets, and painting, but which are necessary for those users of the Standards who build under the National Housing Act.

Drafts of the proposed documents will be made available for public comment as soon as possible. The target date for the publication of the 1970 edition of the National Building Code is January 1970.