

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building.

GENERAL ANNOTATION.

ADMINISTRATION.

The administration of this Chapter was vested in the Minister for Works and Supply at the date of its preparation for inclusion.

The present administration may be ascertained by reference to the most recent Determination of Titles and Responsibilities of Ministers made under Section 148(1) of the Constitution.

References in or in relation to this Chapter to—

“the Departmental Head”—should be read as references to the Secretary for Works and Supply;

“the Department”—should be read as references to the Department of Works and Supply.

NUMBERING OF REGULATION.

It should be noted that at the request of the Department and for its technical reasons, the numbering and lay-out of the *Building Regulation* is quite different from the standard.

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¹Subsidiary legislation has not been up-dated.

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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building Act.

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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building Act.

Being an Act to regulate and control construction, including—

- (a) the classification, construction, maintenance, alteration and demolition of buildings; and
 - (b) the use of a building and the land on which the building is erected, both during and after construction of the building; and
 - (c) the erection, maintenance and demolition of hoardings,
- and for related purposes.

PART I.—PRELIMINARY.

1. Interpretation.

- (1) In this Act, unless the contrary intention appears—

“Board” means a Building Board established under this Act;

“the Board”, in relation to a building or proposed building, means the Board established for the township or specified for the prescribed area under Section 6;

“building” includes—

- (a) a structure or thing in the nature of a structure and an erection, the structural sufficiency of which is essential to ensure the safety of the public and the users of the structure, thing or erection; and
- (b) a grandstand, structure or erection in which sitting or standing accommodation is provided, whether or not the grandstand, structure or erection is enclosed; and
- (c) subject to Subsection (2), a retaining wall any part of which—
 - (i) exceeds a height of 1 200 mm measured vertically from the bottom of its footing to the highest point of the top of the wall; or
 - (ii) is within 1.2 m of the boundary of a street or public place; and
- (d) subject to Subsection (2), a wall—
 - (i) of concrete or masonry any part of which is of a height that exceeds 1 800 mm; or
 - (ii) of other material any part of which is of a height that exceeds 2 400 mm,

measured vertically from the base of the wall to the highest point at the top of the wall, but does not include a framework, supporting mesh or wire or netting, or other similar open material; and

- (e) a tank, including its supporting structure—
 - (i) that has a capacity of not less than 20 000 l; or
 - (ii) that has a capacity of 2 000 l or more and is supported at a height of more than 1 800 mm from the bottom of its footing; or
 - (iii) that is supported at a height of more than 3 600 mm from the bottom of its footing; and
- (f) an outbuilding, a fence any part of which is over 1 200 mm in height, a structure for the support of electrical reticulation or other appliance, drainage or sewerage or other appurtenance of a building, whether temporary or permanent; and
- (g) any part of a building, including any construction for the permanent support or partial support of a building when that construction is erected or placed in position on the site as an independent stage in the erection of a building,

but does not include—

- (h) a wharf or other marine structure; or
- (i) a road or bridge; or
- (j) a pole or post carrying telegraph or electric lines, or any similar construction, on a public road; or
- (k) except as provided in Paragraph (c), a retaining wall;

“Building Authority” means a Local Government Building Authority constituted under Section 8; (*Added by No. 22 of 1977, s. 1.*)

“the Central Building Tribunal” means the Central Building Tribunal established by Section 20;

“erect” includes re-erect;

“member”, in relation to a Building Board, includes a deputy of a member exercising the powers and functions of the member;

“prescribed area” means an area declared under Section 3(b) to be a prescribed area for the purposes of this Act;

“the regulations” means any regulations made under this Act;

“structure” includes a mast, post, pole, tower or stand visible from any public place, other than any such thing constructed on a public road;

“this Act” includes the regulations;

“township” means a town declared under Section 3(a) to be a township for the purposes of this Act.

(2) In Paragraphs (c) and (d) of the definition of “building” in Subsection (1), a reference to a retaining wall includes a reference to any wall that performs the functions of a retaining wall, whether or not the wall also performs some other function, and where calculations give different values for the height of a wall or retaining wall at different parts of it then the height of the whole wall shall, for the purposes of this section, be taken as the height represented by the greatest of those values.

PART II.—APPLICATION OF ACT.

2. Act to bind the State.

This Act binds the State.

3. Declaration of townships and prescribed areas.

The Minister may, by notice in the National Gazette, declare—

- (a) a town to be a township; and
- (b) an area to be a prescribed area,

for the purposes of this Act.

4. Application to buildings.

This Act applies to all buildings in townships and to such buildings or such classes of buildings in prescribed areas as are declared by the Minister, by notice in the National Gazette, to be subject to this Act.

5. Exemptions.

After the Minister has considered the advice of the Central Building Tribunal, he may, by notice in the National Gazette, exempt an area or a building or class of buildings from some or all of the provisions of this Act on such conditions as he thinks proper.

PART III.—ADMINISTRATION.

6. Building Boards.

(1) A Building Board for each province is hereby established.

(2) A Board shall be known by the name of the province for which it is established followed by the words "Provincial Building Board".

(3) Subject to Subsection (4), each Provincial Building Board has jurisdiction in relation to every town and prescribed area within the boundaries of the province.

(4) The jurisdiction of a Provincial Building Board does not extend to any area which is under the jurisdiction of a Building Authority.

(Replaced by No. 22 of 1977, s. 2.)

7. Constitution of Boards.

(1) A Board consists of such members, not being less than three, as the Minister, by notice in the National Gazette, appoints.

(2) A member appointed under Subsection (1), other than a member appointed by office, holds office for a period of three years or such period as the Minister, in any particular case, specifies, but is eligible for reappointment.

(3) The Minister may appoint a member of a Board to be Chairman of the Board.

(4) The Minister may, by written notice, appoint a person to be the deputy of a member of a Board and a person so appointed may exercise and perform, during any inability to act of the member of whom he is the deputy, or in the event of his absence from a meeting of the Board, all the powers and functions of that member.

(5) Where, on account of illness, absence from the country or other reason, a member of the Board is unable to carry out his duties as a member, the Minister may, by notice in the National Gazette, appoint a person to act in his stead, and the person so appointed may exercise and perform, during the inability to act of the member in whose stead he is appointed, all the powers and functions of a member of the Board.

(6) Unless there is no business for consideration, each Board shall meet at least once in each month, at such time and place as the Chairman determines.

(7) At a meeting of a Board—

- (a) a quorum is such number of members as is fixed in relation to the Board by the Minister by notice in the National Gazette; and

- (b) the Chairman, or in his absence one of the members elected by the members present, shall preside; and
- (c) all matters before the meeting shall be decided on a majority of votes; and
- (d) the member presiding has a deliberative and, in the event of an equality of votes on a matter, also a casting vote.

8. Local Government Building Authorities.

(1) Where for any special reason the Head of State, acting on advice, thinks it proper, the Head of State, acting on advice, may, by notice in the National Gazette, authorize a Local Government Council to establish, or constitute itself as, a Building Authority for an area specified in the notice, being the whole or part of the Council area, in such manner and subject to such conditions and limitations as are specified in the notice.

(2) A Building Authority shall be known by the name of the Council followed by the words "Building Authority".

(3) In or in relation to an area for which a Building Authority is established—

- (a) a Building Board has no jurisdiction, except to the extent allowed by the limitations and conditions to which the authorization under Subsection (1) was made subject; and
- (b) it is not necessary to appoint a Building Board for the area where the authorization under Subsection (1) is not subject to any limitations or conditions.

(4) Subject to any limitations or conditions to which the authorization under Subsection (1) is made subject, a Building Authority has all the jurisdiction, powers, functions, duties and responsibilities of a Building Board in and in relation to the area for which it was established, and accordingly—

(a) a reference in—

- (i) this Act (other than in Section 6 or 7); or
- (ii) any other law; or
- (iii) any document,

to a Building Board shall be read as including a reference to a Building Authority; and

- (b) any such reference to the Chairman or a member of a Building Board shall be read as including a reference to the Chairman or a member, as the case may be, of the Building Authority.

(5) Subject to any limitations or conditions to which the authorization under Subsection (1) was made subject, a Building Authority may—

- (a) establish committees and define their procedures; and
- (b) by instrument, delegate to any such committee all or any of its powers and functions under this Act (except this power of delegation).

9. Reference to Minister.

(1) If, at a meeting of a Board, a member of the Board considers that a matter should be referred to the Minister, the Chairman of the Board shall request the Minister to advise the Board on the action to be taken or to determine the matter.

(2) The Minister shall investigate the matter, referred to him under Subsection (1), and advise the Chairman of the Board by which the reference was made of his advice or determination.

10. Inspection.

(1) A member of a Board or a person authorized by a Board for the purpose may at all reasonable times enter and inspect any building for the purposes of this Act.

(2) A person who hinders or obstructs a member of a Board or person in the exercise of his powers under Subsection (1) is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

PART IV.—APPROVALS.

11. Requirement of approval.

Where—

- (a) an owner or occupier of land; or
- (b) an architect, builder, contractor or engineer employed by an owner or occupier of land in any capacity; or
- (c) a person employed by an owner or occupier of land in an advisory or supervisory capacity,

wilfully or negligently—

- (d) commences or continues to carry out, or to assist in the carrying out of; or
- (e) permits the carrying out of,

the erection or alteration of a building on the land, unless—

- (f) the position; and
- (g) the plans and specifications,

of the proposed building or alteration have been approved by the Board, he is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

12. Application for approval.

(1) An application for approval under Section 11 shall be made by the owner or the occupier or his agent to the Board or Building Authority that has jurisdiction over the area where the building the subject of the application is situated. (*Replaced by No. 22 of 1977, s. 3.*)

(2) An application shall be in the prescribed form and accompanied by such copies of the plans and specifications of the proposed building or alteration, in the prescribed form and containing the prescribed particulars, as the Board requires.

(3) One copy of the plans and specifications referred in Subsection (2) shall be retained by and form part of the records of the Board.

13. Approval.

A Board may grant an approval under this Act, subject to such conditions, not inconsistent with this Act, as the Board thinks proper.

14. Conditions of approval.

(1) A person to whom approval under this Act has been granted, or an architect, builder, contractor or engineer employed in any capacity, or any other person employed in an advisory or supervisory capacity, in connexion with the erection or alteration of a building to which approval under this Act has been given, who, wilfully or negligently—

- (a) fails to comply with the conditions (if any) to which the approval is subject; or
- (b) erects or alters, or permits a person to erect or alter, the building otherwise than in the position and in accordance with the plans and specifications approved,

is guilty of an offence.

(2) Where an approval specifies the purpose or purposes for which a building may be used, a person who uses the building, or permits it to be used, for a purpose other than the purpose or purposes specified is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

PART V.—REQUIREMENTS BY BUILDING BOARDS.**15. Demolition of buildings.**

(1) The owner of a building erected or altered in contravention of this Act must, if required in writing to do so by a Board, demolish or alter the building to the satisfaction of the Board.

(2) A person who, without reasonable excuse (proof of which is on him), fails to comply with a requirement under Subsection (1) is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

16. Dangerous buildings, etc.

(1) Where a Board is of the opinion that a building, an advertising sign or hoarding or a fence or the like—

- (a) is abandoned or dilapidated, or is so unsightly that it should be demolished or altered; or
- (b) is dangerous or likely to cause damage to a person or property,

the Board may, in writing, require the owner of the building, sign, hoarding or fence (or as the case may be) to demolish, alter or repair it, or to provide safeguards to the satisfaction of the Board.

(2) A person who fails, without reasonable excuse (proof of which is on him), to comply with a requirement under Subsection (1) is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

17. Provision of facilities.

(1) A Board may, in writing, require the owner of a building to provide such sanitary, ablutionary, laundry or other facilities on the premises, not inconsistent with this Act and

any other law, as the Board, in view of the use or proposed use to which the building is or is to be from time to time put, thinks necessary.

(2) A person who, without reasonable excuse (proof of which is on him), fails to comply with a requirement under Subsection (1) is guilty of an offence.

Penalty: A fine not exceeding K400.00.

Default penalty: A fine not exceeding K40.00.

18. Demolition, etc., by Board.

If, within 14 days or such further period as the Board specifies, after service of a requirement under Section 15, 16 or 17, the building (or as the case may be) the subject of the requirement is not demolished, altered or repaired, or facilities are not provided, in accordance with the requirement, the Board may—

- (a) demolish, alter or repair the building (or as the case may be) or provide the facilities in accordance with the requirement; and
- (b) recover the cost of the demolition, alteration or repair or of the provision of the facilities, as the case may be, from the owner as a debt.

PART VI.—APPEALS, ETC.

19. Reasons to be given.

Where a Board refuses an application for approval or makes a requirement under this Act, it shall expeditiously give to the applicant or the owner, as the case may be, a written notice of its reasons for so doing.

20. Central Building Tribunal.

- (1) For the purposes of this Act, there shall be a Central Building Tribunal.
- (2) The Central Building Tribunal shall consist of—
 - (a) the Departmental Head or his nominee, who shall be the Chairman; and
 - (b) three members appointed by the Minister, one from each of a panel of names submitted to the Minister by—
 - (i) the Institution of Engineers Australia, Papua New Guinea Group; and
 - (ii) the Area Committee of the Royal Australian Institute of Architects for Papua New Guinea; and
 - (iii) the Master Builders' Association of Papua New Guinea.
- (3) Where the Minister is not satisfied that there is on a panel of names submitted to him under Subsection (2)(b) the name of any person suitable for appointment by him under this section, the Minister may request the relevant organization to submit a further name or further names.
- (4) In the event of a failure on the part of the organization to submit a panel of names under Subsection (2)(b), or a further name or further names under Subsection (3), within what, in the opinion of the Minister, is a reasonable period after having been requested by him to do so, the Minister may appoint the necessary number of persons without further reference to the organization.
- (5) The Tribunal has such powers, functions, duties and responsibilities as are prescribed.

21. Appeals.

(1) Within the prescribed time and in the prescribed manner, a person dissatisfied by the refusal of an application, a condition of an approval or a requirement under this Act may appeal to the Central Building Tribunal against the refusal, condition or requirement.

(2) The Tribunal shall consider the appeal and recommend to the Minister whether the appeal should be allowed or disallowed.

(3) The Minister may—

(a) allow the appeal, and direct the Board to amend its decision accordingly; or

(b) disallow the appeal, and direct the Board to proceed with the matter accordingly; or

(c) refer the matter back to the Board with such direction as he thinks just in the particular circumstances of the case.

(4) The decision of the Minister is final¹.

PART VII.—LEGAL PROVISIONS.**22. Saving of rights against third parties.**

This Act does not affect any rights that the owner or occupier of a building may have against a person in respect of the erection, alteration, repair or demolition of the building or the provision of facilities.

23. Service of notices, etc.

A notice or requirement required by this Act to be given to or served on a person may be given or served—

(a) personally; or

(b) by leaving it with a person in charge or apparently in charge of the building, or the erection or alteration of the building, to which the notice relates; or

(c) by affixing it securely to the door or some other conspicuous place on the building.

24. Proof and evidence.

(1) In a prosecution under this Act, an averment of the informant containing the information that he was authorized by a Board to prosecute for and on behalf of the Board shall be deemed to be proved in the absence of proof to the contrary.

(2) In a prosecution under this Act or in relation to any proceedings relating to this Act, the production of the minute book of a Board from its proper custody is, in the absence of proof to the contrary, proof of any matter or thing resolved by the Board that is recorded in the minute book.

(3) In a prosecution under this Act or in relation to any proceedings relating to this Act, any documents, letters and copies of documents and letters produced from the proper custody of a Board shall be admitted as evidence.

25. Responsibility of Boards, etc.

A Board incurs no responsibility by reason of any approval or requirement given or made in good faith under this Act.

¹ But see Constitution, Section 155.

PART VIII.—MISCELLANEOUS.

26. Regulations.

(1) The Head of State, acting on advice, may make regulations, not inconsistent with this Act, prescribing all matters that by this Act are required or permitted to be prescribed, or that are necessary or convenient to be prescribed for carrying out or giving effect to this Act, and in particular for prescribing—

- (a) the appointment of persons to administer this Act and the definition of their powers and duties; and
- (b) the forms to be used for the purposes of this Act, the manner in which they shall or may be signed, prepared or completed, and generally regulating the signing, preparation and completion of those forms; and
- (c) the issue of permits or certificates and the granting of approval by a Board for any matter or thing under this Act; and
- (d) the form of, and the particulars to be contained in, notices to be served under this Act; and
- (e) the fees to be charged for any matter or thing under this Act; and
- (f) the classification of buildings and the types of construction for all types of occupancy; and
- (g) site requirements, building sizes and heights and room sizes and heights; and
- (h) street alignments and projections beyond street alignments; and
- (i) requirements for light and ventilation; and
- (j) the materials, including fire-resisting materials, to be used; and
- (k) requirements for off-street parking to apply to buildings of any type of construction or class of occupancy in a township; and
- (l) working stresses and loads, including wind loads and provisions for seismic conditions and zoning of seismic areas; and
- (m) requirements for foundations, footings and excavations; and
- (n) types of construction and fire protection; and
- (o) provisions relating to the uniting or subdivision of buildings; and
- (p) building services including sanitation, sewerage, drainage and plumbing, and equipment to be used for those services; and
- (q) provisions for the restoration and alteration of buildings; and
- (r) requirements for dealing with ruinous and dangerous buildings; and
- (s) requirements for fences, awnings and sun-blinds; and
- (t) permissible locations of dangerous buildings; and
- (u) the requirements for public buildings; and
- (v) the regulation or restriction of the erection, alteration and construction of advertising signs and hoardings; and
- (w) special requirements for kitchens, bathrooms, laundries, living rooms, bedrooms, sleep-outs, workshops, garages, car-ports, stables, sheds, chimneys, swimming and wading pools, shops, supermarkets, kiosks, workrooms, change rooms, rest rooms, factories, hospitals and office buildings; and
- (x) special requirements in specified areas; and

- (y) the powers, functions, duties, responsibilities and procedures of the Central Building Tribunal; and
 - (z) penalties of fines not exceeding K400.00 and default penalties of fines not exceeding K20.00 for offences against the regulations.
- (2) The regulations may be of general application or may be limited to particular areas or to particular buildings or classes of buildings, or to buildings put to particular uses.
- (3) The regulations may adopt, subject to such modifications, conditions and restrictions as are prescribed, any standard code or procedure laid down by the Standards Association of Australia or any other authority approved by the Head of State, acting on advice, in relation to any of the matters that are required or permitted to be prescribed by the regulations.
- (4) The regulations may empower a Board to vary, or to grant exemptions from, any of the provisions of the regulations where the Board is of the opinion that such variation or exemption is desirable to meet the circumstances of a particular case.
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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building Regulation.

ARRANGEMENT OF SECTIONS.

PART I.—PRELIMINARY.

1. Interpretation—

- "Building Inspector"
- "Category A Area"
- "Category A Building"
- "the commencement date"
- "dangerous business"
- "front alignment"
- "masonry"
- "owner"
- "permit"
- "S.A.A. Code" or "S.A.A. Specification"
- "seismic coefficient"
- "Seismic Zone A" or "Seismic Zone B"
- "set-back"
- "sewerage authority"
- "sprinkler system"
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- 4. Requirements for certification, etc.
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- 15. Power of entry.
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- 19. More than one dwelling on an allotment.

- 20. Prescribed time for appeal.
- 21. Fees.

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- 1-109. Class VIII.—Factories.
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Building

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“space frame—moment-resisting”

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- consistency of cohesive soils—*
 - "hard"
 - "medium"
 - "soft"
 - "stiff"
 - "very soft"
 - "very stiff"
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 - "dense"
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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building Regulation.

MADE under the *Building Act*.

PART I.—PRELIMINARY.

1. Interpretation.

(1) In this Regulation, unless the contrary intention appears—

“Building Inspector” means a Building Inspector appointed under Section 11;

“Category A Area” means an area declared to be a Category A Area under Schedule 4;

“Category A Building” means a building in a Category A Area other than a temporary building occupied by permission of a Building Board under Section 14(2);

“the commencement date” means 9 December 1971 (being the date on which the pre-Independence Building Regulations 1971 came into operation);

“dangerous business” means an operation or enterprise involved in the manufacture of—

(a) gun-powder or a detonating or explosive powder; or

(b) matches ignitable by friction; or

(c) any other substance liable to sudden explosion, inflammation or ignition; or

(d) turpentine, vitriol, naptha, varnish, fireworks or painted covers or oil cloths,

or any other manufacture liable by reason of the nature or quantity of the materials employed to cause sudden fire or explosion;

“front alignment” means—

(a) where a site has only one boundary adjoining a street, the street alignment; and

(b) where a site has more than one boundary adjoining a street, the shortest street alignment, other than a truncation;

“masonry” means stone, brick, terra-cotta block, solid or hollow concrete block or other similar building unit or materials or a combination of them, laid up unit by unit and set in mortar;

“owner” means the person for the time being entitled to receive the rent of the land or premises in connexion with which the word is used (whether on his own account or as the agent of, or as trustee for, any other person) or who would be entitled to receive it if the land or premises were let at a rent;

“permit” means a permit to build granted under Section 10;

“S.A.A. Code” or “S.A.A. Specification” means the code or specification published by the Standards Association of Australia of the number specified or any code

or specification covering the same subject-matter subsequently published by the Association;

"seismic coefficient" means the coefficient that, when multiplied by the sum of the dead load and the live load required to be applied above any horizontal plane of a building, as set out in Schedule 3, gives the applied horizontal force to be resisted at that plane;

"Seismic Zone A" or "Seismic Zone B" means the area of the country included in Zone A or Zone B, as the case may be, under Section 3-402 of Schedule 3;

"set-back" means any offset horizontally in the plane of an exterior wall of a structure;

"sewerage authority" means a sewerage authority within the meaning of the *Public Health Act*;

"sprinkler system" means an automatic sprinkler system installation conforming to the requirements of the S.A.A. Code AS CA 16-1971—*Rules for automatic sprinkler installations*;

"street alignment" means that part of a boundary line adjoining a street;

"Type 1 construction" means Type 1 construction specified in Part I. of Schedule 3, and "Type 2", "Type 3", "Type 4" or "Type 5" means the corresponding type of construction based on the resistance of each type to fires as specified in that Part.

(2) In this Regulation, a reference to the class of occupancy of a building shall be read as a reference to the relevant class specified in Part I. of Schedule 3.

2. Application.

(1) Subject to this section, this Regulation (including, as appropriate, the Schedules) applies to the construction of buildings and to alterations made to existing buildings, and the erection of a new building or the alteration of an existing building shall conform to the requirements of this Regulation.

(2) Except as otherwise specifically provided, Sections 3-7, 10, 11 and 19-21, Part IV.¹ and Schedules 1, 2, 3 and 5 do not apply to buildings in a Category A Area.

(3) Except as otherwise specifically provided, this Regulation does not apply to—

(a) buildings for the housing of employees within the meaning of the *Native Employment Act 1958* (Adopted); or

(b) temporary buildings erected on the site of the construction of a building or of any works being carried out for a public body or corporation, to be used only by builders or contractors and to be removed on the completion of the building or works.

(4) Notwithstanding Subsection (1), where a building is partly a dwelling-house a Board may apply to the whole of that building any or all of the provisions of this Regulation relating to a dwelling.

(5) Notwithstanding any provision of this Regulation, the *Sewerage Regulation* and the *Septic Tank Regulation* apply to all buildings.

(6) Where in this Regulation requirements are prescribed by reference to an S.A.A. Code or S.A.A. Specification or to any other standard code or authority, the requirements

¹ This seems to be an obvious error. Perhaps Part V. (*transitional provisions*), which is not included in this Revised Edition, was intended in the original Regulation (see Statutory Instrument No. 30 of 1973, Section 3).

of that code, specification or authority are subject to any modifications prescribed by Part III. of Schedule 3.

(7) Structures erected for the purpose of supporting signs, advertisements, notices and the like shall conform to the requirements prescribed by Schedule 5.

PART II.—ADMINISTRATION.

3. Application for approval.

(1) An application to the Board for approval under Section 12 of the Act shall be in Form 1 and accompanied by the prescribed fee.

(2) The prescribed particulars for plans and specifications to accompany the application are—

(a) a block plan—

(i) drawn in ink to a scale of 1:500 with dimensions of the allotment; and

(ii) showing—

(A) whether the allotment is at the intersection of two streets, and if not the position of the allotment in relation to the nearest street corner; and

(B) the position and dimensions of the proposed building; and

(C) the relation of the proposed building to the boundaries of the allotment and any existing buildings on the same allotment or adjoining allotments; and

(D) the levels of the site in relation to adjoining street levels; and

(E) the proposed method of drainage; and

(b) properly prepared plans of each floor level, elevations, sections and dimensions of the proposed building—drawn to a scale of not less than 1:100—
together with drawings of necessary structural details (but where sufficient detail of the structure drawn to a scale of not less than 1:20 is shown on the plans plans may be drawn to a scale of less than 1:100); and

(c) a description of the materials to be used in the construction and, where not indicated on the drawings, the sizes of the materials together with all other information, not shown on the drawings, that is necessary to show that the building will, if constructed in accordance with the specifications, comply with the provisions of this Regulation; and

(d) where a building is to be erected on the land, evidence satisfactory to the Board of any easement affecting the land, the ownership of the land and of the applicant's right to build; and

(e) a statement showing the nature of the occupancy or occupancies for which each portion of the building is designed; and

(f) an estimate of the cost of the proposed construction and, where so required by the Board, the name and address of the architect or engineer under whose supervision the construction is to be carried out; and

(g) any additional information required under Section 8; and

(h) certification of the structural adequacy and conformity as and when required under Section 4.

4. Requirements for certification, etc.

(1) An application to the Board for approval shall be accompanied by a certification that the structure of the new building—

- (a) conforms with this Regulation; and
- (b) is adequate,

except that, unless the Board so requests in writing, certification is not required if the building is—

- (c) of Class I. occupancy, containing not more than two storeys; or
- (d) of Class II., III. or IV. occupancy, containing not more than one storey if the building is to be constructed in Seismic Zone A and not more than two storeys if the building is to be constructed in Seismic Zone B; or
- (e) of Class V. or VI. occupancy, containing not more than one storey.

(2) The certification required by Subsection (1) and the drawings specified in Subsection (7) shall be signed by a person who is registered with the Council of the Society of Professional Engineers of Papua New Guinea Incorporated for the purpose.

(3) An application for registration for the purposes of Subsection (2) shall be in writing, and shall be lodged with the Council of the Society of Professional Engineers of Papua New Guinea Incorporated who may request the applicant to provide full details of his qualifications and experience in structural design.

(4) An application under Subsection (3) may be made by any person—

(a) who—

- (i) is eligible for corporate membership of the Institution of Engineers, Australia, or the Society of Professional Engineers of Papua New Guinea Incorporated; and

- (ii) proves to the satisfaction of the Council of the Society of Professional Engineers of Papua New Guinea Incorporated that he is experienced in structural design either generally or in a particular field; or

(b) who, whilst not eligible for corporate membership of the Institution of Engineers, Australia, or the Society of Professional Engineers of Papua New Guinea Incorporated, proves to the satisfaction of the Council of the Society of Professional Engineers of Papua New Guinea Incorporated that he is experienced in structural design either generally or in a particular field.

(5) The Council of the Society of Professional Engineers of Papua New Guinea Incorporated may, after considering an application under Subsection (3), register the applicant to sign certifications or drawings required to be signed by this section—

(a) generally; or

(b) relating to the particular field of structural design in which he is experienced.

(6) The Council of the Society of Professional Engineers of Papua New Guinea Incorporated may de-register any person registered under this section—

(a) if he ceases to be qualified for registration; or

(b) if he signs a certification or drawing knowing that it does not comply with the requirements of this Regulation.

(7) When certification of the structure of the building in accordance with Subsection (1) is required, there shall be submitted, with the application to construct the building, drawings showing complete details of the structure including—

- (a) a footing plan; and
- (b) floor and roof plans; and
- (c) location and dimensions of structural components; and
- (d) typical details of connexions of structural components,

which drawings need not duplicate information on the drawings required by Section 3 but shall indicate clearly, to the satisfaction of the Board, the structure that has been certified.

(Amended by No. 9 of 1977, s. 1.)

5. Examination and approval of plans.

(1) The Board shall examine the plans, specifications and information submitted and, subject to Sections 8 and 9, shall within 28 days after lodging of the plans, specifications and information—

- (a) approve the application and grant to the applicant a written permit for the carrying out of the work; or
- (b) reject the application.

(2) Where the application for approval is not granted, the Board shall state in writing its reasons for refusal and may in its discretion refund the whole or portion of the fee tendered with the application.

6. Duty to ensure certain approvals granted, etc.

Before granting a permit under Section 5, the Board shall satisfy itself that—

- (a) any approval required under the *Public Health Act* has been obtained; and
- (b) the purpose for which the building is to be used is not in breach of—
 - (i) a condition of a lease, a granted application for a lease or a licence in force under the *Land Act*; or
 - (ii) the *Town Planning Act*.

7. Power to dispense with plans, etc.

A Board may dispense with the requirement that plans and specifications shall accompany an application for a permit where—

- (a) minor alterations only are proposed to be made to any existing building; or
- (b) it is proposed to build—
 - (i) a summer house or pergola; or
 - (ii) a tool house; or
 - (iii) a private boat house; or
 - (iv) a fuel shed; or
 - (v) a private cycle or motor shed; or
 - (vi) a fowl house or other structure intended for accommodation of domestic animals; or
 - (vii) a temporary building.

8. Power to require information.

A Board may postpone consideration of an application for a permit until the applicant furnishes such plans or information as the Board, by written notice requires.

9. Grounds for refusal of permit.

(1) Except as provided in this Regulation, a Board shall refuse an application for approval in any case in which the Board determines that the plans or specifications show a proposed contravention of this Regulation.

(2) A Board may refuse an application for approval in any case in which the design or materials shown or specified in the plans or specifications of a building are considered by the Board to be unsuitable for the site on which the building is to be built.

10. Issue of permit, etc.

(1) Where a Board grants an application for approval it shall without delay—

(a) issue a permit in Form 2 and stamp both copies of the plans and specifications (if any) with the word "Approved" followed by—

(i) the name of the Board; and

(ii) the signature of a member of the Board; and

(iii) the date of the meeting at which the approval was given; and

(b) forward the permit together with one copy of the plans and specifications (if any) so stamped to the applicant.

(2) Unless substantial building progress has been made a permit lapses after a period of six months from the date of issue, unless extended by the Board.

11. Appointment of Building Inspectors, etc.

(1) The Head of State, acting on advice, may, by notice in the National Gazette, appoint persons to be Building Inspectors for the purposes of this Regulation.

(2) A Board may authorize a Building Inspector or other suitably qualified person to carry out testing or examination of, and to advise the Board on, concrete, soil, steel, masonry, timber or other materials, the use of which is prescribed or allowed by this Regulation.

PART III.—GENERAL.**12. Notice of completion.**

A person who erects a building or makes an alteration or addition to a building and fails, within a reasonable time after the completion of the erection of the building or of the alteration or addition, to give written notice to the Board is guilty of an offence.

Penalty: A fine not exceeding K50.00.

Default penalty: A fine not exceeding K2.00.

13. Certificate of completion.

On receipt of the notice specified in Section 12, a Board may grant a certificate in Form 3 that the building has been completed in accordance with this Regulation.

14. Occupation of building.

(1) A person who occupies, or authorizes or permits any person to occupy, a building that has been erected, added to or in any way altered, unless a certificate under Section 13 has been issued is guilty of an offence.

Penalty: A fine not exceeding K50.00.

Default penalty: A fine not exceeding K2.00.

(2) Notwithstanding Subsection (1)—

- (a) where a person is in occupation at the time of any addition or alteration to an existing building he may continue in occupation until the certificate is refused; and
- (b) where, in the case of a temporary building the Board thinks fit, it may permit a person to enter into permissive occupancy of the building for a period not exceeding two years and a Board may, if it is of the opinion that the occupant is making a genuine attempt to build to Category A standards, permit him to remain in permissive occupancy of the building for further periods of not more than one year in each case, provided that the total period for which a person may be granted permissive occupancy of a temporary building does not exceed five years; and
- (c) where in any particular case the Board thinks fit, it may permit a person to enter into permissive occupancy of a building in respect of which a certificate has not been issued.

(3) Permission under Subsection (2)(c) may be cancelled by the Board at any time before the issue of a certificate of completion under Section 13.

15. Power of entry.

(1) A member of a Board or a Building Inspector may—

- (a) enter on any land and inspect any building or building material on the land; and
- (b) require that any person directing any building operations on any land shall—
 - (i) produce to him a permit; or
 - (ii) state the name and address of the person under whose authority he is directing the building operations.

(2) A person who—

- (a) refuses or fails to produce his permit or to supply information in his possession when required to do so under this section; or
- (b) knowingly supplies false information; or
- (c) hinders or obstructs a person in the exercise of his powers or the performance of his functions under this Regulation,

is guilty of an offence.

Penalty: A fine not exceeding K100.00.

Default penalty: A fine not exceeding K5.00.

16. Requirements for notices.

(1) A notice given under this Regulation shall state the time within which the required operation is to be performed, and may be renewed from time to time.

(2) The provisions of this section do not relieve any person from any penalty that he has incurred before receiving a notice, order or request, or require the Board, or an officer appointed under this Regulation, to give such a notice or order or to make such a request.

17. Offences, etc.

(1) A person who—

- (a) does, or causes to be done, or knowingly permits to be done, or is concerned in doing, anything contrary to or otherwise than as provided by this Regulation; or
- (b) omits, or neglects to do, or knowingly permits or suffers to remain undone, anything that, according to the true intent and meaning of this Regulation, ought to be done by him at the time and in the manner provided; or
- (c) does not refrain from doing anything that, under this Regulation, he is required to abstain from doing; or
- (d) knowingly permits or suffers any condition of things to exist contrary to this Regulation; or
- (e) refuses or neglects to comply with any notice duly given to him under this Regulation; or
- (f) obstructs or hinders any officer of the Board, or any person appointed under this Regulation, in the performance of any duty to be discharged by the officer or person under, or in the exercise of any power conferred on him by, this Regulation,

is guilty of an offence.

Penalty: If no other penalty is provided, a fine not exceeding K100.00.

Default penalty: A fine not exceeding K5.00.

(2) Where a person (in this subsection referred to as "the defendant") is charged with an offence against this Regulation, he is entitled, on information duly laid by him, to have any other person whom he charges as the actual offender brought before the court at the time appointed for hearing the charge against himself and if, after the commission of the offence has been proved, the defendant satisfies the court that he has used due diligence to ensure the observance of the provisions of this Regulation and that the other person has committed the offence in question without his knowledge, consent or connivance, the other person shall be convicted of the offence and the defendant is exempt from any penalty.

18. Change of use or occupancy.

(1) Without the approval of the Board, a person shall not use or permit to be used a building constructed after the commencement date, or change, or permit to be changed, the use of a building constructed before that date, for any purpose or occupancy for which that building or a part of that building fails to comply with the requirements of this Regulation where—

- (a) the building or part of the building has not been designed for or is not, in the opinion of the Board, capable of safely supporting the loading prescribed by Part III. of Schedule 3 in respect of the use; or
- (b) the change of use would require an increase in the design loadings for seismic loading to meet the requirements of Part III. of Schedule 3; or
- (c) the change would require additional measures in regard to fire protection and means of egress in order to comply with Part VI. of Schedule 3; or

- (d) the change of use to a residential occupancy would require additional measures in order to comply with this Regulation; or
- (e) the change of use would require additional measures in order to comply with the licensing requirements of any enactment relating to the proposed use.

(2) The Board may approve the change of use or occupancy, subject to such conditions as it thinks proper, if it is satisfied by tests carried out at the expense of the applicant that the building or part of the building will carry, with an approved factor of safety, the required loading.

(3) In granting an approval under this section, the Board may—

- (a) require a bond or deposit to ensure compliance with any conditions imposed; or
- (b) in the case of premises specified in Subsection (1)(e), refer the application to a competent consultant, at the cost of the applicant, and be guided by any recommendation or information received from that consultant.

19. More than one dwelling on an allotment.

Notwithstanding any other provision of this Regulation, a permit—

- (a) shall not be issued for the erection of more than one dwelling-house, exclusive of servants' quarters, on any allotment less than 0.1 ha in area; and
- (b) may, in the discretion of the Board, be issued for the erection of more than one dwelling-house on an allotment in excess of 0.1 ha in area, if the total area occupied by the buildings does not exceed more than 30% of the area of the allotment and the space between the buildings is not less than 6 m, and if the consent of the Director of Lands, Surveys and Mines has first been obtained.

20. Prescribed time for appeal.

(1) The prescribed time for an appeal under Section 21(1) of the Act is two months from the date of the refusal, condition or requirement.

(2) The appellant shall serve on the Chairman of the Board a notice of appeal in Form 4.

(3) The Chairman of the Board shall, within seven days of the receipt of the notice of appeal, forward all relevant plans, specifications and other documents to the Central Building Tribunal.

21. Fees.

(1) The fees for an act or thing specified in column 1 of Schedule 2 are as set out opposite that act or thing in column 2 of that Schedule.

(2) In the calculation of the fees for a permit in respect of a new building, the area shall be assessed over the total gross area of all floors, measured over the surrounding walls.

(3) In the calculation of the fees for a permit in respect of an alteration of (other than an addition to) an existing building, the area shall be assessed over the total gross area of all rooms or compartments to be altered, measured over the surrounding walls.

(4) In the calculation of the fees for a permit in respect of an addition to an existing building, the area shall be assessed over the total gross area of all floors of the actual additions, measured over the surrounding walls.

PART IV.—CATEGORY A AREAS.

22. Category A Areas.

A person who constructs a building or alters an existing building in a Category A Area without the prior written permission of the Board is guilty of an offence.

Penalty: A fine not exceeding K50.00.

Default penalty: A fine not exceeding K2.00.

23. Application of Schedule 4.

A new building or alterations to an existing building in a Category A Area must be constructed in accordance with the requirements of Schedule 4.

Penalty: A fine not exceeding K50.00.

Default penalty: A fine not exceeding K2.00.

24. Plans.

(1) The Board may require an applicant for permission to construct a building or alter an existing building in a Category A Area to supply the Board with a plan drawn in ink to scale showing—

- (a) the dimensions of the allotment of land; and
- (b) the position and dimensions of the proposed building; and
- (c) the relation of the building to the boundaries of the allotment and to any existing buildings on the same or adjoining allotments; and
- (d) the method of drainage proposed to be adopted; and
- (e) such other particulars as the Board requires.

(2) A person who—

- (a) refuses or fails to produce his permit or to supply information in his possession when required to do so under this section; or
- (b) knowingly supplies false information; or
- (c) hinders or obstructs a person in the exercise of his powers or the performance of his functions under this Part,

is guilty of an offence.

Penalty: A fine not exceeding K50.00.

Default penalty: A fine not exceeding K2.00.

Building

Ch. No. 301

SCHEDULES.

SCHEDULE 1.

PAPUA NEW GUINEA.

Building Act.

Reg., Sec. 3.

Form 1.

APPLICATION FOR APPROVAL.

To the Chairman,

Building Board/Authority*.

apply/applies* for approval to erect/alter* the building described in this application in accordance with the attached plans numbered and the attached specifications.

Particulars Relating to this Application.

1. Applicant

(a) Name (*print*):

(b) Postal Address:

(c) Status:

The Applicant is the occupier of the land/the owner of the land*.

(*or*)

The Applicant is†—

an architect a builder a contractor an engineer an employee a person
other than an architect, builder, contractor, engineer or employee engaged or employed
by the occupier of the land/the owner of the land*.

2. Land on which the building or proposed building is or will be situated.

(a) Description

Allotment

Section

City (*or* Town) of

(*or*)

Portion

Milinch

Fourmil of

(b) Area:

(c) Type of lease (*if applicable*):

(d) Name of occupier:

(e) Name of owner:

(f) Status of occupier†—

owner of land

lessee

sub-lessee

other

3. In the case of a building to be erected or altered—

(a) Purpose or purposes for which the building is to be used (*e.g.*, shop, dwelling-house, etc.):

(b) Classification of building as set out in Part I. of Schedule 3:

(c) Type of construction of building as set out in Part I. of Schedule 3.

Certificate of Applicant.

I certify that the purpose or purposes for which the building is to be used—

(a) is/are* not in breach of a condition/conditions* of any grant, granted application, lease, licence or permit made, granted or preserved in force by the *Land Act*; and

(b) are "authorized purposes" within the meaning of the *Town Planning Act*.

Dated

, 19 .

(*Signature of Applicant.*)

* Strike out whichever is inapplicable.

† Where necessary the applicant is required to complete this form by inserting a tick in the space marked where the information immediately following that space is appropriate.

Ch. No. 301

Building

PAPUA NEW GUINEA.

Building Act.

Reg., Sec. 10.

Form 2.

PERMIT.

The Building Board has approved the application of (*insert name, description and address of applicant*) to erect/alter* a building as a (*insert occupancy, classification of building e.g. Class I., II., etc.*) on allotment (*insert situation of allotment*) in accordance with the attached plans and specifications and in accordance with the *Building Regulation*.

Dated , 19 .

Member of the Building Board.
for the Building Board.

* Strike out whichever is inapplicable.

PAPUA NEW GUINEA.

Building Act.

Reg., Sec. 13.

Form 3.

CERTIFICATE OF COMPLETION.

This is to certify that a building has been completed by (*insert name, description and address*) on allotment (*insert situation of allotment*) at in accordance with the approved plans and specifications, and in accordance with the provisions of the *Building Regulation*. The occupancy classification of the building is:

Dated , 19 .

Member of the Building Board.
for the Building Board.

PAPUA NEW GUINEA.

Building Act.

Reg., Sec. 20.

Form 4.

NOTICE OF APPEAL.

To the Chairman of the Building Board.

Take notice that I appeal against the of the Building Board set out below.

The grounds of my appeal and a statement of my case are attached.

Dated , 19 .

(*Signature of Applicant*).

(*Address of Applicant*).

Refusal, Requirement or Order appealed against:

SCHEDULE 2.

Reg., Sec. 21.

FEES.

Act or thing.	Fee.	K
1. For the grant of a permit for the erection (including additions to existing buildings) of—		
(a) dwelling houses and flats—		
(i) not exceeding 100 m ²	per m ²	0.07
(ii) over 100 m ² for the first 110 m ²	per m ²	0.07
(iii) for each additional m ² in excess of 110 m ²	per m ²	0.50
(b) churches, chapels, public assembly halls—		
(i) not exceeding 500 m ²	per m ²	0.18
(ii) over 500 m ² —for first 500 m ²	per m ²	0.18
(iii) for each additional m ² in excess of 500 m ²	per m ²	0.12
(c) office buildings, shops, trade stores, industrial and factory buildings, hotels, boarding houses, club buildings, cinemas and theatres—		
(i) not exceeding 500 m ²	per m ²	0.25
(ii) over 500 m ² —for first 500 m ²	per m ²	0.25
(iii) for each additional m ² in excess of 500 m ²	per m ²	0.15
(d) carports and shelters	per plan	2.00
2. For the grant of a permit to erect a sign or hoarding	per sign or hoarding	4.00
3. For the grant of a permit for the alteration (not including additions to existing buildings) of buildings—		
(i) not exceeding 500 m ²	per m ²	0.15
(ii) over 500 m ² —for first 500 m ²	per m ²	0.15
(iii) for each additional m ² in excess of 500 m ²	per m ²	0.10
4. For examination of plans and specifications submitted for the purposes of Section 22	50% of the fee payable for the grant of a permit for a new building of the same area.	
5. For a certificate, act, matter or thing not otherwise specified in this Schedule		5.00

SCHEDULE 3¹.

Reg., Sec. 2.

GENERAL REQUIREMENTS.

PART I.—CLASSIFICATION OF BUILDINGS.

Division 1-1.—Classification of Building by Occupancy.

1-101. Classification.

For the purposes of this Schedule, buildings are classified into the following classes according to the nature of their use or occupancy :—

- (a) Class I.—Houses; and
- (b) Class II.—Flats; and
- (c) Class III.—Residential buildings; and

¹At the request of the Department, for technical reasons, the numbering and lay-out of this Schedule differs from standard.

- (d) Class IV.—Dwellings attached to buildings of other classes; and
- (e) Class V.—Office buildings; and
- (f) Class VI.—Shops; and
- (g) Class VII.—Warehouses; and
- (h) Class VIII.—Factories; and
- (i) Class IX.—Public buildings; and
- (j) Class X.—Outbuildings.

1-102. Class I.

Houses—"house" means a building used, or intended to be used, or adapted or designed for use, for human habitation as a separate dwelling.

1-103. Class II.

Flats—"flat" means part of a building used, or intended to be used, or adapted or designed for use, for human habitation as a separate dwelling.

1-104. Class III.

Residential buildings—"residential building" means a building or part of a building, not being a building of Class I., Class II. or Class IV. occupancy, used or intended to be used, or adapted or designed for use, for human habitation, such as an apartment house, boarding house, dormitory, residential college, hostel, lodging house, residential club, motel, residential hotel or residential part of a licensed hotel.

1-105. Class IV.

Dwellings attached to buildings of other classes—"dwelling attached to a building of another class" means that part of a combined building (such as a combined office and dwelling, shop and dwelling, warehouse and dwelling, factory and dwelling and any other class of occupancy and dwelling) that is used or intended to be used, or adapted or designed for use, for human habitation, irrespective of its location in the building.

1-106. Class V.

Office buildings—"office building" means a building or part of a building used for professional or commercial purposes, other than a building of Class VI., Class VII. or Class VIII. occupancy, and includes a bank, broadcasting studio, doctor's or dentist's surgery, office, professional chambers, stock exchange and the office section or office sections in all classes of occupancy.

1-107. Class VI.

Shops—"shop" means a building or part of a building used for the display and sale of goods, other than a building of Class VII. or Class VIII. occupancy, and includes a cafe, bottle department, departmental store, espresso bar, hotel bar, market, restaurant, retail store, sale room, self-service store, service station and shop.

1-108. Class VII.

Warehouses—"warehouse" means a building or part of a building used or intended to be used, or adapted or designed for use, as a shop or a warehouse for bulk storage and display or sale of goods, and includes a fire station, hangar, car park, public garage (other than a garage used solely for repairs), showroom or display room, storage building and warehouse.

1-109. Class VIII.

Factories—"factory" means a building or part of a building used or intended to be used for the manufacture or repair of goods and required to be registered as a factory under the *Industrial Safety, Health and Welfare Act*, other than a hospital.

1-110. Class IX.

Public buildings—"public building" means a building used, or intended to be used, or adapted or designed for use, for the usual or occasional assembly of a number of persons for the purposes of recreation, amusement, entertainment, instruction or other social and public purposes, and includes—

- (a) an institutional building such as a benevolent home, convalescent home, hospital, nursery, nursing home, orphanage, prison, sanatorium or other building of instruction, and kitchen, messing, laundry and ablution facilities associated with any such building; and
- (b) an assembly building such as an assembly, concert or music hall or enclosure, gallery, church, temple, church hall, meeting house or theatre, or a building of a like nature; and
- (c) a library, lodge room, non-residential club, recreation club or pavilion, or a building of a like nature; and
- (d) a stand for spectators in an assembly or sports ground, gymnasium or open air theatre, or a building of a like nature.

1-111. Class X.

Outbuildings—"outbuilding" means a structure ancillary to the functioning of, but detached from, a building of any other defined class of occupancy, such as an aviary, carport, conservatory, fowlhouse, garage, greenhouse, kennel, laundry, shed, sleepout, stable or home workshop, or a structure of a like nature.

1-112. Buildings not specifically classified.

A building or part of a building not included in any of the classes set out in Section 1-101 shall be classified by the Board under the class of occupancy that it most closely resembles.

1-113. Use incidental to class of occupancy.

Where a relatively small part of a building serves a purpose other than the purpose by which the building is classified, but one incidental to that class, and the incidental use does not create a material increase in hazard to the building so classified, the Board may regard that part as being of the same class of occupancy as that endorsed on the Certificate of Completion.

1-114. Change of classification.

A building or part of a building that is converted to another class of occupancy shall be made to comply with all the requirements set down in this Schedule for that other class of occupancy.

Division 1-2.—Classification of Buildings by Construction.

1-201. Types of construction.

For the purposes of this Schedule, buildings shall be classified into the following types according to their resistance to fire in diminishing order (Type 1 being the most fire-resisting and Type 5 the least fire-resisting type of construction) :—

- (a) Type 1—that is, a framed fire-resisting construction; and
- (b) Type 2—that is, a bearing-wall protected construction; and
- (c) Type 3—that is, a partially protected construction; and
- (d) Type 4—that is, an unprotected metal construction; and
- (e) Type 5—that is, a combustible construction.

1-202. Type 1.

Framed fire-resisting construction—"framed fire-resisting construction" means a construction in which imposed loads are carried on columns and beams of non-combustible material or on reinforced concrete walls, burnt-clay brick walls, natural stone masonry walls where those walls are used for shaft enclosures around stairs, lifts and other vertical openings and in which the non-combustible materials have an ultimate fire-resistance of not less than—

- (a) in the case of columns, walls and internal structural members carrying walls (except exterior panel walls)—three hours; and

- (b) in the case of exterior panel walls, beams, girders, trusses, floors and, subject to Part V., roofs—two hours; and
- (c) in the case of non-load-bearing shaft enclosures around stairs, lifts and other vertical openings—two hours.

1-203. Type 2.

Bearing-wall protected construction—"bearing-wall protected construction" means a construction in which the walls are of masonry or reinforced concrete and structural members are of non-combustible material, having an ultimate fire-resistance of not less than—

- (a) in the case of fire walls and party-walls—three hours; and
- (b) in the case of bearing-walls, piers, trusses and subject to Part V., columns and girders supporting walls—two hours; and
- (c) in the case of panel walls, columns and girders not supporting walls and shaft enclosures around stairs, lifts and other vertical openings—1½ hours; and
- (d) in the case of roof trusses and roofs including beams and, subject to Part V., girders—two hours; and
- (e) in the case of floors, including beams, girders and trusses—two hours.

1-204. Type 3.

Partially protected construction—"partially protected construction" means a construction of masonry, concrete, reinforced concrete, structural steel encased in concrete or other non-combustible material and in which the interior framing and construction are partly or entirely of timber or of unprotected iron or steel, or of reinforced concrete supported on unprotected steel, having—

- (a) external walls with an ultimate fire-resistance of two hours; and
- (b) walls forming shaft enclosures around stairs, lifts and other vertical openings with an ultimate fire-resistance of 1½ hours.

1-205. Type 4.

Unprotected metal construction—"unprotected metal construction" means a construction in which imposed loads are carried on unprotected metal frames and the exterior walls and roof are of sheet metal or other non-combustible material.

1-206. Type 5.

Combustible construction—"combustible construction" means a construction in which structural members and other parts are of combustible materials or are dependent on combustible materials for support, and includes a construction having a non-combustible exterior veneer.

1-207. Buildings of mixed construction.

Where a building contains more than one type of construction and the different types are not separated by a fire barrier conforming to Part VI., the whole building shall be classified as being the type of the component part offering the least fire-resistance.

1-208. Compliance with requirements for specified type.

Where a building is required by this Regulation to be of a given type of construction it shall be constructed so that—

- (a) the classification of the main building according to type is not lowered; and
- (b) all elements of compound parts of a structure required by this Schedule to have a fire-resistance rating have a fire-resistance rating not lower than that required for that structure; and
- (c) the support to a wall, shaft, floor or roof required by this Schedule to have a fire-resistance rating has a fire-resistance rating not lower than that required for the wall, shaft, floor or roof.

1-209. Exemptions.

The following structures may be built in all types of construction without lowering the classification of the main building according to its resistance to fire :—

- (a) structures not exceeding 3 000 mm in either length or width and not exceeding 3 000 mm in height intended for the protection of ventilation machinery or for like purposes, erected above the roof level of a Type 1, 2 or 3 construction, provided that—
 - (i) the external walls of the structure have a fire-resistance rating not lower than one hour; and
 - (ii) the roof of the structure is of impervious material; and
- (b) mezzanine floors constructed of combustible materials on unprotected steel supports, or entirely of unprotected steel or iron, provided that the total area of mezzanine floors in a room is not more than $\frac{2}{3}$ of the area of main floor in a room; and
- (c) glass structures conforming to requirements set in S.A.A. Code AS 1288-1973—*Code of Practice for Installation of Glass in Buildings, subject to the approval of the Board; and*
- (d) minor structures constructed of combustible materials, that do not form integral parts of structural members, floors or walls and that are constructed for the purpose of enhancing the aesthetic appearance of a building, provided that the Board is satisfied that the structures do not create a material increase in hazard to the building.

PART II.—USE AND OCCUPANCY.

Division 2-1.—Site Requirements.

2-101. Interpretation of Division 2-1.

For the purposes of this Division, unless the contrary intention appears—

- (a) where a corner of an allotment at the junction or intersection of streets has been rounded or truncated—
 - (i) the width of the frontage shall be measured from a point at the intersection of the prolonged side and front boundaries of that allotment; and
 - (ii) the area shall be calculated to the prolonged lines of side and front boundaries disregarding the rounded line or truncation; and
- (b) where a minimum distance from a boundary is set in this Division, the distance shall be measured horizontally from the boundary line to the outermost projection from the external wall, except that the extent of eaves projection shall be deemed to be the horizontal distance by which the projection exceeds 450 mm; and
- (c) for the purpose of determining open space at ground level in buildings of Class II. occupancy, the area of a flat does not include areas of common corridors, stairways, hallways, porches and the like; and
- (d) the area occupied by a building of Class I. or II. occupancy includes the areas occupied by all out-buildings except unroofed terraces.

2-102. Buildings over easements.

A building shall not be constructed over any portion of a drainage or sewerage easement without the approval of the Director of Lands, Surveys and Mines.

2-103. Compliance with site requirements.

Buildings constructed on a site shall conform to minimum requirements set down in this Division with regard to the width of frontage, the distances of external walls from boundaries and the area of the site.

2-104. Size of site.

Sizes of sites for different classes of occupancy shall be as determined by the Director of Lands, Surveys and Mines.

2-105. Maximum area occupied by buildings.**(1) A building of—**

(a) Class I. or II. occupancy, including appurtenances, shall not occupy more than 50% of the total area of the site, except that where a building of Class I. occupancy was erected before the commencement date and occupies more than 50% of the total area of the site, a permit may be given for the construction of—

(i) a garage, providing that the total area of buildings and appurtenances does not exceed 75% of the area of the site; or

(ii) a carport, providing that the total area of buildings and appurtenances does not exceed 75% of the area of the site; and

(b) any class of occupancy not specified in Paragraph (a) (including appurtenances) shall not occupy more than 2/3 of the total area of the site.

(2) Where a Board is of the opinion that a variation is desirable to meet the circumstances of a particular case, it may, on written application, vary the provisions of this section relating to the maximum area of a site that may be occupied by a building and appurtenances, including a garage or carport.

2-106. Minimum distance from boundaries.

(1) A building of Class I. or II. occupancy (other than a multi-storey building) shall not be less than—

(a) 4.5 m from a front alignment; and

(b) 1.8 m from a boundary other than a front or street alignment; and

(c) where the site abuts on more than one street, 3 m from any street alignment other than the front alignment.

(2) The distance of a multi-storey building of Class I. or II. occupancy shall not be less than 3 m from the front alignment or any other boundary.

(3) Where a site is adjacent to another site with a building of Class I. or II. occupancy built on it, or is in a locality used or intended to be used primarily for the erection of dwellings—

(a) a building, other than an apartment house or a building of Class X. occupancy, shall not be constructed closer to a street alignment or boundary than would be permitted by this Schedule if the buildings were of Class I. or II. occupancy; and

(b) an apartment house shall not be constructed closer to a street alignment or boundaries than would be permitted by this Schedule if it were of Class II. occupancy.

(4) Where the wall of a building on the adjoining site abuts on a side or rear boundary of a site, then, subject to Part VI., a building may be erected on that portion of the side or rear boundary on which the other building abuts.

(5) Where it is of the opinion that a variation is desirable to meet the circumstances in a particular case, a Board may, on written application, vary the provisions of this section relating to distances of buildings from a front alignment, street alignment or other boundary.

2-107. Class requirements.

(1) A building of Class I. occupancy shall have clear access to a street.

(2) A building of Class II. occupancy shall have—

(a) access to a street; and

(b) not less than 30 m² of open space at ground level for each flat.

(3) An apartment house, boarding house or lodging house constructed adjacent to a site with a building of Class I. or II. occupancy built on it or in a locality used or intended to be used primarily for the erection of dwellings shall have 12 m² of open space at ground level for each habitable room.

(4) A building of Class IV. occupancy shall have a space open to the air and without roof adjoining to the building for the use of occupants—

(a) not less than 45 m² in area; and

(b) of dimensions not less than 3 m in any direction,

and the space may be provided in the form of a flat roof at a level higher than that of the floor of the ground storey.

(5) A site with a building of Class IV. occupancy (other than a residence for the caretaker of a building of Class V., VII., VIII. or IX. occupancy) built on it shall have a side or rear boundary not less than 3 m in length abutting to a street, and access shall be provided to the street.

2-108. Zoning.

This Division does not authorize the construction of buildings of any class other than Class I. or II. occupancy in areas where other enactments with regard to zoning prohibit the construction of such buildings.

*Division 2-4.—Projections beyond Street Alignments.***2-401. Determination of width of street.**

For the purposes of this Division, unless the contrary intention appears the width of a street, with respect to a site, shall be determined by measuring the distance at right angles from the centre of the street alignment of that site to the street alignment on the opposite side.

2-402. Fire-resistance and extent of projections.

Unless otherwise provided in Part IX., a coping, cornice, string course, fascia, window dressing, applied facing, portico, balconette, balustrade or other architectural feature projecting beyond the street alignment—

- (a) shall be of brick, ceramic tile, stone, artificial stone, slate, concrete or other non-combustible non-metallic material; and
- (b) shall not extend more than 1.2 m beyond the street alignment in streets over 10 m in width and more than 0.6 m in streets 10 m or less in width, but in streets less than 6 m in width no projection other than a kerb or buffer block projecting not more than 0.25 m beyond the street alignment and not more than 0.25 m above the adjacent street level, is allowed.

2-403. Minimum height above pavement.

Unless otherwise provided in Part IV. and Division 5-3, a projection (including a gate, door, window or shutter in the fully opened position) shall not extend beyond the street alignment at a height less than 2.7 m above the level of the public footway, except that—

- (a) where a shopfront is being constructed on an existing building applied facings on existing piers may be permitted to project not more than 50 mm beyond the street alignment; and
- (b) louvred window shutters constructed in timber are permitted if they do not project more than 50 mm beyond the street alignment when in the fully opened position.

2-404. Projections not to be structural.

A structural part of a building shall not project beyond the street alignment.

2-405. Windows and balconies.

A balcony, balconette or window may project not more than 1 m beyond the street alignment over a street or road exceeding 10 m in width, where—

- (a) no part of the projection is less than 3 m above the level of the street or nearer than 1.2 m to the centre of the nearest party-wall or to an adjoining building of different class of occupancy; and
- (b) the total width of all projections added together on any floor level does not exceed half the length of wall on that floor level; and
- (c) no projecting window exceeds a total overall width of 3.7 m and the distance between projecting windows is not less than 33% of the overall width of either of those windows; and
- (d) projecting windows are not connected by a balcony any portion of which projects beyond the street alignment.

2-406. Catheads, hoists and the like.

Catheads, hoists and the like shall not project beyond the street alignment.

2-407. Vehicle docks and loading platforms.

A vehicle dock or loading platform shall be located so that no portion of a vehicle occupying or adjoining it projects beyond the street alignment.

2-408. Service pipes.

Service pipes and rainwater heads may project beyond the street alignment where no part of the projection is less than 2.7 m above the level of public footway and the projection does not exceed—

- (a) in the case of service pipes—200 mm; or
- (b) in the case of rainwater heads—300 mm.

*Division 2-5.—Building-height Restrictions.***2-501. Determination of width of street.**

In this Division, unless the contrary intention appears the width of a street, with respect to a site, shall be determined by measuring the distance at right angles from the centre of the street alignment of that site to the street alignment on the opposite side.

2-502. Maximum building-height.

(1) The maximum building-height in respect of a site is a horizontal plane at a height above the permanent footpath level equal to 130% of the width of the street to which the site has a frontage taken at the centre of the street alignment, provided that—

- (a) the maximum building-height in respect of a site having frontage to two streets equal in width shall be measured from the average level of permanent footpaths taken at the centre of the two frontages; and
- (b) the maximum building-height in respect of a site having frontages to two streets differing in width shall be determined by the wider street for a distance of 50 m measured at right angles from the front alignment abutting that street and by the narrower street for any balance of the site; and
- (c) the maximum building-height in respect of a site having a frontage to a street less than 7.5 m in width shall not be determined by the frontage if the site has a frontage to another street 7.5 m or more in width; and
- (d) the distance by which the width of a street exceeds 30 m shall not be taken into consideration in computing the maximum building-height.

(2) Notwithstanding Subsection (1), buildings may be allowed to rise within an envelope determined by angles of setback specified for a location by the Board.

2-503. Maximum heights for types of construction.

Subject to Section 2-505, no part of a building—

- (a) of Type 1 construction, may be at a greater height than the maximum building-height determined in accordance with Section 2-502; or
- (b) of Type 2 construction, may be at a greater height than 80% of the maximum building-height determined in accordance with Section 2-502; or
- (c) containing more than one type of construction, may be at a greater height than the maximum building-height determined in accordance with this Division for the type with the least fire-resisting construction.

2-504. Maximum heights for Type 3, 4 or 5 construction.

Buildings of Type 3, 4 or 5 construction shall not be erected to contain a greater number of storeys than that set out in Table 2-504 for its type, nor to a greater height than 60% of the maximum building-height determined in accordance with Section 2-502.

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TABLE 2-504.

Type of construction.	Class of occupancy.	Maximum number of storeys.
Type 3 (partially protected)	V., VII. and schools and other buildings of instruction of Class IX. occupancy	3
	III., IV., VI., VIII. and institutional buildings, assembly buildings and other buildings of Class IX. occupancy	2
	I., II.	2
Type 4 (unprotected metal)	V.	3
	I., II., III., IV. and schools and other buildings of instruction of Class IX. occupancy	2
	VIII. (subject to this Regulation)	2
	All other buildings	1
Type 5 (combustible)	I., II., III., IV., V. and schools and other buildings of instruction in Class IX. occupancy	2
	VIII. (subject to this Regulation)	2
	All other buildings	1

2-505.—Ancillary construction, decorative features.

Housing for mechanical equipment and tanks, decorative features, lantern lights and the like, parapets not more than 1 200 mm in height, wireless masts and towers may be constructed above the maximum building-height where—

- (a) no additional accommodation is provided in them; and
- (b) no advertisement, sign or lettering is provided on them; and
- (c) no part interferes with the access of light required to any window in the building,

and except in the case of a parapet, not more than 25% of the length of frontage or 10 m (whichever is the less) is occupied by them.

2-506. Power to restrict.

(1) Notwithstanding anything in this Schedule the Board may, in a prescribed area, require that—

- (a) a building exceeding one storey in height be of Type 1 or Type 2 construction; or
- (b) a building containing only one storey be of Type 3 or more fire-resisting type of construction.

(2) Within 21 days of a request by an interested person, the Board shall give an undertaking regarding its requirements for a particular allotment under Subsection (1).

Division 2-6.—Rooms and Habitable Areas.

2-601. Interpretation of Division 2-6.

In this Division, unless the contrary intention appears—

“habitable area” means a fully or partially enclosed area used or intended to be used for human habitation and protected from weather by a roof, other than a kitchen, bathroom, laundry, pantry or access way;

“habitable compartment” means part of a habitable area separated from other parts by partition walls not exceeding 2 100 mm in height.

2-602. Minimum number of habitable areas.

The number of habitable areas for a dwelling in a building shall not be less than—

- (a) in the case of a building of Class I. occupancy—two; or
- (b) in the case of a building of Class II., III. or IV. occupancy—one.

2-603. Minimum size of habitable areas.

A habitable area shall have a floor area not less than—

- (a) in the case of a building of Class I., II., III. or IV. occupancy where there is more than one habitable area in the dwelling unit—7.2 m², provided that—
 - (i) not more than 10% of the floor area is covered by built-in furniture and the dimensions of the area are not less than 2 200 mm in either length or width; and
 - (ii) the second and subsequent habitable areas may be divided into habitable compartments; and
 - (iii) the floor area of a habitable compartment specified in Subparagraph (ii) is not less than 4.3 m² and the dimensions are not less than 1 800 mm in either length or width; and
- (b) in the case of a building of Class II. or IV. occupancy with only one habitable area in the dwelling unit—14.4 m² provided that not more than 10% of the floor area is occupied by built-in furniture and the dimensions of the area are not less than 2 400 mm in either length or width; and
- (c) in the case of a building of Class III. occupancy with only one habitable area in the dwelling unit 10.8 m², provided that not more than 10% of the floor area is occupied by built-in furniture and the dimensions of the area are not less than 2 400 mm in either length or width.

2-604. Minimum height of habitable areas.

In a building of Class I., II., III. or IV. occupancy the height of habitable area measured vertically from floor to ceiling or to the underside of rafters, ceiling joists or floor joists (whichever is the lower), but not including structural members not closer than 1 800 mm centres, shall not be less than 2 200 mm at any point, except that where the habitable area is located in a roof space or an attic the height shall not be less than 2 200 mm for not less than half of the area and shall not be less than 1 650 mm at any point.

2-605. Minimum heights of rooms in offices, shops and factories.

In a building of Class V., VI. or VIII. occupancy the height of a room measured vertically from floor to ceiling or to the underside of rafters or ceiling joists (whichever is the lower) shall not be less than 2 700 mm at any point, except that—

- (a) where the ceiling is pitched or sloping the height shall be taken as the average height and shall not be less than 2 400 mm at any point; and
- (b) in the case of a room used as a bakehouse, butchers smallgoods house or for ham and bacon-curing, fish-curing, meat-preserving, jam-making, fruit-preserving, dairy-produce-manufacturing or the like, the height shall not be less than 3 600 mm at any point; and
- (c) the Board shall vary these requirements as necessary to comply with the requirements of the *Industrial Safety, Health and Welfare Act*, where a room or a building of Class VI., VII., VIII. or IX. occupancy is a factory as defined in that Act; and
- (d) where it is of the opinion that a variation is desirable to meet the circumstances in a particular case, a Board may, on written application, vary the provisions of this section relating to the height of a room from the floor to the ceiling or to the underside of rafters or ceiling joists.

2-606. Public buildings.

In a public building—

- (a) the minimum allowable height from the floor to the lowest projection on the ceiling of any storey of a building shall be according to Table 2-606; and
- (b) the height of passages and corridors measured as specified in Paragraph (a) shall not be less than 2 400 mm at any point; and
- (c) not less than 0.5 m² of floor area shall be provided for each person except in seated areas; and
- (d) where seating accommodation is provided, not less than 1 m² shall be provided for every three persons, not including stage and access areas.

TABLE 2-606.

Type of occupancy.	Minimum height.
Class IX. buildings classified under—	
Section 1-110(a)	2 700 mm average with a minimum of 2 400 mm
Section 1-110(b)	4 800 mm
Section 1-110(c)	3 000 mm
Section 1-110(d)	3 600 mm average with a minimum of 2 100 mm

2-607. Projections below minimum heights.

In a building of Class I., II., III., IV., V., VII. or VIII. occupancy—

- (a) beams, service pipes, ducts and the like may project below minimum heights set by this Division for ceilings, ceiling joists and rafters, where—
 - (i) the area in plan of those projections does not exceed 20% of the floor area of the room; and
 - (ii) the clear height measured vertically from floor to the underside of that projection is not less than 2 100 mm at any point; and
- (b) the height measured vertically from floor to ceiling or to the underside of ceiling joists (whichever is the lower) shall not be less than—
 - (i) 2 100 mm in lavatory blocks; or
 - (ii) 2 200 mm in corridors, passages, counter- and cashier- recesses and the like.

*Division 2-7.—Light and Ventilation.***Subdivision 2-70—Classes of Occupancy.****2-701. Classes I., II., III. and IV. occupancy.**

In a building of Class I., II., III. or IV. occupancy—

- (a) a habitable area (other than a common dining room in a building of Class III. occupancy or a public or common room on the ground storey or first storey in a building of Class III. occupancy) shall be provided with one or more windows placed in an external wall, free from obstruction to the access of light, totally openable, constructed to extend not less than 1 950 mm above floor level and with a total superficial area clear of frames not less than—
 - (i) 20% of the floor area below an altitude of 300 m above sea level; and
 - (ii) 10% of the floor area above or equal to an altitude of 300 m above sea level; and
- (b) a kitchen shall be provided with windows having a total superficial area clear of frames not less than half that specified in Paragraph (a) for a habitable area, except that a kitchen serving a common dining room in a building of Class III. occupancy may be provided with artificial lighting and with—
 - (i) an approved mechanically-operated exhaust fan connected to a ventilating shaft; or
 - (ii) a system of mechanically-operated ventilation conforming to Subdivision 2-78; and
- (c) a laundry shall be provided with light and ventilation conforming to the requirements of Paragraph (a) for a habitable area except that the total superficial area of window is not required to exceed 10% of the floor area; and
- (d) a verandah or porch adjoining that portion of an external wall containing a window or other opening providing natural light and ventilation to a habitable area, kitchen or laundry shall not be enclosed above a height of 900 mm above the floor of the verandah or porch except with adjustable glass louvres or other approved medium not obstructing light or ventilation; and

- (e) a common dining room in a building of Class III. occupancy may, subject to the provision of an approved system of natural ventilation or of a system of mechanical ventilation conforming to Subdivision 2-78, be lighted—
 - (i) by means of roof or ceiling lights free from obstruction to the access of light having a total superficial area not less than 10% of the floor area; or
 - (ii) by artificial lighting¹; and
- (f) a public or common room located on the ground floor or first floor in a building of Class III. occupancy constructed in an area that is not used primarily for residential purposes may be provided with artificial lighting and an approved system of mechanical ventilation in place of natural light and ventilation.

2-702. Class V. occupancy—Office buildings.

A room in a building of Class V. occupancy shall be provided with light and ventilation as specified by Section 2-701 for a habitable area, except that any part of the floor area that is distant from the nearest window by more than twice the height of the window-head above the floor shall be lighted by means of roof or ceiling lights or by artificial lighting conforming to the requirements specified for common dining rooms by Section 2-701(e).¹

2-703. Class VI. and IX. occupancy—Shops and public buildings.

In a building of Class VI. or IX. occupancy—

- (a) a room (other than a hotel bar, cafe, dining room or kitchen) shall be provided with light and ventilation conforming to the requirements of Section 2-701 for habitable areas except that—
 - (i) a system of artificial lighting may be substituted for natural lighting; and
 - (ii) a system of mechanical ventilation conforming to the requirements of Subdivision 2-78 may be substituted for natural ventilation; and
- (b) a bar of a licensed hotel shall be provided with—
 - (i) natural light and ventilation conforming to the requirements of Section 2-701 for habitable areas; or
 - (ii) artificial lighting and a system of mechanical ventilation conforming to the requirements of Subdivision 2-78; and
- (c) a cafe or dining room shall be provided with—
 - (i) one or more openable windows or roof or ceiling lights opening directly into the external air, free from obstruction to the access of light, with a total superficial area, clear of frames, of not less than—
 - (A) in the case of windows—that specified by Section 2-701(a) for habitable areas; and
 - (B) in the case of roof or ceiling lights, 10% of the floor area, but any part of the floor distant from the nearest window more than twice the height of the window-head above the floor shall be lighted by roof lights as specified by this paragraph or by artificial lighting; or
 - (ii) a system of artificial lighting as specified by Section 2-713 and mechanical ventilation as specified by Subdivision 2-78; and
- (d) a kitchen shall be provided with light and ventilation as specified by Section 2-701 for a kitchen.

2-704. Class VII. occupancy—Warehouses.

In a building of Class VII. occupancy—

- (a) a room used for the display or sale of goods shall be provided with light and ventilation as specified by Section 2-703(a); and
- (b) a room used for bulk storage only shall be adequately lighted and have fixed near the ceiling registers, vents, cowls or ducts having an effective airway clear of all obstructions of not less than 1:1 000 of floor area, except that natural ventilation may be dispensed

¹ See, also, Section 2-713.

with where a system of mechanical ventilation is installed of a capacity approved by the Board having regard to the nature of the storage for which the room is intended.

2-705. Class VIII. occupancy—Factories.

Each room in a building of Class VIII. occupancy shall be provided with—

- (a) one or more windows or roof or ceiling lights opening directly into the external air, free from obstruction to the access of light, with a superficial area clear of sash frames if not less than 10% of the floor area of the room, except that any part of the floor that is distant from the nearest window more than twice the height of the window-head above the floor shall be lighted by means of roof lights conforming to the requirements of this paragraph and equal to 10% of the floor area, or by artificial lighting; and
- (b) controllable ventilation conforming to the requirements of Section 2-706, or a system of mechanical ventilation conforming to the requirements of Subdivision 2-78 or to the satisfaction of the Secretary for Labour and Industry and of the Board.

2-706. Controllable ventilation for factories.

A room or place in a building of Class VIII. occupancy—

- (a) in addition to the permanent ventilation openings specified in Section 2-705(a), windows or doorways openable to the outside air shall be provided for ventilation to give a minimum area of unobstructed airway not less than 5% of the floor area of the room and half of this area shall, if practicable, be between floor level and 2 200 mm from the floor, with openings so distributed that there is a passage of air across all parts of the room; and
- (b) where a workroom with windows on one wall or on two contiguous walls only is more than 9 m wide, or where a workroom is more than 18 m wide, a mechanical plenum ventilating system, fans, punkahs or other means of inducing air movement shall be provided.

2-707. Special requirements for ventilating factories.

Notwithstanding Sections 2-705 and 2-706, a factory or a portion of a factory shall be so ventilated as to render harmless any gases, vapours, dust or impurities generated in the course of the manufacturing process, and such fans or mechanical ventilating system or other approved means of ventilation shall be installed to prevent the inhalation of gases, vapours, dust or impurities by any person working in the factory as the Secretary for Labour and Industry is satisfied comply with the requirements of the *Industrial Safety, Health and Welfare Act*.

2-708. Ventilators in factories.

(1) Inlet ventilators shall—

- (a) consist of ducts, shafts or hoppers opening slantingly upwards but otherwise as directly as possible into the room either through the external walls or through the windows in those walls; and
- (b) as far as practicable be evenly distributed along the external walls in such a position as to ensure a passage of air across all parts of the workroom; and
- (c) have the upper edges of their external openings below the lower edges of the internal openings for the fully-open position of the latter; and
- (d) have the lower edges of the internal openings from 2 000 mm to 2 200 mm above the level of the floor of the room being ventilated.

(2) Outlet ventilators shall consist of flues, shafts or tubes distributed as evenly as practicable and extending vertically without avoidable bends or angles from the ceiling line through the roof to a height not lower than the level of the ridge unless dispensed with or varied with the special approval of the Board, with the lower portions of the flues, shafts or tubes formed as bell mouths gradually tapered upwards, each bell mouth presenting an opening having twice the area required at the outlet of the flue, shaft or tube, except that—

- (a) in a building consisting of a ground floor only, and in the uppermost storey of a building containing more than one storey, 1/3 of the total required area of the outlet opening may be provided by means of openings situated in the window-heads not more than 450 mm below the ceilings or immediately below the wall plates, and extending through the external walls and properly shielded outside, a space of not less than 50 mm being provided between the inner face of the shield and the nearest opposite surface; and

(b) on each storey below the uppermost storey in a building containing more than one storey the outlets may be entirely provided by means of such openings immediately below the wall plates or in the window-heads; and

(c) in a building that has no ceiling or in which the ceiling or roof lining is attached to the purlins or rafters and continued up to the apex of the roof, approved ridge ventilators may be substituted for flues, shafts or tubes required by this section.

(3) Unless otherwise specified under the *Industrial Safety, Health and Welfare Act* for special trades, the effective airway of inlet and outlet ventilation of a room shall not be less than 1 : 500 of the floor area.

(4) All inlet or outlet ventilators and openings shall be so constructed to be capable of being readily cleaned out, and shall not communicate with any cavity or space in the thickness of the wall nor with the space between any ceiling and any floor or roof covering above the ceiling.

(5) Flues, ducts, shafts, tubes or hoppers shall be constructed of sheet metal not thinner than 0.6 mm or other approved material, and shall be fitted with regulating valves and appliances for opening and closing them in varying degrees.

2-709. Class IX. occupancy—Public buildings.

Public buildings shall be provided with light and ventilation in accordance with Section 2-703.

2-710. Partitioning of rooms.

Subject to the provision of artificial lighting conforming to the requirements of this Division, a room in a building of Class V., VI., VII. or VIII. occupancy provided with natural light and ventilation conforming to this Division may be subdivided into smaller areas by partition walls, where—

(a) the top of the walls are not less than 600 mm below the ceiling or beam soffit immediately above them for a length sufficient to provide a clear opening with an area of not less than 20% of the floor area enclosed on the side of the partition wall remote from the source of natural light and ventilation; or

(b) the walls are glazed below the ceiling or beam soffit for a depth not less than 600 mm and mechanical ventilation conforming to this Division is provided.

2-711. Lighting of corridors and the like.

In buildings of all classes of occupancy corridors, passageways, stairways and landings shall be provided with natural or artificial lighting as provided in this Division, and artificial lighting shall always be provided where those corridors, passageways, stairways and landings are likely to be used at night.

2-712. Lighting and ventilation of basements.

In a building of any class of occupancy that part of the building below the level of a street shall be provided with light and ventilation as follows :—

(a) in a building of Class I., II., III. or IV. occupancy, the external walls of each room, through which light and ventilation required under Section 2-701(a) are received, shall be wholly exposed to the light and air; and

(b) in a building of any other class where the requisite light and ventilation of such a room cannot be obtained by natural means, a system of artificial lighting and a system of mechanical ventilation conforming to the requirements of this Division shall be installed,

but, subject to the approval of the Board, the requirements of this section do not apply to a room used solely for storage purposes, except where the room is used for the storage of goods of an obnoxious or toxic nature.

2-713. Artificial lighting.

In buildings of all classes of occupancy (except in buildings of Class I. or IV. occupancy and dwellings of Class II. occupancy), where artificial lighting is substituted for or is supplementary to natural lighting the illumination value of the artificial lighting shall be not less than the illumination value set out opposite the description of a particular task in S.A.A. Code AS CA 30—*Code for Artificial Lighting of Buildings*¹.

¹ Superseded by AS 1680-1976—*Code of Practice for Interior Lighting and the Visual Environment*.

Subdivision 2-72.—Bathrooms and Showers.

2-721. Bathrooms.

(1) A bathroom in a building of Class I. or II. occupancy shall be provided with a window placed in an external wall abutting on to a street or on to an open space within the premises having an area not less than—

- (a) for the first storey above the level of the open space—3 m²; and
- (b) for the second storey above the level of the open space—6 m²; and
- (c) for all other storeys above the level of the open space—9 m².

(2) A window specified in Subsection (1) shall have a superficial area clear of frames and free from obstruction to the light, not less than 15% of the floor area of the room and shall be so constructed that not less than 50% of the total window area can be opened.

(3) A bathroom in a building of any other occupancy shall be provided with lighting and ventilation as specified in Subsections (1) and (2) or with a system of artificial lighting as specified in Section 2-713 and mechanical ventilation as provided in Subdivision 2-78.

(4) A verandah or porch attached to the portion of an external wall containing a window or other opening providing the requisite natural light and ventilation into a bathroom in a building of Class I., II., III. or IV. occupancy shall not be enclosed to a greater extent than to a height of 900 mm above the floor of the verandah or porch, except with adjustable glass louvres or other approved medium not obstructing light or ventilation.

2-722. Showers.

(1) A shower recess shall be ventilated as prescribed for bathrooms by Section 2-721, except that fixed louvre-type ventilation of not less than 7 500 mm² shall be provided.

(2) Where—

- (a) a shower recess opens from a bedroom or a bathroom; or
- (b) a bath is installed in a bedroom and is enclosed by doors,

the ventilation specified in Subsection (1), if not provided directly to the recess, shall be provided in the bedroom or bathroom.

Subdivision 2-74.—Water Closets and Urinals.

2-741. Airlocks for water closets and urinal apartments.

(1) Except as provided in Subsection (2), a water closet or urinal apartment within a building shall not open directly into a room used—

- (a) for human habitation; or
- (b) for the manufacture, preparation or storage of food for human consumption; or
- (c) as a factory, workshop or work place,

unless an airlock is provided having a floor area of not less than 0.67 m² for each closet pan or urinal, and not less than 1.8 m² in area.

(2) An airlock specified in Subsection (1) may be omitted—

- (a) in a building of Class III. occupancy where a water closet is in a bathroom opening off a bedroom; or
- (b) in a building of Class I., II. or IV. occupancy, if an approved mechanical door-closer is fitted; or
- (c) where the water closet, urinal apartment or other apartment containing soil fittings is mechanically ventilated as specified by this Division and the closet or apartment does not open off a room used for the manufacture, preparation, storage or consumption of food, or as a factory, workshop or work place.

(3) In a building of Class I. or II. occupancy, a hall, passage, lobby or staircase may be considered as an airlock if it has a floor area of not less than 1.8 m² and the lighting and ventilation conforms to Section 2-742.

2-742. Lighting and ventilation of airlocks.**(1) An airlock—**

- (a) shall be provided with a window conforming to Section 2-721(1) and (2); and
- (b) shall have artificial lighting conforming to Section 2-713; and
- (c) shall be provided with a vent or vents near the ceiling level carried as directly as practicable to the open air, having an effective airway not less than $7\,500\text{ mm}^2$ or $1:500$ of the floor area of the airlock (whichever is the greater) and not discharging directly on to a room used for the manufacture, preparation or storage of food for human consumption.

(2) Glazed louvres fixed in an open position extending to the level of the ceiling may be used in place of windows and ventilation required by this section if the louvres have a superficial area clear of frames and free from obstruction to the light not less than 0.18 m^2 and a clear ventilating area of not less than $16\,000\text{ mm}^2$ for each closet pan or urinal stall.

2-743. Lighting and ventilation of water closets, etc.**(1) A water closet or urinal apartment shall be provided with—**

- (a) a window conforming to the requirements of Section 2-721(1) having a superficial area clear of frames and free from obstruction to the light not less than 0.36 m^2 for each closet pan or urinal stall, and capable of being opened; and
- (b) a vent or vents conforming to Section 2-742(1)(c).

(2) Where a window or windows specified in Subsection (1) provides or provide light to a group of water closets, the water closets shall be separated by partitions having a clear space of 200 mm measured from floor level to the bottom of the partitions and extending to a height not less than 1 800 mm above floor level, but not nearer than 300 mm to the ceiling.

(3) Glazed louvres extending to the level of the ceiling may be used in place of windows and ventilation specified in Subsection (1) if the louvres provide an equivalent area of light and ventilation.

2-744. Alternative ventilation of water closets, etc.

Notwithstanding Sections 2-742 and 2-743, where an airlock, water closet or urinal apartment is provided with artificial lighting having a separate switch within each compartment or airlock, it may be ventilated by mechanical ventilation conforming to the requirements of Section 2-745, or in the case of buildings not exceeding four storeys in height by means of a ventilating shaft conforming to the requirements of Section 2-746.

2-745. Mechanical ventilation of water closets, etc.

(1) A system of mechanical ventilation shall be capable of changing the air content of the room to be ventilated as required by Table 2-790.

(2) Mechanical ventilating equipment shall conform to the requirements of Subdivision 2-78.

2-746. Ventilating shafts.

(1) Ventilating shafts shall open to the sky and be carried to such height as is necessary to prevent the deflection of wind currents down the shaft by adjacent structures.

(2) No other room may open on to the same shaft as a water closet, urinal apartment, airlock or bathroom.

(3) The area of a ventilating shaft and the maximum number of water closets or urinals to be served by any one shaft shall be as specified in Table 2-746, but no dimension of the shaft shall be less than 1 200 mm.

TABLE 2-746.

AREA OF VENTILATING SHAFT.

Height of ventilating shaft in storeys.	Maximum area of ventilating shaft.	Maximum permissible number of closet pans or urinal stalls on any vent shaft.
1 or 2	1.4 m ²	4
3 or 4	1st and 2nd storeys—1.4 m ² 3rd storey—1.8 m ² Top storey—2.1 m ²	10

(4) In a building in which a ventilating shaft is three or four storeys in height, a ventilating duct having a clear area of not less than 0.18 m² shall be carried from the bottom of the ventilating shaft to an external wall and shall be boxed throughout.

(5) A water closet, urinal apartment or airlock that abuts on a ventilating shaft shall have a window, capable of being opened on to the shaft, with an effective glass area at least equal to 20% of the floor area of the apartment or airlock with a minimum of 0.36 m², and shall be provided with ventilating openings to the shaft having a total clear opening at any point of not less than 30 000 mm² for each closet pan or urinal stall, or not less than 1 : 300 of the floor area for each airlock.

(6) Where a water closet or urinal apartment or airlock is situated in a basement or cellar there shall be provided, in addition to the requirements of the preceding provisions of this section, a ventilating duct, carried through the roof and fitted with an approved cowl designed to give either a positive up draught or a positive down draught in the duct, at the option of the owner, that shall be capable of changing the air in the water closet or urinal apartment or airlock served by it at least six times per hour when subject to a wind velocity of 6 km/h, the inside and outside temperatures being equal.

(7) Ventilating ducts serving different apartments may be combined, but the minimum area of a ventilating duct shall be 15 000 mm² for each closet pan or urinal stall or for each 10 m² or part of 10 m² of each airlock served by the duct.

2-747. Internal urinals and slop sinks.

The position, approaches, arrangement of lighting and ventilation for internal urinals and slop sinks shall comply with the provisions of this Division for internal water closets.

2-748. Water closets, urinals and slop sinks in existing buildings.

Where a water closet, urinal or slop sink installed in an existing building is replaced otherwise than in the same position as an existing water closet, urinal or slop sink, as the case may be, the position, approaches, arrangement of lighting and ventilation of the water closet, urinal or slop sink shall comply as nearly as possible with this Division.

Subdivision 2-76.—Light Courts.

2-761. Interpretation of Subdivision 2-76.

In this Subdivision, unless the contrary intention appears—

“angle of light”, in relation to a window in the wall of a light court, means the angle formed by the vertical plane of the face of the wall and a line drawn from a point in the vertical plane and on the basic light level of the wall bisecting diagonally a rectangle having for two of its sides the basic height and the basic width of the light court;

“basic height”, in relation to a light court or a wall of a light court, means the vertical distance from the basic light level of the wall to the level of the top of the parapet or eaves of the opposite wall of the light court;

"basic light level", in relation to a wall of a light court, means the level of the lowest horizontal line on the lowest window in the wall that permits light to be admitted through the window into the room or floor lighted by the window as required by this Division;

"basic width", in relation to a wall of a light court, means the shortest horizontal distance measured at right angles from the face of the wall at the basic light level to the vertical plane of the face of the wall or parapet of the uppermost storey on the opposite boundary of the light court, or if there is no such wall or parapet to the vertical plane of the opposite boundary of the light court;

"light court" means a court, wholly open at the top, constructed or adapted for admitting light to a building, and, provided that reciprocal light easements over the court have been permanently created, includes such part of a light court of an adjoining building abutting on the common boundary of such a building as will, when combined, form a common court, and also includes a street over which a building is permanently entitled to access of light;

"wall", in relation to a light court, includes the wall or walls enclosing one side of a light court, notwithstanding that at the level of any upper storeys any part of the wall is set back from the vertical plane of the lowest wall;

"width", in relation to a light court, means the shortest distance measured at right angles from the face of a wall at any given level to the face of the opposite wall at the same level, or if there is no such wall to the vertical plane of the opposite boundary of the light court.

2-762. Angles of light.

(1) Subject to Subsection (2), except by permission of the Board a window in a building of Class I., II., III., IV., V. or VIII. occupancy abutting on a light court shall have an angle of light not less than the angle of light resultant from the ratio of the basic height to the basic width of the light court as set out in Table 2-762 as applicable to the window, and shall receive at that angle of light unobstructed light from the sky, but—

(a) if the opposite boundary of the light court on which the window abuts is also the boundary of an adjoining property the window need not receive unobstructed light, but shall be deemed to have the required angle of light if a window at the same basic light level erected on the opposite boundary would have the angle of light resultant from the ratio applicable, according to the class of building, under Part 2 of Table 2-762; and

(b) unless otherwise directed by the Board, the preceding provisions of this subsection do not apply to the office section of a building in any class of occupancy if that section constitutes only a minor part of the occupancy.

(2) Windows of rooms specified in Section 2-701(e) and windows of rooms on the ground and first storeys of buildings of Class V. or VIII. occupancy of more than five storeys in height are not required to have the angle of light prescribed by this section.

TABLE 2-762.

Location of window and class of building.	Ratio of basic height to basic width.
Part 1.	
Where windows other than those specified in Part 3 of this table are erected in opposite sides of a light court—	
(a) in buildings of Class I., II. or IV. occupancy	3 to 1
(b) in buildings of Class III., V. or VIII. occupancy	4½ to 1
Part 2.	
Where windows other than those specified in Part 3 of this table are erected in one only of two opposite sides of a light court—	
(a) in buildings of Class I., II. or IV. occupancy	2½ to 1
(b) in buildings of Class III., V. or VIII. occupancy	3½ to 1

Location of window and class of building.	Ratio of basic height to basic width.
Part 3.	
Where windows are lighted from a light court that opens on to a street not less than 10 m in width and is of uniform width for its full depth from the street alignment not more than twice the width of such light court— All classes of occupancy	6 to 1

2-763. Width of light courts.

The width of a light court shall be—

- (a) in the case of a building of Class I., II., III., IV., V. or VIII. occupancy—not less than 12.5% of the basic height of the light court at the basic light level measured from a wall in which a window is constructed; and
- (b) in the case of a building of Class VII. occupancy—not less than 12.5%, or where the light court abuts on a right-of-way 10%, of the basic height of the court; and
- (c) for a building more than one storey in height—not less than 1 800 mm; and
- (d) in the case of a light court having windows in one wall or opposite walls only—
 - (i) from any wall which does not contain a window required to have an angle of light or is not opposite a wall containing such a window—not less than 1 800 mm; and
 - (ii) where the number of storeys abutting on such a light court exceeds three—not less at the level of each additional storey than the width at the level of the storey immediately below plus 300 mm.

2-764. Building abutting on a street intersected by another street.

Where a building abuts wholly or partly on a street that is a light court and the street is intersected by or connected with another street at right angles, the Board may permit windows, not having the required angle of light, to be constructed in that section of the wall of the building that abuts on the light court located within a distance of half the width of the court on one or both sides of the intersecting street.

2-765. Light courts serving lavatories and the like.

Sections 2-762, 2-763 and 2-764 do not apply to light courts serving lavatories and sanitary conveniences, and such a court shall have a minimum width of 1 200 mm.

2-766. Ventilation of light courts.

(1) This section applies where a light court, wholly or in part open at the top and constructed or used for admitting light and air to a building of Class I., II., III., IV. or V. occupancy, is constructed in connexion with such a building, and the height of the light court from the eaves or top of the parapet to the ceiling at the ground storey exceeds the length or breadth of the court.

(2) Where the light court is at the time of construction enclosed on every side, ventilation shall be provided by means of—

- (a) a system of mechanical ventilation capable of giving six changes of air per hour and designed to introduce plenum air from a clean source and to distribute the air from the bottom of the light court in such a manner as to ensure even distribution over all sections of the light well that are pierced by windows, louvres or vents; or
- (b) a flue constructed between the lower end of the light court and the outer air having a throughway the least sectional area of which, subject to Subsection (3), is not less in area than 0.45 m² or 5% of the average horizontal area of the light court, whichever is the greater.

(3) Subsection (2)(b) does not require the sectional area of the ventilating flue to exceed 1.8 m², but the flue shall not be less than 450 mm across in any direction and shall be constructed in such a manner that it can be cleaned out.

(4) Where the light court is situated on an allotment boundary and at the time of its construction the walls of buildings on adjoining allotments are not such as to make Subsection (2) otherwise applicable—

- (a) the flue required by Subsection (2)(b) and Subsection (3) shall be provided during construction; or
- (b) approved provision shall be made for the future installation, if the light court becomes completely enclosed, of the system of mechanical ventilation required by Subsection (2)(a),

and the owner of the building in connexion with which the light court is constructed shall, when requested by the Board, complete the installation referred to in Paragraph (b).

2-767. Structures in light courts.

Vents, ducts, flues, service pipes and the like are permitted in a light court if—

- (a) they are of fire-resisting materials; and
- (b) where their combined areas based on their horizontal projection between any two floors of the building exceeds 10% of the area of the light court at the plane of the projection—the area of the light court is increased by not less than the excess.

Subdivision 2-78.—Mechanical Ventilation.

2-781. Quantity of introduced air.

(1) Where mechanical ventilation is required under this Schedule, the quantity of outside air introduced into an enclosed space shall be generally in accordance with Table 2-790.

(2) Where enclosed spaces are to be air-conditioned, the quantity of outside air introduced into the air-conditioned space shall be generally in accordance with Table 2-791.

2-782. Distribution of introduced air.

Generally, outside air shall be evenly distributed through the enclosed space requiring mechanical ventilation, but where an area within an enclosed space has an abnormally high density of occupants compared to the rest of the enclosed space, or the area has a source of heat or moisture, the quantity of outside air distributed to the area shall be appropriately increased.

2-783. Location of air intakes.

Subject to Section 2-784, outside air intakes shall be so located that air entering the building contains no more bacteria, dust, heat, moisture or odours, and no more of any contaminant, than the normal outside air in the locality in which the building is situated.

2-784. Purification of introduced outside air.

Where it is not feasible to provide outside air in accordance with Section 2-783, the introduced outside air shall be purified to at least the equivalent of the normal outside air before entering the enclosed space.

2-785. Contaminated air.

If there is within an area of enclosed space a process that will produce contaminated air, or if the space is so used that contaminated air will result, the ventilation system shall be so arranged that there is no flow of contaminated air to the rest of the building.

2-786. Exhausted air.

(1) Air exhausted from a building shall not constitute a danger, health hazard or nuisance to the occupants of adjoining buildings, properties or public spaces.

(2) Where, in the opinion of the Board, exhausted air may constitute a danger, health hazard or nuisance, purification equipment having the capacity to remove all contaminants from the air shall be installed to the satisfaction of the Board.

2-787. Manufacture and installation of equipment.

(1) The manufacture and installation of mechanical ventilation and air-conditioning systems and ancillaries shall conform to the requirements of the appropriate S.A.A. Code or, in the event of there being no Australian standard, to the requirements of the relevant British standard.

(2) Notwithstanding Subsection (1), all mechanical ventilation and air-conditioning systems shall be approved by the Board before the commencement of installation.

(3) Where an automatic fire alarm system exists or is to be installed and where otherwise required by the Board, provision shall be made for the automatic shut-down of the mechanical ventilation or air-conditioning system in the event of a fire being registered within the enclosed space.

2-788. Submission of design.

Mechanical ventilation and air-conditioning systems shall be fully designed, and all relevant calculations, expected space usage, occupancy and proof that any proposed purification treatment for introduced outside air and exhaust air is satisfactory shall be submitted, before final approval by the Board.

2-789. Operation and inspection of mechanical equipment.

Where a mechanical ventilation or air-conditioning system is installed in a building—

- (a) the system shall be operated at all times when the area that it ventilates is occupied; and
- (b) the owner of the building or his representative shall take the necessary steps to ensure the efficient operation of the system in conformity with the requirements of this Division; and
- (c) the owner of the building or his representative shall allow the Board to inspect the system on completion and at other reasonable times, and shall co-operate with the Board in operating the plant for testing purposes.

TABLE 2-790.

MECHANICAL VENTILATION SYSTEMS—VENTILATION REQUIREMENTS.

Situation.	Air changes per hour.
Assembly halls	8-12
Bakeries	40-60
Banks	4-8
Billiard rooms and the like	12-16
Boiler houses	40-60
Canteens	8-12
Churches	1-2
Cinemas*	20-30
Club rooms	16-20
Dance halls*	12-16
Dining rooms	12-20
Engine rooms	40-60
Factories (workshops)	12-20
Foundries	40-60
Furnace shops	60-100
Garages	12-16
Hospitals (operating rooms)	10-15
Hospitals (general wards)	8-12
Hotel bars	8-12
Kitchens (commercial or school)	30-40
Kitchens (domestic)	20-30
Laboratories	8-12
Laundries	40-60
Machine shops	12-20
Offices*	8-12
Paint shops	60-100

TABLE 2-790.—*Continued*

Situation.	Air changes per hour.
Photographic darkrooms	20-30
Residences	2-4
Restaurants	20-30
School classrooms	4-6
Theatres*	20-30
Water closets and the like	10-15

* Where smoking occurs allow twice the number of air changes.

Note 1. In temperate zones, *e.g.*, Highlands, the above figures may be halved, except for water closets and the like.

Note 2. The above figures represent the respective desirable number of air changes per hour. Where the proposed design ventilation rates differ appreciably from the above, these shall be referred to the Board for consideration and approval.

TABLE 2-791.

AIR-CONDITIONING SYSTEMS—VENTILATION REQUIREMENTS.

Situation.	Litres per person.		Litres per m ² of floor. Minimum†.
	Recommended.	Minimum†.	
Assembly halls	3.5	2.5	2.5
Banks	5.0	3.5	—
Cinemas*	3.5	2.5	—
Conference or board rooms	25.0	15.0	—
Department stores	—	—	0.25
Dining rooms	7.0	6.0	20.0
Hospitals—			
operating rooms	All fresh air		
wards			1.65
Hotel bars and rooms	10.0	7.0	1.65
Kitchens (commercial)	—	—	20.0
Laboratories	10.0	7.0	—
Offices	7.0	5.0	1.25
Photographic darkrooms	—	—	20.0
Restaurants	6.0	5.0	—
Theatres*	3.5	2.5	—

† When "minimum" is used, use the larger.

* Where smoking occurs allow twice the figures shown.

NOTE. The above figures represent the respective desirable ventilation requirements. Where the proposed design ventilation rates differ appreciably from the above these shall be referred to the Board for consideration and approval.

*Division 2-8.—Off-street Parking.***2-801. Interpretation of Division 2-8.**

In this Division—

"car space" means an area of 5 m by 2.5 m;

"truck space" means an area of 12 m by 3.6 m.

2-802. Off-street parking facilities.

(1) Subject to Subsection (2), in a township declared for the purposes of this Division by the Head of State, acting on advice, by notice in the National Gazette, a Board shall not grant an application for its approval unless the plans and specifications of the proposed building or alterations make provision for off-street parking facilities to be provided within the boundaries of the area on which the building stands or is to be erected, in accordance with the following requirements :—

- (a) houses—one car space to each three bedrooms; and
- (b) residential buildings other than residential buildings otherwise specified in this subsection—one car space to each three bedrooms; and
- (c) flats and home units—one car space per flat or unit; and
- (d) industrial buildings—one truck space to each 75 m² of floor area of the building; and
- (e) warehouses, bulk stores and bond stores—one truck space to each 300 m² of floor area of the building; and
- (f) offices and banks—one car space to each 50 m² of floor area of the building; and
- (g) places of assembly or public halls—one car space to each 20 m² of floor area of the building or one per 10 seats, whichever is higher; and
- (h) places of worship—one car space to each 10 seats; and
- (i) licensed hotels, clubs, taverns and restaurants—
 - (i) one car space to five guest rooms; and
 - (ii) one car space to each 2 m² of bar floor area available to the public; and
 - (iii) one car space to each 6 m² of lounge or beer garden floor area available to the public; and
 - (iv) one car space to each 6 m² of restaurant floor area available to the public; and
- (j) shops—one car space to each 30 m² of the building; and
- (k) garages and service stations—50% of the floor area,

and in addition to the requirements for off-street parking specified by this section sufficient provision shall be made for access to those car and truck spaces by the appropriate number of vehicles for which those spaces are provided.

(2) Where the Board is of the opinion that the requirements prescribed by Subsection (1) are unreasonable in any particular circumstances and that greater or less off-street parking facilities ought reasonably to be provided in a particular case, it may vary those requirements.

PART III.—BASIC DESIGN LOADS AND PROCEDURES.

Division 3-1.—General Design and Construction.

3-101. General.

The requirements of this Part with regard to general design and construction are minimum requirements stipulated for average conditions, and where unusual construction or special circumstances make it necessary the Board may increase the requirements.

3-102. Methods of design.

(1) Buildings and parts of buildings shall be designed in accordance with this Part and wherever possible with methods of design permitting a rational analysis in accordance with the established principles of mechanics and of structural design.

(2) Elements incapable of rational design shall not be considered as contributing to the basic load resisting structure of a building, but the effect of the design loads on them shall be assessed and allowed for both in their design and in the design of the building as a whole.

(3) The effect of the design loads on elements, such as partitions or panels, assumed as not contributing to the basic load resisting structure shall be assessed and allowed for both in their design and in the design of the building as a whole.

3-103. Design loads.

(1) Buildings and parts of buildings shall be designed and constructed to support the loads acting or likely to act on them without exceeding the working stresses or design criteria specified in this Schedule for materials and methods of construction.

(2) The design loads shall not be less than those specified in this Part as dead loads or imposed loads in their most unfavourable combination or combinations except that wind load, earthquake load or transient dynamic effects need not be taken as acting simultaneously one with another.

3-104. Test loads.

Buildings and parts of buildings not fully amenable to rational design may be designed on the basis of loading tests or model experiments.

3-105. Horizontal forces.

(1) The total horizontal force at any level imposed by wind or earthquake loads shall be considered to be resisted by the various resisting elements in proportion to their rigidities, considering the rigidity of the horizontal bracing systems or diaphragms as well as the rigidities of the vertical resisting elements.

(2) To such a degree as the purpose and design of the building permits, and particularly for tall buildings, the main resisting system shall be located symmetrically about the centre of mass of the building.

3-106. Tying of buildings.

(1) All parts of a building, unless specifically designed to act otherwise, shall be tied and interconnected by adequate fixings or integral construction, designed to resist wind or earthquake loads.

(2) Parts of a building likely to damage or shatter under earthquake loads shall be tied, secured or safeguarded so as to minimize danger to life.

3-107. Building separation.

(1) Provision shall be made for the relative movement due to lateral forces on buildings or part of buildings not designed and constructed to be tied and interconnected.

(2) Each building not designed to be tied to its neighbour shall have a minimum clear space from the property boundary, other than that adjoining a public space, either of 1.5 times its computed deflection due to lateral force or of 1 : 500 of height, whichever is the greater, and in any case not less than 10 mm.

(3) Parts of buildings or buildings on the same site not designed to be tied to their neighbours shall have a minimum clear space from each other of—

- (a) 1.5 times the sum of their computed deflections due to lateral force; or
- (b) 1 : 250 of height,

whichever is the greater, and in any case not less than 20 mm.

(4) The separation distances may be computed and applied at each floor level, and deflections shall be computed as for the design lateral forces set out in this Schedule.

(5) Separation spaces—

- (a) need not extend into the foundations except where the Board so directs; and
- (b) shall be clear of debris and detailed so as to remain clear; and
- (c) shall be durable and allow three dimensional movement.

(6) Compressible space fillings shall allow the required movement at all times.

3-108. Stability and stress reversal.

(1) Buildings and parts of buildings shall be designed to resist uplift or overturning.

(2) Where stability is dependent on gravitational forces, only such live loads shall be considered as may safely be assumed to contribute to the stabilising force.

(3) Where a building or part of a building is dependent on gravitational forces for stability, it shall be designed to be stable when subject to the resultant forces specified for stability in S.A.A. Code AS 1250-1975—*SAA Steel Structures Code*.

(4) A building or part of a building shall be designed to resist at least 1.5 times any imposed load before failure from reversal of stress.

3-109. Loads during construction.

All permanent and temporary structural members of a building shall be protected against loads exceeding the design loads during the construction period except when, as verified by analysis or test to the satisfaction of the Board, temporary overloading of a structural member would result in no impairment of that member or any other member, and precautions shall be taken during all stages of construction to ensure that the building is not damaged or distorted due to loads applied during construction.

3-110. Combined stresses.

The allowable stresses for combinations of axial and bending stresses may be determined in accordance with Section 3-436(1) and (2).

3-111. Combined loads.

The allowable stresses for combinations of lateral and vertical loading may be determined in accordance with Sections 3-436 and 3-441.

Division 3-2.—Basic Design Loads.

3-201. General.

Buildings shall be designed for dead loads and imposed loads and forces, the latter consisting of live loads, loads and forces due to wind, earthquakes, earth and ground-water pressures, expansion and contraction, temperature changes and any other loads and forces expected during the intended life of the building.

3-202. Dead loads.

(1) Dead loads comprise the actual or estimated weights of all walls, fixed partitions, columns, floors, roofs, finishes and other permanent construction and permanently fixed plant and fittings.

(2) Estimated weights may be calculated from the unit weights given in S.A.A. Code AS 1170—*SAA Loading Code*, Part 1—1971 *Dead and Live Loads*.

3-203. Live loads.

Minimum design live loads shall be in conformity with S.A.A. Code AS 1170—*SAA Loading Code*, Part 1—1971 *Dead and Live Loads*.

3-204. Loads and forces due to wind.

Wind loads and forces shall conform to Division 3-3.

3-205. Loads and forces due to earthquakes.

Seismic loads and forces shall conform to Division 3-4.

3-206. Temperature loads.

(1) Provision shall be made for loadings due to temperature changes.

(2) The normal atmospheric shade temperature range to be considered is 30° C and consideration shall be given to shading, thermal capacity, contact with the ground and direct heating by the sun.

(3) Expansion joints to minimise temperature loads shall be constructed with due consideration for the temperature at which they are made.

Division 3-3.—Loads and Forces due to Wind.

3-301. General.

Buildings and structures, and parts of buildings or structures, shall be designed to withstand loadings due to wind, the loads and forces being calculated in accordance with S.A.A. Interim Code 350—*Minimum Design Loads on Buildings*, Part II. and Appendix A, except that the design wind

velocities listed in Section 5 (Clauses 18 to 20) of the Code and the computed value of P as defined in Clause 21 of the Code shall be varied in accordance with this Division.¹

3-302. Zoning.

(1) To define the design wind velocities, the country is divided into two zones as shown on Plate 1, which are described as follows:—

ZONE 1. All of Papua west of longitude 148° E and all of New Guinea; and

ZONE 2. All of Papua east of longitude 148° E.

(2) In Subsection (1)—

(a) a reference to Papua is a reference to the former Territory of Papua; and

(b) a reference to New Guinea is a reference to the former Territory of New Guinea,

in each case as at the commencement date.

3-303. Design wind velocities.

For design purposes wind velocity of 29 m/s in Zone 1 and 36 m/s in Zone 2 shall be assumed except as varied in the succeeding provisions of this Division.

3-304. Topographical situation.

(1) Where the building or structure under consideration has natural protection from winds from all directions afforded by its situation relative to the surrounding terrain, or is subjected to severe exposure due to its altitude or proximity to the seaboard, the design wind velocities shall be modified as shown in Table 3-304.

(2) All buildings or structures built in the Louisiade Archipelago shall be designed for wind velocities assuming extreme exposure.

TABLE 3-304.
WIND VELOCITIES IN M/S.

Conditions of exposure.	Zone 1.	Zone 2.
Natural protection against full effects of wind	27	31
Average conditions of exposure—situated on flat or gently undulating country	29	36
Extreme exposure—situated on sea coast or estuaries, at or near the top of steeply sloping ground or where the configuration of the ground is likely to increase wind velocity	31	42

3-305. Increment with height.

(1) The variation of wind pressure with the height of a building is to be taken into account in the calculation of the wind load, the actual wind pressure being calculated by the formula—

$$P = 0.6 C_h \cdot V^2,$$

where P = pressure in Pa; ($\text{Pa} = \text{IN/m}^2$) (to be used in Section 7 of S.A.A. Interim Code 350—*Minimum Design Loads on Buildings*²);

V = velocity in m/s;

C_h = height factor determined from Table 3-305, or, for buildings or structures exceeding 60 m in height, as determined by the Board.

(2) The total wind load on a building or structure shall be determined by the summation of the wind loads for each height increment listed.

¹ S.A.A. Interim Code 350 was superseded by AS1170, *SAA Loading Code, Part 1—1971 Dead and Live Loads and Part 2—1975 Wind Forces*. However, it appears that the Interim Code referred to in the text still applied, for the purposes of Section 3-301, as at the effective date.

² See footnote to Section 3-301.

PAPUA NEW GUINEA WIND ZONES

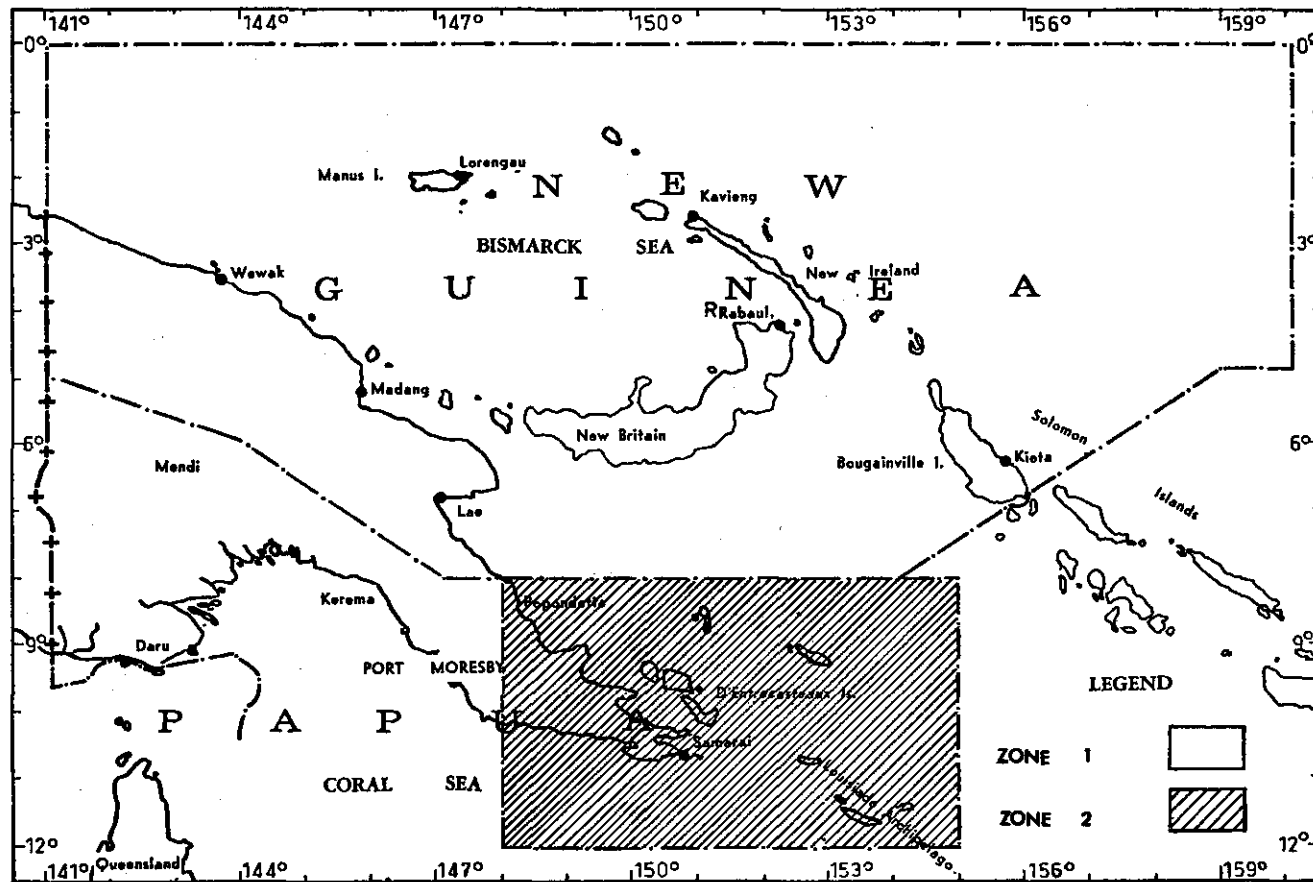


TABLE 3-305.
HEIGHT FACTOR C.

Height in metres above ground level.	C _h .
0-15 m	1.0
15-30 m	1.2
30-60 m	1.4

3-306. Local effects of wind.

In addition to the provisions of Clause 27 of S.A.A. Interim Code 350—*Minimum Design Loads on Buildings*¹, all wall and roof sheeting and its fastenings shall be capable of withstanding loads equivalent to 1.5Pa applied anywhere on the roof or walls, but local forces need not be used in calculating the total force on the structure.

*Division 3-4.—Loads and Forces Due to Earthquakes.**Subdivision 3-40.—General and Zoning.***3-401. General.**

In order to resist the forces due to seismic disturbances, buildings and parts of buildings shall be designed in accordance with this Division.

3-402. Zoning.

(1) For the purpose of specifying loading requirements for earthquakes, the country is divided into two zones as shown in Plate 2, which are described as follows :—

ZONE A.—comprising—

- (a) the whole of mainland New Guinea; and
- (b) all the New Guinea Islands except Manus Island and Los Negros Island; and
- (c) those parts of Papua lying within the following boundaries :—
 - (i) the intersection of longitude 144° E with the boundary between Papua and New Guinea then south-eastwards to the intersection of latitude 8° S and longitude 145° E then due east to the intersection of latitude 8° S with that boundary then along the boundary to the point of origin; and
 - (ii) the intersection of longitude 148° E with the north coast of Papua then along the coast to its intersection with latitude 8° 55' S then due east to longitude 155° E then due south to latitude 10° 30' S then due west to longitude 152° E then due south to latitude 10° 45' S then due west to longitude 148° E then due north to the intersection with the north coast of Papua.

ZONE B.—comprising all those parts of the country not included in Zone A.**(2) In Subsection (1)—**

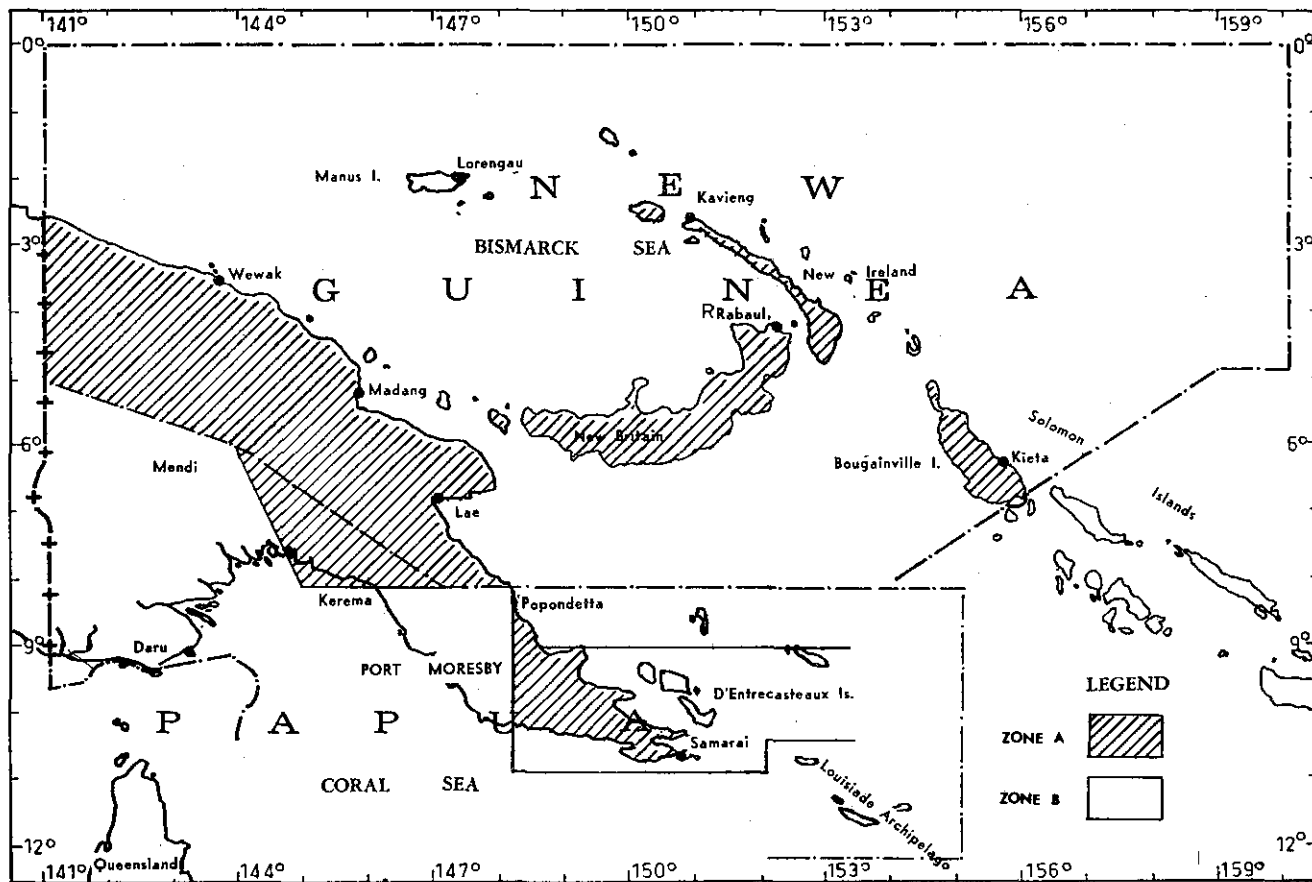
- (a) a reference to Papua is a reference to the area, or to the boundaries, as the case requires, of the former Territory of Papua; and
- (b) a reference to New Guinea is a reference to the area, or to the boundaries as the case requires, of the former Territory of New Guinea,

in each case as at the commencement date.

¹ See footnote to Section 3-301.

PAPUA NEW GUINEA SEISMIC ZONES

Plate 2



Building

Ch. No. 301

Subdivision 3-42.—Zone A.

A.—Loading Provisions.

3-421. Interpretation of Subdivision 3-42.

In this Subdivision, unless the contrary intention appears—

"box system" means a structural system without a complete vertical load-carrying space frame where the required lateral forces are resisted by shear walls;

"lateral force resisting system" means that part of the structural system to which the lateral forces as prescribed in Section 3-425 are assigned;

"shear wall" means a wall designed to resist lateral forces parallel to it, and includes braced frames subjected primarily to axial stresses;

"space frame" means a three-dimensional structural system composed of inter-connected members, other than shear or bearing walls, laterally supported so as to function as a complete self-contained unit with or without the aid of horizontal diaphragms or floor bracing systems;

"space frame—ductile-moment-resisting" means a space frame—moment-resisting with ductility requirements as specified in Table 3-425 and Section 3-434(b);

"space frame—moment-resisting" means a space-frame—vertical-load-carrying in which the members and joints are capable of resisting design lateral forces by bending moments, and where the system may or may not be enclosed or adjoined by more rigid elements which would tend to prevent the space frame from resisting lateral forces;

"space frame—vertical-load-carrying" means a space frame designed to carry all vertical loads.

3-422. Symbols and notations.

The following symbols and notations apply to this Subdivision :—

C = numerical coefficient for base shear as set out in Section 3-425.

C_p = numerical coefficient as set out in Section 3-426 and set out in Table 3-426.

C_v = numerical coefficient as set out in Section 3-427.

D = the dimension of the building in metres in a direction parallel to the applied forces.

F_a = allowable axial stress.

f_a = computed axial stress.

F_b = allowable bending stress.

f_b = computed bending stress.

F_p = lateral force on the part of the structure and in the direction under consideration.

F_v = vertical force on horizontal cantilevers as set out in Section 3-409.

F_x = lateral force applied to a level designated as "x".

H = height of the main portion of the building in metres above the base.

h_x = height in metres above the base to the level designated as "x".

J = numerical coefficient for base moment as defined in Section 3-432.

K = numerical coefficient as set out in Table 3-425.

Σwh = summation of the products of all $w_x \cdot h_x$ for the building.

M = overturning moment at the base of the building or structure.

N = total number of storeys above exterior grade.

T = fundamental period of vibration of the building or structure in seconds in the direction under consideration.

V = total lateral load or shear at the base.

W = total dead load.

EXCEPTION— W is equal to the total dead load plus 25% of the floor live load in storage and warehouse occupancies.

W_p = weight of a part or portion of a structure.

w_x = that portion of W which is located or assigned to the level designated as "x".

3-423. Zone requirements.

(1) Specific earthquake design, based on the principle of "equivalent static forces", is required in Zone A.

(2) A building or structure, and every portion of a building or structure, shall be designed and constructed to resist stresses produced by lateral forces as provided in this Subdivision.

(3) Stresses shall be calculated as the effect of a force applied horizontally at each floor or roof level above the foundation (or vertically for horizontal cantilevers as specified by Section 3-427), the horizontal force being assumed to come from any horizontal direction.

(4) Force requirements specified in this Subdivision are minimum standards to be used as design criteria towards making buildings and other structures earthquake-resisting and minimizing damage (both structural and non-structural) by earthquakes of intermediate intensities.

(5) This Subdivision applies to the structure as a unit and also to all parts of the structure, including the structural frame or walls, floor and roof system and other structural features.

(6) The provisions of this Subdivision are general and, in specific cases, the details may be decided by the Board.

3-424. Exemptions.

The Board may exempt from the requirements of this Subdivision—

- (a) that part of a private dwelling that is above ground floor level and not of masonry construction, if the height from floor to eaves does not exceed 6 000 mm; and
- (b) that part of a private dwelling of masonry construction that is above ground floor level, if the height from floor to eaves does not exceed 3 600 mm; and
- (c) outbuildings; and
- (d) stumps and piers and the associated lateral bracing less than 1 500 mm high, supporting private dwellings not of masonry construction.

3-425. Total lateral force and distribution of lateral force.

(1) A building shall be designed and constructed to withstand minimum total lateral seismic forces assumed to act non-currently in the direction of each of the main axes of the building in accordance with the formula—

$$V = KCW,$$

where—

the value of K is not less than that shown in Table 3-425 for the respective systems;

the value of C is 0.10 for all one and two storey buildings, but for all other buildings equals $\frac{0.05}{\sqrt[3]{T}}$ with a maximum value of 0.10, except where otherwise provided in

Table 3-426.

(2) The Board may accept properly-substantiated technical data for establishing the period T for the proposed structure, but in the absence of such data the value of T for buildings shall be determined by the formula—

$$T = \frac{0.05 H}{\sqrt{D}},$$

except that $T = 0.10$ N in buildings where the lateral resisting systems consist of a moment-resisting space frame resisting 100% of the required lateral forces and the frame is not enclosed or adjoined by more rigid elements tending to prevent the frame from resisting lateral forces.

(3) For the purpose of computing C , the value of T need not be less than 0.10 seconds.

(4) The total lateral force V shall be distributed over the height of the building in accordance with the formula—

$$F_x = \frac{V w_x h_x}{\sum w h},$$

except—

- (a) in one and two storey buildings, where it shall have uniform distribution; or
- (b) where the height to depth ratio of a lateral force-resisting system is equal to or greater than 5 to 1, in which case 10% of the total force V shall be considered as concentrated at the top storey, the remaining 90% being distributed as provided in the formula.

(5) At each level designated as "x", the force F_x shall be applied over the area of the building in accordance with the mass distribution on that level.

TABLE 3-425.

HORIZONTAL FORCE FACTOR K FOR BUILDINGS OR OTHER STRUCTURES.

Type of arrangement of testing elements.	Value of K .
All building framing systems except as below classified	1.00
Building with a box system	1.33
Buildings with a complete horizontal bracing system capable of resisting all lateral forces, which system includes a space frame—moment-resisting which when assumed to act independently is capable of resisting a minimum of 25% of the total required lateral force	0.80
Buildings with a space frame—moment-resisting which, when assumed to act independently of other more rigid elements, is capable of resisting 100% of the total required lateral forces in the frame alone	0.67
Elevated tanks plus full contents (including their supports) when not supported by a building	3.00
(The minimum value of K is 0.12 and the maximum value need not exceed 0.25. For overturning the factor J as set forth in Section 3-432 is 1.00. The torsional requirements of Section 3-431 apply).	
Structures other than buildings and bridges and other than those specified in Table 3-426	2.00

NOTE 1. All buildings designed with a horizontal force factor K of 0.67 or 0.80 shall have space frames—ductile-moment-resisting. The necessary ductility shall be considered to be provided by a steel frame with moment-resisting connexions or by other systems proved by tests and studies to provide equivalent energy absorption.

NOTE 2. Where the wind load applicable to the area would produce higher stresses, this load shall be used instead of the loads resulting from earthquake forces.

3-426. Lateral force on parts of buildings or other structures.

Parts or portions of buildings or structures and their anchorage shall be designed for lateral forces in accordance with the formula—

$$F_p = C_p W_p,$$

where the value of C_p is not less than that shown in Table 3-426 and the distribution of the forces is according to the gravity loads pertaining to them.

TABLE 3-426.

HORIZONTAL FORCE FACTOR C_p FOR PARTS OF BUILDINGS OR OTHER STRUCTURES.

Parts or portions of buildings.	Direction of force.	Value of C_p .
Exterior bearing and non-bearing walls, interior bearing walls and partitions, interior non-bearing walls and partitions over 3 000 mm in height, masonry fences over 1 800 mm in height	Normal to flat surface	0.20
Cantilever parapet and other cantilever walls, except retaining walls	Normal to flat surface	1.00
Exterior and interior ornamentation and appendages	Any direction	1.00
When connected to or a part of a building—towers, tanks, towers and tanks plus contents, chimneys, smokestacks and penthouses	Any direction	0.20*

Parts or portions of buildings.	Direction of force.	Value of C_p .
When resting on the ground—tank plus effective mass of its contents	Any direction	0.10
Floors and roofs acting as diaphragms	Any direction	0.10†
Connexions for exterior panels or precast, non-bearing non-shear wall panels	Any direction	2.00

* When H/D of a building is equal to or greater than 5 to 1, increase value by 50%.

† Floors and roofs acting as diaphragms shall be designed for a minimum value of C_p of 10% applied to loads tributary from that storey unless a greater value of C is required by the basic seismic formula $V = KCW$.

3-427. Vertical force on parts of buildings or other structures.

Parts or portions of buildings or structures consisting of horizontal cantilevers and their anchorages shall be designed for vertical forces in accordance with the formula—

$$F_v = C_v W_p,$$

where the value of C_v is 0.6, and the distribution of the forces is according to the gravity loads pertaining to them.

3-428. Foundation ties.

(1) Subject to Subsection (2), where footings rest on piles or on soil having an allowable bearing value of less than 100 kPa the footings shall be completely inter-connected in two directions approximately at right angles to each other, and each interconnecting member shall be capable of transmitting by both tension and compression at least 10% of the total vertical load carried by the heavier only of the footings connected.

(2) Subsection (1) does not apply where it is proved to the satisfaction of the Board that equivalent restraint can be provided by other means, or provision is made in design for adequate movement of the footing.

3-429. Distribution of horizontal shear.

Total shear in any horizontal plane shall be distributed to the various resisting elements in proportion to their rigidities considering the rigidity of the horizontal bracing system or diaphragm as well as the rigidities of the vertical resisting elements.

3-430. Drift.

Lateral deflections or drift of a storey relative to its adjacent storeys under design seismic loads calculated in accordance with accepted engineering practice shall not exceed 1/300 of the height between storeys.

3-431. Horizontal torsional moments.

(1) Where possible, eccentricity between the centre of mass and the centre of rigidity shall be eliminated.

(2) Where eccentricity cannot be avoided, provisions shall be made for the increase in shear, but negative torsional shears shall be disregarded.

(3) Where the vertical resisting elements depend on diaphragm action for shear distribution at any level, the shear resisting elements shall be capable of resisting a torsional moment assumed to be equivalent to the storey shear acting with an eccentricity of not less than 5% of the maximum building dimension at that level.

3-432. Overturning.

(1) A building or structure shall be designed to resist the overturning effects caused by the wind forces and related requirements as specified in this Part or the earthquake forces specified in this Subdivision, whichever is applicable, except that the axial loads from an earthquake force on vertical

elements and footings in a building or structure may be modified in accordance with the following provisions :—

- (a) the overturning moment (M) at the base of the building or structure shall be determined in accordance with the formula—

$$M = J \sum F_x \cdot h_x$$

where—

$$J = 0.5 \sqrt[3]{T^2}$$

provided that the required value of J is not less than 0.33 or more than 1.00; and

- (b) the overturning moment (M_x) at any level designated as "x" shall be determined in accordance with the formula—

$$M_x = \frac{H - h_x}{H} \cdot M$$

(2) At any level the overturning moments shall be distributed to the various resisting elements in the same proportion as the distribution of the shears in the resisting system, but where other vertical members are provided that are capable of partially resisting the overturning moments a redistribution may be made to these members if framing members of sufficient strength and stiffness to transmit the required loads are provided.

3-433. Set-backs.

(1) A building having set-backs in which the plan dimension of the tower in each direction is at least 75% of the corresponding plan dimension of the lower part may be considered as a uniform building without set-backs for the purpose of determining seismic force.

(2) For other conditions of set-backs, the tower shall be designed as a separate building using the larger of the seismic coefficients at the base of the tower determined by considering the tower as—

- (a) a separate building for its own height; or
(b) part of the overall structure,

the resulting total shear from the tower being applied at the top of the lower part of the building which shall be otherwise considered separately for its own height.

3-434. Structural space frames.

(1) Buildings containing more than 13 storeys or exceeding 50 m in height shall have a space frame—ductile-moment-resisting—

- (a) capable of resisting not less than 25% of the required seismic load for the structure as a whole; and
(b) made of a ductile material or a ductile combination of materials.

(2) For the purposes of Subsection (1)(b), the necessary ductility shall be considered to be provided by a steel frame with moment-resistant connexions or by other systems proved to the satisfaction of the Board by tests and studies to provide equivalent energy absorption.

3-435. Relation of rigid elements to space frames—moment-resisting.

Where it can be shown that the action or failure of the more rigid elements does not impair the vertical or lateral load resisting ability of the space frame, space frame moment-resisting and space frames ductile-moment-resisting may be enclosed by or adjoined by more rigid elements that would tend to prevent the space from resisting lateral forces.

B.—Design Requirements.

3-436. Combined axial and bending stresses in columns forming part of a space frame.

(1) The maximum allowable extreme fibre stress in columns at fully restrained intersections of columns with floor beams or girders for combined axial and bending stresses is the maximum allowable bending stress for the material used.

(2) Within the centre half of the unsupported length of the column, the axial and bending stresses shall be such that—

$$\frac{f_a}{F_a} + \frac{f_b}{F_b} \text{ is equal to or less than 1.}$$

(3) Where stresses are due to a combination of vertical and lateral loads, the allowable unit stresses may be increased by the amount specified in the relevant S.A.A. Code by a maximum of 25%, if the unit stresses for vertical loads only do not exceed the allowable unit stresses without any increase.

3-437. Building separation.

(1) All portions of structures shall be designed and constructed to act as an integral unit in resisting horizontal forces unless separated structurally by a distance sufficient to avoid contact under deflection from seismic action or wind forces.

(2) Parts of buildings or buildings on the same site, not designed and constructed to act as a unit in resisting lateral forces, shall be designed as specified by Section 3-107.

3-438. Minor alterations.

Minor structural alterations may be made in existing buildings and other structures to the satisfaction of the Board, but the resistance to lateral forces shall not be less than that before those alterations were made unless the building as altered meets the requirements of this Subdivision.

3-439. Reinforced brickwork.

Except for private dwellings of one storey, with ground-to-eaves height less than 4 500 mm, all elements within the structure that are of brickwork shall be reinforced so as to qualify as reinforced brickwork under the relevant provisions of this Schedule.

3-440. Horizontal cantilevers of reinforced concrete.

Horizontal cantilevers shall be provided with a minimum percentage of steel calculated on the gross section of 0.3% placed in the bottom part of the cantilever and parallel to the principal tensile reinforcement with all reinforcement adequately anchored, except in cantilever slabs where the percentage of bottom steel shall be a minimum of 0.15% calculated on the gross cross section.

3-441. Combined vertical and horizontal forces.

In computing the effect of seismic forces in combination with vertical loads, gravity load stresses induced in members by dead load plus design live load, except roof live load, shall be considered.

3-442. Exterior elements.

Precast non-bearing non-shear wall panels or other elements that are attached to or enclose the exterior shall accommodate movements of the structure resulting from lateral forces or temperature changes, and the concrete panels or other elements shall be supported by means of poured-in-place concrete or by mechanical fasteners in accordance with the following provisions :—

- (a) connexions and panel joints shall allow for a relative movement between storeys of not less than twice storey drift caused by wind or seismic forces, or 6 mm, whichever is the greater; and
- (b) connexions that have sufficient ductility and rotation capacity to preclude fracture of the concrete or brittle fracture at or near welds, and inserts in concrete, shall be attached to or hooked around reinforcing steel or otherwise terminated so as to effectively transfer forces to the reinforcing steel; and
- (c) connexions to permit movement in the plane of the panel for storey drift may be properly designed sliding connexions using slotted or oversize holes, or may be connexions that permit movement by bending of steel.

Subdivision 3-50.—Zone B.

3-501. Loading provisions—general.

While specific earthquake design is not required in Zone B, careful consideration shall be given to normal vertical loads, wind loads and other incidental loads characteristic to a particular building and to earthquake responses in determining building layout, construction materials, lateral force resisting systems and connexion details.

3-502. Loading provisions—dynamic responses.

In buildings exceeding 50 m in height or containing more than 13 storeys—

- (a) the proposed structural frame of the building shall be analysed for dynamic response to the long-period small-movement effects of distant earthquakes by a method that takes into account the first five modes of vibration; and
- (b) the dynamic response is acceptable if the maximum dynamic inter-storey deflection does not exceed 0.0025 of the storey height; and
- (c) the ground vibration used to calculate the dynamic response shall be determined to the satisfaction of the Board in consultation with the Advisory Committee for Earthquake Engineering, but need not exceed in its effect 20% of the total equivalent base shear that would have been required for the same structure in Zone A.

PART IV.—FOUNDATIONS AND FOOTINGS.*Division 4-1.—Technical Terms.***4-101. Interpretation of Division 4-1.**

- (1) In this Part, unless the contrary intention appears—

“cohesive soil” means—

- (a) silt that has the following properties :—

- (i) the particles are not visible to the naked eye; and
- (ii) dry lumps are easily powdered by the fingers; and
- (iii) exhibits dilatancy; or

- (b) clay that has the following properties :—

- (i) the particles are not visible to the naked eye; and
- (ii) dry lumps are not easily powdered by the fingers; and
- (iii) does not exhibit dilatancy;

“footing” means the construction by which the weight of the structure is transferred to the foundation;

“foundation” means the ground on which the footings of a building are constructed;

“non-cohesive soil” means—

- (a) gravel that is a soil consisting mainly of particles not greater than 75 mm but greater than would pass a 5 mm nominal sieve; or
- (b) sand that is a soil consisting mainly of particles not greater than would pass a 5 mm nominal sieve but greater than would pass a 75 mm sieve.

- (2) For the purpose of determining the consistency of cohesive soils—

“hard” refers to a type that can be indented by the thumbnail, but only with difficulty;

“medium” refers to a type that can be indented with moderate thumb pressure;

“soft” refers to a type that can be easily penetrated more than 50 mm with the thumb;

“stiff” refers to a type difficult to indent with the thumb;

“very soft” refers to a type that can be easily penetrated more than 50 mm by the clenched fist;

“very stiff” refers to a type impossible to indent with the thumb but readily indented with the thumbnail.

- (3) For the purpose of determining the relative densities of non-cohesive soils—

“dense” refers to a type requiring picking for removal and offering high resistance to penetration by excavating tools;

“loose” refers to a type readily removable by shovelling only and into which a sharp pointed wooden post 50 mm square can be easily driven;

"medium" refers to a type removable by vigorous shovelling and into which a sharp-pointed wooden post 50 mm square can be driven with some difficulty;

"very dense" refers to a type requiring hand-picking for removal, and offering high resistance to disturbance by excavating tools.

Division 4-2.—Allowable Loading.

Subdivision 4-20.—Bearing Pressures under Spread Footings.

4-201. Determination of bearing values for major buildings.

For buildings exceeding two storeys in height or having a ground floor area of more than 600 m² or smaller structures with special loading conditions, the design properties of the foundation and the capacity of the footing shall be determined on the basis of—

- (a) soil exploration, soil testing and the generally accepted soil mechanics principles applied by a person properly qualified in soil testing; or
- (b) well-established local practice where that practice includes successful experience both with soils of similar type and conditions and a footing of similar type in an adjacent area, if documentary proof of the site investigation and borings is submitted to the satisfaction of the Board to prove the similarity of soil types and conditions.

4-202. Determination of bearing values for minor buildings.

(1) For buildings two storeys or less in height or having a ground floor area of 600 m² or less, the design properties of the foundation and the capacity of the footing shall, subject to Subsection (2), be determined on the basis of—

- (a) soil exploration or successful local practice as specified in Section 4-201; and
- (b) soil loading tests performed and evaluated according to Clauses J.112 and J.113 of the British Standard Code of Practice C.P. 2001 (1957), or its successor, and executed at depths consistent with the proposed depths of the footings, where those tests are undertaken only in conjunction with field boring that properly discloses the nature of the strata below the areas being used as test areas and those to be used to support footings.

(2) In the absence of information provided for in Subsection (1), the design bearing pressure of the foundation may be determined from Table 4-202.

TABLE 4-202.

ON ROCK: ALLOWABLE BEARING PRESSURES FOR SPREAD FOOTINGS.

NOTE.—Where footings are on or within 0.3 m of a boundary of the site other than a street alignment, the bearing pressure to be allowed on rock is 60% that otherwise applicable.

Description.	Allowable bearing pressure. kPa.
Soft, sheared, shattered or very weathered rock, rock occurring in beds less than 0.3 m thick (measured at right angles to the bedding) or dipping towards a ground surface or excavation at a lower level	To be determined by investigation.
Hard shale, sandstone, limestone*, well-cemented conglomerate, volcanic sandstone (tuff) talc-schist, mica-schist	2 000
Schist other than talc and mica-schist, slate, hard sandstone, quartzite, hard limestone* and dolomite* and well cemented volcanic agglomerate in beds more than 1 m thick	4 000
Igneous and crystalline rocks* free from zones of alteration and with widely spaced vertical and horizontal joints	5 000

* When a foundation is underlain by lava, limestone or dolomite, it is to be satisfactorily shown to the Board that there are no cavities in the rock beneath the foundation.

**ON COHESIVE SOIL: ALLOWABLE BEARING PRESSURE—FOOTING 0.3 m BELOW
GROUND SURFACE*.**

Description.	Allowable bearing pressure. kPa.
Very soft	{ Design bearing pressures to be determined by adequate site testing. 75 150 250 350
Soft	
Medium†	
Stiff†	
Very stiff†	
Hard†	350

* Allowable bearing pressures for deeper footings may be obtained by adding to the bearing pressure for footings at 0.3 m below ground surface 2kPa for each 0.1 m increase in depth.

† The values for these materials can be increased by 50% when considering earthquake loads, provided that the footing shall not be smaller than required when earthquake loads are not considered and allowable bearing pressures are not increased.

**ON NON-COHESIVE SOIL: ALLOWABLE BEARING PRESSURE—FOOTING 0.3 m BELOW
GROUND SURFACE.**

Description.	Footing 0.3 m wide. kPa.	Footing 0.9 m wide and over. kPa.	Increase in allowable bearing pressure 0.1 for each 0.1 m increase in Depth kPa.	Maximum allowable bearing pressure. kPa.
Pumice sand*	15	40	2	50
Loose sand*	15	40	5	100
Medium sand*	40	100	10	250
Medium gravel*	40	100	10	250
Dense sand	75	175	25	500
Dense gravel	100	250	25	500
Very dense gravel	150	500	50	650

* The values for these materials shall be reduced by 25% for buildings requiring specific earthquake design.

NOTE. For cohesive and non-cohesive soil the above values shall be reduced by 50% when the ground water level is at a depth less than the width of the foundation below the base.

4-203. Bearing pressures below the base of footings.

(1) In determining bearing pressures in accordance with Sections 4-201 and 4-202, the type and condition of the soil or rock below the base of a footing for a depth of not less than twice the width of the footing shall be taken into consideration.

(2) Where the bearing pressure of soil or rock is lower at a depth specified in Subsection (1) than at the base of the footing, the footing shall be so designed that the weakest soil or rock is not stressed beyond its allowable bearing pressure.

(3) For the purpose of determining the vertical stress in soils or rock below the base of the footing, the load from the footing shall be assumed to be distributed uniformly over the area of any horizontal plane within a frustum extending downward from the footing at 60° to the horizontal, but the area considered as supporting the load shall not extend beyond the intersection of 60° planes to adjacent footings.

(4) Eccentricity of loading in footings shall be fully investigated, the maximum pressure on the basis of a straight line pressure distribution shall not exceed the maximum safe bearing pressures and, unless special safeguards are incorporated in the design, the resultant force shall fall within the middle third of the footing.

4-204. Dynamic loading conditions.

(1) Where dynamic loading conditions apply, bearing pressures shall be assessed by special investigation of the particular conditions.

(2) Where vibration from earthquakes, machines or other cause may cause liquefaction and settlement in sandy soils in a loose state, the placing of footings on those foundations is not permitted unless they are compacted to obtain a minimum N value (Standard Penetration Number) of 15.

4-205. Hydrostatic uplift.

Where a footing is subject to hydrostatic uplift, the buoyancy effect shall be provided for in the design.

4-206. Sloping ground.

Where a footing is to rest on sloping ground, existing stresses within the soil shall be considered in the design.

4-207. Swelling and shrinkage.

For cohesive soils with marked swelling and shrinking characteristics refer to Section 4-301.

Subdivision 4-25.—Allowable Loads on Piled Footings.**4-251. General.**

(1) The loading allowable on a piled footing shall be determined as prescribed in this Schedule.

(2) The complete record of pile-driving operations and the determination of allowable loadings from those records shall be available for inspection during the progress of the work, and on completion be furnished to the Board.

(3) Allowable loads on single isolated piles or isolated pairs of piles shall be chosen conservatively to allow for accidental displacement of piles during driving or inaccurate positioning.

(4) Where permanent eccentric loads are to be carried due allowance shall be made in the design for the bending movement so induced.

(5) An allowable pile load determined by any means shall be used only in soil conditions that are uniform with those for which that load was determined and the presence or otherwise of uniform conditions shall be ascertained in advance of pile driving, if necessary by boring or other approved method of foundation investigation.

4-252. Allowable loadings based on driving resistance.

Where the working load on a driven pile is not to exceed 40 t, the allowable pile loading may be determined by use of the Hiley dynamic pile formula as specified in Clauses 3.82 and 3.86 of the British Civil Engineering Code of Practice No. 4 (1954).

4-253. Allowable loadings based on pile loading tests.

(1) If allowable pile loads are to be determined through pile loading tests, not less than one pile shall be tested for each 100 piles driven.

(2) Pile loading tests shall be carried out and evaluated in accordance with Clause 3.16 of the British Civil Engineering Code of Practice No. 4 (1954).

4-254. Allowable loadings based on resistance of pile to jacking.

(1) The load allowable on any pile installed by jacking or other approved method without impact is not more than 50% of the load or force used to install the pile.

(2) The carrying capacity of a pile installed by static force shall be demonstrated by load tests of not less than two piles, applied over a period sufficient to indicate that excessive settlement will not occur.

4-255. Allowable pile load based on supporting value of ground.

(1) Where a load test is not carried out, the load allowable on a single friction pile may be determined by assuming a uniformly distributed friction to be acting on the surface of the pile that is in direct contact with the firm ground.

(2) With wooden piles and cast-in-place concrete piles the unit frictional value set out in Table 4-255 and comparable values for other soils shall not be exceeded, and with smooth precast or steel piles 80% of those values shall not be exceeded.

(3) The corresponding load allowable on a single end-bearing pile shall not exceed the allowable unit bearing capacity of the supporting soil or rock multiplied by the effective area of the bottom of the pile determined in accordance with good engineering practice.

(4) Where a pile is considered end-bearing to any degree, no allowance shall be made for friction contributing to the allowable pile load.

TABLE 4-255.

ALLOWABLE FRICTION IN SIDES OF SINGLE FRICTION PILES.

Soil.	Friction value. kPa.
Mixed sand and gravel	40
Sand only	25
Stiff clay	15
Silt or soft clay	7

4-256. Group action of piles.

(1) For a group of end-bearing piles, the allowable load may be taken as the allowable load for one pile multiplied by the number of piles in the group.

(2) For a group of friction piles the allowable load is the load calculated in accordance with the formula—

$$AB + XYZ,$$

where—

A is the design bearing pressure of the supporting soil; and

B is the area under the group; and

X is the allowable unit shear stress; and

Y is the boundary length around the group; and

Z is the thickness of the supporting strata,

or as calculated by an alternative analysis, provided that at no time is the allowable load for the group greater than the allowable load for a single pile times the number of piles.

4-257. Piles in subsiding ground.

Where piles are driven through subsiding fills or other subsiding strata, to derive support from underlying firmer material, allowance shall be made for the downward frictional forces which may be imposed on them by the subsiding upper strata.

*Division 4-3.—Design and Construction.***4-301. Location and proportion of footings.**

(1) A building shall have a complete system of footings under all wall columns and other parts as necessary for its support under all conditions of imposed vertical and lateral loads, so that the bearing pressure on any part of the foundation or the loading on a pile does not exceed the allowable loadings as specified in Division 4-2, but a part of a building may be supported directly by solid rock or hard dry shale at a bearing pressure in accordance with Table 4-202.

(2) The footings shall additionally be so proportioned that the relative settlements of separate footings and of different portions of any one footing under loading do not lead to damage of the superstructure.

(3) On cohesive soil with pronounced swelling and shrinking characteristics, the footings shall be taken down to such a depth or be so designed and constructed that the superstructure does not suffer any significant damage from swelling and shrinkage movements of the ground.

(4) The base of a footing on gravel or sand shall be not less than 300 mm below the lowest adjacent ground surface.

4-302. Settlement.

Where the footings of a building rest on, or are underlain wholly or partially by, compressible soil, the amount and distribution of the probable settlements shall be investigated and special measures taken to obviate the detrimental effects of general or differential settlement.

4-303. Damping of vibration.

Where vibrations from machinery or other causes may be transmitted through the footings to the foundations, the footings shall be designed to prevent harmful disturbance to the soil of nearby allotments and streets.

4-304. Centres of pressure or support.

(1) The centre of pressure or support of a footing or unified group of footings on the foundation shall be, as near as practicable, vertically under the centre of gravity of the imposed loads.

(2) Where eccentric loading is unavoidable the bearing pressure or pile loading determined under Division 4-2 shall not be exceeded under any portion of the footing.

4-305. Design loadings.

All loadings reaching a footing shall be taken into account in its design.

4-306. Strip and pad footings.

(1) All strip and pad footings shall be constructed in concrete with or without reinforcement or steel grillages, and shall have a minimum projection of 100 mm from all faces of a wall or column except where an external face of the wall or column adjoins a boundary or another wall, but the projection may be less than 100 mm where calculations in accordance with this Schedule demonstrate that the footing is satisfactory.

(2) Where footings are required to distribute loading longitudinally on the foundation, sufficient reinforcement shall be provided for this purpose, and where the angle of spread of load from the wall or column base to the bottom outer edge of the footing exceeds 45° transverse reinforcement or a steel grillage shall be provided to assist adequately in the transverse distribution of the loading.

4-307. Concrete footings.

(1) The thickness of the outer bottom edge of any type of concrete footing shall not be less than 200 mm, but in single-storey timber frame buildings concrete footings may be 150 mm thick and in under-reamed pier footings of suitable form it may be 75 mm thick.

(2) Where concrete footings are placed under or in the presence of water, concrete shall be deposited by approved means that ensure minimum segregation of the mix and negligible turbulence of the water.

4-308. Steel grillages.

Steel grillage beams shall be held parallel by approved steel spacers, the spaces between beams being completely filled with concrete or cement grout, and shall be entirely encased with not less than 75 mm of concrete, but where steel grillages are used over foundations other than rock they shall rest on concrete beds not less than 150 mm thick.

4-309. Deep-beam strip footings.

(1) A deep-beam strip footing shall not be narrower than the wall or load that it supports or 225 mm, whichever is the greater, or less than 450 mm deep.

(2) Deep-beam strip footing shall be of concrete so reinforced as to resist all bending and direct tension likely to be induced.

4-310. Pier-and-beam footings.

(1) Pier-and-beam footings may be used only where the allowable bearing pressure for the foundation stratum at the bottom of the piers is not under 200 kPa.

(2) Piers shall be of concrete so dimensioned and reinforced as to transmit all imposed loads solely to essentially stable foundation strata, and resist stresses due to uplift and uneven lateral forces likely to be developed by the upper soil, and side friction may be presumed to have a supporting value not over 0.15 times the average bearing pressure allowable on the strata penetrated.

(3) Beams may be of cast-in-place or precast concrete so dimensioned and reinforced as to transmit all imposed loads solely to the piers, provided that a beam shall not be narrower than the wall or load that it supports or less than 150 mm deep, and where the soil has pronounced shrinking and swelling characteristics the bottom of the beams shall be kept a minimum of 150 mm clear of the finished ground level or the beams shall be anchored to the piers to resist all possible uplift forces.

4-311. Raft footings.

A raft footing may be used only where the loading it imposes on the foundation is unlikely to produce uneven settlement, and raft footings shall be reinforced to resist all bending and tensions likely to be induced.

4-312. Use of piles.

(1) Where the bearing capacity of the soil immediately under the structure is inadequate, piles may be—

(a) of timber, concrete or steel, or any approved combination of timber, concrete or steel; and

(b) driven, screwed, jetted, cast-in-place or otherwise embedded to such depths as to ensure that the full loading from the building is supported,

and shall be designed to withstand the forces involved in handling and driving and in supporting the superimposed loads.

(2) The superimposed loads shall, wherever possible, be applied concentrically with the axis of each single isolated pile or the centre of gravity of any pile group.

(3) Piles that may be subjected to horizontal forces from the construction shall be appropriately designed to resist bending and adequately provided with bracing, rakers or other approved means used to resist such forces.

4-313. Column action of piles.

A pile which is to stand unbraced in air or water, or to pass through material not capable of giving appropriate lateral support, shall be designed for column action down to a level of virtual lateral fixity.

4-314. Minimum penetration of piles.

Piles located within 7.5 m of a street alignment shall have their points not less than 3 m below the nearest established kerb levels, or at such greater distances below the nearest established kerb levels as is required by the Board to allow for present and possible future installation by statutory authorities, but no pile shall be less than 3 m in length below any cut-off level otherwise necessary.

4-315. Splices in piles.

Splices in piles shall be avoided as far as possible, and where they cannot be avoided each splice shall develop the full strength of the pile section.

4-316. Spacings and disposition of piles.

(1) The minimum centre-to-centre spacings of piles, other than piles driven to rock, shall be not less than twice the diagonal dimension of a rectangular pile or one of "H" cross-section, or two and a half times the head diameter of a circular or octagonal pile, but in no case less than 750 mm.

(2) The minimum centre-to-centre spacings of piles driven to rock shall not be less than the diagonal dimension or diameter, as the case may be, specified in Subsection (1), plus 400 mm.

(3) The piles supporting a wall footing shall, wherever possible, be staggered about the centre line of the loading on the footing, and if not so staggered by at least half their head diameter, shall be designed to support a presumed accidental eccentricity of loading of 75 mm.

(4) Not less than three piles shall be used in a footing under any one column, pier or other unit of construction imposing any significant isolated load, unless that footing is adequately stabilised by lateral ties, not less than 60° apart in plan, to other adjacent footings.

4-317. Timber piles.

- (1) A timber pile shall—
 - (a) be in one piece, cut from a sound live tree and free from defects that may materially impair its strength or durability; and
 - (b) be butt-cut above the ground swell; and
 - (c) have substantially uniform taper from butt to point.
- (2) Timber piles shall measure at least 150 mm in diameter at the point and at least 250 mm in diameter at the cut-off, the measurements being taken under the bark.
- (3) The axis of a timber pile shall not deviate from a straight line more than 1 mm for each 100 mm of length, nor more than 150 mm for the entire length.
- (4) The allowable stress in compression parallel to the grain of timber piles shall not exceed 60% of the allowable unit stresses given in Part V., and in no event may the stress exceed 7 MPa.
- (5) Cut-off elevation shall be below the level of permanent ground water.
- (6) Piles shall be cut to sound timber before capping is placed.

4-318. Precast concrete piles.

Precast concrete piles and the precast concrete portions of piles not wholly of precast concrete shall—

- (a) be reinforced and designed in accordance with approved good practice for the stresses induced by driving to ensure that driving can be successfully completed; and
- (b) be free of construction joints; and
- (c) develop prior to driving or at an age of 28 days, whichever is the sooner, a compressive strength of not less than 20 MPa, based on tests of cylinders cast with them and identically cured; and
- (d) when to be driven to rock or through material containing boulders—have approved metal tips; and
- (e) be designed to carry all imposed loadings as columns in accordance with Part V., except that at no time may the allowable compressive stress exceed 0.225 times the minimum compressive strength of the concrete at an age of 28 days.

4-319. Uncased cast-in-place concrete piles.

Uncased cast-in-place concrete piles shall—

- (a) be of concrete reinforced with not less than 1% of longitudinal reinforcement and adequate transverse ties; and
- (b) be used only where the soil conditions to the full depths of the installation are satisfactory for the proper forming of the piles; and
- (c) be made and placed so as to ensure the exclusion of all harmful matter and form a well-formed unit of full cross-section without voids or segregation; and
- (d) have all concrete placed continuously and in the dry, and all reinforcement except dowels installed in each pile as an assembled unit, maintaining the protective cover of concrete required in foundation work by this Schedule; and
- (e) be designed to carry all imposed loadings as columns in accordance with Part V., except that at no time may the allowable compressive stress exceed 0.225 times the minimum compressive strength of the concrete at an age of 28 days.

4-320. Steelpipe and tapered tubular steel piles.

(1) Concrete filled and tapered tubular steel piles may be driven open-ended to rock, but otherwise shall be driven close-ended.

(2) Those portions of the shells in contact with the soil shall be driven in one piece and left permanently in place, and shall be sufficiently strong to resist collapse and sufficiently watertight to exclude water during the placing of the concrete.

(3) Concrete shall not be deposited in a shell driven open-ended to rock until the shell has been cleaned of all soil and loose rock chips.

(4) When the shells have been driven, all pipe and tubular piles shall comply with Section 4-319 for cast-in-place concrete piles, except that, when the minimum wall thickness of a shell driven close-ended is not less than 2.5 mm, an approved allowance as specified by Part V. may be made for the load-bearing capacity of the metal.

4-321. Structural steel piles.

(1) The steel in structural steel pile sections shall have a minimum overall width of 150 mm and a minimum nominal thickness of 10 mm.

(2) Where the pile is of "H" section, the flange projection shall be not more than 14 times the thickness of the metal.

(3) Subject to Subsection (4), structural caps shall be rigidly attached to pile shafts and be designed to transfer the full loads into the piles.

(4) Where a pile extends upwards into the footing sufficiently to develop the full load by bond or to permit the use of mechanical devices to develop the full load by shear, a structural cap need not be used.

(5) Steel piles shall be designed to carry all imposed loadings as columns in accordance with Part V., except that at no time may the allowable compressive stress exceed 85 MPa after making allowance for corrosion as specified by Section 4-326.

4-322. Special piles.

Piles of types not specifically referred to in this Schedule, and the use of piles under conditions not specifically covered by this Schedule, may be approved if complete test demonstrations are made to the satisfaction of the Board as to the adequacy of the design and the suitability of the method of installation.

4-323. Installation of piles.

(1) Piles shall be installed—

- (a) with due consideration for the safety of adjacent structures; and
- (b) by a method which leaves their strength unimpaired and develops and preserves the required load bearing capacity; and
- (c) in such sequence, either for individual piles or groups of piles, that the load bearing capacity of previously installed piles is not reduced; and
- (d) so that the butt and the tip of a pile are, if necessary, protected from injury during driving; and
- (e) so that shattered, broomed or otherwise damaged pile heads are cut back to sound material before the piles are capped.

(2) A broken or damaged pile shall not be used to sustain any building load.

4-324. Jetting of piles.

(1) Piles may be jetted through non-cohesive soils.

(2) Piles shall not be jetted through cohesive soils.

(3) Immediately after the completion of jetting, the piles shall be driven to the required load resistance as determined by the application of a pile driving formula as specified in Section 4-252, or test loading as specified in Section 4-253.

4-325. Lateral tolerance in installation of piles.

If a pile is driven out of plumb by more than 2% of its length or is driven with its head by more than 75 mm laterally from its plan location, additional piles shall be driven, or the design modified to provide properly for the bending and lateral forces due to the improper location.

4-326. Protection of pile steel against corrosion.

Where the soil surrounding an all metal or metal encased pile or the like is subject to alternate wetting and drying, the effective thickness of all load-bearing metal exposed to the soil shall be assumed to be at least 1.5 mm less than the actual thickness measured from all surfaces so exposed, and

when the soil contains destructive chemical elements the exposed metal shall be provided with an approved protective jacket.

4-327. Projection of footings beyond the street alignment.

Footings may extend beyond the street alignment, where—

- (a) the highest projecting part is at a depth of not less than 450 mm below the finished level of the ground, in which case they may extend not more than 300 mm; and
- (b) the highest projecting part is at a depth not less than 3 000 mm below the finished level of the ground in which case they may extend not more than 900 mm; and
- (c) no part of the projection is closer than 300 mm to an existing service line.

Division 4-4.—Excavation and Retaining Walls.**4-401. Depth, extent and execution of excavations.**

(1) Notwithstanding the preceding provisions of this Part, excavations shall be taken to such depths as provide foundations capable of effectively supporting the loads to be imposed by the footings at all stages of construction, including completion.

(2) Excavations shall be executed in a safe and workmanlike manner, and an excavation shall not extend within 300 mm of the soil, other than rock, necessary for the support of a footing unless that footing is properly underpinned or protected against settlement.

4-402. Protection and temporary support.

(1) Excavations, whatever their purpose, shall be enclosed within suitable fencing or otherwise properly protected and guarded against danger to life and property.

(2) Excavations shall be supported temporarily and permanently as necessary to prevent the earth of adjoining property and streets from moving.

4-403. Inspection of excavations.

Twenty-four hours' written notice shall be given to the Board when excavations for footings are ready for inspection, and a footing shall not be placed in position until the excavation for it has been inspected and approved by the Board.

4-404. Retaining walls.

Retaining walls shall be provided to support all permanent excavations with slopes steeper than the soil will naturally sustain safely, and where such a wall is otherwise necessary, having regard to the loading and soil conditions, it shall be of a permanent nature and capable of resisting all relevant pressures from the retained materials and construction, including possible pressures from retained water, and seismic loading.

4-405. Removal of water from excavations.

(1) Water shall be prevented from causing deterioration of the ground intended to support footings and where possible shall be removed from excavations before concrete is deposited in them.

(2) Water subsequently flowing into an excavation shall be diverted through proper side drains to a sump, or removed by other means to avoid washing freshly deposited concrete.

(3) Water and vent pipes, drains and the like used for construction purposes, if left in position, shall be filled by grouting or otherwise sealed after the surrounding concrete has thoroughly hardened.

(4) Permanent excavations shall be properly drained.

4-406. Back-filling.

Back-filling and related work shall be so done, and the quality and compactness of the materials placed shall be such, that harmful movements of all adjoining and overlying property are permanently prevented to the satisfaction of the Board.

Division 4-5.—Fixed Platforms, Walkways, etc.

4-501. Fixed platforms, walkways, etc.

Fixed platforms, walkways, stairways and ladders shall conform to the requirements of S.A.A. Code AS 1657-1974—*S.A.A. Code for Fixed Platforms, Walkways, Stairways and Ladders*.

PART V.—MATERIALS AND CONSTRUCTION.

Division 5-1.—Structural Steel.

5-101. Loads.

Structural steelwork shall be designed to sustain all loads and forces as prescribed by Part III.

5-102. Structural steelwork.

Structural steelwork shall be designed, fabricated and erected in accordance with requirements of S.A.A. Codes AS 1250-1975—*S.A.A. Steel Structures Code*, and AS 1554—*S.A.A. Code for Welding in Building*.

5-103. Light gauge steelwork.

Light gauge cold formed steel construction shall conform to the requirements of the relevant S.A.A. Code with regard to light gauge steel structures, or in the *Light Gauge Cold Formed Steel Manual* issued by the American Iron and Steel Institute.

Division 5-2.—Concrete.

5-201. Loads.

Concrete structures shall be designed to sustain all loads and forces as prescribed by Part III.

5-202. Reinforced concrete.

Reinforced concrete construction shall conform to the requirements of S.A.A. Code AS 1480-1974—*S.A.A. Concrete Structures Code*.

5-203. Prestressed concrete.

Prestressed concrete construction shall conform to the requirements of S.A.A. Code AS 1481-1974—*S.A.A. Prestressed Concrete Code*.

Division 5-3.—Masonry.

Subdivision 5-30.—Unreinforced Blockwork.

5-301. Scope of Subdivision 5-30.

This Subdivision applies to buildings constructed of unreinforced solid and hollow concrete blocks manufactured in accordance with the current standard of S.A.A. Specification AS 1500-1974—*Concrete Building Blocks*.

5-302. Limitations of unreinforced blockwork construction.

(1) In Seismic Zone A unreinforced blockwork shall not be used unless supporting calculations are produced to show that the blockwork conforms to all other requirements of this Schedule, but in no case shall walls of unreinforced blockwork exceed 5 400 mm in height and blocks used shall be Class A conforming to S.A.A. Specification AS 1500-1974—*Concrete Building Blocks*.

(2) In Seismic Zone B walls of unreinforced blockwork shall not exceed 7 500 mm in height.

5-303. Loads.

Structures constructed of unreinforced blockwork shall be designed to sustain all loads and forces as prescribed by Part III.

5-304. Design and construction.

Subject to Section 5-302, unreinforced blockwork shall conform to the requirements of S.A.A. Code AS 1475—Part 1—*Concrete Block Masonry*¹.

Subdivision 5-32.—Reinforced Blockwork.

5-321. Scope of Subdivision 5-32.

This Subdivision applies to buildings constructed of hollow concrete blocks manufactured in accordance with S.A.A. Specification AS 1500-1974—*Concrete Building Blocks*, and being reinforced in the horizontal and vertical direction with steel reinforcing rods, with the hollow cores containing the rods being filled with concrete.

5-322. Limitations of reinforced blockwork construction.

(1) In buildings greater than two storeys in height the design shall provide for adequate structural diaphragms giving continuous lateral support to all load bearing walls at each floor level.

(2) In Seismic Zone A buildings of reinforced blockwork shall not be constructed greater than four storeys in height.

(3) In Seismic Zone B buildings of reinforced blockwork shall not be constructed greater than eight storeys in height.

5-323. Loads.

Structures constructed of reinforced blockwork shall be designed to sustain all loads and forces as prescribed by Part III.

5-324. Design and construction.

Reinforced blockwork shall be constructed in conformity with the relevant S.A.A. Code, or where there is no relevant S.A.A. Code with the Department of Public Works Technical Instruction No. 5.8 for the design and construction of masonry.

Subdivision 5-34.—Unreinforced Brickwork.

5-341. Scope of Subdivision 5-34.

This Subdivision applies to buildings constructed of unreinforced bricks manufactured in accordance with S.A.A. Specification AS 1225—*Australian Standards for Burnt Clay and Shale Building Bricks*, and to bricks of other manufacture as specified in the Department of Public Works Technical Instruction No. 5.8 for the design and construction of masonry.

5-342. Limitations of unreinforced brickwork construction.

(1) Unreinforced brick walls shall not be load-bearing, except that they may support concrete or timber framed floors or roof only if the floors or roof do not—

(a) carry live loads exceeding 1.5 kPa; or

(b) span more than 9 m.

(2) Walls specified in Subsection (1) shall not exceed—

(a) 3.6 m in height in Seismic Zone A; or

(b) 6 m in height in Seismic Zone B.

5-343. Materials.

Bricks shall conform to the requirements of S.A.A. Specification AS 1225—*Australian Standards for Burnt Clay and Shale Building Bricks*, and with the requirements of Public Works Technical Instruction No. 5.8 for bricks of other manufacture, including soil-cement and concrete.

5-344. Loads.

Structures of unreinforced brickwork shall be designed to sustain all loads and forces as prescribed by Part III.

¹ See S.A.A. Code AS 1475—S.A.A. *Blockwork Code*, Part 1-1977 *Unrefined Blockwork*.

5-345. Design and construction.

Subject to Section 5-342, unreinforced brickwork shall conform to the requirements of S.A.A. Code AS 1640-1974—*S.A.A. Brickwork Code*, except where those requirements are qualified or changed by the Department of Public Works Technical Instruction No. 5.8.

Subdivision 5-36.—Reinforced Brickwork.

5-361. Scope of Subdivision 5-36.

This Subdivision applies to buildings constructed of burnt clay, shale or concrete bricks of minimum compressive strength 7 MPa and being reinforced with steel reinforcing in the horizontal and vertical directions.

5-362. Limitations of reinforced brickwork construction.

(1) In buildings greater than two storeys in height, the design shall provide for adequate structural diaphragms giving continuous lateral support to all load-bearing walls at each floor level.

(2) In Seismic Zone A buildings of reinforced brickwork shall not be constructed greater than two storeys in height.

(3) In Seismic Zone B buildings of reinforced brickwork shall not be constructed greater than four storeys in height.

5-363. Materials.

Bricks shall comply with the requirements of S.A.A. Specification AS 1225—*Australian Standards for Burnt Clay and Shale Building Bricks*, or with the Department of Public Works Technical Instruction No. 5.8 for concrete bricks.

5-364. Loads.

Structures of reinforced brickwork shall be designed to sustain all loads and forces as prescribed by Part III.

5-365. Design.

Subject to Section 5-362, reinforced brickwork shall conform to the requirements, in respect to design, of S.A.A. Code AS 1640-1974—*S.A.A. Brickwork Code* except where these requirements are qualified or changed by the Department of Public Works Technical Instruction No. 5.8.

5-366. Construction.

Reinforced brickwork shall be constructed in accordance with the requirements of S.A.A. Code AS 1640-1974—*S.A.A. Brickwork Code*.

Division 5-4.—Timber.

Subdivision 5-40.—Timber Structures.

5-401. Loads.

Timber structures shall be designed to sustain all loads and forces as prescribed by Part III.

5-402. Structural timber.

Timber construction, except constructions specified in Subdivision 5.45, shall conform to the requirements of S.A.A. Code AS 1720-1975—*S.A.A. Timber Engineering Code*.

5-403. Timber treatment.

Timber shall be treated against insect and fungal attack by an approved process and then branded accordingly.

5-404. Timber properties.

The properties of timber species are as determined by the Director of Forests.

Subdivision 5-45.—Timber Buildings not requiring Specific Design.

5-451. Scope of Subdivision 5-45.

This Subdivision applies to timber-framed dwellings not exceeding—

- (a) two storeys in height; or
- (b) 7 500 mm in height from ground level to eaves,

where wall framing supports floor live loads not greater than 1.5 kPa.

5-452. Dead loads of masonry or concrete.

Timber-framed structures shall not support dead loads of masonry or concrete, except floors in bathrooms.

5-453. Workmanship and construction.

Workmanship and construction shall conform to good trade practice to the satisfaction of the Board.

5-454. Timber.

All timber shall be thoroughly seasoned in accordance with recognized practices either by air seasoning or kiln drying, and framing timber shall not be enclosed until it has reached a moisture content such that significant splitting of the timber will not occur.

5-455. Nailing and fastening.

Timber framework of all buildings shall be connected together in a secure manner to the satisfaction of the Board.

5-456. Framework.

(1) The framework of a timber building shall be constructed in accordance with the requirements of Forest Products Research Technical Paper No. 8.—*Light Timber Framing Code*.

(2) External walls and bearing partitions along with partitions contributing to the stability of external walls shall be suitably braced for their full height.

5-457. Support for framework.

The framework shall rest on—

- (a) walls of masonry or concrete not exceeding 1 200 mm overall height and not less than 100 mm in thickness and stiffened by minimum 200 mm by 200 mm bonded-in piers at not more than 2 400 mm centres, where the bottom of the walls rest not less than 300 mm below natural ground level on solid foundations or concrete footings; or
- (b) piers of unreinforced masonry in cement mortar having minimum horizontal dimensions of 200 mm by 200 mm and restricted in height to less than three times the least horizontal dimension, where the bottoms of the piers rest not less than 450 mm below natural ground level on solid foundations or concrete footings; or
- (c) concrete piers not less than 150 mm by 150 mm in section with integrally cast sole plates or bells having a bearing area of not less than 90 000 mm², if—
 - (i) the bottoms of the piers are not less than 450 mm below natural ground level; and
 - (ii) any pier exceeding in height four times its least horizontal dimension is reinforced with four suitably tied mild steel reinforcing rods not less than—
 - (A) for piers not exceeding 200 mm by 200 mm in section—10 mm in diameter; or
 - (B) for piers exceeding 200 mm by 200 mm in section—12 mm in diameter,
 and if the piers are in excess of 900 mm in height above ground level they shall be securely braced; or
- (d) precast concrete piers as specified in Paragraph (c), except that they may rest not less than 450 mm below natural ground level on a concrete base having a bearing area not less than 90 000 mm²; or

- (e) piers of tubular steel or other suitable material approved by the Board, if—
 - (i) the bottoms of piers are cast not less than 450 mm below natural ground level into a concrete base having a bearing area not less than 90 000 mm²; and
 - (ii) any such piers that are more than 900 mm above ground level are securely braced; or
- (f) timber stumps cut from an approved species of timber and treated by an approved process, if—
 - (i) rectangular stumps have a horizontal dimension of not less than 100 mm, and round and sapped timber has a diameter of not less than 150 mm; and
 - (ii) sizes and loadings conform to Forest Products Research Technical Paper No. 8—*Light Timber Framing Code*; and
 - (iii) stumps projecting more than 900 mm above the surface of the ground are securely braced; and
 - (iv) the bottoms of the stumps rest at a depth below the natural surface of the ground equal to 25% of the length of the stump (but not less than 450 mm) on, and securely fastened to, a base of concrete, masonry constructed in cement mortar or treated timber of approved species not less than 50 mm thick, having a bearing area of not less than 90 000 mm²; or
- (g) concrete floors, or upstands cast integrally with concrete floors.

*Division 5-5.—Floors.***5-501. Concrete floors.**

(1) A concrete floor shall be constructed of concrete or reinforced concrete not less than 100 mm in thickness and with a suitable vapour barrier incorporated if the floor is—

- (a) on the ground or basement storey of a shop, factory, working area, hospital, office, warehouse, public building or building of the like nature; or
- (b) in a room (other than a room in a private dwelling) where food is manufactured, processed or stored, except where otherwise specified in this Regulation.

(2) A concrete floor specified in Subsection (1) may be surfaced with brick, stone flagging, asphalt or timber, if no spaces capable of harbouring vermin are left underneath.

(3) In a timber building where concrete floors are constructed in accordance with Subsection (1) the Board may require the construction of vermin plates and dwarf walls of concrete not less than 75 mm higher than the floor under timber framed walls.

5-502. Timber floors.

A building of which the floor immediately above the ground is a timber floor, but not of solid timber bedded on concrete, shall have a clear space of not less than 600 mm from the ground to the underside of the floor joists.

5-503. Mezzanine floors.

Mezzanine floors may be constructed of timber on unprotected steel supports or of unprotected steel or iron, if—

- (a) not more than two mezzanine floors are constructed above one another in a room; and
- (b) the total area of all mezzanine floors in a room does not exceed 30% of the floor area of the room; and
- (c) the height from the main floor to the underside of the mezzanine and the height from the floor of the mezzanine to the ceiling over it is not less than 2 250 mm, and
- (d) any portion enclosed below or above the mezzanine floor in which persons are employed during business hours contains a minimum of 12 m³ of air space per person and is provided with light and ventilation as prescribed by Part II.

5-504. Concrete floors constructed below ground level.

Where a portion of the lowest storey of a building is constructed below the level of the ground immediately adjoining that storey—

- (a) a complete system of subsoil drainage shall be installed in the ground below the floor, and the surface of the ground shall be graded with even falls to the subsoil drains; and
- (b) if any portion of the floor is below the level of the ground externally adjoining the lowest storey, the ground beneath the whole of that portion of the floor shall be covered to a depth of at least 50 mm with broken stone, brick or terracotta of not less than 20 mm gauge; and
- (c) the broken stone, brick or terracotta beneath the floor shall be covered with tar or bituminous paving or with cement concrete not less than 75 mm thick, the surface of the broken stone, brick or terracotta being first covered with building paper, tarred screenings or other material that will effectively prevent the concrete penetrating the interstices of the broken stone, brick or terracotta; and
- (d) notwithstanding Paragraphs (b) and (c), the covering of broken stone, brick or terracotta may be omitted if the nature of the ground underneath the floor makes the covering unnecessary.

5-505. Sub-floor ventilation.

Timber floors shall be constructed clear of the ground and the space between the underside of the floor joists and the ground immediately below shall not be less than 600 mm, and where the under floor space is enclosed, openings shall be provided as follows :—

- (a) sufficient openings not less than 450 mm wide and not less than 600 mm high to permit access for inspection of the underside of each floor; and
- (b) sufficient openings protected by gratings in the external walls to provide a net ventilating area of not less than 12 000 mm² of free air space in each 1 500 mm run of external wall; and
- (c) openings not less than 40 000 mm² in area in each 1 500 mm run of internal base wall, the openings being so arranged as to permit a continuous circulation of air to pass beneath the whole of the suspended floor.

5-506. Openings through floors.

Where openings are formed through floors, each such opening shall be trimmed with trimmers and trimming joists of sufficient size to support the additional loads.

Division 5-6.—Walls, Partitions and Linings.

5-601. General.

In load-bearing or non-load-bearing walls and partitions, materials and construction shall conform to all requirements prescribed by this Regulation, including requirements for fire-resistance, dimensions, light, ventilation and design.

5-602. Base structures.

Base structures consisting of continuous walls, columns or piers and beams shall be so designed as to be capable of transmitting to the footings the total weight of the building together with live loads, and shall be constructed of solid masonry, mass concrete, reinforced concrete, steel or timber.

5-603. Load-bearing walls and party-walls.

Where walls are required to support imposed loads, they shall be constructed of materials capable of sustaining all such loads.

5-604. Non-bearing external walls and panels.

(1) Non-bearing external walls and panels shall have a strength capable of withstanding safely the stresses induced by their own weight and the wind or seismic loadings imposed on them, as prescribed by Part III., and a fire-resistance along with their fixings as required by Part VI.

(2) All walls and panels shall be attached to a supporting structure by means of approved corrosion-resistant fixings so as to remain secure under loads of design intensity.

(3) A wall or panel shall be constructed of approved durable materials in such a manner that it is watertight, or where water is permitted to penetrate the joints provision shall be made for the collection and discharge of the water.

5-605. Partitions.

The minimum thickness of a partition shall be determined by the following formula (but the length of the wall may be reduced by the introduction of stiffening piers) :—

$$T = \frac{3H + L}{200}$$

where—

T = thickness of partition in mm; and

H = height of partition in mm; and

L = length of partition in mm.

5-606. Parapets.

(1) External walls within 1 m of the boundary of another site shall be carried up to form a parapet, but in buildings with a roof having a fire-resistance rating of two hours a parapet may be omitted.

(2) Party and fire walls shall be carried up to form parapets, except that a party wall joining buildings of Class II. occupancy may finish immediately below a flat roof of fire-resisting construction or immediately below a roof covering of fire-resisting material.

(3) A parapet shall be constructed of—

(a) masonry of thickness not less than 12% of its height, but in no case less than 190 mm; or

(b) concrete of not less than 10% of its height, but in no case less than 200 mm; or

(c) reinforced concrete not less than 100 mm in thickness connected to a reinforced concrete wall or roof; or

(d) any other non-combustible construction on the facade of buildings containing not more than two storeys.

(4) A parapet shall be carried up to a height not less than 400 mm above the highest part of the adjoining gutter or, where no gutter adjoins, above the roof covering measured vertically.

(5) A parapet wall shall have a horizontal damp-proof course at its base, unless it is waterproof-rendered on both sides and top.

5-607. Damp-proof courses.

(1) Masonry walls and fireplaces shall have a continuous damp-proof course constructed to the full width of wall and of durable materials impervious to moisture.

(2) Tar and sand shall not be used as damp-proof courses.

(3) Damp-proof courses shall be constructed in the following locations :—

(a) horizontally beneath the level of the lowest floor and at a height not less than 150 mm above the surface of the ground adjoining a wall; or

(b) vertically, where any portion of the wall of the lowest storey of a building is below the level of, and in contact with, the ground adjacent to the wall, in which case it shall be rendered impervious by an approved bituminous or asphaltic material or waterproofed cement mortar—

(i) inserted between two parts of the wall; or

(ii) applied to the face of the wall and retained in position by approved means; or

(c) horizontally at the base of a cavity wall and at the top of a vertical damp-proof course; or

(d) horizontally at the base of a parapet, except where the parapet is effectively made waterproof with cement mortar on both sides and top.

(4) Where a horizontal damp-proof course meets a vertical damp-proof course in a wall, the damp-proof course shall be effectively jointed.

5-608. Existing walls.

Where an increase in the thickness of an existing wall is approved, the increase shall not be less than 100 mm in thickness, constructed of material similar to that of the existing wall and bonded to the existing wall as prescribed by this Schedule.

5-609. Additional storeys on existing buildings.

An additional storey may be constructed on an existing building without the walls of the existing building being increased in thickness, where—

- (a) provision is made for reinforcing the junctions of columns and roof, floor beams and slabs; and
- (b) the total loads of the additional storey are supported independently of the existing structure; and
- (c) the additional storey complies in all respects with this Schedule.

5-610. Gypsum-plaster wall panels.

Gypsum-plaster wall panels may be used to constitute a wall or a part of a wall, other than the external leaf or weather resisting portion of an external wall, where—

- (a) the vertical loading that they are to support at their upper ends does not exceed 17.5 kN/m or a local loading of 9 kN suitably distributed; and
- (b) the panel does not exceed 3 000 mm in height; and
- (c) the panels are supported top and bottom between reinforced concrete floor construction, or if they are not so supported the length of walling between cross and/or end walls does not exceed 5 000 mm or, in the case of the internal leaf of a double-leaf wall in which the external leaf is brick or masonry and adequately tied to the internal leaf, 6 600 mm; and
- (d) no opening in the panel walling exceeds 2 100 mm in width, and all openings over 900 mm in width carry lintels reinforced or otherwise supported.

5-611. Linings.

(1) The internal lining of all walls and ceilings of timber framed buildings of Class I., II., III. or IV. occupancy shall be of hardboard, plywood, asbestos cement sheets, plaster sheets or other durable materials including approved soundly woven matting materials.

(2) The external lining of timber framed buildings of Class I., II., III. or IV. occupancy shall be—

- (a) timber boarding not less than 14 mm in thickness and lapped, joggled or weather-stripped to provide a weatherproof sheathing or weatherboards tapered from a thickness of not less than 20 mm to a thickness of not less than 6 mm; or
- (b) asbestos cement not less than 5 mm in thickness; or
- (c) other approved durable materials, including soundly woven matting materials.

(3) In the case of woven matting, the Board may require the materials to be treated by an approved process to protect them against insect attack, decay and ignition.

Division 5-7.—Roofs and Roof Structures.

5-701. Roofs in Type 1 and Type 2 construction.

(1) Buildings of Type 1 construction shall have flat roofs having a fire-resistance rating of not less than two hours, but a pitched roof not having a fire-resistance rating may be constructed on a building not exceeding in height 60% of the maximum height allowed by this Schedule or three storeys, whichever is the less.

(2) Buildings of Type 2 construction shall have flat roofs having a fire-resistance rating of not less than three hours, but a pitched roof not having a fire-resistance rating may be constructed on a building not exceeding in height 75% of the maximum height allowed by this Schedule or three storeys, whichever is the less.

5-702. Roof coverings.

(1) A roof not required to have a fire-resistance rating, together with any flat and gutter forming part of the roof and a turret, dormer, lantern light, skylight or other erection placed on the roof, shall

be externally covered with fire-resistant materials as specified in Section 6-101 securely fixed to withstand windloads or seismic loads, except that—

- (a) cornices and bargeboards of dormers (if not exceeding 300 mm in depth), and the doors, door frames, windows and sash frames of dormers, turrets, lantern lights, skylights and other erections (other than those at the bottom of light courts), may be of wood; and
- (b) flat roofs shall be covered externally with sheet metal of not less than 0.5 mm thickness or with two layers of approved felt and a surface covering of bituminous roofing materials, or with other approved materials; and
- (c) roofs of buildings of Class I. occupancy, single-storey buildings of Class V. occupancy and buildings of Class X. occupancy appurtenant to such buildings may be covered with wood shingles or other approved material of lesser classification than that provided for by Section 6-101.

(2) Terracotta roofing tiles shall be fixed in accordance with S.A.A. Code AS CA5-1963—*Code of Recommended Practice for the Fixing of Terracotta Roofing Tiles*.

(3) Concrete roofing tiles shall be fixed in accordance with S.A.A. Code AS 1760-1975—*Code of Practice for the Fixing of Cement Concrete Interlocking Roofing Tiles (with weathering check)* or in accordance with S.A.A. Code AS 1758-1975—*Code of Practice for the Fixing of Concrete Interlocking Roofing Tiles (without weathering check)*.

5-703. Timber in fire-resisting roofs.

Where timber is used for securing ceiling coverings and the like in connexion with roofs of fire-resisting construction, the specified thickness of fire-resisting material shall be continuously maintained over the whole area of the roof.

5-704. Enclosure of flat roofs.

A flat roof to which access is provided shall be enclosed by a parapet or metal guard rail to a height of—

- (a) 1 000 mm on a building of Class I. occupancy; and
- (b) 1 200 mm on a building of any other occupancy.

5-705. Drainage of roofs.

A roof shall be constructed to shed rainwater falling on it, and the rainwater shall be conveyed away from the building in accordance with this Schedule or any applicable regulations under the *Public Health Act*.

5-706. Tanks.

- (1) Tanks to contain water or other fluids placed on or above a roof of a building shall be supported on masonry, structural steel, reinforced concrete or approved hardwood.
- (2) Metal covers shall be provided to water tanks located on roofs.
- (3) Facilities shall be provided for cleaning out tanks.

PART VI.—FIRE PROTECTION.

Division 6-1.—Fire-Resisting Materials.

6-101. Fire-resistance ratings.

(1) Combination of materials and structures required to have a fire-resistance rating as prescribed by this Schedule shall be classified according to their resistance to destruction by fire in terms of hours of resistance.

(2) The combination of materials and structures shall be deemed to have the fire-resistance rating obtained when subjected to the standard fire-resistance test in accordance with requirements of S.A.A. Specification AS 1530—*Methods for Fire Tests on Building Materials and Structures*.

(3) Where a combination of materials or structures is shown in official reports issued by the Australian Experimental Building Station to have a fire-resistance rating, that rating shall be accepted to comply with requirements prescribed by this Schedule for that rating.

(4) For a combination of materials or structures not classified by the Australian Experimental Building Station, the Board may accept fire-resistance ratings shown in official reports issued by the

National Bureau of Standards in the United States of America or by the Joint Fire Research Organisation in Great Britain.

6-102. Protection of fire-resisting coverings.

In factories, garages, warehouses and other buildings where the fire-protective coverings of steel columns and the like may be injured by the movement of vehicles, material or equipment, the Board may require the coverings to be protected by metal or other suitable material.

6-103. Fire doors.

- (1) For the purpose of this Schedule, a fire door is a compatible assembly comprising—
 - (a) the door leaf, and all its furniture and latching and operating devices; and
 - (b) the frame, together with its necessary fixings to the wall; and
 - (c) the hardware necessary for the hanging or suspension of the door leaf, and where relevant, all guides together with their fittings; and
 - (d) in the case of an automatic door, the temperature-sensitive or smoke-sensitive mechanism, and in the case of a self-closing door, the door closer.
- (2) A fire door shall be classified as a 1-hour or 2-hour fire door, and shall satisfy the following requirements—
 - (a) the assembly shall comply with the specification for the construction and installation of a fire door of which a prototype has been subjected to the standard fire test and when so subjected has demonstrated its ability to provide, for the relevant 1-hour or 2-hour period of the classification, the necessary degree of resistance to fire and smoke, and the assembly shall otherwise be suitable for its intended purpose; and
 - (b) where glazing is permitted in fire doors by this Schedule, the glazing shall not exceed 0.2 m² in superficial area, shall be secured with metal beads and shall consist of either wired glass not less than 6 mm in thickness or electro-copper glazing not less than 6 mm in thickness, and the area of each individual pane shall not exceed 10 000 mm²; and
 - (c) a sliding fire door (except a fire door in a lift shaft) shall have affixed to each side a metal plate bearing a clearly embossed arrow not less than 100 mm long indicating the direction of opening.
- (3) Variation from the specification for the construction and installation of a fire door with respect to latching, direction of swing, material or design is not permitted, except that the Board may approve variation on the basis of technical evidence confirming, to its satisfaction, that the variation will not adversely affect the fire-resistance of the fire door.

6-104. Fire windows.

- (1) One-hour fire windows shall be—
 - (a) electro-copper glazing, or steel framed windows glazed with wired glass to the approval of the Board; or
 - (b) glass masonry having a fire-resistance rating of not less than one hour.
- (2) Two-hour fire windows shall consist of two one-hour fire windows built into the one opening, with an air space between.
- (3) One-hour wired glass skylights shall be similar in construction and glazing to fire windows, and shall be supported on steel or concrete kerbs, and no skylight opening shall exceed 9 m² in superficial area.

6-105. Fire shutters.

Fire shutters shall be tin-clad, steel-clad, iron and steel gauze shutters or steel interlocking roller shutters.

Division 6-2.—Uniting and Subdivision by Fire-Resisting Structures.

6-201. United buildings.

- (1) Buildings may be connected, with the approval of the Board, by openings in party or external walls dividing them or by gangways or bridges, if—
 - (a) the gangways or bridges do not cross over or under a public street or road; and

- (b) the net area of no opening exceeds 5.4 m²; and
- (c) the openings are protected with fire doors having a fire-resistance rating not less than that required for the party or external wall of the building so connected and hung without obstructing the landings or passageways when in the fully opened position; and
- (d) any connecting gangways are enclosed and are constructed to have a fire-resistance rating not less than the rating required for the party or external walls so connected.

(2) Buildings connected as specified in Subsection (1) shall be deemed to be united to form one building if they—

- (a) are wholly in one occupation; or
- (b) subject to Subsection (3), are connected on every floor.

(3) Where buildings are connected on every floor, except the ground floor, as specified in Subsections (1) and (2), and the ground floor and the basement (if any) in the buildings are provided with alternative means of escape, they shall be deemed to be united to form one building.

6-202. Discontinuance of union.

When buildings deemed to be united to form one building cease to be in one occupation, the owner of the buildings, or if the buildings are the property of different owners each owner, shall—

- (a) give notice to the Board; and
- (b) submit, without delay, plans and specifications of any work required for each building to conform to the requirements of this Schedule; and
- (c) have the work completed as early as practicable after the issue of a permit by the Board.

6-203. Stopping-up of openings.

Openings and gangways connecting buildings deemed to be united to form one building shall be maintained and shall not be stopped up without the approval of the Board, but approval shall not be given until each of the buildings conforms to this Schedule.

6-204. Separation of flats.

Subject to Division 1-2, every flat in a building of Class II. occupancy or a building converted to Class II. occupancy exceeding three storeys in height shall be separated—

- (a) from corridors provided for the common use of the occupants by walls having a fire-resistance rating of not less than 1½ hours; and
- (b) from other parts and flats of the building by—
 - (i) walls having a fire-resistance rating of not less than 1½ hours; and
 - (ii) floors having a fire-resistance rating of not less than 1½ hours.

6-205. Subdivision of residential and institutional buildings.

Subject to Division 1-2—

- (a) walls and partitions between suites or between a suite and a corridor, and all floors separating storeys, in a building of Class III. occupancy exceeding three storeys in height or an institutional building of Class IX. occupancy, shall have a fire-resistance rating of not less than 1½ hours; and
- (b) openings in walls and partitions specified in Paragraph (a) and screens not exceeding 2 250 mm in height are not required to have a fire-resistance rating.

6-206. Separation of occupancies.

Subject to Division 1-2—

- (a) in buildings of Class V. occupancy, floors and walls separating different occupancies shall have a fire-resistance rating of not less than one hour; and
- (b) in a building of Class VI., VII. or VIII. occupancy, different occupancies, except medium or high hazard occupancies, shall be separated by party structures having a fire-resistance rating of not less than two hours; and
- (c) in a building of Class VI., VII. or VIII. occupancy, medium or high hazard occupancies shall be separated by party structures having a fire-resistance rating of not less than three hours; and

- (d) in assembly buildings of Class IX. occupancy, different occupancies shall be separated by party structures having a fire-resistance rating of not less than two hours.

6-207. Separation of classes of occupancy.

(1) In a building constructed in part as a dwelling and in part to be used for business purposes where the area of the part for business purposes exceeds 135 m², the parts shall be separated by a party structure with a fire-resistance rating of not less than two hours.

(2) In a building constructed in part as a building of Class II. or III. occupancy and in part for business purposes, the parts must be separated by a party structure having a fire-resistance rating of not less than two hours.

(3) In a building constructed to contain in part an assembly building of Class IX. occupancy, that part shall be separated from the remainder of the building by a party structure having a fire-resistance rating of not less than two hours.

(4) In a building containing mixed occupancies of Classes VI., VII. or VIII., the various classes of occupancy shall be separated by party structures as specified by Section 6-206(b) and (c).

(5) Where a private garage is situated beneath or attached to a building of Class II., III. or IV. occupancy—

(a) the car access doors to the garage shall not be set back further than 75 mm from the external face of the building; and

(b) the garage shall be separated from the rest of the building by fire-resisting structures having a fire-resistance rating of not less than 1½ hours; and

(c) any door leading from the garage to the rest of the building shall be a one-hour fire door, and the sill of the doorway shall be of non-combustible material or hardwood not less than 50 mm thick raised above the garage floor; and

(d) the garage shall have a concrete floor or a floor of hard and non-combustible material.

(6) Where a private garage is attached to a building of Class II., III. or IV. occupancy, the roof framing of the garage shall have a fire-resistance rating of not less than 1½ hours, except where the roof is shared by the building to which the garage is attached.

6-208. Separation of types of construction.

Where different types of construction in a building are required to be separated by a fire-resisting structure, subject to Section 1-108 the structure shall have a fire-resistance rating equal to the highest rating required for the classes of occupancy that the structure separates.

6-209. Limitation of floor area.

(1) A building or part of a building of Type 3, 4 or 5 construction used as a shop, warehouse or factory shall not extend, whether on one or more floors, to more than 3 250 m² total floor area, or where a sprinkler system is installed to more than 5 000 m², unless divided by walls having fire-resistance ratings of not less than four hours or by floors having fire-resistance ratings of not less than three hours, except that—

(a) this subsection does not apply to a building one storey in height where a manufacturing process requires an undivided area; and

(b) the Board may consent to a larger area subject to satisfactory provisions being made and maintained for lessening danger from fire.

(2) Consent given under Subsection (1)(b) expires when the building ceases to be used for the purposes in respect of which the consent was given.

Division 6-3.—Means of Egress.

6-301. Application of Division 6-3.

A building shall be provided with fire escape exits in proportion to the number of persons that the building accommodates and as prescribed by this Division.

6-302. Ratio of exits to accommodation.

(1) Where a building has no registered accommodation, the number of persons for whom exit from a floor is to be provided shall be ascertained by allowing the following areas per person :—

(a) assembly buildings provided with seating accommodation	0.5 m ² .
(b) public baths—	
(i) galleries	0.5 m ² .
(ii) other parts	2 m ² .
(c) dance halls	1 m ² .
(d) restaurants	1 m ² .
(e) lodge rooms	1.5 m ² .
(f) school rooms	1.5 m ² .
(g) institutional buildings	3 m ² .
(h) libraries, non-residential clubs	4 m ² .
(i) other public buildings	4 m ² .
(j) shops and markets—	
(i) sales basements and ground floors	4 m ² .
(ii) other floors	6 m ² .
(k) offices, showrooms, art galleries	8 m ² .
(l) warehouses, bulk stores, public garages and motor showrooms	30 m ² .
(m) factories (excluding any space more than 3 900 mm from the floor)	40 m ² .

(2) For an occupancy not specified in Subsection (1), the Board shall determine the appropriate scale.

6-303. Enforcement.

A person shall not permit a building to be occupied by a greater number of persons than that for which exits are provided.

6-304. Kinds of exits.

For the purpose of this Division, exits consist of stairs, ramps, horizontal exits, passageways and doorways used either singly or in combination to provide the necessary passage to a street or to an open space, but ladders conforming to S.A.A. Code AS 1657-1974—*S.A.A. Code for Fixed Platforms, Walkways, Stairways and Ladders* may be used with exits in buildings of Class I., II., III., IV. or V. occupancy of not more than three storeys.

6-305. Fire-isolated stairs.

(1) Where a stairway is required to be fire-isolated, the walls, ceilings, floors and doors shall be constructed to provide complete enclosure of the stairway from the room or space served to the exterior of the building, but—

- (a) a stairway need not be enclosed on the uppermost storey, except where the stairway is the only means of exit from that storey or where it provides access to the roof of the building; and
- (b) where a stairway is not enclosed on the uppermost storey, a solid balustrading of non-combustible material shall be constructed on that storey to a height of 900 mm above the level of the floor.

(2) Walls, floors and ceilings to a fire-isolated stairway shall have a fire-resistance rating of two hours, but in Type 1 construction the requirements of Section 1-102¹ shall be observed, and for the purposes of this subsection the fire-resistance rating of a ceiling is that of the ceiling in association with any floor or roof construction immediately above it and the rating of a floor is that of the floor in association with any ceiling beneath it.

(3) Where an exit or any part of an exit is required to have a minimum fire-resistance rating, all construction that supports the exit or part of the exit and that transfers its live and dead loads to the ground shall have a rating not less than that of the exit.

¹ Apparently an incorrect reference. Possibly it should read "Section 1-202".

(4) Where a stairway leading from an upper floor to a fire escape exit from the building is continued past the level of the exit to provide access to a lower floor, that continuation shall be taken to be part of the stairway and shall be fire-isolated if the stairway is required to be fire-isolated.

(5) Openings in enclosing walls to fire-isolated stairways shall conform to Section 6-405, except that doors opening on to a street or exterior passageway and not required to be protected under Section 6-408 are not required to have a fire-resistance rating.

(6) Where a fire-isolated stairway is required by this Schedule, an external stairway may be substituted if the stairway is not less than 3 000 mm distant from any opening in the external wall of the building or from any adjacent building.

(7) In a building of Class III., V. or VI. occupancy, a stairway serving an upper floor and not required to be fire-isolated may discharge on to a floor area not more than 4 500 mm above the level of the street at the entrance, if an unobstructed aisle at least as wide as the stairway is maintained from the stairway to an exit from the building.

6-306. Construction of stairs.

(1) Except in buildings of Class I. occupancy, exit stairs and landings shall be constructed of fire-resisting materials as specified by this Schedule, but in buildings exceeding three storeys, external stairs shall, subject to Section 6-305(6), be constructed of metal not less than 6 mm in thickness, reinforced concrete or hardwood timber not less than 50 mm in either dimension.

(2) Winders shall not be used in exit stairways, except in buildings of Class I. or II. occupancy.

(3) Geometric stairs may be used in exit stairs where—

(a) the centre of curvature is at a distance not less than 66% of the width of the stair and inside the inner string; and

(b) the width of treads (exclusive of nosing or overhang) is not less than 280 mm measured at a distance of 500 mm from the outer string.

(4) In exit stairs—

(a) treads and risers shall be of uniform width; and

(b) the width of treads (exclusive of nosing or overhang) shall not be less than 250 mm and the height of risers shall not be more than 190 mm, except that in stairs not required to be fire-isolated in buildings of Class I., II., III., IV., V. or VII. occupancy, and in stairs to mezzanine floors, the width of treads may be reduced to 240 mm.

(5) Linings to spandrels and to the underside of stairs and landings shall be constructed of fire-resisting materials as prescribed by this Schedule.

(6) All walls and partitions enclosing non-fire-isolated stairs shall be covered with fire-resisting materials as prescribed by this Schedule.

6-307. Landings.

Except in winders in buildings of Class I. or II. occupancy or in geometric stairs—

(a) stairs shall have straight flights with half-space or quarter-space landings at intervals of not more than 16 nor less than two risers, but shall not have more than 32 successive risers, whether in two or more flights, without a change of direction through at least 60°; and

(b) the length and width of landings shall not be less than the width of the stairways on which they occur, except that in a straight flight the distance between two flights on a landing shall not be less than 900 mm; and

(c) landings shall be of solid construction and so constructed as to prevent persons slipping.

6-308. Guards and handrails.

(1) A stairway and its landings and platforms shall have a wall or a well-secured balustrade or other adequate guard on each side.

(2) A stairway 1 000 mm or less in width shall have handrails on at least one side, and a stairway more than 1 000 mm in width handrails on both sides.

(3) Where the width of a stairway is 2 000 mm or more, one or more intermediate handrails continuous between landings shall be provided, the number and positions of intermediate handrails being such that the distance between handrails is not more than 1 500 mm.

(4) Handrails shall be fixed at a vertical height of not less than 850 mm above the nosing of the tread and not less than 900 mm above the landing, and be so constructed that there is no obstruction on or above them to break a handhold.

(5) For the purposes of this section, the width of stairs shall be measured—

- (a) where the stairs are enclosed on both sides with walls—between the finished surfaces of walls; and
- (b) where a stair has a wall on one side only—between the finished surface of the wall and the inner side of the balustrade; and
- (c) where balustrades are provided on both sides—between the inner surfaces of the balustrades.

6-309. Ramps.

(1) Ramps may be substituted for stairways if they—

- (a) conform to such of the requirements of this Division for stairways as are applicable; and
- (b) are in straight lengths with a landing at each change of direction having a length and a width not less than the width of the ramp; and
- (c) where serving as exits or giving access to exits—have a slope not greater than 1 in 8; and
- (d) where used for purposes other than exit travel—are not limited by the gradient; and
- (e) are provided with approved non-slip surfaces.

(2) Outgoing car ramps from buildings shall be constructed to provide a section not less than 3 600 mm long between the end of the ramp and the exit at the street alignment, with the grade of that section being not more than 1 in 15.

6-310. Horizontal exits.

(1) In this section, "horizontal exit" means the connexion by a bridge, balcony, vestibule or doorway of two floor areas at substantially the same level and located in the same building.

(2) Where vestibules, open air balconies or bridges are used as parts of a horizontal exit, they shall be constructed of non-combustible materials or hardwood of not less than 50 mm in either dimension, and their clear width shall be not less than that of the exit doorways opening into them, except that handrails may project into this clear width not more than 100 mm.

(3) In a horizontal exit where there is a difference in level between the connected floor areas, gradients shall be not greater than 1 in 8, but stairs or steps shall not be used in horizontal exits in conjunction with a gradient.

(4) An opening used in connexion with a horizontal exit shall be protected by a one-hour fire door and—

- (a) if the opening is located in a fire wall there shall be a one-hour fire door on each side of the wall and where practicable a vestibule provided on one side; and
- (b) locks or fastenings shall not be placed on the doors that would prevent them from being opened from either side.

(5) There shall be at least one exit accessible to or from the space on either side of the horizontal exit.

6-311. Aisles and passages.

Access shall be provided to the exits from each floor by means of continuous aisles or passageways which shall—

- (a) be so arranged that the occupants of every room or area have convenient access to each exit leading from the floor on which the room or area is located; and
- (b) have a width not less than the width of the exit to which the aisles or passageways discharge or 800 mm, whichever is the greater; and
- (c) be of a height of not less than 2 250 mm, except that where the aisles or passages pass under stairs their height may be reduced to 2 000 mm.

6-312. Doorways.

(1) The doors of exit doorways shall be so hung and arranged that—

- (a) in the open position they do not lessen or obstruct the required width of the doorway, passageway, hallway, stairway or other means of exit; and
- (b) swinging doors in their swing do not reduce the effective width of stairways or landings to less than 500 mm, or reduce the effective width of a passageway or hallway to less than the minimum width required; and
- (c) doors open in the direction of exit travel (except doors in buildings of Class I, II, or IV, occupancy and doors serving only a ground floor area of not more than 140 m²), but this requirement does not prohibit the use of doors swinging both inwards and outwards; and
- (d) in the case of doors abutting on a street, they either—
 - (i) are recessed sufficiently to avoid encroachment on the public way; or
 - (ii) if they can be locked back in the open position in such a way that a key is required to release them—open inwards.

(2) An exit door having the door sill more than 400 mm above ground level shall not open immediately on to a flight of stairs but shall open on to a landing having a width not less than the width of the door and a length in the direction of travel of not less than 900 mm or half the width of the door, whichever is the greater, provided that the width of a landing taken at right angles to the direction of travel shall not be less than the width of the stair required by this Schedule.

(3) A door to a fire-isolated stairway shall be self-closing, or such a door may be kept open by an approved fusible link or an electro-magnet connected to a smoke detector if an additional self-closing door is fitted in the opening and the additional door—

- (a) is constructed of hardwood not less than 50 mm in thickness or of other material having equivalent fire-resisting qualities; and
- (b) if it has any glazing, the glazing is of fire-resisting material not exceeding in area 30% of the area of the door; and
- (c) does not obstruct the stairway in the opened position.

6-313. Revolving doors.

Revolving doors may be used only in doorways giving direct access to a street, but a revolving door shall not form part of a means of exit prescribed by this Schedule.

6-314. Door fastenings and fittings.

(1) Fastenings—

- (a) on an exit door shall be of a type allowing the opening of the door from the inside without the use of keys; and
- (b) shall not be used on a door to a passage unless they allow instant opening of the door from either side without a key or other special appliance; and
- (c) shall not be used on the inner of two doors hung in the same doorway, archway or other opening.

(2) Door furniture and other fittings affixed to an exit door shall not project so as to obstruct the exit when the door is in the fully opened position.

6-315. Width of exits.

Means of exit shall not decrease in width in the direction of exit travel.

6-316. Height of exits.

Means of exit shall have a height of not less than 2 000 mm, but a stairway shall have a head room clearance of not less than 2 000 mm measured vertically above a landing or above the nosings of stair treads.

6-317. Maintenance of exits.

Exits shall be maintained in an efficient condition and kept readily accessible and clear of obstructions during the occupancy of the building.

6-318. Lighting and ventilation of exits.

(1) A stairway or other means of exit and corridors and passageways appurtenant to a stairway or other means of exit shall be provided with efficient ventilation and artificial lighting.

(2) The lighting circuit shall be in a separate circuit and shall be continuously in operation while the building is occupied, except that, in a building of Class I., II. or IV. occupancy, where a stair serves one dwelling only a separate lighting circuit is not required.

(3) Where the height of a building exceeds the reach of a fireman's ladder, in addition to a separate lighting circuit, battery operated emergency lighting shall be provided.

6-319. Location of exits.

(1) Subject to Subsection (2), the distance of an exit from any point in a floor area, room or space served by the exit shall not be more than—

- (a) in unsprinklered buildings of high hazard occupancy—25 m; and
- (b) in sprinklered buildings of high hazard occupancy—30 m; and
- (c) in unsprinklered buildings not having a high hazard occupancy—30 m; and
- (d) in sprinklered buildings not having a high hazard occupancy—45 m.

(2) The distance shall be measured from the most remote point to the exit, except where a building not having a high hazard occupancy is divided into rooms or apartments (as in offices or residential buildings), the distance shall be measured from the corridor entrance of each room to the nearest exit.

(3) In buildings of Type 3, 4 or 5 construction, exits shall be so arranged that pockets or dead ends where occupants may be trapped do not exceed 12 m in length.

(4) Subject to this section, exits shall be located as far apart as practicable, and where a number of exits are required they shall be distributed as uniformly as possible within or around the floor area, room or space that they are to serve.

6-320. Exits in certain classes of buildings.

(1) In a building of Class I., II., III. or IV. occupancy—

- (a) any room intended for more than 40 persons shall have at least two doorways remote from each other; and
- (b) if the building exceeds three storeys in height it shall have—
 - (i) alternative fire-isolated stairway exits; and
 - (ii) where the distance of travel exceeds the limits prescribed by Section 6-319, additional approved fire-isolated exits; and
- (c) exits shall have a width not less than 800 mm and the aggregate width of all exits shall be as prescribed by Subsection (3)(e).

(2) In addition, a basement area in a building of Class II., III. or IV. occupancy shall have direct access to not less than two independent fire-isolated exits, but where the basement is used solely for the housing of mechanical equipment exits need not be fire-isolated and may be in the form of fixed ladders or steep stairs.

(3) A building of Class V., VI., VII., VIII. or IX. occupancy shall have exits in accordance with the following requirements:—

- (a) a building not exceeding three storeys shall be provided with alternative means of escape or with a fire-isolated stairway; and
- (b) a building exceeding three storeys shall be provided with alternative means of escape, except that a building of Type 1 or 2 construction—
 - (i) of not more than five storeys; and
 - (ii) having an area of not more than 375 m² on each floor; and
 - (iii) not containing a high hazard occupancy,need have only one fire-isolated stairway; and
- (c) all means of escape specified by Paragraph (b) shall be fire-isolated; and

- (d) a basement shall have direct access to at least two independent exits, but where such a basement is used solely for the housing of mechanical equipment exits need not be fire-isolated and may be in the form of fixed ladders or steep stairs; and
- (e) the aggregate width of exits from any floor area shall be sufficient to provide for the number of persons to be served by them on the basis of 800 mm of width for one to 25 persons and 1 000 mm of width for 26 to 100 persons, and an additional 500 mm of width for each additional 100, or part of 100, persons (over 100), provided that—
 - (i) in calculating the number of persons to be served by the exits, there shall be added to the number of persons accommodated on that floor—
 - (A) 50% of the number accommodated on the floor immediately above; and
 - (B) 25% of the number accommodated on the two floors above the last-mentioned floor; and
 - (C) 10% of the number accommodated on the two floors next above, the additional numbers being in each case persons having access to those exits; and
 - (ii) the aggregate width of exits may be decreased by 20% where the building is of Type 1 or 2 construction having alternative means of escape; and
 - (iii) the aggregate width of exits may be further decreased by 20% for each fire-isolated stair provided in excess of those prescribed by this Schedule; and
 - (iv) where the width of exits determined under this paragraph is not a multiple of 500 mm, the next higher multiple shall be adopted (except that a stair serving a floor area accommodating not more than 25 persons may be reduced to 800 mm in width); and
 - (v) the width of a stairway in excess of 2 000 mm shall not be regarded as part of the aggregate width required by this Schedule.

Division 6-4.—Fire Protection of Openings and Lift Wells.

6-401. Interpretation of Division 6-4.

In this Division, unless the contrary intention appears, "fire doors", "fire shutters" and "fire windows" have the same meaning as in Division 6-1.

6-402. Doorways in party structures.

Doorways are permitted in party structures, if—

- (a) they open on to staircase landings, vestibules or passageways; and
- (b) the net area of each doorway does not exceed 5.5 m²; and
- (c) the total width of the openings in any one storey does not exceed 50% of the length of the wall in that storey; and
- (d) the doorways are protected with fire doors having a fire-resistance rating of not less than one hour, hung without obstructing the landings, vestibules or passageways in the fully opened position.

6-403. Windows in party structures.

Glazed openings are permitted in party structures, if—

- (a) they are provided with one-hour fire windows; and
- (b) no such opening exceeds 1.5 m² in area; and
- (c) the glazing in an opening is divided into panels not exceeding 0.5 m² in area; and
- (d) the total area of the openings in any one storey does not exceed 20% of the area of the wall in that storey.

6-404. Openings in fire walls.

(1) Where fire walls are required to limit the floor area of a building as prescribed in Section 6-209, openings are permitted in the walls, if the net area of no opening exceeds 5.5 m², and the width of the opening or openings does not exceed 50% of the length of the wall in which they occur.

(2) Openings in fire walls shall be protected by self-closing double fire doors with a combined fire-resistance rating of not less than three hours.

6-405. Openings in fire-isolated stairways.

Subject to Section 6-305, openings in fire-isolated stairways shall be protected by one-hour fire doors or by glazing as prescribed by Section 6-403.

6-406. Openings near external fire-isolated stairways.

Doors within 3 000 mm of an external exit stairway shall conform to the requirements for doors to fire-isolated stairways prescribed by Section 6-405.

6-407. Doorways to lift shafts.

Doorways to lift shafts shall be fitted with one-hour fire doors, and glazing shall be as prescribed by Section 6-103(2)(b).

6-408. Openings within 6 m of openings in other occupancies.

Where a part of an opening in the external wall of a building (other than a building of Class I., II. or III. occupancy not exceeding three storeys), is within 6 000 mm (measured direct within an angle of 45° normal to the opening) of an opening in another building, or of a roof of non-fire-resisting construction, or of a building constructed of timber, the opening shall—

(a) have an area not exceeding 5.5 m²; and

(b) in the case of—

(i) a door opening—be fitted with one-hour fire doors or with fire shutters; and

(ii) a window opening—be fitted with tin-clad or wire gauze shutters or one-hour fire windows, which in the case of show windows may be in the form of window backs not more than 600 mm from the building line,

but shop fronts in an arcade fitted with a sprinkler system need not comply with the requirements of Paragraph (b).

6-409. Openings abutting on land in other occupancies.

Openings in external walls built within 900 mm of land overlooking land in other occupancies shall be—

(a) fitted with one-hour fire windows; or

(b) protected with tin-clad or wire gauze shutters.

6-410. Openings abutting on common light courts.

Openings in external walls abutting on enclosed light courts common to separate buildings shall be—

(a) fitted with one-hour fire windows; or

(b) protected with tin-clad or wire gauze shutters.

6-411. Openings overlooking flat roofs.

(1) An opening overlooking a flat roof and providing means of access to the roof or providing light to the building shall—

(a) in the case of a door opening—be fitted with doors cased externally with sheet metal of not less than 0.5 mm or with one-hour fire doors; or

(b) in the case of a window opening—conform to Section 6-408(b)(ii).

(2) Subsection (1) does not apply to doors or windows of a caretaker's residence or other structure constructed on the roof of a building, where the residence or structure is separated by party structures from all other portions of the building.

6-412. Skylights in light courts.

Skylights placed in light courts or wells or on roofs of fire-resisting construction shall be constructed with glazed metal or glazed concrete frames having a fire-resistance rating of not less than one hour.

6-413. Openings connecting dwellings with trade buildings.

Where walls or floors separating part of a building used for purposes of trade or manufacture from a part used for dwelling purposes are required by this Schedule to have a fire-resistance rating, door openings in the walls or floors shall be protected by fire doors and fire windows as required for party structures by Sections 6-402 and 6-403.

6-414. Lift shafts.

(1) Lift shafts shall be constructed and enclosed throughout their height with walls having a fire-resistance rating of not less than two hours, and shall be enclosed—

(a) at the bottom where they are not carried down to the foundations of the building; and

(b) at the top where they are not carried up to the roof,

with materials having a similar fire-resistance rating.

(2) A goods lift shall not be constructed in or communicate directly with a fire-isolated stairway.

(3) Glazed openings may be inserted in walls of lift wells, subject to compliance with Section 6-403.

6-415. Vertical location and separation of openings.

A window opening in an external wall of a building of Type 1 or 2 Construction other than an open deck parking station or any situation referred to in Section 6-416 shall not—

(a) extend past a floor which is required to have a fire-resistance rating or which is required to be fire-resisting; and

(b) be at any point less than 60 mm above a floor; and

(c) be at any point less than 900 mm vertically from any other opening in the same wall.

(Added by No. 5 of 1979.)

6-416. Openings with overhead projections.

In any building of Type 1 or 2 Construction of Class II, III or V Occupancy, where a vertical spandrel wall is required pursuant to Section 6-415 between two openings in an external wall, such spandrel wall shall not be required to have a fire-resistance rating provided that—

(a) it is of opaque, non-shattering, non-combustible construction; and

(b) it faces and is located not less than 4.5 m from a side or rear boundary of the building allotment or it is not less than 9 m from any other building on the opposite side of a street; and

(c) the bottom of the spandrel has an outward projection, other than a balcony, extending not less than 900 mm horizontally beyond the face of the external wall and longitudinally not less than 450 mm beyond each end of the spandrel; and

(d) such outward projection from the bottom of the spandrel has a fire-resistance rating equal to the floor within the building, and is properly anchored against overturning by non-combustible construction having an equal fire-resistance rating.

(Added by No. 5 of 1979.)

PART VII.—BUILDING SERVICES.**Division 7-1.—Services and Equipment.****7-101. Gas installations.**

Where gas is stored or a gas appliance installed in or appurtenant to a building, the storage or installation shall be in accordance with the *Inflammable Liquid Act*.

7-102. Electrical installations.

Electrical apparatus and appliances and installations for lighting, heating and power or for other applications of electricity shall conform to the *Electricity Commission Act* and the by-laws made under that Act.

7-103. Fire services.

Fire-fighting equipment conforming to Section 7-107 shall be provided in any building (other than a building containing flats and exceeding two storeys)—

- (a) of Class III. occupancy exceeding one storey, in which more than 25 persons usually reside; or
- (b) of Class V. occupancy exceeding three storeys; or
- (c) of Class VI. occupancy having an area greater than 200 m²; or
- (d) of Class VII. occupancy; or
- (e) of Class VIII. occupancy; or
- (f) of Class IX. occupancy, other than a theatre or school.

7-104. Fire services in buildings containing flats.

A building containing flats and exceeding two storeys shall be provided with external 65 mm fire hose cocks (hydrant valves) on a 65 mm fire service in the proportion of at least one to every six flats, the position of the hose cocks being subject to the approval of the Chief Fire Officer.

7-105. Fire services in theatres and schools.

A theatre or a school shall be provided with fire services to the satisfaction of the Chief Fire Officer.

7-106. Fire services in high buildings.

All buildings exceeding 80% of the maximum building height as prescribed in Section 2-501 shall be provided with a rising main (not less than 80 mm in diameter) up to the roof level, having a 65 mm outlet with fire hose-cocks on each floor and on the roof in approved positions provided with back pressure and stop valves and screwed cap connexions to which a fire brigade pump can be attached.

7-107. Fire-fighting equipment.

A building specified in Section 7-103 shall be provided with the following fire-fighting equipment :—

(a) where mains water supply is available—

(i) pipes not less than 65 mm in diameter conducting water from a street water main to within the building, fitted with 65 mm fire hose-cocks (hydrant valves) and hoses to the satisfaction of the Chief Fire Officer, but where the use of a pipe 65 mm in diameter is not allowed by the water supply authority pipes having a diameter of not less than 40 mm may be used; and

(ii) chemical fire-extinguishers to the satisfaction of the Chief Fire Officer, but in the proportion of not less than one to every 200 m² of floor area; and

(b) where mains water supply is not available or where the water main has not sufficient capacity or pressure to permit the installation of an efficient fire-extinguishing water service—

(i) an elevated tank or cistern capable of containing at least 45 l of water per 1 m² of floor area of the building with a minimum of 1 800 l supplied by a service pipe fitted with a ball cock or by a pump or other suitable method, and having water pipes 80 mm in diameter leading from the tank or cistern to fire taps and hoses to the satisfaction of the Chief Fire Officer; and

(ii) chemical fire-extinguishers to the satisfaction of the Chief Fire Officer, but in the proportion of not less than one to every 200 m² of floor area.

7-108. Other buildings and structures.

A building of more than three storeys and not otherwise provided for in the preceding provisions of this Division, and any other building or structure where, by reason of its construction, the nature of its use, the nature of its contents or any other special circumstances, the Chief Fire Officer thinks it necessary, shall be provided with a water supply service and equipment for fire-fighting purposes approved by the Chief Fire Officer.

7-109. Exemptions.

After consultation with the Chief Fire Officer and, in the case of a factory as defined in the *Industrial Safety, Health and Welfare Act*, with the Secretary for Labour and Industry, the Board may dispense with or vary the requirements of Section 7-106 for a particular building if it is satisfied that the application of any of the provisions of that section are unnecessary or unsuitable having regard to the circumstances relating to the building.

7-110. Chemical fire-extinguishers.

Chemical fire-extinguishers required by the preceding provisions of this Division shall be of a type conforming to standards set by S.A.A. AS 1846-1976—*Dry Chemical Type Portable Fire Extinguishers*, AS 1847-1976—*Carbon Dioxide Type Portable Fire Extinguishers* and AS 1848-1976—*Halogenated Hydrocarbon Type Portable Fire Extinguishers*, and approved by the Chief Fire Officer.

7-111. Automatic fire alarm installations.

A public building (other than a theatre or school with a registered accommodation of more than 500 persons), and any other building where by reason of its construction, the nature of its use, the nature of its contents or any other special circumstances the Chief Fire Officer thinks such provision necessary, shall be provided with an automatic fire alarm installation directly connected to a fire station conforming to S.A.A. Code AS 1670-1974—*Rules for Automatic Fire Alarm Installations*, and of a type approved by the Chief Fire Officer.

7-112. Sprinkler installations.

An automatic sprinkler installation conforming to S.A.A. Code AS CA16-1971—*Rules for Automatic Sprinkler Installations* shall be provided—

(a) in a building of more than two storeys used as a garage, parking station or service station; and

(b) on each storey of a building in which accommodation is provided for the parking of more than 20 cars; and

- (c) to shop fronts in arcades; and
- (d) in basements used in whole or in part for the housing of mechanical equipment (except where portion only of a basement is so used and that portion is separated from the remainder by a party structure having a fire-resistance rating of not less than two hours), in that portion used for the housing of mechanical equipment.

7-113. Maintenance of fire-fighting equipment.

Where in accordance with this Division fire-fighting equipment is installed in a building within an area served by a Fire Brigade established under the *Fire Service Act*, the owner of the building shall—

- (a) maintain the equipment in accordance with S.A.A. Code AS 1851-1976—*Installation and Maintenance of Portable Fire Extinguishers and Fire Hose Reels*; and
- (b) arrange with the Chief Fire Officer for the periodical testing and inspection of all equipment, and, in the event of the equipment being found defective by the inspecting officer, on receipt of a report to that effect immediately cause the defects to be rectified.

7-114. Lifts.

A lift installation shall conform to the *Industrial Safety (Lifts) Order* made under the *Industrial Safety, Health and Welfare Act*.

7-115. Escalators.

One or more escalators for the transport of passengers may be installed in a building if the escalators are designed, constructed, installed and operated in conformity with S.A.A. Code AS 1735-1975—*S.A.A. Lift Code*.

7-116. Mechanical ventilation.

Subject to this Schedule, installation of mechanical ventilating equipment shall conform to the relevant S.A.A. Code, or in the event of there being no Australian Code to the relevant British Standard.

Division 7-2.—Chimneys, Fireplaces and the Like.

Subdivision 7-20.—General Provisions.

7-201. Materials for chimneys.

(1) A chimney shall be constructed of—

- (a) reinforced concrete or solid masonry properly bonded and solidly put together with mortar; or
- (b) sheet metal; or
- (c) other suitable, hard and incombustible material properly and solidly put together.

(2) Subsection (1)(c) shall be deemed to be complied with by the use of material that complies with the test for materials for flues, furnace casings, hearths and similar purposes specified in S.A.A. Code AS 1530—*Methods for Fire Tests on Building Materials and Structures*.

7-202. Construction of chimneys.

A chimney shall be—

- (a) built on footings as prescribed by Part IV.; or
- (b) carried on steel girders bearing directly on walls having the necessary strength and stability; or
- (c) carried on corbels of masonry, steel, concrete or reinforced concrete, the work so corbelled being constructed for the full width of the jamb and projecting not more than 360 mm from the face of the wall.

7-203. Construction of hearths.

(1) A hearth constructed of stone, slate, bricks, tiles, concrete or other incombustible material shall be fixed under and in front of a fireplace opening.

(2) A hearth shall—

- (a) be solidly and securely supported; and
- (b) have a thickness of not less than 90 mm; and
- (c) extend not less than 150 mm beyond each end of the fireplace opening; and
- (d) project not less than 350 mm from the face of the chimney breast; and
- (e) be so laid that its surface is not lower than the floor of the room in which the hearth is situated.

7-204. Jambs.

Jambs of a fireplace opening shall be not less than 190 mm in thickness on each side of the opening.

7-205. Fireplace backs.

(1) The back of a fireplace opening from the hearth up to a height of 300 mm above the arch or lintel shall be constructed of—

- (a) solid masonry at least 190 mm thick; or
- (b) reinforced concrete at least 150 mm thick; or
- (c) reinforced concrete faced with masonry or fire brick of a total thickness of 150 mm.

(2) Notwithstanding Subsection (1), openings for stoves or fire-brick grates may be of brickwork 90 mm thick.

7-206. Chimney breasts.

The breast of a chimney shall be of incombustible material at least 100 mm in thickness.

7-207. Arches and lintels.

An arch of brick, stone or concrete, or a lintel of steel or reinforced concrete, of sufficient strength shall be built over the opening of a fireplace to support the breast of the fireplace.

7-208. Location of steam pipes.

A pipe for conveying steam or smoke or other product of combustion shall not discharge into a street, or be fixed on the front of a building facing a street.

7-209. Flue pipes for gas appliances.

Flue pipes for gas appliances shall be constructed as prescribed by the *Inflammable Liquid Act*.

7-210. Flue pipes for stoves and heaters.

(1) Flue pipes for fuel bath heaters, slow combustion stoves, heating appliances and solid fuel hot water services shall be carried through the roof to a height of not less than 450 mm.

(2) The projecting portion of the flue pipe shall be provided with an outer sleeve 25 mm clear of the flue pipe commencing at the ceiling level and terminating in an approved cowl, cap or terminal.

Subdivision 7-22.—Chimneys and the Like not used for Trade Purposes.

7-221. Height of chimneys.

A chimney shall be carried up at least 300 mm higher than any portion of the roof structure within a horizontal distance of 3 600 mm and unless adequately secured shall have a height, measured from the highest point of junction within the adjoining roof or gutter, of not more than six times its least width.

7-222. Angle of chimneys.

Chimneys shall not be inclined at an angle of more than 45° to the vertical, except that a larger angle may be permitted if approved soot doors not less than 25 000 mm² in area are provided.

7-223. Thickness of chimneys constructed at angle.

Where the upper side of a chimney is constructed at an angle of more than 45° to the vertical the thickness of the upper side shall not be less than 190 mm.

7-224. Soot doors.

A soot door shall not be less than 400 mm away from woodwork.

7-225. Rounding of angles.

Angles at a change of direction in a chimney shall be properly rounded.

7-226. Treatment of inside face of chimneys.

The inside face of a chimney shall be rendered or lined with fire-resisting materials throughout its length.

7-227. Plugs in chimneys.

Timber plugs shall not be used nearer than 125 mm or iron fastenings nearer than 50 mm to the inside of a flue or chimney opening.

7-228. Use of timber.

Timber shall not be used within a distance of 50 mm from the outer face of a chimney or flue or from the lower face of a hearth.

7-229. Distance of pipes.

A pipe for conveying smoke or other products of combustion shall not be constructed nearer than 225 mm to combustible material, unless—

- (a) the material is protected by a covering of non-combustible material and an air space of not less than 100 mm is provided between the covering and the pipe with lagging of incombustible material; or
- (b) a non-combustible thermal insulating material not less than 38 mm in thickness is provided around the pipe and is enclosed by a non-corrosive metal alcove of not less than 0.5 mm.

7-230. Cutting away of chimney breasts in party-walls.

A chimney breast or shaft built with or in a party-wall shall not be cut away without the approval of the Board.

7-231. Flashings.

A chimney stack shall be effectively flashed at its junction with the roof.

7-232. Construction near stoves and heaters.

(1) The floor under a stove or heating appliance not heated by gas or electricity and the surrounding floor for the space of 350 mm in front and 225 mm elsewhere shall be formed of materials of an incombustible and non-conducting nature not less than 75 mm in thickness.

(2) Every portion of a combustible wall within a distance of 300 mm from the stove or heating appliance shall be protected with fire-resisting materials.

7-233. Construction of floors under gas or electric stoves.

The floor under an oven or stove heated by gas or electricity shall be formed of incombustible and non-conducting materials, unless a space of not less than 150 mm is provided between the floor and the bottom of the oven or stove.

Subdivision 7-24.—Chimneys used for Trade Purposes.**7-241. Construction of masonry chimney shafts.**

(1) Except where certification and details of design are submitted to and approved by the Board, a masonry chimney shaft used for the purposes of trade or business shall be constructed as follows :—

- (a) if the shaft is detached, it shall be built with a batter from the base to the top at the rate of at least 1 mm in every 100 mm of height; and
- (b) the thickness of the masonry at the top of the shaft and for 7 500 mm below the top shall be not less than 190 mm where the external dimension does not exceed 1 500 mm, and not less than 360 mm where the external dimension is greater than 1 500 mm; and
- (c) of other portions of the shaft, every 7 500 mm shall not be less than 100 mm thicker than the 7 500 mm immediately above; and
- (d) a cap, cornice, pedestal, plinth, string course or other variation from the masonry shall be additional to the minimum thickness specified above; and
- (e) the least width of the base of the shaft, if rectangular in shape, shall not be less than 10% of the proposed height of the shaft, and if not rectangular in shape not less than 1/12 of the height, when the height of the shaft is measured from the top of the footings.

(2) Notwithstanding Subsection (1), in Seismic Zone A chimney shafts shall not be constructed in masonry.

7-242. Chimney shafts of materials other than masonry.

Certification and details of designs for chimney shafts of reinforced concrete, sheet metal or other material conforming to Section 7-201(1)(c) shall be submitted to the Board for approval.

7-243. Distance of flues from combustible materials.

Flues for conveying smoke or other products of combustion shall not be placed nearer than 190 mm to combustible material, and lagging used shall be of incombustible materials.

7-244. Distance of steam pipes from combustible materials.

Pipes for conveying steam or air at a temperature exceeding 100° C shall not be fixed nearer than 50 mm to combustible material, and lagging used shall be of incombustible material.

7-245. Construction of floors and ceilings near ovens and the like.

(1) A floor or part of a floor under or within 1 800 mm of an oven, boiler or furnace shall be constructed of materials having a fire-resistance rating of not less than three hours.

(2) Subject to Subsection (3), a floor, ceiling or roof, or part of a floor, ceiling or roof, above and within a distance of 1 800 mm from an oven, boiler or furnace shall be constructed of materials having a fire-resistance rating of not less than three hours.

(3) Where the heating unit is adequately self-insulated to the satisfaction of the Board, Subsection (2) does not apply.

7-246. Construction of walls near ovens and the like.

A wall or part of a wall within a distance of 1 800 mm from an oven, boiler or furnace shall be constructed of materials having a fire-resistance rating of not less than four hours.

Division 7-3.—Sanitation.**Subdivision 7-30.—Sanitary Accommodation.****7-301. General.**

Unless otherwise provided for in this Regulation, sanitary conveniences shall be connected to a public sewerage system or to a septic tank system and conform to the *Public Health Act* and the regulations under that Act.

7-302. General provisions.

(1) A room containing water closet pans, urinals or slop sinks shall not be used for any other purpose, but such a room may, except in a building of Class I., II., III. or IV. occupancy, contain baths, showers or washbasins.

(2) Closets constructed in a group shall be separated by means of partitions extending to a height of not less than 1 800 mm, and each closet shall be provided with a door.

(3) Where water closets and urinals for the different sexes adjoin, they shall be separated by full-height walls, and conveniences for each sex shall be properly designated by conspicuous lettering or by other approved means.

(4) In this Schedule, "urinal" means a stall capable of accommodating one individual user at a time, but where a continuous form of urinal is installed each 600 mm of clear length shall be deemed to be one urinal.

7-303. Construction of closets.

(1) A closet apartment shall have an area of not less than 1.08 m², a clear width of not less than 750 mm and a height measured from floor to wall plate level of not less than 2 100 mm.

(2) Floors of closet apartments shall be finished with an approved impervious material, and be suitably graded.

(3) External closets shall be provided with a ventilation space of not less than 75 mm both above and below the door, or with other approved means of ventilation.

7-304. Distance of pan closets from street.

Pan closets constructed appurtenant to a building shall be not less than—

- (a) 3 m from a boundary; and
- (b) 6 m from a building other than an outbuilding.

Subdivision 7-35.—General Sanitary Provisions.

7-351. Interpretation of Subdivision 7-35.

In this Subdivision, unless the contrary intention appears—

"combined waste pipe" means a pipe receiving discharge from both soil and waste fixtures and connected to a drain;

"drain" means that portion of a drainage system conveying discharge from soil, waste, combined waste and drain pipes to a public sewerage system or septic system, that is not vested in a public authority;

"fixture" means an apparatus or appliance, together with all appurtenances and connexions, intended for the collection and retention of wastes or waste waters for the purpose of discharging them into a public sewerage system or septic system;

"soil pipe" means a pipe conveying discharge from a water closet, slop sink, urinal, mortuary or operating theatre;

"trap" means a fitting designed to retain a quantity of water sufficient to arrest the passage of air or gases through the fitting;

"vent pipe" means a pipe for the admission of air to or for the exit of air from a soil, waste or combined waste pipe or drain, and includes a pipe to an individual trap preventing the loss of water seal from the trap;

"waste pipe" means a pipe conveying discharge (other than discharge from a water closet, slop sink, urinal, mortuary or operating theatre) from a fixture.

7-352. Fixtures abutting walls.

Sinks, troughs and the like (other than fixtures in a building of Class I., II. or III. occupancy), together with draining boards, slabs and plates used in connexion with such fixtures, for the preparation, manufacture or storing for sale of food for human consumption shall not abut on a wall and shall have a clear space of not less than 75 mm between the fixture and the wall or other obstruction, unless otherwise approved by the Board.

7-353. Troughs abutting brick walls.

Where the end of a wash trough abuts on a brick or concrete block wall, the space between the trough and the wall shall be made watertight with an approved waterproofing material.

7-354. Shower compartments.

(1) The floor of a shower compartment shall be well graded to an outlet, and shall be finished with an impervious material returned at junctions with walls.

(2) Junctions of a shower floor with walls shall be made water-tight with an approved flashing turned up at walls not less than 100 mm, except that where walls are tiled flashing shall be carried up not less than 25 mm behind the tiles.

(3) The level of the grating on the outlet shall be not less than 50 mm below the level of floors adjoining the shower compartment, except that where a kerb is provided the level of the grating may be 50 mm below the level of the top of the kerb.

(4) The walls inside a shower compartment and at the returns of an opening to the compartment shall be finished with an approved impervious material to a height of not less than 1 800 mm.

7-355. Concealment of pipes.

(1) In this section, "straight line of pipe" includes an offset or deviation from a straight line of not more than 45° and not more than 900 mm in length.

(2) Soil, waste, combined waste, main vent pipes and traps shall be accessible for inspection and repair, except where passing through walls, partitions and floors.

(3) In hospitals and similar institutions, soil, waste, combined waste and main vent pipes shall be fixed on the outside face of external walls wherever practicable, or in pipe ducts having a minimum dimension of 600 mm and an area not less than 0.36 m² clear of all obstructions, arranged to facilitate inspection and maintenance and provided with access doors permitting ready inspection of every straight line of soil, waste, combined waste and main vent pipe.

(4) In buildings other than hospitals and similar institutions, where soil, waste, combined waste and main vent pipes are concealed in ducts or recesses in walls the ducts and recesses shall—

(a) have a minimum dimension of 400 mm and an area of not less than 0.8 m² clear of all obstructions and access doors permitting ready inspection; or

(b) have at least one side constructed of timber, brick in lime mortar, terracotta or gypsum block, plaster on expanded metal lathing, or other approved material, easily removable independently of and without damage to other parts of the structure and provided with openings allowing ready inspection of every straight line of soil, waste, combined waste and main vent pipe.

(5) Access openings required by Subsection (3) may be omitted, if the owner of the building—

(a) undertakes in writing, in a form approved by the sewerage authority, to accept all liability for damage or inconvenience that may occur; and

(b) on completion of the work lodges with the sewerage authority one copy of a plan showing the position of concealed inspection openings.

(6) Branch and anti-siphonage vent pipes may be concealed in hollow walls or may be built in lime mortar in wall chases, if the pipes and fittings are made of cast iron, wrought iron, steel, brass or copper of a thickness not less than that set out in Table 7-355.

(7) Inspection or access openings to concealed pipes shall be finished with smooth surfaces, and be of such size and shape as to permit the entrance of cleaning tools.

TABLE 7-355.
DETAILS OF PIPES.

Minimum actual internal diameter. mm.	Minimum permissible wall thickness. mm.		Standard pipe thread for screwed connexions. mm.
	Screwed connexions.	Brazed or compression joints.	
27	2.5	1.6	32
33	2.5	1.6	40
46	3.0	1.6	50
58	3.0	2.0	65
71	3.0	2.0	80
95	4.0	2.5	100

7-356. Concealed standing wastes.

Concealed standing wastes are not permitted unless they are readily accessible for cleaning.

7-357. Internal cocks.

Cocks delivering water shall not be installed within a building unless a sink, basin or other approved fixture, or a properly drained impervious floor, is provided below the cocks.

7-358. Cistern overflows.

A cistern supplied with water shall have an overflow pipe of adequate size discharging in a position where it will not cause damage.

7-359. Discharge from overflows.

Overflows may discharge into open air if the discharge is not a source of annoyance or inconvenience.

7-360. Foul-water drains.

(1) Closed drains carrying foul-water from a building shall conform to the *Public Health Act* and the regulations under that Act.

(2) Where a closed foul-water drain exceeds 6 m in length it shall have at or near its upper end an educt vent carried above the highest part of the roof with a bird-proof cowl or wire basket fitted on top of the educt vent, and shall be air-disconnected from every waste pipe or downpipe discharging into the drain.

7-361. Discharge of foul-water drains.

(1) A foul-water drain shall discharge—

- (a) to an approved point; or
- (b) to a system of subsoil absorption drains or a covered soak pit after the removal of grease and solid matter; or
- (c) to a sufficient area of absorbent soil not less than 6 m distant from the building or from a street; or
- (d) to an impervious tank or pit.

(2) The drainage from a tank or pit referred to in Subsection (1)(d) shall be removed as often as is necessary, and disposed of to the satisfaction of the Board in a manner not causing any nuisance, danger to health or pollution to any river, stream, watercourse, lake, lagoon, swamp or marsh, and in accordance with the *Water Resources Act*.

7-362. Discharge of pipe drains.

Where the foul-water drain from a building discharges into an underground drainage system, the sewerage authority may require the installation of a grease trap fitted to the pipe drain from the building.

7-363. Household drainage and sewerage.

(1) In sewered areas household drainage and sewage shall be discharged into sewers, and the sanitary plumbing and drainage installation shall conform to the requirements of this Division and to the *Public Health Act* and the regulations made under that Act.

(2) In unsewered areas—

- (a) sinks, water troughs, baths and lavatory basins shall be provided with waste pipes of approved material, with wiped, glued or screwed joints, discharging into drains outside the building; and
- (b) covered or underground drains conveying household drainage or sewage shall be efficiently trapped or air-disconnected from discharge pipes of the building, shall be constructed of approved materials and be airtight, and shall have sufficient falls; and
- (c) open drains for conveying household drainage or sewage shall be of approved materials with watertight joints, and shall be constructed to have sufficient falls.

Division 7-4.—Drainage, Plumbing and Water Supply.

7-401. General.

The *Public Health Act* and the regulations made under that Act apply in respect of drainage, plumbing and water supply.

PART VIII.—MISCELLANEOUS.

Division 8-1.—Dampness and Drainage of Site.

8-101. Land liable to flooding.

(1) The Board may, by resolution, permit a building to be constructed on land liable to be flooded or inundated by water if—

- (a) the surface of the lowest floor and all inlets to a sewerage system are constructed to an approved level but not lower than 300 mm above the maximum flood level; and
- (b) approved measures are taken to prevent the retention of flood waters and flood debris beneath the building.

(2) Except as provided in Subsection (1), a building shall not be constructed on land liable to be flooded or inundated by water.

8-102. Land without proper means of drainage.

(1) A building intended or adapted to be used wholly or partly for residential purposes shall not be constructed on land that cannot be at all times efficiently drained by gravitation into some adjoining street, channel or drainage easement, into, through or over which the drainage may lawfully be discharged.

(2) If Section 8-103 is complied with, the Board may permit a building of Class V., VI., VII. or VIII. occupancy to be constructed on land without proper means of drainage as specified by Subsection (1).

8-103. Stormwater drains.

(1) A new building or an existing building that is being altered or extended shall be provided with an effective system of stormwater drains to the satisfaction of the Board for the collection of stormwater discharged from the roof of the building and for the interception and collection of stormwater and surface water from the site on which the building is erected, and for the conveyance of the stormwater and surface water to a point where it may be lawfully discharged.

(2) Stormwater drains specified in Subsection (1) shall—

- (a) be constructed of cast iron, brick, stone or salt-glazed ware, or other approved material; and
- (b) be constructed to regular falls and of sufficient capacity to carry the whole of the water collected; and
- (c) where the line of the drain crosses a public footway—be constructed to the requirements of the Board.

(3) Downpipes connected to drains for the collection of roof water may be exposed inside a building if they are constructed in cast iron, wrought iron or galvanized sheer metal of not less than 0.6 mm thickness.

(4) Downpipes located inside a building and encased in a manner making them inaccessible shall be of an approved non-corrosive material.

8-104. Treatment of ground beneath buildings.

Where the Board thinks it necessary, the surface of the ground beneath a building shall be—

- (a) regraded and provided with adequate outlets to prevent accumulation of water beneath the floors; or
- (b) covered with approved damp-resisting material.

8-105. Subsoil drainage.

Where the Board thinks it necessary, the subsoil at the site of a new building shall be drained by means of a system of subsoil drains properly laid to an approved outfall, and the layout and type of drains and the method to be used for disposing of the subsoil water shall be approved by the Board.

*Division 8-2.—Restoration and Alteration of Existing Buildings.***8-201. Restoration of buildings.**

If a building or part of a building is destroyed, demolished or pulled down to the extent of more than 50% of its volume (exclusive of foundation) for the purpose of restoration, reconstruction or repair, the building shall be restored, reconstructed or repaired in accordance with this Schedule.

8-202. Re-erection of buildings.

If a building or part of a building that exceeds the maximum building height permitted under Division 2-5 is destroyed by fire or other cause beyond the owner's control, the building shall not be reconstructed except in conformity with this Schedule.

8-203. Major alterations and additions.

Alterations, additions and repairs to a building shall conform to this Schedule—

- (a) if alterations or repairs are made to more than 50% of the volume of the building within a period of five years; or
- (b) if alterations or repairs are required at any one time in excess of 50% of the current value of the building (not deducting from that value any loss caused by fire or other reason); or
- (c) if the existing use or occupancy of part of a building is changed and the building does not conform to the requirements of this Schedule for the proposed new occupancy; or
- (d) if they involve the construction of an additional storey on an existing building.

8-204. Minor alterations and repairs.

(1) Minor alterations and repairs not covered by this Division may be made with the same type of materials as those used in the original construction if not more than 25% of the roof covering of a building is replaced in any period of 12 months unless the entire roof covering is made to conform to this Schedule.

(2) New roofing meeting the requirements of this Schedule may be placed over existing roofing when the existing roofing and the roof framing are such as to permit the new roofing to be properly supported and securely fastened to the satisfaction of the Board.

(3) Where an increase in the thickness of an existing wall is approved by the Board, the increase shall—

- (a) have a minimum thickness of 100 mm; and
- (b) be constructed of materials similar to that of the existing wall; and
- (c) be bonded into the existing wall to a depth of not less than 100 mm for not less than 25% of its area.

8-205. Restoration and alteration of factories.

Notwithstanding this Division, any restoration of or alteration to a factory as defined in the *Industrial Safety, Health and Welfare Act* is subject to that Act.

*Division 8-3.—Precautions during Construction, etc., of Buildings.***8-301. Protection of the public.**

(1) Where a building is constructed or pulled down at or adjoining a street alignment, precautions shall be taken to ensure the safety of the public using the street, and particulars of the precautions shall be submitted to and approved by the Board before work is commenced.

(2) Where excavations connected with the construction or pulling down of a building are made in or adjoining a street, they shall be adequately fenced and lighted at night to prevent injury to the

public, and where it is thought necessary by the Board they shall be properly timbered to prevent damage to the street.

8-302. Protection of workmen.

Where excavations connected with the construction or pulling down of a building need to be timbered, the timbering shall be constructed so as to afford adequate protection, to the satisfaction of the Board, for workmen.

8-303. Protection of adjacent property.

(1) Where an excavation or demolition is to be made near an existing building, the walls of the building shall be shored, underpinned or protected as necessary to ensure stability, to the satisfaction of the Board.

(2) Where the foundation of an existing building is of material likely to become unstable as a result of the excavation of adjoining ground, additional precautions shall be taken to ensure its stability, and any underpinning shall be as prescribed by this Schedule.

(3) Where the foundation of an existing building consists of hard stable rock, the requirements of Subsection (1) relating to underpinning may, with the approval of the Board, be dispensed with.

8-304. Temporary ramps.

Where a temporary ramp is required to provide access to an excavation in connexion with building operations, the ramp shall have a minimum width of 3 000 mm and a guide or kerb on each side at least 225 mm in height and 150 mm in width adequately connected to the ramp, and shall be constructed to a suitable grade and have the necessary strength and stability.

8-305. Height of walls during construction.

A wall or portion of a wall shall not, during its construction, be built to a height greater than 1 500 mm or six times its thickness, whichever is the greater, above an adjoining wall unless it is supported by temporary shores, proper scaffolding or buttresses, at intervals not greater than 30 times the thickness of the wall, until such time as roof or floor ties or cross walls are in position.

8-306. Pulling down of buildings.

The following requirements in connexion with the pulling down of buildings shall be complied with:—

- (a) unless otherwise approved by the Board, storey after storey shall be completely removed; and
- (b) materials being removed from a building shall not be placed on the floor or floors of the building, but shall be lowered to the ground immediately on displacement and removed from the site unless otherwise approved by the Board; and
- (c) no portion of an external wall abutting on a street or road may be pulled down except between such hours as the Board directs; and
- (d) for the purpose of preventing or lessening nuisance from dust, material displaced from a building shall be kept sprayed with water.

8-307. Alterations to buildings.

Where alterations are being made to a building, every portion of the building likely to become structurally insecure by reason of the alterations shall be adequately shored up and supported to the satisfaction of the Board.

8-308. Permit for pulling down or removal.

No building or substantial portion of a building may be pulled down or removed unless a permit for the pulling down or removal has been issued by the Board.

Division 8-4.—Ruinous and Dangerous Buildings.

8-401. Power of entry.

If the Board has cause to believe that a building or part of a building is in a ruinous state or is dangerous to the public, it may enter the building and make such inspection and reasonable tests as are

necessary to determine whether the building or part of the building is in a ruinous state or dangerous to the public.

8-402. Protection of public.

If after inspection the Board is satisfied that a building, a part of a building, a fixture attached to a building or a fence on or within 3 m of a street alignment is in a ruinous state or dangerous to the public or to the occupiers of the building, the Board may—

- (a) cause a proper boarding, fence or props to be erected for the protection of the public and of the occupiers; and
- (b) where necessary, cause the adjoining buildings to be properly shored up.

8-403. Notice to owner.

If circumstances warrant, the Board shall serve notice on the owner of the building, fixture or fence referred to in Section 8-402 requiring him, within a time to be specified in the notice, to pull down, secure or repair the building or part of the building, fixture or fence, as the case may be.

8-404. Power of Board in case of non-compliance.

If within the time specified in a notice under Section 8-403 the owner does not pull down, secure or repair the building, fixture or fence specified in the notice, to the satisfaction of the Board, the owner is guilty of a breach of this Regulation, and the Board may exercise in relation to the building, fixture or fence the powers conferred by this Regulation as if it were a building, fixture or fence constructed contrary to this Regulation.

*Division 8-5.—Fences and the Like.***8-501. Fences.**

Fences (including ornamental hedges) on sites situated at intersections of streets used by vehicular traffic that are within a distance of 9 m from the point of intersection of the alignments of the sites shall not be constructed to a greater height than 1 100 mm above the level of the footpath except with the consent of the Board.

8-502. Hoods, pergolas and the like.

Hoods, pergolas and ornamental heads to gateways or fences shall be constructed in accordance with a design approved, and of materials approved, by the Board, but no part of such a hood, pergola or ornamental head may project more than 300 mm beyond the street alignment and no projection may be lower than 2 700 mm from the level of the footpath.

8-503. Diversion of seepage.

Retaining walls or brick or concrete fences shall have seepage diverted in a manner approved by the Board, but seepage shall not be discharged on to a public footpath.

8-504. Barbed-wire.

Barbed-wire erected adjacent to a street—

- (a) shall be set back not less than 150 mm from the street alignment up to a height of 2 300 mm above the level of the street; and
- (b) shall not project beyond the street alignment.

*Division 8-6.—Awnings and Sun Blinds.***8-601. Street awnings.**

An awning or sun blind shall not be constructed to project over a street, unless approved by the Director of Lands, Surveys and Mines.

8-602. Construction.

Awnings and sun blinds projecting over a street shall be—

- (a) supported by cantilever brackets off the main structure; and

- (b) constructed of incombustible materials, except that where the underside of an awning is lined with incombustible material the purlins and rafters may be of timber.

8-603. Heights above pavement.

- (1) Awnings shall—
 - (a) be set back not less than 750 mm from the kerb at a height of not less than 3 000 mm; or
 - (b) terminate in line with the kerb or within 750 mm of the line of the kerb at a height not less than 3 800 mm above the pavement.
- (2) The height of any part of a sun blind shall not be less than 2 300 mm above the pavement, and a sun blind shall not project more than 2 400 mm from the building to which it is attached.
- (3) Notwithstanding Subsections (1) and (2), the Board may, in special cases, permit or require awnings and sun blinds to be erected at heights or distances other than those specified in Subsection (1) or (2).

8-604. Awning roofs.

- (1) The roof of an awning shall—
 - (a) have a fall towards the building of not less than 1 : 25, except that where the roof covering is of continuous metal sheeting the Board may permit a fall of not less than 1 : 100, in which case the fall may be to the sides of the awning; and
 - (b) be covered with fire-resisting material that is impervious to moisture and conforms to this Schedule with regard to roofing; and
 - (c) be provided with—
 - (i) a gutter of approved material; and
 - (ii) downpipes or pipes of wrought iron, cast iron, or other approved material chased into walls or piers or so set back that they do not project beyond the face of the building, and the downpipes shall discharge into the street channel or underground storm water drain.
- (2) The Board may exempt from Subsection (1) an awning of light-weight metal construction that does not project more than 2 400 mm from the building to which it is attached, and is set back not less than 750 mm from the kerb at a height of not less than 2 400 mm above the pavement.

8-605. Awning ceilings.

When required by the Board, the underside of an awning shall be lined with incombustible material.

Division 8-7.—Dangerous Businesses.

8-701. Location of dangerous businesses.

- (1) A building that is situated closer than 15 m to a street or to a site not in the same occupation or to any other building shall not be used for the purpose of conducting a dangerous business.
- (2) Where a dangerous business is in existence another building shall not be erected within 15 m.
- (3) A building or part of a building shall not be constructed or used for conducting a dangerous business unless the Board has approved the plans of the building and the arrangements made for ensuring compliance with this Regulation and the *Inflammable Liquid Act*.

PART IX.—SPECIAL CLASS REQUIREMENTS.

Division 9-1.—Classes I., II. and IV. Occupancy.

9-101. Kitchens.

- (1) A dwelling shall be provided with a room or annex to be used as a kitchen, with suitable facilities for the storage of food stuff and access to potable water.
- (2) Where a kitchen is constructed as an annex to a habitable area, the opening between the kitchen and the habitable area shall not be less than 2 100 mm in height and 1 500 mm in width.

9-102. Bathrooms.

(1) A dwelling shall be provided with a bathroom having an area of not less than 1.35 m², and the dimensions of the area shall be not less than 750 mm in either length or width.

(2) A bathroom shall have installed a plunge bath or alternatively a recess containing a shower, and access shall be provided to a water supply suitable for personal washing.

9-103. Laundries.

(1) In or appurtenant to a building of Class I. or IV. occupancy there shall be provided a laundry with approved means of individual or communal laundering.

(2) In a building of Class II. occupancy there shall be provided—

(a) at least one common laundry on every alternate floor, equipped with approved means of laundering (including drying of clothes); and

(b) not less than one such laundry for every four flats in the building,

except that where adequate and satisfactory means of laundering are provided in each flat in the building communal laundries need not be provided.

(3) A laundry may be combined with any other room, if it has separate drainage and provisions are made for storage of dirty clothes.

Division 9-2.—Class III. Occupancy.

9-201. Bathrooms.

A building of Class III. occupancy—

(a) containing accommodation for not more than eight persons—shall be provided with a bathroom equipped with a plunge bath or a recess containing a shower; and

(b) containing accommodation for more than eight persons—shall be provided with—

(i) one bathroom in accordance with Paragraph (a); and

(ii) additional bathrooms equipped with a plunge bath or shower in proportion of one bathroom for every additional eight (or part of eight) persons if the building is connected to a public water supply, or one bathroom for every additional 20 (or part of 20) persons if the building is not connected to a public water supply; and

(c) may contain one soil fitting in a bathroom without an increase in the area of the bathroom.

9-202. Wash basins.

(1) In a building of Class III. occupancy, wash basins connected with an approved drainage system or some other approved means of performing personal ablutions shall be provided.

(2) Where wash basins are not provided in all bedrooms in a building of Class III. occupancy, the number of wash basins shall be not less than the number of bathrooms specified in Section 9-201.

(3) Premises licensed under the *Liquor (Licensing) Act* shall be provided with wash basins for the use of the public frequenting the premises as prescribed by that Act.

9-203. Walls and floors in bathrooms.

The walls of a bathroom and lavatory in a building of Class III. occupancy shall be provided with a smooth impervious finish to a height of 1 800 mm, and the floor shall be constructed with an approved impervious finish.

9-204. Facilities in apartments.

Where an apartment is equipped with facilities prescribed by Sections 9-201, 9-202 and 9-203, the facilities shall conform to the requirements for those facilities in Class I., II. or IV. occupancy, as the case may be.

*Division 9-3.—Class VI. Occupancy.***9-301. Shopfronts.**

- (1) A shopfront shall not exceed two storeys in height above the level of the public footpath in front of the shop.
- (2) No part of a frame to a shopfront may be fixed—
 - (a) nearer than 75 mm to the centre of a reinforced concrete party wall; or
 - (b) nearer than 100 mm to the centre of a masonry party wall; or
 - (c) nearer than 100 mm to the face of a wall of adjoining premises that have a separate wall.
- (3) An arch or lintel constructed of brick, stone, reinforced concrete or other material having a fire-resistance rating of not less than one hour shall be provided over a shopfront opening.
- (4) A shopfront opening may be framed wholly or partly in structural steel or reinforced concrete conforming to Part V.
- (5) Where a shopfront is located within a distance of 6 000 mm from an opening in an external wall of a building, it shall conform to Section 6-408.
- (6) Any part of a shopfront constructed not less than 2 700 mm above the pavement may project beyond the street alignment—
 - (a) not more than 300 mm in a street exceeding 10 m in width; or
 - (b) not more than 200 mm in a street less than 10 m in width.
- (7) Mouldings shall not project more than 12 mm beyond the street alignment at a lesser height than 2 700 mm above the pavement.

9-302. Walls above shopfronts.

Subject to Section 9-301(5), walls between the head of shopfront frames and the underside of awnings or lintels over openings may be constructed of timber or other approved material.

9-303. Shopfronts abutting exits.

Where a shopfront abutting on an exit from a stairway required to be fire-isolated is returned along a passage or lobby to a depth greater than the width of the passage or lobby, the shopfront shall be protected by a sprinkler system and approved self-sealing rolling corrugated steel shutters running in metal grooves and fitted with proper appliances on the outside suitable for raising and lowering, or by material having a fire-resistance rating of not less than one hour.

9-304. Mirrors and show cases.

Mirrors and show cases shall be fixed flat against walls, piers or pilasters in such a way that no portion projects beyond the street alignment.

9-305. Facings.

- (1) Tiling or other applied facing on a wall, pier or pilaster shall not project beyond the street alignment at a lesser height than 2 700 mm above the pavement.
- (2) Where a shopfront is constructed on an existing building, facing applied to piers only may project not more than 50 mm beyond the street alignment.

9-306. Stall boards.

Stall boards under shopfronts shall be constructed of brickwork, stonework, concrete or other material having a fire-resistance rating of not less than one hour.

9-307. Kiosks.

- (1) For the purposes of this section, "kiosk" means a stall or enclosed compartment for the sale or distribution of goods into which the public does not enter.
- (2) Kiosks may be constructed in positions approved by the Board.
- (3) A kiosk shall—
 - (a) be not less than 2 400 mm high measured from floor to ceiling or to the underside of the rafters or ceiling joists, whichever is the lower; and
 - (b) be not less than 1 050 mm long or 1 050 mm wide; and

- (c) have a floor area of not less than 1.4 m², or where the kiosk is occupied by more than one person not less than 2 m² for each person; and
- (d) have adequate ventilation communicating directly with the external air.

9-308. Floors and walls in shops selling perishable food.

In shops where perishable food is sold or displayed for sale, floors and walls shall comply with the *Pure Food Act*.

*Division 9-4.—Class VIII. Occupancy.***9-401. Air space.**

From the floor level to a height of 3 000 mm the free air space in a workroom in a building of Class VIII. occupancy must be not less than 12 m³ per person employed in the workroom.

9-402. Dining rooms, bathrooms, change and rest rooms.

Dining rooms, bathrooms, change rooms or rest rooms for the use of employees in factories shall be constructed in accordance with the *Industrial Safety, Health and Welfare Act*, or if no special provisions are prescribed in that Act to the approval of the Board (taking into account the nature of the manufacturing process and the number of employees concerned).

9-403. Washing facilities.

Washing facilities shall be provided in a factory in accordance with the *Industrial Safety, Health and Welfare Act*.

9-404. Drinking water.

A factory shall be provided with bubblers with mouth guards or other approved devices for the supply of clean, wholesome drinking water, in numbers approved by the Board (taking into account the number of persons employed in the factory) and so placed as to be accessible to employees at all times.

*Division 9-5.—Class X.—Occupancy.***9-501. Sleep-outs.**

No more than two detached sleep-outs may be constructed appurtenant to—

- (a) a building of Class I., III. or IV. occupancy; or
- (b) a dwelling in a building of Class II. occupancy on a site accommodating not more than two flats,

and a sleep-out shall not—

- (c) be constructed—
 - (i) closer to the front alignment than the building that it is appurtenant to; or
 - (ii) closer to any other boundary of the site than the minimum distance prescribed by this Schedule for such a building; or
- (d) be less than 3 m from any other building or sleep-out on the site; or
- (e) have an area less than that specified in this Schedule for habitable areas, except that openings having an effective airway not less in area than 12.5% of the floor area shall be deemed to comply with the provisions of Division 2-7; or
- (f) contain facilities for the preparation of food.

9-502. Workshops, sheds and the like.

Workshops (other than workshops coming within the classification of factories as defined in this Schedule), sheds and similar structures may be constructed subject to the following conditions :—

- (a) if attached to a building of another class, they shall be constructed of similar materials to the main building, and with regard to distance from boundaries shall conform to the requirements of this Schedule for the main building; and
- (b) if detached from the main building, they shall not be less than 3 m from any dwelling on an adjoining site, not less than 15 m from the front alignment and not less from

boundaries (other than the front alignment) than the distance specified in this Schedule for the main building; and

- (c) where they are less than 1.2 m from the boundary of the site, the wall nearest to the boundary shall be constructed of approved incombustible materials provided that no part of the structure within the boundary may exceed 3 m in height and no means of access may be provided to the roof.

9-503. Laundries.

A detached laundry may be constructed appurtenant to a dwelling if—

- (a) it does not exceed 15 m² in area; and
- (b) it conforms to Section 9-502(b) and (c).

9-504. Garages and carports.

(1) A garage constructed appurtenant to a building of Class I., II. or III. occupancy shall conform to the following requirements :—

- (a) if its walls exceed 40 m² in area, they shall be constructed of incombustible materials; and
- (b) it shall not, without the permission of the Board, be constructed closer to the front alignment than the building to which it is appurtenant, or closer to other street alignments than the minimum distance specified in this Schedule for such a building, but a garage may be attached to the front of a building without permission if no part is closer to the front alignment than the minimum distance specified for the building; and
- (c) where it is attached to a building it shall comply with Section 6-207(5); and
- (d) a portion of a wall of a garage having a fire-resistance rating of less than one hour shall not be less than 1 500 mm from any portion of a wall of the building that it is appurtenant to having a fire-resistant rating of more than one hour; and
- (e) it may be constructed within 1 200 mm of the rear boundary of a corner site if that boundary is also the rear boundary of the adjoining site, and if the distance from the side street is the distance set by this Regulation for the main building with respect to the side street; and
- (f) whether or not attached to a building to which it is appurtenant, it may be constructed nearer than 1 200 mm to the boundary of an adjoining site if—
 - (i) no portion is within 2 400 mm of a window of a habitable area or kitchen in the main building of the adjoining allotment; and
 - (ii) the wall nearest to that boundary is constructed of incombustible materials approved by the Board; and
 - (iii) the average height of the wall of the garage within 1 200 mm of that boundary is not greater than 3 000 mm above the ground and the wall does not exceed 3 600 mm in height; and
 - (iv) no means of access is provided to the roof of the garage.

(2) Where a garage to which Subsection (1) applies is not enclosed on more than two sides, it shall be regarded as a carport and Subsection (1)(a), (c), (d) and (f)(ii) does not apply, but a carport under a building of Class II. or III. occupancy shall be separated from the building by a floor having a fire-resistance rating of not less than one hour.

9-505. Parapet walls to garages and the like.

Notwithstanding Part V., masonry walls to garages, laundries, workshops, sheds and the like are not required to have a parapet wall if the roof covering to the building is of fire-resisting materials.

9-506. Stables.

(1) Stables may be constructed subject to the following conditions :—

- (a) external walls shall not exceed 3 300 mm in height from the level of the ground to the top plate of the wall; and
- (b) floors shall be paved with approved impervious materials; and

(c) no part of a stable may be less than—

- (i) 15 m from the boundary to the street or road to which the property has a frontage; and
 - (ii) 3 m from any other street or road of a width greater than 7.5 m; and
 - (iii) subject to Subsection (2), 1.5 m from any other street or road of a width less than 7.5 m or from the boundary of any land not in the same occupancy; and
 - (iv) 9 m from a building used as a dwelling; and
- (d) no room (other than a store room) may be constructed over or adjoining a stable; and
- (e) manure pits constructed of impervious material and fitted with approved covers shall be provided in connexion with the stable, and every such manure pit shall conform to Paragraph (c).

(2) Subsection (1)(c)(iii) does not apply to an external wall constructed of masonry or concrete not less than 225 mm in thickness.

9-507. Bathing, wading and swimming pools.

(1) Inner faces of walls to all permanent bathing, wading and swimming pools shall be not closer to boundaries than the distances specified in this Schedule for a building of Class I. occupancy, and walls or structures nearby shall be underpinned if required by the Board.

(2) An indoor or outdoor permanent bathing, wading or swimming pool exceeding 900 mm in depth shall conform to the following requirements:—

- (a) the pool shall be of the recirculation type in which the water circulation is maintained through the pool by a pump, the water drawn from the pool being clarified and disinfected before being returned to the pool by an approved method; and
- (b) the pool shall be capable of being completely emptied to the satisfaction of the Board and the sewerage authority; and
- (c) the pool shall be watertight with smooth surfaces constructed of non-absorbent, non-slip material; and
- (d) the pool shall be demonstrated to be structurally sound; and
- (e) the concourse around the pool shall be constructed with a non-slip material and be graded away from the pool; and
- (f) egress from the pool shall be provided.

SCHEDULE 4¹.

Reg., Sec. 22, 23.

CATEGORY A BUILDINGS.

Division 1-1.—General Provisions.

1-101. Scope of Schedule 4.

Notwithstanding the preceding provisions of this Regulation, in an area declared by the Head of State, acting on advice, by notice in the National Gazette to be a Category A Area, a Category A Building may be erected in accordance with the requirements of this Schedule if the building does not exceed—

- (a) in the case of a timber-framed building—subject to Paragraph (b), two storeys; or
- (b) in the case of a building constructed of masonry or a shop—one storey.

1-102. Building sites.

The location of building sites and determination of boundaries shall be approved by the Head of State, acting on advice.

¹ At the request of the Department, for technical reasons, the numbering and lay-out of this Schedule differs from standard.

1-103. Distance from boundaries.

In a Category A Area—

- (a) a building shall not be less than 4.5 m from the front alignment measured horizontally from that alignment to the outside face of the external wall, and where a site has more than one boundary adjoining a street the shortest street alignment shall be taken as the front alignment; and
- (b) the distance of a building measured horizontally from a boundary (other than the front alignment) to the outside face of the external wall shall not be less than—
 - (i) 3 m in the case of a building having external linings of inflammable materials; or
 - (ii) 1.5 m in the case of a building having external linings of fire-resisting materials or external walls of masonry construction; and
- (c) ablutions or privy accommodation may be sited on a side or back boundary (other than a street alignment); and
- (d) privy accommodations (other than privies situated within a building) shall be not less than 6 m from any habitable area or any area used for the preparation, cooking or storage of food; and
- (e) where, on written application, a Board is of the opinion that a variation is desirable to meet the circumstances of a particular case, it may vary the provisions of this section relating to distances of buildings from front alignments, street alignments or other boundaries.

1-104. Maximum area occupied by buildings.

- (1) The total area of all buildings on an allotment shall not exceed 33% of the total area of the allotment.
- (2) Where a Board is of opinion that a variation is desirable to meet the circumstances of a particular case, it may, on written application, vary the provisions of Subsection (1).

Division 1-2.—Construction.

1-201. Foundations.

The footings of a Category A Building shall be structurally sound and adequate to support the load transmitted to them.

1-202. Design and planning.

- (1) A Category A Building to be used as a dwelling shall be provided with cooking, ablution and privy accommodation, and a building with only one habitable area shall have a total minimum floor area of 10.8 m², with a minimum dimension of 2 250 mm.
- (2) Cooking, ablution and privy accommodation may be provided separate from the building, but where it is included in the building the floor area of the building shall be increased by the following minimum areas :—
 - (a) in the case of cooking accommodation—1.8 m²; and
 - (b) in the case of ablution accommodation—1.2 m²; and
 - (c) in the case of privy accommodation—0.8 m²; and
 - (d) in the case of combined ablution and privy accommodation—1.35 m².
- (3) Where a building contains more than one habitable area, the floor of the smallest habitable area shall not be less than 5.4 m², and the least dimension shall be 2 100 mm in either length or width.
- (4) Any additional habitable areas may be divided into compartments by partitions not more than 2 100 mm in height if the floor area of any compartment is not less than 4.3 m² and neither the length nor the width of a compartment is less than 1 800 mm.

1-203. Minimum heights.

In a Category A Building—

- (a) the height of a habitable area or a kitchen measured vertically from floor to ceiling or to the underside of the rafters or ceiling joists, whichever is the lower, shall be not less than 2 000 mm at any point, and the average height shall not be less than 2 350 mm; and

- (b) the height of an ablution room or a privy accommodation measured as specified in Paragraph (a) shall not be less than 2 000 mm, and the average height shall not be less than 2 100 mm.

1-204. Special requirements.

In a Category A Building—

- (a) an ablution room shall have a floor impervious to water, with a fall to an outlet; and
- (b) where the ablution room and privy accommodation is combined, wastes shall be separated by a water seal; and
- (c) privy accommodation shall contain—
 - (i) a water closet; or
 - (ii) a pit or borehole latrine provided with water seal, or a pour-flush squatting plate; or
 - (iii) any other type of privy facility approved by the Board.

1-205. Privy accommodation.

In a Category A Building—

- (a) privy accommodation situated inside the building shall be a water-closer; and
- (b) privy accommodation situated inside the building shall not open directly into any area used for the preparation, cooking or storage of food; and
- (c) no part of an absorption trench may be closer than 3 m to the building; and
- (d) the floor of any privy accommodation shall be of approved impermeable material.

1-206. Light, ventilation and access.

In a Category A Building—

- (a) unless approved by the Board a habitable area or kitchen shall have openings to permit the entry of natural light, the total area of which is not less than 10% of the floor area; and
- (b) a habitable area or kitchen shall have ventilation openings of a total area of not less than 5% of the floor area; and
- (c) where a roof is provided over any privy accommodation, a ventilation opening not less than 0.18 m² in area shall be provided; and
- (d) where access is by means of a stairway, the width of the stairway shall be not less than 750 mm and it shall have a pitch not exceeding 45° and uniform treads and risers with treads not less than 200 mm wide.

1-207. Materials and construction.

In a Category A Building—

- (a) subject to Paragraph (b), materials normally used in construction of buildings may be used, but for the use of concrete blocks and bricks of any kind the approval of the Board shall first be obtained; and
- (b) suspended concrete slabs and timber floors laid directly on the ground are not permitted; and
- (c) where a concrete block wall is approved by the Board—
 - (i) it shall be built on reinforced concrete strip footings; and
 - (ii) its total height shall not exceed 3 000 mm in the case of a 100 mm thick wall, or 5 400 mm in the case of 200 mm thick wall; and
 - (iii) it shall be supported at right angles to its face by an intersecting wall or pier, and the distance between the lateral supports shall not exceed 3 300 mm in the case of a 100 mm thick wall, or 6 000 mm in the case of 200 mm thick wall; and
 - (iv) where its length exceeds 12 m expansion joints shall be incorporated; and
 - (v) construction over openings shall be as determined by the Board; and

- (d) where a brick wall is approved by the Board—
- (i) it shall be built on reinforced concrete strip footings; and
 - (ii) its total height shall not exceed 2 400 mm in the case of a 110 mm thick wall, or 4 500 mm in the case of a 225 mm thick wall; and
 - (iii) it shall be supported at right angles to its face by an intersecting wall or pier, and the distance between the supports shall not exceed 2 400 mm in the case of a 110 mm thick wall, or 4 500 mm in the case of a 225 mm thick wall; and
 - (iv) where its length exceeds 9 000 mm expansion joints shall be incorporated; and
 - (v) construction over openings shall be as determined by the Board; and
- (e) roofs shall be lined with a material impervious to the penetration of rain; and
- (f) wall frames shall be constructed to give adequate support to the roof and to keep wall linings rigid, and shall be braced to withstand a wind velocity as specified in Part III. of Schedule 3; and
- (g) concrete and compact earth floors shall be constructed to finish not less than 150 mm above the surrounding ground level, and timber floors shall not be less than 600 mm above surrounding ground level; and
- (h) frames, windows, doors and shutters shall be rigid and firmly fixed in openings.

1-208. Services.

In a Category A Building—

- (a) provision shall be made for draining excess water away from the site; and
- (b) electrical installation and reticulation shall be in accordance with the *Electricity Commission Act* and the by-laws made under that Act.

1-209. Variation of requirements.

Where a Board is of opinion that a variation is desirable to meet the circumstances of a particular case, it may, on written application, vary the provisions of any section of this Schedule.

SCHEDULE 5¹.

Reg., Sec. 2(7).

SIGNBOARDS, HOARDINGS, ADVERTISEMENTS AND THE LIKE.

1-101. Supporting structures.

A structure erected for the purpose of supporting signs, advertisements, notices and the like (such as bill-boards, hoardings, banners or other framework) shall be constructed in accordance with a design and of materials approved by the Board, so that—

- (a) no part of the structure projects more than 300 mm beyond the street alignment, and no projection is at a height less than 2 400 mm from the level of the footpath; and
- (b) where the structure is erected above a street or public footway it has sufficient clearance to allow unimpeded movement of traffic; and
- (c) the structure does not constitute a hazard to vehicular, pedestrian or air traffic by distraction or obstruction of visibility.

1-102. Signs, notices, advertisements and the like.

- (1) Signs, notices, advertisements and the like shall not be erected or displayed without the written approval of the Board.
- (2) Alterations or additions to, and the transferring of, existing signs, notices or advertisements are subject to the approval of the Board.

¹ At the request of the Department, for technical reasons, the numbering and lay-out of this Schedule differs from standard.

(3) Permits issued by the Board shall be for defined periods, and are subject to the payment of prescribed fee and to such conditions as are imposed by the Board.

(4) The owner or occupier of land, a building or a structure to which a sign, notice, advertisement or the like is attached shall keep the structure, sign, notice, advertisement or the like in good repair and clean to the satisfaction of the Board.

(5) Notwithstanding this section, a sign, notice, advertisement or the like shall not be erected in a position or in a manner constituting a hazard to vehicular, pedestrian or air traffic by distraction or obstruction of visibility.

1-103. Exemptions.

Subject to this Schedule, the following signs, notices, advertisements and the like (other than illuminated signs) may be displayed without the approval of the Board :—

- (a) functional advertisements of a statutory body; and
- (b) miscellaneous advertisements relating to premises on which they are displayed, if they do not project past the street alignment; and
- (c) advertisements or signs relating to a person, partnership, company or the like carrying on a profession, business or trade at the premises where the advertisement or sign is displayed, if they do not exceed 0.27 m^2 in area; and
- (d) advertisements or signs relating to an educational, medical, religious, benevolent institution or the like, or to a residential hotel, block of flats, club, boarding house, hostel or the like, if they are displayed within the premises and do not exceed 1.08 m^2 in area; and
- (e) advertisements or signs relating to the announcement of building operations for the duration of the building operations, if they do not exceed 2.16 m^2 in area; and
- (f) advertisements relating to the sale or letting of property on which they are displayed, if they do not exceed 2 m^2 in area; and
- (g) advertisements displayed on business premises, where they contain only the name of the person, firm or company, the nature of the business and the nature or type of goods sold; and
- (h) advertisements displayed within a building.

1-104. Powers of the Board in case of non-compliance.

(1) If a sign, notice, advertisement or the like is erected contrary to this Schedule, the Board shall serve notice on the owner of the building, land or structure to which the sign, notice, advertisement or as the case may be is attached, requiring him to pull down or repair, within a time to be specified in the notice, the sign, notice, advertisement or as the case may be.

(2) Within the time specified in the notice under Subsection (1) the owner shall pull down or repair, to the satisfaction of the Board, the subject of the sign, notice, advertisement or structure.

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building.

SUBSIDIARY LEGISLATION.

1. Act, Section 3(a)—Declaration of Townships.

Cities of—

Lae

Port Moresby.

Towns of—

Alotau

Arawa

Bulolo

Daru

Goroka

Kainantu

Kavieng

Kerema

Kieta

Kimbe

Kokopo

Kundiawa

Laiagam

Lorengau

Madang

Maprik

Mendi

Mount Hagen

Popondetta

Rabaul

Vanimo

Wau

Wewak.

2. Act, Section 3(b)—Declaration of Prescribed Areas.

Act, Section 6—Specification of Building Boards for Prescribed Areas.

Prescribed Area.	Building Board.
Bougainville Province ¹	Rabaul Building Board.
Central Province (and National Capital District) ¹	Port Moresby Building Board.
Chimbu Province ¹	Mount Hagen Building Board.
Eastern Highlands Province ¹	Lae Building Board.
East New Britain Province ¹	Rabaul Building Board.
East Sepik Province ¹	Madang Building Board.
Enga Province— <i>see</i> Western Highlands Province below.	
Gulf Province ¹	Port Moresby Building Board.
Madang Province ¹	Madang Building Board.
Manus Province ¹	Madang Building Board.
Milne Bay Province ¹	Port Moresby Building Board.
Morobe Province ¹	Lae Building Board.
National Capital District— <i>see</i> Central Province above.	
New Ireland Province ¹	Rabaul Building Board.
Northern Province ¹	Lae Building Board.
Southern Highland Province ¹	Mount Hagen Building Board.
Western Province ¹	Port Moresby Building Board.
Western Highlands Province (and Enga Province) ¹	Mount Hagen Building Board.
West New Britain Province ¹	Kimbe Building Board.
West Sepik Province ¹	Madang Building Board.

3. Act, Section 4—Declaration of buildings to which Act applies in prescribed areas.

Buildings of Class III. occupancy (within the meaning of the *Building Regulation*).Buildings of Class VI. occupancy (within the meaning of the *Building Regulation*) of more than one storey, and service stations.Buildings of Class VIII. occupancy (within the meaning of the *Building Regulation*).Buildings of Class IX. occupancy (within the meaning of the *Building Regulation*).

4. Act, Section 5—Exemptions.

1. Buildings constructed for defence purposes or aerodrome purposes by or under the authority of the Government of Papua New Guinea or of Australia—exemption from the whole of the Act.

2. All buildings constructed or to be constructed by or on the authority of the Government of Australia, other than buildings specified in Paragraph 1.—exemption from the whole of the Act, except—

(a) Section 12 of the Act, in respect only of the lodging of plans and specifications; and

(b) Sections 3, 7 and 21 of the Regulation, in respect of the lodging of the plans and fees only.

3. All buildings to be constructed by or on the authority of a government, other than the Government of Papua New Guinea or of Australia for consular or associated purposes—exemption from the whole of the Act, except—

(a) Section 12 of the Act, in respect only of the lodging of plans and specifications; and

¹ Excluded areas of townships declared under Section 3(a) of the Act.

(b) Sections 3, 7 and 21 of the Regulation, in respect of the lodging of plans and fees only.

4. The building known (as at 25 January 1973) as the Commonwealth Department of Works former mess, situated on part of Portion 6, Section 22, Huon Road, Lae, subject to airconditioning having been installed by 31 December 1973—exemption from Section 2.606(a) of Schedule 3 to the *Building Regulation*.

5. Buildings of parts of buildings to be used as dormitories, residential colleges or school class-rooms, in cases where the heights of the rooms measured vertically from floor to ceiling, or to the undersides of rafters or joists, whichever is the lower, is not less than 2.44 m¹ at any point—exemption from Section 2.606(a) of Schedule 3 to the *Building Regulation*.

6. The following buildings (descriptions as at 11 August 1975) at the Holy Trinity Teachers' College, Mount Hagen :—

- (a) Art Block;
- (b) Kitchen-mess hall;
- (c) Laundry;
- (d) Science Block;
- (e) Toilet-ablution Block;
- (f) Women Students' Dormitory,

exemption from Section 21 of the *Building Regulation*.

7. Tokarara, Port Moresby, areas of land at, being—

- (a) Allotments 120, 122 and 128-161 of Section 231; and
- (b) Allotments 8-13, 23-30, 58-71, 75-88, 92-99, 104-110, 115-118 and 152-155 of Section 232,

(descriptions as at 10 August 1971) subject to applications being made for the approval of the Port Moresby Building Board in such form and accompanied by such information and particulars as are directed by that Board either generally or in a particular case.

5. Act, Section 6(1), 7(1) and 7(7)(a)—Building Boards.

Board.	Ex Officio Membership.	Quorum.
Alotau Building Board	Provincial Commissioner, Milne Bay Province (Chairman) Senior Health Officer, Milne Bay Province ² Senior Department of Public Works Provincial Representative, Milne Bay Province.	3
Arawa Building Board	Provincial Commissioner, Bougainville Province (Chairman) District Health Inspector ² , Bougainville Province.	3
Bulolo Building Board	Members of Lae Building Board.	2
Daru Building Board	Provincial Commissioner, Western Province (Chairman) District Health Officer ² , Western Province Senior Department of Works Provincial Representative, Western Province.	3

¹ Metricated editorially. The original measurement was 8 ft.

² Position as at 1 December 1971.

Board.	Ex Officio Membership	Quorum.
Goroka Building Board	Provincial Commissioner, Western Highlands Province (Chairman) District Health Inspector ¹ , Western Highlands Province Senior Department of Works Provincial Representative, Western Highlands Province Regional Valuer, Goroka, Department of Lands, Surveys and Mines ¹ .	3
Kainantu Building Board	Assistant District Commissioner ¹ , Kainantu Subdistrict (Chairman) District Health Inspector ¹ , Eastern Highlands Province.	2
Kavieng Building Board	Provincial Commissioner, New Ireland Province (Chairman) District Health Officer ¹ , New Ireland Province Senior Department of Public Works Provincial Representative, New Ireland Province Member of Tikana Local Government Council holding Works portfolio.	3
Kerema Building Board	Provincial Commissioner, Gulf Province (Chairman) District Health Inspector ¹ , Gulf Province Senior Department of Works Provincial Representative, Gulf Province.	3
Kieta Building Board	Deputy District Commissioner ² , Bougainville Province (Chairman) District Health Inspector ¹ , Bougainville Province Senior Department of Works Provincial Representative, Bougainville Province.	3
Kimbe Building Board	Provincial Commissioner, West New Britain Province (Chairman) District Health Officer ¹ , West New Britain Province Senior Department of Works Provincial Representative, West New Britain Province.	3
Kokopo Building Board	Members of Rabaul Building Board	2
Kundiawa Building Board	Provincial Commissioner, Chimbu Province (Chairman) District Health Officer ¹ , Chimbu Province Senior Department of Public Works Provincial Representative, Chimbu Province.	3
Lae Building Board	Regional Works Engineer ² , Department of Public Works, Lae (Chairman) Deputy District Commissioner ¹ , Morobe Province, Lae District Health Inspector ³ , Morobe Province.	3
Lorengau Building Board	Provincial Commissioner, Manus Province (Chairman) District Health Officer ¹ , Manus Province Senior Department of Public Works District Representative, Manus Province.	3
Madang Building Board	Provincial Commissioner, Madang Province (Chairman) District Health Inspector ¹ , Madang Province Senior Department of Public Works Provincial Representative, Madang Province Regional Surveyor ¹ , Department of Lands, Surveys and Mines, Madang.	3

¹ Position as at 1 December 1971.² Position as at 13 January 1972.³ Position as at 26 January 1972.

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Board.	Ex Officio Membership	Quorum.
Maprik Building Board	Deputy District Commissioner ¹ , Maprik Subdistrict (Chairman) District Health Inspector ¹ , East Sepik Province President of the Greater Maprik Council.	2
Mendi Building Board	District Works Engineer ² , Department of Public Works, Southern Highlands Province (Chairman) District Health Officer ² , Southern Highlands Province President, Mendi Local Government Council Council Clerk, Mendi Local Government Council.	2
Mount Hagen Building Board	Provincial Commissioner, Western Highlands Province (Chairman) District Health Inspector ¹ , Western Highlands Province Senior Department of Public Works Provincial Representative, Western Highlands Province Regional Surveyor ¹ , Department of Lands, Surveys and Mines, Mount Hagen President, Mount Hagen Local Government Council.	3
Popondetta Building Board	Provincial Commissioner, Northern Province (Chairman) District Health Officer ¹ , Northern Province Senior Department of Public Works Provincial Representative, Northern Province.	3
Port Moresby	Regional Works Engineer, Department of Public Works, Central Region ³ Deputy District Commissioner, Central District ³ .	4
Rabaul Building Board	Regional Works Engineer, Department of Public Works, Rabaul ⁴ (Chairman) Deputy District Commissioner, East New Britain Province, Rabaul ⁴ .	3
Vanimo Building Board	Provincial Commissioner, West Sepik Province (Chairman) District Health Officer ¹ , West Sepik Province Senior Department of Public Works Provincial Representative, West Sepik Province President, Vanimo Local Government Council.	3
Wau Building Board	Members of Lae Building Board	2
Wewak Building Board	Provincial Commissioner, East Sepik Province (Chairman) District Health Inspector ¹ , East Sepik Province Senior Department of Public Works Provincial Representative, East Sepik Province District Surveyor ⁵ , Department of Lands, Surveys and Mines, Wewak	3

¹ Position as at 1 December 1971.

² Position as at 16 October 1972. Appointments apparently for 3 years from 16 October 1972.

³ Position as at 17 June 1975. Appointments apparently for 3 years from 20 June 1975.

⁴ Position as at 29 May 1975. Appointments for 3 years from 29 May 1975.

⁵ Position as at 5 May 1972.

6. Act, Section 6—Specification of Building Boards for prescribed areas—*see* paragraph 2 above.

7. Act, Section 8—Building Authorities.

1. The Local Government Councils specified in the first column of the Schedule are authorized to establish Building Authorities for the respective areas set out in the second column of that Schedule.

2. The Building Authority shall be established by rule.

3. The rule establishing the Building Authority shall provide—

- (a) that the Authority shall consist of such members, not being less than three, as the Council, by resolution, appoints; and
- (b) for the tenure of office of members of the Authority; and
- (c) for the appointment of a Chairman of the Authority; and
- (d) for the appointment of acting members of the Authority; and
- (e) for the quorum at a meeting of the Authority; and
- (f) that a member of the Authority shall not take part in any deliberation or decision on, and shall not be counted towards a quorum in relation to, any matter in which he is personally interested; and
- (g) for the keeping of minutes of meetings of the Authority, and that copies of the minutes relating to a meeting shall be made available to the Director of Public Works within a period of not more than two weeks after the meeting; and
- (h) that the Authority shall in all matters comply with the provisions of the *Building Act* and the regulations made under it; and
- (i) that, until such time as the Council has made arrangements satisfactory to the Departmental Head of the Department concerned for the supply to the Authority of appropriate technical advice, the Authority shall, unless the Departmental Head of the Department concerned or a person authorized by the Departmental Head approves otherwise, either generally or in a particular case, seek advice—
 - (i) on all matters relating to structural design—from the Department of Public Works; and
 - (ii) on all matters relating to sewerage and drainage—from the Department of Public Health; and

- (iii) on all matters relating to land use—from the Department of Lands, Surveys and Mines,
- and shall be guided by the technical advice of the respective Departments; and
- (j) subject to the preceding provisions of this section, for the procedures of the Authority; and
- (k) for such other matters, not inconsistent with the *Building Act* or the regulations made under it, as the Council thinks proper to include.

SCHEDULE.

Council.	Area for which Authority may be established.
Arawa Town Council (Arawa Municipal Building Authority)	Such part of the town of Arawa as is within the Council area.
Goroka Local Government Council (Goroka Building Authority)	Such part of the town of Goroka as is within the boundaries of the Council area.
Greater Maprik Local Government Council (Maprik Town Building Authority)	Such part of the town of Maprik as is within the Council area.
Kerema Bay Local Government Council (Kerema Bay Building Authority)	Such part of the town of Kerema as is within the Council area.
Lae City Council (Lae City Building Authority)	Such part of the city of Lae as is within the Council area.
Port Moresby City Council (Port Moresby City Council Building Authority)	Such part of the city of Port Moresby as is within the Council area.
Rabaul Town Council (Rabaul Town Building Authority)	Such part of the town of Rabaul as is within the Council area.
Vanimo Local Government Council (Vanimo Building Authority)	Such part of the town of Vanimo as is within the Council area.

8. Regulation, Section 11—Ex officio appointments of Building Inspectors.

Office.	Area for which appointed.
1. Building Inspector ¹ in the Department of Public Works	Cities of— Lae Port Moresby Towns of— Arawa Daru Goroka Kainantu Kavieng Kerema Kieta Kimbe Kokopo Kundiawa Lorengau Madang Maprik Mendi

¹ Positions as at 19 November 1973.

Office.	Area for which appointed.
	Mount Hagen Popondetta Rabaul Vanimo Wewak, and all other areas under the jurisdiction of the Building Board or Building Authority for any of those cities or towns.
2. Building Inspector, Port Moresby City Council ¹	City of Port Moresby and all other areas under the jurisdiction of the Building Board or Building Authority for that city.
3. Works Supervisor, Milne Bay Province, in the Department of Public Works ¹	The town of Alotau and all other areas under the jurisdiction of the Building Board or Building Authority for that town.

9. Regulation, Schedule 3, Section 2-802(1)—Declaration of Townships for purposes of Division 2-8.

Cities of—

Lae

Port Moresby

Towns of—

Goroka

Kieta

Kimbe

Madang

Mount Hagen

Rabaul.

10. Regulation, Schedule 4, Section 1-101—Declaration of Category A Areas.

Goroka—

Sections 68-72.

Kimbe—

Section 49.

Lae—

Section 179-185.

Madang—

Sections 108-111.

Mount Hagen—

Sections 71-74

Sections 76, 77, 78.

¹ Positions as at 19 November 1973.

Port Moresby—

Hohola—

Section 227

Section 228—Allotments 120-148.

Section 231—Allotments 117-161

Section 232—Allotments 1-37, 56-121, 148-155, 163-172

Section 236—Allotments 9-36, 64-92.

Matirogo—

Sections 26-42

Sections 43, 44, 45

Sections 46-72.

Morata—

Section 280—Allotments 1-50

Section 281—Allotments 1-34

Section 282—Allotments 1-20

Section 283—Allotments 1-44

Section 284—Allotments 1-64

Section 285—Allotment 1

Section 292—Allotments 1-79

Section 353—Allotments 1-125

Section 364—Allotments 1-62

Section 365—Allotments 1-3

Section 366—Allotments 1-87

Section 367—Allotments 1-44

Section 368—Allotments 1-46

Section 369—Allotments 1-4

Section 370—Allotments 1-66

Section 371—Allotments 1-41.

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 301.

Building.

APPENDIXES.

APPENDIX 1.

SOURCE OF THE BUILDING ACT.

Part A.—Previous Legislation.

Building Act 1971 (No. 71 of 1971)

as amended by—

Building (Amendment) Act 1973 (No. 19 of 1973)

Statute Law Revision (Metric Conversion) Act 1974 (No. 49 of 1974)

Building (Provincial Building Boards) Act 1977 (No. 22 of 1977).

Part B.—Cross References.

Section, etc., in Revised Edition.	Previous Reference ¹ .	Section, etc., in Revised Edition.	Previous Reference ¹ .
1	5	14	18
2	6	15	19
3	7	16	20
4	8	17	21
5	9	18	22
6	10	19	23
7	11	20	24
8	12	21	25
9	13	22	26
10	14	23	27
11	15	24	28
12	16	25	29
13	17	26	30

¹Unless otherwise indicated, references are to the Act set out in Part A.

Part B.—Cross References—Continued.

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4-257	4-257	5-363	5-363
4-301	4-301	5-364	5-364
4-302	4-302	5-365	5-365
4-303	4-303	5-366	5-366
4-304	4-304	5-401	5-401
4-305	4-305	5-402	5-402
4-306	4-306	5-403	5-403
4-307	4-307	5-404	5-404
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5-202	5-202	6-102	6-102
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Part B.—Cross References—Continued.

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7-108	7-108	8-101	8-101
7-109	7-109	8-102	8-102
7-110	7-110	8-103	8-103
7-111	7-111	8-104	8-104
7-112	7-112	8-105	8-105
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8-402	8-402	9-501	9-501
8-403	8-403	9-502	9-502
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8-501	8-501	9-504	9-504
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9-306	9-306	1-104	1-104