



**20 ELGIN STREET AND
141 NICHOLSON STREET
CARLTON 3053**

RED BRICK BUILDINGS

EXISTING CONDITIONS REVIEW AND REPORT

Report prepared for:

Homes Victoria
Department of Families, Fairness & Housing
Level 8, 50 Lonsdale Street
Melbourne Victoria 3000

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Carlow House, Suite 7.05, 289 Flinders Lane, Melbourne 3000

+61 3 9639 5500  mail@approvalsystems.com.au

ABN 29 538 736 280

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Introduction

Approval Systems Pty Ltd has been engaged by Homes Victoria to undertake a review of the existing two residential tower buildings.

The scope of the engagement was to identify features in the existing building which do not comply with the current Building Regulations and to assess their impact on the proposed feasibility options that are documented in Hayball Architects report No 2594ⁱ, dated January 2022.

The report will assist the Office of Housing with selecting an option for redevelopment of the residential accommodation on this site.

Scope/limitations

Due to time limitations and limited access to existing building design documents, the compliance assessment was confined to a high-level assessment only.

Relevant legislation and standards

The compliance parameters against which the assessment was undertaken are taken from the following reference documents:

1. Building Act 1993
2. Building Regulations 2018
3. Building Code of Australia 2019 – Amendment 1, Volume 1
4. DFFH Capital Management Branch Fire Risk Management Guidelines 2013 7.3 – Engineering Guidelines and 7.9 – Multi-storey Residential Buildings

Background

It is understood that the building was purpose built for the Housing Commission in or about 1966. Prior to 1994, when the Building Act 1993 was adopted, the Crown was not bound by building legislation, so the standards to which the buildings were designed have not been able to be determined.

Schedule 4 of the Building Act 1993 contains the “savings provisions”: which stipulate that anything done under past versions of the Building Act or Building Regulations is preserved beyond the life of the historic acts and regulations. The effect of this provision is that buildings are not required to be upgraded to comply with each newly adopted act, regulation, building code or standard.

Documents provided by the Office of Housing suggest that the buildings have been altered with respect to the installation of fire suppression systems in the form of sprinklers and other voluntary fire safety upgrade works as documented in LCI Fire Engineering reports ⁱⁱ

Since the buildings were constructed, building standards and codes have evolved to include several compliance requirements which were not in force when the buildings were constructed. These include:

- a) Access for people with disabilities.
- b) Structural design standards.
- c) Energy efficiency requirements including requirements for building fabric, façade and glazed windows and doors, mechanical and electrical services. Each dwelling is required to achieve a 6 star energy rating when assessed in accordance under the FirstRate scheme.
- d) Weatherproofing of external walls.



- e) Fire safety standards.
- f) Adoption of DHHS Fire Risk Management Guidelines.

Furthermore, the Office of Housing is seeking to keep up with accommodation standards for public housing.

Building Description

The subject site is occupied by two high rise residential towers which were constructed circa 1966 and each of the towers accommodates approximately 98 dwellings. The towers have the following characteristics:

- Reinforced concrete columns, floors, lift/stair core and floors.
- Non-load bearing infill clay brick walls.
- Precast concrete balcony balustrades.
- Reinforced concrete roof.
- Brick service riser shafts.
- Two exit stairs configured as “scissor stairs”.
- Non loadbearing internal walls bounding sole occupancy units and public corridors.

The building is served by the following fire protection systems:

- Automatic sprinkler system to AS2118.4 (approved further to a fire engineering assessment)
- Smoke alarms in each dwelling.
- Passive fire protection/fire resistant construction.
- Fire isolated stairway.
- Internal fire hydrants and fire hose reels.
- Emergency and exit lighting.
- Common area fire detection system.
- EWIS system.
- Stair pressurisation.

	20 Elgin Street	141 Nicholson Street
Number of storeys	Nineteen (19)	Nineteen (19)
Rise in storeys	Seventeen (17)	Seventeen (17)
Effective height	41.44 approx.	41.44 approx.
Type of construction for fire resistance	Type A	Type A
Climate Zone	6	6

First to 16th floors each accommodate six (6) dwellings and ground floor accommodates two three-bedroom dwellings totalling 98 dwellings in each tower.

Site Inspection

A site orientation visit was undertaken on 16 March 2022 with the aim of making high level observations of the building configuration and general condition. The site orientation visit was confined to common corridors, lobbies, stairs, roof plant room and ground floor plant/equipment rooms. Three (3) vacant sole occupancy units were accessed during the inspection.

The inspection did not include testing of any fire protection equipment.



The following observations were made during the site orientation visit that relate to building compliance:

1. Evidence that the sewer risers/stacks were failing and were subject to significant leaks throughout.
2. Evidence of dampness in walls throughout the building and the formation of efflorescence and mould within sole occupancy units. The sewer stacks appeared to be the source of internal dampness.
3. Smoke alarms not compliant with the Building Code of Australia where smoke alarms were not located between bedrooms and the remainder of the SOU (contrary to BCA requirements).
4. Access for people with disabilities to and within the building did not comply with BCA Part D3 and AS1428.1, for example, ramp grades in common corridors and lobbies were too steep, contrasting nosings were absent from stair nosings, circulation spaces at common area doorways was non-compliant, absence of tactile indicators at changes in level, etc.
5. Evidence of incomplete fire stopping at service penetrations particularly in the waste chutes and sewer stacks.
6. Absence of fire doors to sole occupancy unit entries and fire stair entries.
7. Non-compliant door hardware on SOU entry doors (non-compliant with DHHS Guideline 7.9)
8. Evidence of extensive corrosion of concrete reinforcement (refer structural report by Accor Consulting Engineers).
9. Non-compliant ceiling heights in common corridors (circa 2.0 metres instead of minimum prescribed ceiling height of 2.1 metres). The reduced ceiling height is a health and amenity concern and is also a consideration for smoke layer in the event of fire.
10. The building lacked substantive energy efficiency measures with windows and external doors lacking weather seals, low performance glass, absence of thermal insulation to floors, walls and roof and lack of energy efficient lighting, power and mechanical services.

Proposed redevelopment options

This report does not address the redevelopment option (Option C) for the replacement of the buildings with new structures because the new buildings will be required to comply with current regulations and standards

Options A and B involve remodelling the existing building to improve the standard of accommodation amongst other things. Both options will be subject to Regulations 233 and 236 of the Building Regulations 2018 which regulate building work in existing buildings.

BUILDING REGULATIONS 2018 - REG 233

Alteration to existing building

- 1) *Building work to alter an existing building must comply with these Regulations.*
- 2) *Subject to regulations 234 and 236, if the proposed alterations to an existing building, together with any other alterations completed or permitted within the previous 3 years, relate to more than half the original volume of the building, the entire building must be brought into conformity with these Regulations.*



- 3) *Despite subregulations (1) and (2) and subject to subregulation (6), the relevant building surveyor may consent to partial compliance of building work or an existing building with subregulation (1) or (2).*
- 4) *In determining whether to consent to partial compliance with subregulation (1) or (2) in respect of any alteration to a building, the relevant building surveyor must take into account—*
 - (a) *the structural adequacy of the building; and*
 - (b) *the requirements necessary to make reasonable provision for—*
 - i. *the amenity of the building and the safety and health of people using the building; and*
 - ii. *avoiding the spread of fire to or from any adjoining building.*
- 5) *Any consent to partial compliance under subregulation (3) must be in the form of Form 18.*
- 6) *If any part of the alteration is an extension to an existing building, the relevant building surveyor may only consent to partial compliance in respect of the extension if the floor area of the extension is not greater than the lesser of—*
 - (a) *25% of the floor area of the existing building; and*
 - (b) *1 000 m².*

Regulation 233 gives a building surveyor discretion to accept existing non compliances if those non-compliances will not compromise:

- Occupant safety
- Occupant health and amenity
- Fire safety and risk of fire spread
- Structural adequacy

Conclusion

In summary, it is considered that the extent of the work would activate the provisions of Regulation 233 which require the existing buildings to be retrospectively upgraded to comply with current regulations.

Approval Systems is of the opinion that retrospective upgrade with respect to several building features would not be feasible or practicable, namely:

1. Structural provisions and in particular seismic loading
2. Access to and within the building, including within sole occupancy units for people with disabilities
3. Ceiling heights
4. Energy efficiency
5. Condensation

ⁱ Redbrick Towers, Feasibility Study and Options testing Reference 2594, Hayball Architects, January 2022

ⁱⁱ Fire Engineering Report MB 1057 FER 14 1, Lehr Consulting International (LCI), 1 October 2013

