

TECHNICAL REFERENCE

# Facility design for nursing homes



Published by

**Enterprise**  
**Singapore**

**TR 66 : 2018**

(ICS 11.020; 91.040.10)

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ISBN 978-981-48-3517-6

This Technical Reference was endorsed by the Building and Construction Standards Committee on behalf of the Singapore Standards Council on 15 October 2018.

First published, 2018

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*Renci Hospital*  
*RSP Architects Planners & Engineers (Pte) Ltd*  
*Singapore General Hospital*  
*Team Design Architects Pte Ltd*  
*The Institution of Engineers, Singapore*

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## **Foreword**

This Technical Reference was prepared by a Working Group appointed by the Technical Committee on Architectural Works which is under the direction of the Building and Construction Standards Committee (BCSC).

Singapore has an ageing population and the demand for aged care services is expected to increase. The government will continue to build healthcare capacity to support new care models that enable our seniors to receive better care, closer to their homes.

The nursing homes, together with aged care residential and support facilities, are planned within senior-friendly neighbourhoods to facilitate ageing in place within the community and encourage visitation by the family members.

This Technical Reference is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the Technical Reference so that it can be adopted as a Singapore Standard. Users of the Technical Reference are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the Technical Reference. At the end of the three years, the Technical Reference will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

The Ministry of Health has specific policies and guidelines for nursing homes which take precedence over the provisions in this Technical Reference.

In developing the principles of dementia friendly designs, reference was made to Agency for Integrated Care's "In Looking to the Future: Designing and Managing Residential Facilities for People with Dementia – A Guidebook".

Reference was also made to the following publications:

1. Building Control Regulation 27, Approved Document – Acceptable Solutions
2. Code of Practice on Environmental Health
3. Code of Practice for Fire Precautions in Buildings (Fire Code)
4. Code of Practice on Surface Water Drainage
5. Code of Practice on Sewerage and Sanitary Work and its amendments
6. Energy Conservation Act 2012 (No. 11 of 2012) and its Regulations
7. Environmental Protection and Management Act (Cap. 94A) and its Regulations
8. Environmental Public Health Act (Cap. 95) and its Regulations
9. Environmental Public Health (Cooling Towers and Water Fountains) Regulations
10. Infectious Diseases Act (Cap. 137) (Part V) and its Regulations
11. Medicines Act (Cap. 176) and its Regulations
12. Ministry of Health (MOH), Licensing Terms and Conditions on Nursing Homes Imposed Under Section 6(5) of the Private Hospitals and Medical Clinics Act (Cap. 248)

13. MOH, Enhanced Nursing Home Standards
14. Private Hospitals and Medical Clinics Act (Cap. 248) and its Regulations
15. Sewerage and Drainage Act (Cap. 294) and its Regulations
16. Workplace Safety and Health Act and its Workplace Safety and Health (General Provisions) Regulations
17. WSH Guidelines on Healthcare

Acknowledgement is made for the use of information from the above publications.

Attention is drawn to the possibility that some of the elements of this Technical Reference may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

**NOTE**

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
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## Technical Reference – Facility design for nursing homes

### 0 Introduction

Nursing homes are long-term residential care facilities that provide a range of services to its residents who require assistance with a number of the activities of daily living and/or skilled nursing care. Nursing home residents are typically unable to be cared for at home or in the community. The services nursing homes provide include medical care, nursing care, rehabilitative services and dietary services.

Residents in a nursing home are classified into four categories according to their functional status and care needs (see Table 1).

**Table 1 – Classification of residents in nursing homes**

Category	Functional status/care needs
I	<ul style="list-style-type: none"> <li>Physically and mentally independent</li> <li>May or may not use walking aids</li> <li>Does not need or needs minimal assistance in activities of daily living (ADL)</li> </ul>
II	<ul style="list-style-type: none"> <li>Semi-ambulant</li> <li>Requires some physical assistance and supervision in ADL</li> <li>May have mild dementia, psychiatric/behavioural issues</li> </ul>
III	<ul style="list-style-type: none"> <li>Wheelchair</li> <li>May have dementia, psychiatric/behavioural issues</li> <li>Needs help in ADL and supervision most of the time</li> </ul>
IV	<ul style="list-style-type: none"> <li>Highly dependent</li> <li>Bed-bound</li> <li>May have dementia, psychiatric/behavioural issues</li> <li>Requires total assistance and supervision in every aspect of ADL</li> </ul>

### 1 Scope

**1.1** This Technical Reference outlines the provisions for the basic space and design planning of nursing homes in Singapore.

It covers the specific needs of related facilities in a nursing home to design consultants and personnel who may be involved in the design, construction, operation and maintenance of the nursing home. It aims to enhance the quality of care by establishing standards to provide suitable living conditions, with considerations for the safety, privacy and dignity of the residents, staff and visitors of the nursing home.

**1.2** Key planning unit (KPU) refers to a unit, grouping broadly related activities in a nursing home. Functional planning unit (FPU) refers to the key components within a KPU that determine the size of the unit. The planning units that are covered in this Technical Reference are as follows:

	<u>Key planning unit (KPU)</u>	<u>Functional planning unit (FPU)</u>
a)	Basic facilities	<ul style="list-style-type: none"> <li>– Accommodation for residents (general)</li> <li>– Accommodation for residents (dementia)</li> </ul>
b)	Support facilities	<ul style="list-style-type: none"> <li>– Residents' communal areas</li> <li>– Clinical areas</li> <li>– Support service areas</li> <li>– Catering areas</li> <li>– Laundry areas</li> </ul>
c)	Extended facilities	<ul style="list-style-type: none"> <li>– Senior care centre (SCC)</li> </ul>

**1.3** Accommodation specifically for residents (psychiatric), home care office, reception, staff administration and amenities, including staff accommodation and ancillary facilities such as carparks and landscape are not covered in this Technical Reference.

## **2 Normative references**

The following standards/referenced documents are indispensable for the application of this Technical Reference. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/ASHRAE/ASHE Standard 170-2013 Ventilation of Health Care Facilities

ANSI/IESNA RP-28-07 Lighting and the Visual Environment for Senior Living

ANSI/IESNA RP-29-06 Lighting for Hospitals and Healthcare Facilities

CIBSE Guide 'D': Transportation Systems in Building

EN 779/ASHRAE 52.2 Indoor Air Quality

Health Technical Memorandum HTM 08-02 Lifts

IEEE Standard 1789-2015 IEEE Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers

MOH, Influenza Pandemic Guide for Step-Down Care Institutions and Nursing Homes

PUB, Singapore's National Water Agency, Trade Effluent Discharge into Sewers – A Guidebook to Good Practices

Singapore Environment Council, Singapore Green Labelling Scheme

Singapore Green Building Council, Singapore Green Building Product Label

SS 485 Specification for slip resistance classification of pedestrian surface materials

SS 514 Code of practice for office ergonomics

SS 530 Code of practice for energy efficiency standard for building services and equipment

SS 531 Code of practice for lighting of work places

- SS 550 Code of practice for installation, operation and maintenance of electric passenger and goods lift
- SS 553 Code of practice for air-conditioning and mechanical ventilation in buildings
- SS 554 Code of practice for indoor air quality for air-conditioned buildings
- SS 569 Code of practice for manual handling
- SS 638\* Code of practice for electrical installations (formerly CP 5)

\* Under publication.