Building and Construction Authority

An MND Statutory Board

Our ref : APPBCA-2025-03
03 Mar 2025

See Distribution List

Dear Sir/Madam

UPDATES TO THE APPROVED DOCUMENT (1 MARCH 2025)

This circular is to inform the industry on the update to the Approved Document with reference to BCA circular ref: APPBCA-2025-03 issued on 3 Mar 2025.

2 The update to the 'Approved Document' comprises mostly editorial changes, which are meant to improve clarity. Other than that, the rest of the updates comprises removal of references to the old BS/SS standards, rule relaxation and streamlining. The updates shall apply to **all projects for which the first set of plans is submitted to the Commissioner of Building Control for approval on or after 1 September 2025.**

3 For your information, a table highlighting all updates and relevant explanatory comments is provided in Annex A. An electronic copy of the updated Approved Document can be downloaded from BCA's website from 1 March 2025 from this link:

https://www1.bca.gov.sg/docs/default-source/docs-corp-regulatory/approved-document-v7-07.pdf?sfvrsn=5be1dd75_1

4 We would appreciate if you could share this circular with your members. If you need any further clarifications, please contact us through BCA's Online Feedback Form at https://www.bca.gov.sg/feedbackform/.

5 Thank you.

Yours faithfully

AR. ONG YU ZI JANE
DIRECTOR
BUILDING PLAN AND POLICIES DEPARTMENT
BUILDING PLAN AND MANAGEMENT GROUP
BUILDING AND CONSTRUCTION AUTHORITY
For COMMISSIONER OF BUILDING CONTROL

Annex A –AMENDMENTS TO THE APPROVED DOCUMENT 1 MARCH 2025

CURRENT VERSION 7.06	1 MARCH 2025 VERSION 7.07	COMMENTS
Section B STRUCTURAL DESIGN AND CONSTRUCTION		
B.3.1 **ACCEPTABLE SOLUTION** B.3.1a Structural design standards based on the Eurocodes will co-exist with the Singapore/British design standards. During this co-existence period, either the current Singapore/British design standards or the Eurocodes are acceptable standards as set out in paragraphs B.3.2 to B.3.7. However, inappropriate mixing the new Eurocode design standards with the current Singapore/British design standards within the same building design will not be acceptable.	B.3.1 **ACCEPTABLE SOLUTION** B.3.1a Structural design standards shall be based on the Eurocode ~~will co-exist with the Singapore/British~~ design standards. ~~During this co-existence period, either the current Singapore/British design standards or the Eurocodes are acceptable standards as set out in paragraphs B.3.2 to B.3.7. However, inappropriate~~ Mixing the ~~new~~ Eurocode design standards with the old superseded ~~current~~ Singapore/British design standards within the same building design is ~~will~~ not ~~be~~ acceptable.	*Remove the reference to old, superseded Singapore/ British Standards*
B.3.1c Similar to the design standards, the use of Eurocodes will require the product and execution standards to be based on the equivalent Singapore/European standards. Annex B provides a comparative table showing all the standards that are applicable for each of the option.	B.3.1c Similar to the design standards, the use of the Eurocodes will require the product and execution standards to be based on the equivalent Singapore/European standards. ~~Annex B provides a comparative table showing all the standards that are applicable for each of the option.~~	*Remove the reference to old, superseded Singapore/ British Standards*

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<tr><td>B.3.2 Load

B.3.2.1 The building shall be able to resist loads determined in accordance with the following Standards –

<table><tr><th>Type of Loads</th><th>When adopting Eurocodes</th></tr><tr><td>(d) Imposed roof loads</td><td>(i) Actions on structures – General actions - Actions on structures - General actions - Densities, self-weight and imposed loads for buildings - SS EN 1991 - 1-1.</td></tr></table></td><td>B.3.2 Loads

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<tr><td>B.3.3 Structural Design

B.3.3.1 The design of the building structures shall comply with the following Standards –</td><td>B.3.3 Structural Design

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<tr><td>(c) Steel structures; composite steel and concrete structures</td><td>(i) Design of steel structures - SS EN 1993;
(ii) Design of composite steel and concrete structures - SS EN 1994;
(iii) Design Guide on Use of Alternative Structural Steel Materials to BS 5950 and Eurocode 3 – BC 1;
(iv) Design Guide for Steel-Concrete Composite Columns with High Strength Materials – BC4; and
(v) Design Guide for Semi-rigid Composite Joints and Beams</td></tr>
<tr><td>(h) Retaining structures</td><td>(i) Geotechnical design – General rules - SS EN 1997-1.</td></tr>
<tr><td>i) Assessment of concrete</td><td>(ii) Complementary guidance to that given in SS EN 13791 – SS 592.</td></tr>
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(v) Design Guide for Semi-rigid Composite Joints and Beams</td></tr>
<tr><td>(h) Retaining structures, earth retaining or stabilizing structure (ERSS)</td><td>(i) Geotechnical design – General rules - SS EN 1997-1.
(ii) Guidance listed in B.3.3.2 below</td></tr>
<tr><td>i) Assessment of concrete</td><td>~~(ii) Complementary guidance to that given in SS EN 13791 – SS 592~~</td></tr>
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<tr>
<td></td>
<td>B.3.3.2 The Design Qualified Person preparing plan shall design earth retaining or stabilizing structures in accordance with requirements listed below:</td>
<td>Add requirements for design of earth retaining or</td>
</tr>
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CURRENT VERSION 7.06	1 MARCH 2025 VERSION 7.07	COMMENTS
	a) The structural elements of ERSS shall be designed with an adequate safety factor that is not less than that of permanent structural works carried out in the same project. b) The allowable maximum wall deflection limits shall be limited to 0.5%H for Zone 1; 0.7%H for Zone 2; 0.7%H (Ground Type A) and 1.0%H (Ground Type B) for Zone 3, where – (i) H is the excavation depth; (ii) Zone 1 is denoted as where there are existing structures within a distance of H from the edge of the excavation; (iii) Zone 2 is denoted as where there are existing structures within a zone of between H and 2H from the edge of the excavation. (iv) Zone 3 is denoted as where existing structures are more than 2H from the edge of the excavation. Ground Type A refers to over-consolidated stiff clays and silts, residual soils, and medium to dense sands; and Ground Type B refers to soft clays (including treated soft clays), silts or organic soils extending to or below formation level (e.g. Kallang Formation) and loose fills.	*stabilizing structures*

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	c) The allowable wall deflection limits shall also address the prevention of damage to neighbouring buildings or structures arising from ground deformations. d) In any case, the QP shall adopt the more stringent value determined in b) and c) above and specify in the ERSS plan the allowable wall deflection as work suspension level (WSL) for inclinometer and 70% of WSL as the Alert Level. When the work suspension level is reached, work must be stopped, and immediate measures shall be implemented to remove any danger that is likely to cause a risk of injury or damage to adjoining properties. To ensure the structural stability of the excavation system or to ensure the structural stability of the deep excavation system, the use of ground improvement measures such as jet grout piles (JGP), or grout mixed piles (GMP) or deep cement mixing (DCM) shall be restricted to ground strengthening or soil improvement works. It shall not be used as part of the support system or compressive strutting system or as embedded retaining walls. Movement during the installation of the ground improvement block or layer shall be monitored with appropriate allowable limits. If ground improvement layer is used to fulfil part of the stability requirement, the wall embedment shall be extended to such a depth that the minimum factor of safety (FOS) against basal heave	

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B.3.4.1 Site investigation and instrumentation shall be carried out in accordance with the following Standards –

<table><tr><th>When adopting Singapore or British design standards</th><th>When adopting Eurocodes</th></tr><tr><td>(i) Code of practice for site investigations – BS 5930; and

Method of test for soils for civil engineering purposes – BS1377.</td><td>Geotechnical design – Ground investigation and testing - SS EN 1997- 2.</td></tr></table></td><td>B.3.4 Site Investigation and Instrumentation

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B.3.5.1 Site formation works shall conform to the following Standards –

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<tr><th>When adopting Singapore or British design standards</th><th>When adopting Eurocodes</th></tr>
<tr><td>(i) Code of practice for earthworks – SS CP 18.</td><td>(i) Code of practice for earthworks – BS 6031.</td></tr>
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B.3.8.1 Construction tests for the materials and the structural members or elements of a building shall comply with the following Standards –

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CURRENT VERSION 7.06	1 MARCH 2025 VERSION 7.07	COMMENTS
Section E STAIRCASES		
E.3.6 **Handrails** E.3.6.3 Handrails shall: a) have a circular section from 32mm to 50mm in diameter or an equivalent gripping surface as shown in Code on Accessibility in the Built Environment, Clause 4.7.31(b); and	E.3.6 **Handrails** E.3.6.3 Handrails shall: a) have a circular section from 32mm to 50mm in diameter or an equivalent gripping surface as shown in Code on Accessibility in the Built Environment~~, Clause 4.7.31(b)~~; and	*Editorial Change*
Section G VENTILATION		
G.3.2 **Natural ventilation** *Note: Except otherwise stated in the following, any openable window or opening may be considered to be unobstructed and for the purposes of paragraph G.3.2.1, the effective open area may be taken as the entire area of the opening.* *(c) For any casement windows installed with restrictors and can be opened at least 30 degrees or more, the effective open area of the window shall be assumed to be 50% of the window opening. Where the window is restricted from opening to an angle less than 30 degrees,*	G.3.2 **Natural ventilation** *Note: Except otherwise stated in the following, any openable window or opening may be considered to be unobstructed and for the purposes of paragraph G.3.2.1, the effective open area may be taken as the entire area of the opening.* *(c) For windows other than sliding types (e.g. top hung windows, casement windows) that are installed with a fixed restrictor which does not allow the opening of the window beyond a certain angle, the effective open area shall be determined in accordance with the following formula.*	*Rules relaxation*

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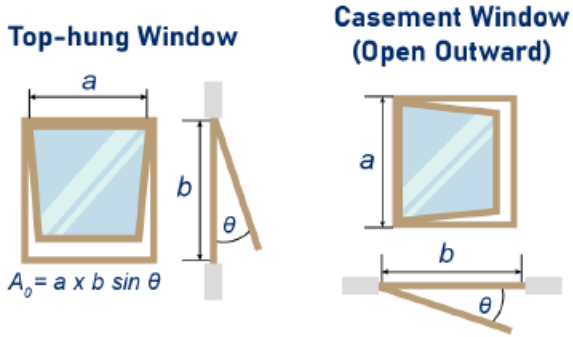
the window shall be taken to have no effective open area for the purposes of paragraph G.3.2.1.	*Effective open area = internal clear width x internal clear height x sin* θ *Where:* θ *(theta) is the maximum angle formed between the open edge of the window and the frame when the window is fully opened.* *Internal clear width is the unobstructed width of the window opening.* *Internal clear height is the unobstructed height of the window opening.* *Illustrations:*  A_0 = *Effective open area (sqm)* A_0 = *a x b x sin* θ	

CURRENT VERSION 7.06	1 MARCH 2025 VERSION 7.07	COMMENTS
Section H Safety from Falling		
E.3.3 **Horizontal loading and design of glass panel barriers** H.3.3.1A Notwithstanding paragraph H.3.3.1, in the case of a barrier in a project where the first structural plans have been submitted for approval by the Commissioner of Building Control before 1 April 2015, the vehicular barrier may be designed to be capable of resisting forces set out in BS 6399: Part 1 - Loading for buildings. Code of practice for dead and imposed loads.	E.3.3 **Horizontal loading and design of glass panel barriers** ~~H.3.3.1A Notwithstanding paragraph H.3.3.1, in the case of a barrier in a project where the first structural plans have been submitted for approval by the Commissioner of Building Control before 1 April 2015, the vehicular barrier may be designed to be capable of resisting forces set out in BS 6399: Part 1 - Loading for buildings. Code of practice for dead and imposed loads~~.	*Remove the reference to old, superseded Singapore/ British Standards*
Section I Energy Efficiency		
I ENERGY EFFICIENCY	**I ~~ENERGY EFFICIENCY~~SECTION I** *Section deleted and streamlined under the Building Control (Environmental Sustainability) Regulations 2008 ("BC (ES) Regulations").*	*Deletion of Section I to minimise duplication.*
Section K Lifts and Escalators		
K.2 **Performance Requirement** K.2.2 A building comprising 5 or more storeys (including the ground level) shall be provided with one or more passenger lifts.	K.2 **Performance Requirement** K.2.2 A building comprising 5 or more storeys (including the ground level and any basement level) shall be provided with one or more passenger lifts.	*Add definition for clarity*

CURRENT VERSION 7.06	1 MARCH 2025 VERSION 7.07	COMMENTS
Section O Protection from Injury by Vehicles in Buildings		
O.3. **Acceptable Solution** O.3.3 Notwithstanding paragraph O.3.2, in the case of a vehicular barrier in a project where the first structural plans have been submitted for approval by the Commissioner of Building Control before 1 April 2015, the vehicular barrier may be designed to be capable of resisting forces set out in BS 6399- Part 1: Loading for Buildings. Code of Practice for Dead and Imposed Loads.	O.3. **Acceptable Solution** ~~O.3.3 Notwithstanding paragraph O.3.2, in the case of a vehicular barrier in a project where the first structural plans have been submitted for approval by the Commissioner of Building Control before 1 April 2015, the vehicular barrier may be designed to be capable of resisting forces set out in BS 6399- Part 1: Loading for Buildings. Code of Practice for Dead and Imposed Loads.~~	*Remove the reference to old, superseded Singapore/ British Standards*

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DISTRIBUTION (via e-mail):

President
Association of Consulting Engineers, Singapore (ACES)
18 Sin Ming Lane
#06-01 Midview City
Singapore 573960

President
Institution of Engineers, Singapore (IES)
70 Bukit Tinggi Road
Singapore 289758

President
Real Estate Developers' Association of Singapore (REDAS)
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Construction House
1 Bukit Merah Lane 2
Singapore 159760

President
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79 Neil Road
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9, Ah Hood Road, #02-04,
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110 Middle Road #09-00
Chiat Hong Building
Singapore 188968

President
Society of Project Management (SPM)
168 Jalan Bukit Merah Connection One #10-01
Singapore 150168
c/o SIPM Consultants Pte Ltd

President
Board of Architects (BOA)
5 Maxwell Road 1st storey
Tower Block MND Complex
Singapore 069110

52 Jurong Gateway Road #11-01 Singapore 608550
Tel: 1800 3425 222 | Fax: (65) 6334 4287
www.bca.gov.sg

BuildSG

President
Professional Engineers Board, Singapore (PEB)
52 Jurong Gateway Road #07-03
Singapore 608550

President
Singapore Lift & Escalator Contractors & Manufacturers Association (SLECMA)
3 Raffles Place #06-01
Bharat Building
Singapore 048617

President
Singapore Hotel Association
17 Cantonment Road
Singapore 089740

Chairman
The Association of Shopping Centres (Singapore)
91 Tanglin Road #03-01
Tanglin Place
Singapore 247918

President
Singapore Structural Steel Society (SSSS)
1 Liang Seah Street #02-11/12
Liang Seah Place
Singapore 189022

Director of Infrastructure
School Campus Department
Ministry of Education
1 North Buona Vista Drive
Singapore 138675

Deputy Director
Project Development & Management 3
Building Quality Group
Housing & Development Board
HDB Hub
480 Lorong 6 Toa Payoh
Singapore 310480

Deputy Chief Executive
Infrastructure & Development
Land Transport Authority (LTA)
1 Hamphire Road Block 8 Level
Singapore 219428

Director
Technical Services Division
JTC Corporation (JTC)
8 Jurong Town Hall Road
The JTC Summit
Singapore 609434

Senior Director (Building & Estates Management)
People's Association (PA)

9 King George's Avenue
Singapore 208581

Director
Special Projects & Procurement Department
PUB, Singapore National Agency
40 Scotts Road #08-01
Environment Building
Singapore 228231

Chief(Sports Facilities)
Sport Singapore
3 Stadium Drive
Singapore 397630

Chief Executive Officer
Urban Redevelopment Authority (URA)
45 Maxwell Road, The URA Centre
Singapore 069118

Director
Building and Infrastructure
Defence Science & Technology Agency
1 Depot Road
Defence Technology Tower A
Singapore 109679

Head (Fire Safety and Building Control)
Building and Infrastructure
Defence Science & Technology Agency
71 Science Park Drive
Singapore 118253

Manager (Architectural Plans)
Building and Infrastructure
Defence Science & Technology Agency
71 Science Park Drive
Singapore 118253

Deputy Chief Executive Officer
Sentosa Development Corporation
33 Allenbrooke Road, Sentosa
Singapore 099981

Chief
Health Infrastructure Project
MOH Holdings Pte Ltd
1 Maritime Square #11-25
HarbourFront Centre
Singapore 099253

Specialists Trade Alliance of Singapore (STAS)
24 Peck Seah Street, #07-11
Nehsons Building
Singapore 079314

Singapore International Facility Management Association (SIFMA)
200 Braddell Road, #01-03
Block H, BCA Braddell Campus
Singapore 579700

Association of Property and Facility Managers (APFM)
110 Middle Road
#09-00 Chiat Hong Building
Singapore 188968

President
Singapore Green Building Council (SGBC)
200 Braddell Road
Block H, Level 2 BCA Braddell Campus
Singapore 579700

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