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Dear Sir/Madam,

MULTI-AGENCY POSITION ON DOUBLE SLAB DESIGN

AUDIENCE

Developers, Building Owners, Facilities Managers (FM), Architects, Engineers, Environmental Sustainability Design (ESD) Consultants, Builders, and Mechanical & Electrical (M&E) Contractors.

OBJECTIVE

This circular:

- i. reminds the built environment industry on the importance of providing adequate headroom within double slabs¹;
- ii. clarifies agencies' requirements regarding double slabs.

BACKGROUND

2 Double slabs are common features in buildings, primarily used to house mechanical, electrical, and plumbing (MEP) services.

3 Like any MEP space, it is crucial that double slabs come with adequate headroom so maintenance personnel may carry out work in an effective, efficient and safe manner. To support this, BCA stipulates a minimum headroom² of 1.8m in double slabs through the Green Mark (GM) 2021: Maintainability (Mt) Section³. This requirement is a prerequisite for projects aiming for the Mt Badge.

4 Unfortunately, we continue to observe double slabs in new projects with headroom less than 1.8m. This may stem from:

- i. insufficient awareness on the spatial needs for maintenance, and/or
- ii. inadequate attention at the planning and design phase regarding the ease, safety and cost-effectiveness of maintenance operations.

¹ In the context of this circular, double slabs refer to spaces housing MEP services and requiring physical access for maintaining these services.

² The headroom is measured from the floor of the double slab to the soffit of the slab above.

³ Projects aiming for higher headroom provision – i.e. above 1.8m, in support of good DfM practices – but concerned with planning requirements, may first approach BCA for consultation.

REGULATORY REQUIREMENTS FOR DOUBLE SLABS

5 Ensuring adequate headroom reinforces the principles of Design for Maintainability (DfM) and Design for Safety (DfS), under the WSH Act. In fact, the DfS approach calls for early collaboration among project stakeholders to identify, eliminate or reduce foreseeable safety and health risks throughout a building's lifecycle, including its maintenance phase.

6 It is also critical that projects ensure compliance with all applicable building regulatory requirements when adopting double slabs. We understand that the industry may be unclear regarding the fire safety provisions in such spaces. Based on the prevailing Fire Code, a double slab that is accessible is considered a floor within a building. As such, the fire safety requirements applicable for a floor would apply accordingly.

ADDRESSING LOW HEADROOM IN DOUBLE SLABS UPSTREAM

7 As a first principle, the industry must conscientiously aim to avoid double slabs during the architectural programming stage⁴, to eliminate the need for maintenance in such constrained spaces.

8 In instances where double slabs are unavoidable, industry practitioners should cater for a minimum headroom of 1.8 m – together with the associated regulatory requirements – right at the planning and design stage to support effective, efficient and safe maintenance. This will avoid unnecessary re-design and delays in regulatory or GM submissions.

CIRCULATION

9 Do share this circular with your colleagues and industry partners. For any clarifications, you may contact the following officers:

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Yours faithfully,



Mr. ANG KIAN SENG
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⁴ This refers to the collaborative process involving clients, users (where applicable), and designers to determine the building's purpose, functions, and requirements before design begins.

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