

31 March 2021

Building Plan & Management Group

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Dear Sir/Madam,

FEEDBACK FROM BPM ANNUAL SHARING SESSION 2021

We refer to the BPM Annual Sharing Session held virtually on 28 Jan 2021. The webinar session provided a useful platform for BCA to engage Qualified Persons, Builders and Developers, and gather industry feedback that would aid us in our continual policy review process.

2 Following the Sharing Session, BCA has consolidated the queries, feedback and corresponding responses for circulation to the Industry. Appended herewith is this year's feedback and responses.

3 For industry's information, please.

Yours faithfully



AR. TAN JWU YIH
DIRECTOR
BUILDING PLAN & UNIVERSAL DESIGN DEPARTMENT
BUILDING PLAN & MANAGEMENT GROUP
for COMMISSIONER OF BUILDING CONTROL

DISTRIBUTION (via e-mail):

President
Institution of Engineers, Singapore (IES)
70 Bukit Tinggi Road
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S/N	Participant's Feedback / Enquiry	BCA's Response
Industry Practices and Observations		
1	SGFA Computation	
	<p>What are the elements and spaces included under SGFA computation?</p> <p>.</p>	<p>The following areas are computed as SGFA:</p> <ul style="list-style-type: none"> • Roof gardens • Any area housing M&E equipment, including at open to sky roof, with or without fencing • Spaces for future provision of equipment e.g. Solar Panels • Any RC ledges that make up part of the facade • All new works in A&A • Infrastructure works (Specified Buildings), including bus shelter, POBs, earthworks • Works outside of boundary line, within or beyond road reserve • Areas suspended above basement works, including features such as Tennis courts, Children's Playground and Reflective Pools • Areas shaded on ground floor by any metal or tiled roofs, including any RC works that make up part of these roofs <p>The following areas are not computed as SGFA:</p> <ul style="list-style-type: none"> • Solar panels installed on sloping roofs • Unaffected existing works in A&A • Metal or tiled roofs, including any RC works that make up part of these roofs • Ground-hugging features such as Tennis courts, Children's Playground and Reflective Pools
	<p>How are fees computed in Amendment Plan submissions?</p>	<p>For Amendment Plan submissions:</p> <ul style="list-style-type: none"> • SGFA computation will apply to additional areas • Computation of the number of storeys applies to each block. Blocks connected by link bridges are counted separately.

	SGFA Computation	
	Can the guiding notes and list in the current SGFA Computation form be more elaborate to better guide Industry practitioners?	BCA will take the comments into consideration in the next update of the SGFA form.
	If areas installed with solar panels are computed as SGFA, would this discourage the adoption of solar panels for environmental sustainability?	The principle of SGFA applies to all spaces with usage, including spaces housing M&E equipment (regardless of the type of equipment). Examples of M&E equipment include sub-stations, cooling towers, water tanks and solar panels.
	Can SGFA computation be aligned with URA's GFA computation so that there is no need for Industry to make separate computations?	Notwithstanding the different objectives of floor area computation for various agencies, a whole-of-government approach will be taken to harmonise floor area computation as much as possible.
2	Planter Boxes	
	What constitutes as 'foothold' of a planter box?	Any planter of less than 1000mm in height, and which has a surface of more than 150mm x 150mm in area (including the soil bed) will constitute a foothold, and therefore a 1000mm barrier is still required when there is a vertical drop of 1000mm or more. This is not to be confused with the definition of 'toehold' mentioned in the Approved Documents for safety barriers. QPs should take note of how the design of planters or any flat, tiered surfaces near building edges may inadvertently create stepping surfaces and increase the risks of falling from height.
	Does 'foothold' apply if the edges of the planter box are chamfered?	The definition of foothold applies regardless of chamfered edges.
	Can lush and dense planting be accepted as effective barriers?	A barrier shall be designed with a horizontal loading in accordance to Cl. H.3.3 of the Approved Documents. In addition, lush or dense planting is not deemed as effective safety barriers because the condition of the plants is dependent on factors such as weather conditions and/or maintenance.

3	Lift Provision for Private Residential Non-Landed Development	
	Is the provision of an additional lift mandatory?	Especially for non-landed residential developments, BCA encourages the provision of more than one lift per block for barrier free access in the event that one of the lifts is out of operation e.g. breakdown, routine maintenance.
	Is TOP/CSC inspection required for the installation of a new lift in minor A&A works?	The need for inspection would depend on the scope and extent of the proposed A&A works. BCA will evaluate on a case-by-case basis.
	Is it acceptable for the wheelchair manoeuvring space to overlap with the required clear space at the lift call button as stipulated in the Code on Accessibility?	No, the provision of the respective spaces shall not overlap.
4	Wind-driven Rain	
	To comply with SCDF's requirements for ventilation, the implementation of rain screens such as perforated panels, will require separate CFD simulations to demonstrate fire safety compliance.	As illustrated in the example shared during the session, the project team may carry out the necessary simulations, including Wind-driven Rain simulations to review implementation of rain screens while achieving compliance with prevailing statutory requirements.
Recap on Recent Key Circulars		
5	Evidence-based TOP Application for Landed House	
	Can the use of checklist in lieu of joint inspection for landed housing projects also be applied to multiple landed housing units of a large development under a single developer?	Currently, the use of checklist in lieu of joint inspection only applies for landed houses built for the owner's own use.
	Can landed houses built for the owner's own use continue to request for joint inspection?	QPs and Builders are required under the Building Control Act to ensure that the building works are completed in accordance with the provisions of the Building Control Act and Regulations and conditions under which the building plans were approved. QPs shall report to BCA if they encounter obstacles in fulfilling their duties on site.

	Evidence-based TOP Application for Landed House	
	What are the requirements of the checklist in lieu of joint inspection?	Please refer to the checklist (link: https://go.gov.sg/bca-circular-changes-top-csc) for the mandatory items and measurements to be provided for demonstrating completeness of work and regulatory compliance.
6	Submission of Type-Testing Certificates for Lifts	
	What are BCA's regulatory requirements for the provision of dumb waiter?	The provision of dumbwaiter is regulated by MOM and is not required to follow the same testing requirements as lifts.
	When should a lift system be replaced?	A full lift replacement may be necessary after an estimated period of 20 years. The extent of replacement is subjected to the condition of the lift system based on the recommendations of a lift specialist/consultant.
7	Lightning Protection Amendment SS555:2018	
	Is 1mm thick painting allowed on the air termination tapes and strike pads? What are the types of paint allowed?	A 1mm coating of protective paint is not regarded as an insulator. See Amendment No. 1 to SS555:2018 Part 3 published by Enterprise Singapore in Dec 2020. BCA does not stipulate the type of paint to be used.
	Are strike pads and mesh lightning tape allowed for the concrete facade of buildings taller than 45m?	Air-termination systems against flashes to the sides of structures should be provided down to a height of 45m in accordance to SS555:2018 Part 3 Annex ZA Clause E.5.2.2.2 (a). The use of studs connected to the embedded mesh of side conductors can be considered for the protection against flashes to the sides of the structure. The spacing of the studs shall conform to the requirements of the respective lightning protection classes given in Table 2 of SS555:2018.
	What are the types of lightning protection tapes allowed to be exposed and where are the suitable locations for its installation (e.g. accessible roof top areas with lamp posts)?	Air-termination tapes are to be exposed while down conductor and bonding tapes are allowed to be concealed. Other metal components such as metal flashings can be used as natural air-termination systems, but they are to be bonded to the lightning system. Exposed tapes should be kept away from habitable spaces and installed at non-habitable M&E spaces accessible only for maintenance.

Lightning Protection Amendment SS555:2018	
	<p>For accessible areas such as lamp poles, the tapes should be insulated or located at areas where the risk of touch voltage is reasonably avoided.</p> <p>For more information, please refer to SS555:2018 Part 3 Protection Against Lightning, Annex ZA.</p>
What are the recommended heights for test link installation?	In reference to SS555:2018, Type 1 (exposed tape) test links are to be installed at 2.5m and Type 2 (natural down conductor and flushed mounted test joint) are to be installed at 1.5m.
Are concealed copper tapes that serve as down conductor required to be installed in concrete encased PVC piping?	Please refer to SS555:2018 Part 3 Protection Against Lightning, Clause 5.3 on the design and installation of Down Conductor System. You may also refer to Clause 5.5 and Table 5 on the lightning protection system's components and conditions of use.
What are the requirements on the type and thickness of tubing insulation material?	Industry should check with manufacturers to ensure that the tubing is able to withstand 100KV for a duration of up to 50µs. In accordance with SS555:2018, 3mm thickness for XLPE is indicated.
Are there local test bodies which provide testing services and certifications of LPS components for compliance with IEC 62561 standards?	The Design and Supervision PE should verify with manufacturers of the supplied components if the components comply with the IEC standard. Industry may approach TUV SUD PSB Test Lab for testing and certification.
Is the use RC rebars for lightning protection structurally safe?	BCA has observed that the use of independent RC rebars as part of lightning protection system is becoming more prevalent for high-rise buildings. The connections between independent rebar and the reinforcement structural elements shall be specified by the electrical PE, in consultation with the structural PE so that it is locked into holistically.

	<p>Lightning Protection Amendment SS555:2018</p> <p>Are lightning protection plans required for submission of A&A works on existing areas of the building?</p>	<p>LPS as-built submission is required for TOP application is required for developments which building works are submitted on or after 1 May 2019. The LPS is required to comply with the relevant requirements in SS555:2018 to meet the objectives in Clause L of the Fifth Schedule of the Building Control Regulations.</p> <p>LPS is not required for existing buildings undergoing A&A works where only internal works are involved, unless external works are involved.</p> <p>The PE is to conduct a site survey to ensure that the existing LPS is in good working condition prior to its bonding to the new LPS.</p>
8	<p>Use of Tempered Glass in Safety Barriers and Shower Screens</p> <p>Are guidelines for glazing at balcony sliding doors, entrance/ accessible washroom glass doors and shower glass included in SS653:2020?</p> <p>Are full-height glass without horizontal transoms allowed for curtain wall facade design??</p> <p>What are the differences between heat soaked and tempered glass? Is there a list of approved certification bodies for glass manufacturing?</p> <p>What are the requirements pertaining to the delamination of laminated glass?</p>	<p>Yes, please refer to SS653:2020 for the full list of areas covered.</p> <p>There are no restrictions on the use of full-height glass if safety barrier requirements are met.</p> <p>Heat soaking is a process treated to tempered glass to minimize incidents of spontaneous breakage. Industry may refer to BS EN 14179 on heat-soaking.</p> <p>All tempered glass should be heat-soaked in accordance with the guidelines stipulated in SS653:2020 and labelled as such. Industry is encouraged to work with reliable suppliers to ascertain the quality and authenticity of the heat-soaked glass used.</p> <p>Certification of tempered glass is currently not regulated.</p> <p>Yes, please refer to SS653:2020 for the full list of areas covered.</p>

Use of Tempered Glass in Safety Barriers and Shower Screens		
	Does Section N (Use of Glass at Height) of the Approved Documents apply to frameless glass used at height above 4m from FFL?	There are no restrictions on the use of full-height glass if safety barrier requirements are met.
	Are building plans required to indicate the type of glass used?	Heat soaking is a process treated to tempered glass to minimize incidents of spontaneous breakage. Industry may refer to BS EN 14179 on heat-soaking. All tempered glass should be heat-soaked in accordance with the guidelines stipulated in SS653:2020 and labelled as such. Industry is encouraged to work with reliable suppliers to ascertain the quality and authenticity of the heat-soaked glass used. Certification of tempered glass is currently not regulated.
	Can BCA standardise the symbols (glass labels) for all types of glass?	SS653:2020 does not provide guidance on delamination, but it is noted that laminated glass under direct weather exposure is more prone to delamination. As there is a lifespan to the inter-layers of glass, it is the duty of the Owner to replace the glass when signs of deterioration are observed.
	Are all laminated glass required to be tempered or heat soaked?	BCA does not stipulate the type of glass panels to be used in a laminated glass module.
COVID-Safe Worksites Management Measures		
9	COVID-Safe Worksites	
	Are RE/RTOs (S-Pass holders) allowed to take public transport?	As on 10 March 2021, only S-Pass holders under the Construction Sector residing in non-dormitories are allowed to take public transport. BCA is constantly monitoring the situation and reviewing our requirements and Industry should refer to BCA website for latest updates.

	COVID-Safe Worksites	
	Is regular swab testing required for Engineering and Architectural consultants who conduct site visits, with no interaction with site workers?	Yes, swab testing is required. Industry should refer to HPB website for latest updates (link: https://www.hpb.gov.sg/rirt)
	Will site visits by Developer representatives count towards the number of allowable times even on non-working days with no contact with the Builder, consultants or workers?	Yes. BCA would like to emphasise that the Industry must stay vigilant amidst COVID-19.
	Is Rostered Routine Testing (RRT) still required if the frequency of site visits is higher but of shorter duration of not more than 2 hours each visit?	RRT is required if more than 1 construction site is visited per month, or if the duration of visit for is longer than 2 hours.
Update on Upcoming CORENET 2.0 Development		
10	Update on Upcoming CORENET 2.0 Development	
	There is a need for improvement on the technological aspects of CORENET system, including the use of token.	CORENET 2.0 will be a web-based system. SingPass/ CorpPass login will replace the traditional ID and Password login and authentication will be done via 2FA/ OTP. However, digital signing via token will remain.
	Can QPs authorise their assistants to access CORENET 2.0 using the assistants' own SingPass accounts? Will the use of the QP's OTP for submissions delay the submission process?	In CORENET 2.0, a QP can appoint up to 5 QP assistants who can help the QP in the preparation of the submissions including downloading of correspondences from Agencies. However, all actual submissions are to be made by the QP through 2FA/ OTP. More information will be shared in the subsequent CORENET 2.0 briefings to guide Industry in the transition and onboarding of login using SingPass/ CorpPass.
	Will CORENET remain available to access old projects?	All CORENET data (Projects / Submission / Correspondence/etc) will be migrated to CORENET 2.0 system.
	Will the purchase of plans require SingPass login?	Plan purchase today is currently requested through the link (https://go.gov.sg/n8fz6e) where SingPass login is required.

Update on Upcoming CORENET 2.0 Development	
How would the original submissions and subsequent amendment submissions in CORENET 2.0 be differentiated?	The plan reference numbers provided in the form of a dashboard will help users to identify the submission types.
When will CORENET 2.0 be implemented?	The estimated implementation of CORENET 2.0 is mid-2021.
With the migration to CORENET 2.0, will Industry practitioners be required to delete the existing software? Would existing forms in CORENET be affected?	As CORENET 2.0 will be a web-based system, deleting existing software is not required. Existing forms in CORENET will be viewable by a form viewer in CORENET 2.0.
Will CORENET 2.0 and ESPro be compatible with different types of computer systems e.g. Mac OS, Windows 7?	CORENET 2.0 Portal is compatible on both Mac OS and Windows (excluding older systems such as Windows 7). However, ESPro would still run on Windows 10.
Will the QP's SingPass be required for login to ESPro login?	Yes, SingPass is required.
Are developers/ building owners able to create their own CORENET account?	Yes, developers/ building owners and their representatives will be able to login using SingPass/ CorpPass.
Are Sole Proprietorships and Partnerships eligible for CorpPass?	CorpPass is a corporate digital identity for businesses and other entities (such as non-profit organisations and associations) to transact with Government agencies online. Industry may refer to website (link: https://www.corppass.gov.sg/corppass/common/findoutmore) to check their eligibility to register and setup CorpPass.