

10 Aug 2022

Building Plan & Management Group

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Dear Sir/Madam,

**CONSOLIDATED QUESTIONS & ANSWERS FROM THE BCA ANNUAL SHARING ON
BP/TOP REGULATORY UPDATES 2022**

We refer to the BCA Annual Sharing Session held virtually on 25 May 2022. The webinar session provided a useful platform where BCA engaged Qualified Persons, Builders and Developers, to enable better understanding and clarity on regulatory requirements.

2 Following the Sharing Session, BCA has consolidated the queries and corresponding responses, which are appended herewith.

3 For industry's information, please.

Yours faithfully



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BCA ANNUAL SHARING ON BP/TOP REGULATORY UPDATES 2022

Q&A CATEGORIES

LEGEND:

	CLARIFICATION ON BP COMPLIANCES
	FINDINGS AND ISSUES FROM TOP INSPECTION AND APPLICATION
	LIGHTNING PROTECTION SYSTEMS (SS555:2018)
	LIFTS & ESCALATORS
	ACCESSIBILITY AND UNIVERSAL DESIGN
	PREVIEW OF THE DAYLIGHT REFLECTANCE DESIGN GUIDE
	OTHER QUERIES

CLARIFICATION ON BP COMPLIANCES

HEADROOM / CEILING HEIGHT

S/N	Participant's Feedback / Enquiry	BCA's Response
1	Is the 2m minimum headroom requirement applicable to a RC flat roof with a secondary metal roof above, where the RC flat roof houses M&E equipment and is accessible for maintenance only?	As this scenario describes an equipment or plant room, the headroom requirement does not apply.
2	For Landed Homes exemption of attic area from the 2m headroom requirement, is there a requirement to cap the attic area to 10sqm in order for the headroom exemption to apply? For enclosure of an open terrace into an attic, does the ceiling height requirement apply?	The Approved Document requirement states that the headroom requirement is exempted for an attic in a house built for owner's own use, where the attic does not exceed 10sqm.
3	Is a localised drop in ceiling to 2.2m headroom due to new M&E ducts running in lobby ceiling allowable?	Refer to Approved Document Clause C.2.3 (a) & (c). The ceiling height requirement do not apply to any lobbies or <u>localised</u> areas that have structural or building services constraints.
4	Is 1.5m height headroom acceptable if the maintenance platform is only to serve ACMV duct maintenance?	It depends on where the maintenance platform is situated. In general, adequate headroom should be provided for maintenance access personnel to carry out their work.
5	Is the area underneath a staircase subject to headroom requirements for a Landed House built for owners' own use?	Headroom requirement applies to the underside of staircases if it is located along an access route or circulation space. Refer to Clause C.2.2(c) of the Approved Document.

STAIRCASES

S/N	Participant's Feedback / Enquiry	BCA's Response
6	Is the handrail return required at every landing where the railing stops?	Yes. This is to avoid items or people being caught at the exposed ends of railings.
7	a) Does the 300mm railing extension have to be horizontal? b) Can the railing horizontal extension of 300mm at either the start or end of the railing be following the inclination of the railing?	a) No. b) Yes.
8	Is 300mm handrail extension applicable to intermediate landings or just applied to main landing where there is a door access? Is it mandatory to provide 300mm railing extension at mid-landing staircases?	300mm railing extension is required at the top and bottom of the steps which includes intermediate landing or mid-landing leading to another path of travel.
9	For buildings exempted from Code of Accessibility, do we need to provide tactile for staircase?	There should not be many situations where accessibility requirements are waived for the entire building. Therefore, requirements in the Code on Accessibility should be complied with as much as possible, including providing detectable warning surfaces for staircases.
10	Do we have to comply with the 100 or 150 gap in between railing for staircase that runs on a sloping ground when there is less than 1m drop?	No. The requirements in Clause H.3.4 - Size of opening are only applicable to safety barriers installed at areas with vertical drop in level of 1.0m or more.
11	Referring to BCA Approved Documents, the requirement for staircase's flight hand railing of 750mm - 1000mm contradicts with the requirement for height of safety barrier at minimum 1000mm for the stair flight under Clause H.3.2.1. Is there any tolerance for safety barrier height? For example, is 990mm or 1010mm height acceptable for safety barriers?	Clause E.3.6.2 refers to the requirement for the height of <u>handrails</u> between 750mm-1000mm. It does not refer to the height of the <u>safety barrier</u> . Safety barrier height must comply with the minimum requirement of 1.0m high for staircases, as stated under Clause H.3.2.1. (The height of a barrier at the flight of stairs is measured vertically from the pitch line to the top of the barrier.) The handrails attached to the 1.0m safety barrier can be at height ranging between 750mm-1000mm.
12	On the 300mm railing extension requirement, what does it mean by another path of travel?	If there is an exit at the intermediate landing, leading to another room or space, 300mm railing extension will be required.

13	CI 4.6.6.2 (c). Ramp handrail extensions must return to the wall, floor, or post. Under the Barrier free code, should the staircase not meant for Person with Accessibility needs, be required to comply too?	All staircases must comply with Clause E (Staircases) of the Approved Document. Staircases that are for evacuation or within public circulation areas in the building (common area), it must be designed to comply with the requirements stated in the Code on Accessibility, which includes 4.11.4.1(e) - Handrails for stairs must return to the wall, floor, or post.
14	Are staircases for mezzanine platform access for storage racking systems in industrial developments, required to comply with Clause E?	Yes, such staircases at mezzanine platforms of storage racking systems are required to comply with Clause E (Staircase) requirements.
SAFETY FROM FALLING		
S/N	Participant's Feedback / Enquiry	BCA's Response
15	Can invisible grilles be used at openings (casement windows) where we think there could be a safety from falling issue?	The requirements under the Approved Document, Clause H on Safety from Falling must be complied with where there is a vertical drop in level 1.0m or more. Invisible grilles added by homeowners are not considered as safety barriers whether in part or whole and shall not replace existing safety barriers. The minimum requirement is to provide a 1.0m high safety barrier complying with the requirements for size of opening or gap in barrier where applicable to the type of buildings under Clause H.3.4.3 with no gap at the bottom 75mm from finish floor level.
16	Is a weatherproof switch socket outlet (SSO) at a balcony considered to be climbable since it will be less than 1m measured from the top surface to the parapet.	Yes. If the SSO serves as a climbable toehold, the design on safety barrier shall comply with Clause H3.4(A) of the Approved Document on requirements to prevent climbing
17	Are safety barriers required for roofs that are: a) Flat roofs with no M&E provisions or drainage to be maintained b) Purely accessible for maintenance, housing only M&E and with lifeline installed.	Under Clause H.2.2. The provision of barrier is not required for any roof accessible for maintenance purposes only <u>and not easily accessible to public</u> .
18	For railings (safety barrier) used at platforms less than 1m away from adjacent FFL, is PE endorsement sufficient to certify these safety barriers to be fit for purpose? Or ST submission is required for this case? If PE endorsement for these safety barriers is acceptable, should they be submitted as part of TOP application?	Any safety barriers (when there is a vertical drop in level of 1.0 m or more) would require ST submission.

REQUIREMENTS TO PREVENT CLIMBING

S/N	Participant's Feedback / Enquiry	BCA's Response
19	How is bay window with 600mm high treated in terms of climbable height and the required safety from falling requirements?	The relevant safety barrier requirements as stated in Approved Document Clause H shall be complied with. Except where in a house built for owner's own use, Clause H2.1A on barrier height and climbability are not applicable.
20	What is the min. no climb zone for barrier from last standing level e.g. for raised planters?	<p>Where there are any persons standing on the raised platform/planter located near the building edge barrier, there shall be a clear distance of 1m from the top of the building edge safety barrier to the raised platform/planter (climbable object).</p> <p>There shall be no climbable objects or platform fixed within 1000 mm from the safety barrier. The measurement to be taken from the top of the safety barrier in a downward arc towards the climbable standing level or object.</p> <p>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 be mindful 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.</p>
21	What is the size of the climbable toehold in reference to a SSO or a tap to prevent climbing?	A toehold in this context means any protrusion having a width of more than 50mm and has a chamfer angle gentler than 45 degrees relative to the horizontal plane.
22	For barriers that are angled backwards, can they have horizontal bars within the climbable zone?. Is there a minimum tilt angle of the barrier for the allowance of the horizontal bars?	Such designs that deviate from the code requirements will require a waiver application with proposed risk mitigating measures and is subject to the assessment of the waiver committee.

SIZE OF OPENING		
S/N	Participant's Feedback / Enquiry	BCA's Response
23	<p>Does the Approved Document Clause H.3.4.1 - No gap of 75mm from FFL, apply to the following areas?</p> <ol style="list-style-type: none"> 1. All Staircases (Eg. In maintenance areas, fire-escape staircase, residential landed house staircase) 2. Any areas accessible by maintenance personnel (Eg. Maintenance catwalk platform) 3. Building edge 4. A/C Ledge 	<p>Item 1-3: Required to comply with Clause H.3.4.1 if there is a vertical drop in level of 1.0m or more. There shall be no gap of 75mm from the finish floor level, at the lowest part of the barrier. This is to prevent objects from slipping through the base of the barrier and falling off into the space below.</p> <p>Item 4: A/C Ledge is not required to comply with Clause H.3.4.1.</p>
24	<p>The 75mm no gap provision relates also to M&E rooms or non-accessible rooftops where there are platforms for equipment, cat ladders or staircases up to these levels. Are there scenarios where such requirements are waived?</p>	<p>The requirements under the Approved Document, Clause H.3.4.1 on ensuring there is no gap of 75mm from the finish floor level at the lowest part of the barrier is applicable to M&E spaces where there is a vertical drop in level 1.0m or more.</p> <p>Any relaxation of requirements for M&E spaces is to be evaluated on a case-by-case.</p>
25	<p>If the gap at the bottom of the railing is required to prevent objects from hitting people below, would it be required for park pathways crossing over swales/turfing? Will a waiver application be required if there is a gap?</p> <p>What about 75mm edge protection to boardwalk with <1m drop?</p>	<p>A waiver application is required for such cases. The exception only applies to promenades or boardwalks at ground level along waterfront (Cl. H.3.4.6 – Understanding the Approved Document).</p>
26	<p>The provision of 75mm kerb would hinder the moving or horizontal transfer of transformer equipment into the substation rooms. For substation buildings that have been fenced off and are not accessible to public, is the provision of the 75mm kerb required?</p>	<p>A waiver application is required for such cases with justification of the relevant mitigating measures put in place.</p>
27	<p>Reference to Clause H.3.4.1. How does the grating on the floor prevent object from slipping through even with the 75mm no barrier gap in maintenance area? Is there is an opening size for the grating/mesh of the floor to prevent items from falling through since this is fairly new.</p>	<p>QPs should be mindful of similar potential hazards and design such floor gratings/mesh accordingly.</p>

VENTILATION

S/N	Participant's Feedback / Enquiry	BCA's Response
28	Air-well min. 3m width and min. 10 sqm: Does it mean that 1m x 10m void is acceptable?	1m x 10m is not acceptable. The air-well void must be minimum 3m width for both the length and breadth, on top of the 10sqm requirement.
29	Does the requirement for recessed airwells apply for a owner occupied house?	The requirement is applicable to all spaces that are naturally ventilated. This includes spaces in owner occupied houses.
30	Cl G.3.2.1 Note (c). Why is casement window which can open >30deg (say 90deg) considered as only 50% NV?	The assumption of 50% effective open area applies to casement window installed with restrictors which prevents the occupant from opening fully (i.e. 90deg or more) while allowing the window opening to be at least 30 degree. Do take note where the window is restricted from opening to an angle less than 30 degrees, the window would be taken to have no effective open area for the purpose of ventilation.
31	For residential projects basement carpark MV system plan submission, can the M&E QP be allowed to submit the plan to BCA?	<p>For the use of jet fan as alternative solution, in-lieu of ductwork for mechanical ventilation of carpark, as per section 9(2) and (3) of the Building Control Act, QP(BP) shall exercise due diligence to ensure the alternative solution satisfies the objective and performance requirements that are prescribed by the building regulations; or appoint and obtain the certification of the PE(Mech) who has such requisite specialist knowledge for the alternative solution. For the latter case, PE(Mech) would certify the alternative solution.</p> <p>For the submission of MV system as per acceptable solution, QP(BP) will furnish the back-to-back COS(ACMV) cert from PE(Mech) on compliance with SS553 as per requirement on ventilation. QP(BP) is required to ensure ventilation is provided, supported by the PE(Mech).</p>
32	Can residential MSCP MV lift lobbies be provided with air conditioning for thermal comfort?	Residential buildings are required to be naturally ventilated except basement storeys which may be provided with MV.
33	As the floorplate of warehouses are large, are warehouses indeed exempted from the requirement to be no more than 12m away from ventilation openings?	As per Clause G.3.2.3 in the Approved Document, other than a room in a warehouse, 12m distance requirement for Natural Ventilation applies.

OTHER BP QUERIES		
S/N	Participant's Feedback / Enquiry	BCA's Response
34	For the listed exemptions for landed homes, are waivers applications still required? Any waiver required for non-compliance of the Clause 4.4.6 before auto sensor door can be adopted?	If the exemptions are listed in the code, there is no need to apply a waiver. There is no need to apply waiver if you have provided auto sensor door. Provision of power-operated doors are exempted from the manoeuvring space at doors requirement in the Code on Accessibility.
35	Do A&A projects which involve only new false ceiling (light weight material) require submission to BCA?	If the A&A scope of works only involves replacement or changing of false ceiling with lightweight material, submission to BCA is not required as it is considered as Insignificant Building Works. You may refer to the First Schedule of the BC Reg for the list of works that are considered as insignificant building works.
36	Is it considered a 'material change' for a change of barrier from glass to steel railing, without change in height?	Yes. The change of a safety barrier from glass to steel is a material change as the safety requirements are different.

FINDINGS AND ISSUES FROM TOP INSPECTION AND APPLICATION		
TOP/CSC APPLICATION QUERIES		
S/N	Participant's Feedback / Enquiry	BCA's Response
1	Can all TOP/CSC application be submitted via Corenet? or only the TOP/CSC Portal? Is it different for landed house owner own use vs non-residential?	In general, for projects involving BP submission, the TOP/CSC application should be submitted via the TOP/CSC Portal, unless otherwise specified. For landed house built for owner's own use, we have streamlined the process such that they will no longer require a TOP inspection. The QP should submit the TOP/CSC application directly via e-CORENET. Please refer to circular dated 15 Dec 2020 for more details.
2	For TOP/CSC Application for landed houses built for owner use, Can the QP opt for booking for TOP inspection instead of submitting the inspection report/checklist?	No, as per our circular on 15 Dec 2020, we have streamlined the process such that the QP for the building works for landed house built for owner's own use will no longer need to book a TOP inspection, unless instructed by BCA. When the project is ready for application of TOP/CSC, the QP shall submit his/her inspection report/checklist as part of the supporting documents for the application of TOP/CSC via e-CORENET.

		The QP can always approach BCA to discuss further with us specific to each project's needs.
3	<p>a) Is it compulsory for project QP to attend TOP inspections or can an authorised QP rep attend instead?</p> <p>b) Must authorised QP rep attending TOP inspections be a registered QP?</p>	It is strongly recommended that the project QP be present. This will allow BCA to seek clarifications on the spot directly with the QP and avoid miscommunication. For authorised reps, they should be competent and familiar with the project to facilitate the inspection effectively.
4	For landed house type, if the plot is sub-divided into 2 new boundaries, and the 2 new separate detached houses (A) & (B) are submitted together in one BP number, is the 1st detached house (A) allowed to partial TOP first for occupants to move in earlier, if the 2nd detached house (B) is slower in completing construction to meet TOP requirements?	BCA allows partial TOP for certain projects taking into consideration that safety is not compromised between areas with on-going construction works with the areas being occupied by residents. For example, there must be proper hoarding provided to prevent public access and protection from the non-TOP area. Any request for partial TOP would be considered on a case-by-case basis.
5	If a building plan was first submitted and approved before 01 Sep 2022, but TOP/CSC will be applied after 01 Sep 2022, will the project be subject to UDI?	Yes, the project will be subject to UDI. Please refer to 1 June 2022 circular.
6	If a project which was previously titled as Temporary Building (simple steel structures) and intends to reinstate as a Permanent Building, would any re-submission be required?	You will need to make ST and BP (where applicable) submission(s) and obtain TOP/CSC for the structures. You can write to us on the specific project details at https://www.bca.gov.sg/feedbackform .
7	How to proceed with BCA TOP application If the main builder is suddenly under liquidation and unable to sign all the certification for TOP?	<p>The builder's certificate is required under section 11(1)(f) of the BC Act, which prescribes the builder to, within 7 days of the completion of the building works, certify that the new building has been erected or the building works have been carried out in accordance with the BC Act and the building regulations.</p> <p>Notwithstanding liquidation, the current main builder should still provide the certification for his work completed up to the point in time. The remaining works would need to be completed and certified by the in-coming builder.</p> <p>A waiver application is required if the builder's certificate is not submitted.</p>

8	What are the procedures to conduct TOP/CSC in a development with multi-storeys and multiple phases? Who can we contact regarding partial TOP to go through the proposed phases and the layout of hoarding etc.?	You may submit your enquiry (TOP consultation) via the BCA website "Feedback/ Enquiry". Our officer will review the details and reply to you accordingly.
9	If the project team has been instructed to add in firefighting elements in a staircase landing that impedes the headroom, can we seek a waiver to BCA prior to application for waiver due to this SCDF compliance?	In the first instance, the QP should ensure that the design has met all requirements.
ROADS & POB QUERIES (TOP/CSC)		
S/N	Participant's Feedback / Enquiry	BCA's Response
10	Does the public road leading to TOP building requires CSC, as a criteria of that Building TOP? or only public road opening allowed by LTA will be suffice for building TOP?	The roads shall be completed to allow access to the building. If the road is part of the BP submission, LTA clearance is required for the TOP/CSC.
11	Regarding to Building TOP application, is that new roads must receive TOP/CSC then Building can apply TOP or as long as the road open to public use then building can TOP?	
12	Does Building TOP require road TOP to be obtained if it is a new road? Or we can apply TOP for building after road opening?	
13	If the POBs Pedestrian Overhead Bridges are to be taken over by non-LTA owners, does it need to undergo TOP?	You should check and ensure the existing POB has obtained the TOP/CSC. If there are building works carried out to the POB, plan submission and TOP would be required regardless of the owner/developer of the project.
14	Regarding no TOP requirements for LTA owned POB, are there any changes to the lift PTO lodgement process? Because TOP is one of the back-to-back requirements for lift PTO currently.	We would like to clarify that TOP application is required for LTA POB. For the application of TOP, the QP is required to submit an inspection checklist/report as one of the supporting documents. However, TOP Inspection will not be applicable for such POB projects. Please refer to the circular dated 01 Dec 2021.

CONQUAS ASSESSMENT		
S/N	Participant's Feedback / Enquiry	BCA's Response
15	Please clarify if CONQUAS assessment is required before calling for TOP inspection.	<p>QP needs to ensure all building works are completed in accordance with the approved plans, prior to the TOP inspection.</p> <p>CONQUAS assessments, if applicable, shall be completed prior to the issuance of TOP.</p>
16	Is it required to obtain CONQUAS assessment prior to TOP application?	<p>CONQUAS assessments, if applicable, shall be completed for building projects prior to the issuance of TOP.</p> <p>If circumstances do not allow for CONQUAS assessments to be completed prior to TOP, QPs/builders are advised to submit an appeal for waiver early on, rather than wait until just before TOP application, to the CONQUAS officer to follow up with the necessary documents to be submitted. Failure to complete all CONQUAS assessments before TOP may result in no final CONQUAS score issued for the project. Appeals will only be considered on a case-by-case, exceptional basis.</p>
17	What must be submitted to BCA to appeal for CONQUAS assessment to be completed prior to TOP application? What is the process to appeal this? Usually contractor completes the CONQUAS assessment (M&E / Archi parts) post TOP certificate.	<p>CONQUAS assessments, if applicable, shall be completed for building projects prior to the issuance of TOP.</p>
18	CONQUAS assessment is not a pre-requisite for booking of TOP inspection. Is CONQUAS a pre-requisite for obtaining TOP?	<p>CONQUAS assessments, if applicable, shall be completed for building projects prior to the issuance of TOP.</p>
ILLEGAL OCCUPATION		
S/N	Participant's Feedback / Enquiry	BCA's Response
19	What entails to illegal occupation? For instance, 3rd party contractor not engaged by the main con can enter the construction site to carry out works for the developer before TOP is obtained?	<p>You must obtain a TOP/ CSC before you occupy or allow occupation of the building. It is an offence under the Building Control Act to occupy, allow occupation of, or cause to occupy a building without a CSC or TOP.</p> <p>For third party works, the developer and the main contractor shall decide on the access to their project as they are responsible for all personnel within the active construction site until TOP is issued and handed over to the owners.</p>
20	Will the owner be penalised in the event of occupying the premise without TOP approval?	<p>Yes. Under the Section 12 of the Building Control Act, it is an offence to occupy the premise without TOP approval.</p>

		Section 12(1) stipulates that no person can occupy, or permit or cause to be occupied, a building where building works have been carried out unless the Commissioner of Building Control has issued a certificate of statutory completion or granted a temporary occupation permit in respect of that building.
21	For A&A residential house and not reconstruction, can owner stay in before TOP or CSC?	The areas under construction shall be hoarded and separated to ensure safety. The owner can occupy the rest of the non-A&A areas.
22	Is it an offence for owner to live in the house undergoing A&A works, such as addition of bath and enclosing balconies? Project have not obtained TOP/CSC.	The areas under construction should be hoarded and separated to ensure safety. The owner can occupy the rest of the areas.
TOP INSPECTION QUERIES		
S/N	Participant's Feedback / Enquiry	BCA's Response
23	Is it acceptable if the residential typical blocks clear width for the corridor is 1500mm inclusive with the 150mm wide scupper drain? The depth of scupper drain > 25mm will result in the corridor being considered to be <1500mm. Scupper drain summit typically starts at 25mm.	For equitable and convenient access for everyone throughout the building, providing more than 1500mm width for all passageways would allow comfortable travelling in most instances, If the depth of the scupper drain is >25mm, the width would be reduced hence, it cannot be included in the clear width. As an alternative, the QP could consider proper grating covers for the drains.
24	Can smart real-time remote inspection for TOP application be adopted to improve productivity?	Yes, BCA does encourage alternative technologies to help improve productivity. We will assess the suitability of remote inspection on a case-by-case basis. We welcome industry to share your methods with us.
25	Due to procurement issues / labour shortages, if the lift is not in place, can BCA conduct HS inspections for high rise residential blocks? Passenger hoist will be provided instead.	BCA can still conduct the CD inspection if safe and proper access is provided to the shelters.
26	We have several projects that the BCA TOP processing officer requested for the Daylight Reflectance Index for paint. Is that necessary?	Yes. You would need to comply to Clause P: Daylight Reflectance of the Approved Document. We have streamlined the process and will not require submission of such documents anymore. However, QPs are reminded to ensure compliance and we may still ask for supporting documents as part of our audit.

27	For access control to roof, SCDF requires at least one staircase for access to roof. Will the provision of EM lock for the door be acceptable?	<p>If the roof is meant to be not easily accessible and to be considered as maintenance area for authorised workers only, the door should have a self-closing mechanism and effective locking mechanism e.g., electromagnetic lock</p> <p>We have no objection to the EM lock for the door as long as it does not disrupt the intended use of the roof space.</p> <p>Please ensure the EM lock for the door meets SCDF's requirements too, where applicable.</p>
28	For wet area water ponding/water testing inspection, is it a requirement all M&E shaft opening of PPVC slab to seal off all the gaps?	Yes. It is similar to sealing up the opening of the floor trap temporarily for the water ponding test. Otherwise, the water will flow through the M&E shaft opening on the slab.
29	Are there any plans to improve the BCA TOP processing time?	<p>We are continuously reviewing to improve the BCA TOP processes. You may submit your more detailed feedback via the BCA website "Feedback/Enquiry".</p> <p>We are aware that QPs prefer to submit your applications in phases to seek our comments. We would like to seek your understanding and assistance to ensure your submission documents are complete and in order to avoid multiple iterations and longer processing time.</p>
30	For A&A internal fit out work (Change of use from part of the warehouse to ancillary office and production areas). There is no increment of GFA, BCA BP approval was obtained, under BCA IACC circular issued on Jan 2021 for TOP/CSC clearance, does this fall under S/N 7 Type of Building Works that do not require clearance from LTA and NPARKS?	The intent of Item 7 of the circular ref. APPBCA-2021-03 was meant for shop tenants doing fit out works within an existing building. The same principle can apply to A&A involving internal fit out works at the warehouse / factory mentioned. The QP is responsible for making the assessment. As long as all works involved are within the building's footprint, there are no external works involved and works affecting the regulated planting areas, clearances from LTA and NParks are not required.

LIGHTNING PROTECTION SYSTEMS (SS555:2018)		
S/N	Participant's Feedback / Enquiry	BCA's Response
1	Is 300 mm air terminal required when lightning tape has already been provided?	Only buildings with BP submitted after 1 May 2019 are required to provide air-finials if the building is less than 45m in accordance with the latest Code

		SS555:2018. For BP submitted earlier than 1 May 2019, minimally lightning tape as air-termination system is required to be provided.
2	Is there a requirement to provide LPS for proposed new canopy on the 1st storey to an existing building?	An assessment should be made by a PE(Elect). LPS will be required if the proposed canopy is exposed to direct lightning strike and not protected from the existing building's LPS.
3	If enhancement is made to LPS of existing building going through A&A works, is CSC03 submission required? Also, is compliance to 2018 code necessary?	CSC03 submission is required as part of TOP/CSC application if there are plan submission for the A&A works. For building plans submitted on or after 1 May 2019, the design and installation of LPS should comply with SS555:2018.
4	Is effective date for LPS BP submission in 2023 tagged to BCA BP 1st submission date?	LPS Plan submission will be based on BCA BP 1st submission date.
5	Is LPS required for roof top garden trees?	Currently SS555:2018 requires LPS provision for the protection of buildings and its occupants. If the roof top is accessible, LPS is required to comply with SS555:2018 to address the risks of exposure to lightning strikes.
6	For a bus shelter with 2 nos. of natural down conductor, can it comply with the touch voltage requirement?	The design of LPS for bus stop at ground level shall be adopted in accordance with clause ZB.9.1 of SS555:2018 as per the latest Amendment 1 of the Code.
7	The LPS drawings submitted during the BP stage may not be the same as that of the installed LPS due to site changes / deviation. As such is there a need to submit the as-built LPS drawings together with the test results during application for TOP?	When LPS submission is implemented in 2023, similar to BP, if there are deviations from the approved LPS Plan, then the QP(Elec) would be required to submit either amendment or record plans to regularise the works.
8	What is the effective submission type for upcoming requirement of LPS BP submission in 2023? Is it tagged to BCA BP 1st submission date? Or URA submission?	LPS Plan submission will be based on BCA BP 1st submission.
9	Is there any standard pole or specification that can be used in outdoor facilities area as pole for LPS system?	Pole if installed within a habitable place should be insulated and it needs to comply with the SS555:2018's requirement that the insulation can withstand an impulse voltage of 100KV for a period of 1.5/50us.
10	Do we need to provide LPS to Davit arms on the roof during building maintenance?	Temporary equipment placed on the buildings are not regulated by BCA, however for ad-hoc maintenance equipment such as Davit Arm that is

		exposed to direct lightning strike, QPs and building owners are advised to take the necessary precaution such as bonding to LPS.
11	To carry out Inspection of LPS test link box, is it required to have 2 nos. of 2 test link boxes accessible?	Under SS555:2018, for building that adopt natural down conductor and earth system, minimum 2 test links are to be provided per building. The height of the test link is also specified in the Code. E.g., for concealed tape and recessed test link, height is controlled at 1.5m.
12	Is LPS required for roof garden above multi-purpose hall which is not accessible to public but only for maintenance staff?	LPS is required for the protection of physical structure and occupant against injuries due to the effect of lightning. If the said roof is a green roof and is only accessible by maintenance staff ONLY , then PE should carry out a risk analysis in consultation with the owner if protection to a person against direct lightning is required. Protection against direct lightning strike in a non-habitable area is not required. Warning sign is required to be provided to the entrances to M&E Roof accessible by authorised maintenance staff only.
13	What is the minimum number of test link boxes required if the building is not adopting natural components as down conductors?	Minimum 2 test links are required if ONLY you adopted both natural down conductor and earth system. Otherwise, every down conductor must have a test link and earth pit.
14	Should building owner after TOP, alter the penthouse unit shelter to higher than the lightning rod level. What action will BCA take?	Shelter with an area with more than 10m ² is considered a significant building work and BP submission is required. The owner should consult the PE(Elect) if amendment is made that resulted in the roof constructed higher than the existing air-finials. In short, LPS is required to be provided for the roof of the shelter which now form the highest structure in the open terrace.

LIFTS & ESCALATORS		
S/N	Participant's Feedback / Enquiry	BCA's Response
1	For CCTV requirements in lifts, it often contradicts with SCDF code on the use of plastic within Fire Lifts and lobbies - can BCA address this with SCDF so that QP does not need to keeping applying waivers?	SCDF clarified that such CCTV installation within fire lifts and fire lift lobbies will be subject to the requirements under Table 3.13A in the Fire Code 2018 and the relevant requirements for plastic under Tables 3.15A to K. Waiver is not required if such requirements can be met and as long as the installation does not compromise other required provisions as per the prevailing Fire Code for the area (such the required fire compartmentation, etc).

2	Due to fire safety requirement, existing Passenger Lift/ Lift lobby upgraded to Fire Lift/fire lobby, do these changes require QP to submit for BP approval and CSC?	For replacement of lifts/upgrading of lifts only, BP submission is not required. Pls note that replacement of lifts or upgrading that involves major alteration or replacement works to the lift will require a re-application of permit to operate. For changes to existing lift shafts or existing lift lobbies, BP and ST submission may be required, depending on the scope of work. We would advise the applicants to write into BCA for consultation if they are unsure of the above requirements.
3	Does the new SS 550:2020 lift requirements apply to new projects only, or to A&A projects as well?	The new SS 550:2020 applies to lifts in projects (including A&A works involving addition of lift shaft to an existing building) whose first set of plans is submitted on or after 1 Jul 2021 to BCA for approval.
4	Based on the new SS550 for lifts, what is the minimum lift overrun required.	Overrun is not specified in the code requirements. It depends on the design requirements of the specific lift model. Instead, the code (SS550:2020) requires the provision of refuge spaces and clearances of top of equipment on car roof or balustrades to the shaft ceiling when the lift car is at the highest position. The highest or extreme position of the car is dependent on the counterweight buffer stroke, counterweight runby, rated speed of lift etc. You can refer to 5.2.5.6.1 of SS550:2020.
5	Are there any safety provisions made for escalators that prevent children from holding on to the moving rubber handrail?	The Singapore Standard for escalator, SS626, requires escalators to be designed with safety features to prevent misadventure by children. For example, the handrail inlet switch will stop the escalator movement if there is an obstruction (such as a child's hand dragged in with the handrail) caught in the handrail inlet. To prevent climbing and fall from height, glass panels/barriers are also required to be installed to close up accessible gaps between escalators as well as between escalator and wall.
6	For malfunctioning of HDB lifts, what actions should residents take?	All lifts are required to have door safety devices to detect obstructions and re-open. If it is observed that the door sensors are malfunctioning, please inform the relevant Town Council.

7	For SS550 - the requirement to provide access to lift pits >2.5m via access door, are there any requirements on the type of access (e.g. ladder, staircase) required to reach the door?	A staircase should be provided as the default access means.
8	With the new SS550 requirement, lift pit deeper than 2.5m has to be accessed via staircase and access door. SCDF would deem the maintenance access as habitable, meaning other fire-fighting provisions would be required. This includes the need for the lift pit access level to be served by a fire lift. Were requirements from SCDF and other agencies factored in when the new requirements were implemented?	SCDF and agencies such as HDB and LTA are members of both the Technical Committee and the Working Group that oversees the preparation of and develops the SS550 respectively. In addition, prior to its official publication, the draft SS was opened for public comments in 2019.

ACCESSIBILITY AND UNIVERSAL DESIGN		
S/N	Participant's Feedback / Enquiry	BCA's Response
ACCESSIBILITY CODE REQUIREMENTS		
1	If the minimum provision is 1 washroom, can 1 accessible washroom can be shared between abled users and PWD/ambulant users?	While accessible washroom can be used for all members of the public, you may wish to take note of requirements from NEA on the provision of typical male/female toilets in the development.
2	What are the BFA compliance requirements for the touch screen type destination control panel for the high-speed lifts?	Other than ensuring that it is placed at wheelchair accessible height, there must be provisions for persons with visual impairment. You may refer to clause 4.8.1. and 4.8.2 in the Code on Accessibility in the Built Environment 2019.
3	Accessible code allows lever handle to be used. Can lever handle be used for accessible toilet in lieu of push and pull handle as fire rated door required lever handle to comply with SCDF code	Grab bars for doors to accessible toilets are required to accommodate the needs and independent use by persons with disabilities. This includes persons with decreased dexterity. It is unlikely toilets doors are fire rated. For specific exceptional situations, please check with your processing officer.
4	Are detectable warning surfaces required for stairs in the unmanned plant staircases?	Provision of DWS is not mandatory for stairs leading to unmanned plant (machine) which is not meant to be accessible by public.

5	Is 1.2m clear width sufficient for a roof garden ramp? It is considered as a secondary access due to the low traffic and occupancy load. The roof garden is just mainly green area.	No, 1.2m clear width for a ramp is generally insufficient. The ramp must comply with the min 1.5m/1.8m width (depending on the typology) if <u>it forms part of the primary accessible route</u> . Low traffic and occupancy is not a reasonable consideration for providing a narrower circulation route designated for persons with disabilities.
6	If the male and female toilets are located separately at 2 ends of a floor, can we only provide only one individual accessible toilet to either one of the toilet?	No. Required to provide 1 accessible toilet per toilet cluster on every storey.
7	Is accessible rest area for long foot path applicable to private development linkway?	Resting area is applicable to private development linkway as well.
8	Do we need bollards at basement condo lobbies?	Appropriate barriers such as bollards to protect people from injury shall be provided. at locations (whether basement or other levels) where people congregate e.g. passengers pick-up/alighting areas.
9	Is child-friendly handrail required for the middle railing (provided for staircase exceeding 2m width)?	There is no mandatory requirement for child-friendly handrails. The Approved Document does not stipulate requirements for provision of middle handrails for staircase exceeding 2m width. You may wish to check fire safety requirements.
UNIVERSAL DESIGN INDEX (UDI)		
S/N	Participant's Feedback / Enquiry	BCA's Response
10	Will BCA be able to assess in advance for the development so that there is certainty that the UD rating can be achieved? This is so that any adjustment can still be made before construction rather than wait till completion, to avoid abortive works.	The UDi is a self-assessment framework. BCA would not be issuing any certifications in relation to the submitted UDi. The submitted information may, however, be shared with the public for their information. Therefore, QPs should ensure that the provided information is accurate. QPs and developers can choose to utilise the UDi checklist as early as they wish to self-assess and obtain an indicative level of user-friendliness and make adjustments from there.
11	Is there a pass/fail score? or is merely a record of the features?	There is no fail score for UDi. Compliances with the requirements in the Code on Accessibility will still apply.

12	Understand that UD mark is transition to UDi. When will UDi be officially pushed out for application? Currently there are many versions of working forms.	Please refer to the circular issued on 1 June 2022. More information can be found at https://go.gov.sg/bcaudi .
13	Is UDi applicable to utility projects? E.g. water treatment plant where there is restricted access?	If there are workers accessing or working within the facility, UDi is applicable.
14	If the GFA of more than 500m2 are from utility buildings such as substations, plant room, is UDi applicable?	If the total GFA of the development is more than 500sqm. UDi is applicable. However, if the works only comprise substations, UDi is not required.
15	Is there a minimum UDi rating to be complied with for different building typology?	No. The UDi provides an indicative measure of the level of user-friendliness beyond the baseline set by the minimum requirements specified in the Code on Accessibility in the Built Environment. Compliance with the requirements in the Code on Accessibility in the Built Environment remains a statutory requirement under the Building Control Act and Regulations and will continue to be assessed during application at BP and TOP/CSC.
16	For relevant developments that do not want UDi to be made mandatory, TOP application should be made before 1 Sept 2022? Any other guidelines? What if BP Approval or URA WP was obtained way earlier in 2020 or 2021?	The UDi simply records the user-friendly features within the development. The UDi would need to be submitted for any BP (including amendment) or TOP applications made after 1 September 2022. This is regardless of when planning permission was applied or when WP was obtained.
17	Understand that UDi will be submitted during TOP stage. For projects that has obtained BP approval that has intended for UD Mark (Gold) previously, (1) what will be the equivalent UDi? (2) and how do we ensure that project can be certified with this new universal design rating during TOP?	The equivalent under the UDi is a UD rating of "C" for UD Mark Gold. The architect will self-assess the UD rating of the project. If your project had previously obtained a UD Mark Design award, please contact your UD Mark assessor and they would be able to advise you further. You can refer to our FAQs for the equivalents at https://go.gov.sg/bcaudi-faq
18	Does UDi submission require only for new projects when is in effect?	Submission of UDi is required for any BP (including amendment) or TOP applications on and after 1 Sep 2022. Landed residential buildings, linkways, and small buildings with GFA smaller than 500sqm are exempted. For more details, please refer to the UDi guide on the applicable scenarios at https://go.gov.sg/bcaud-guides
19	Will waiver be allowed for UDi provision for automated industrial plant?	The UDi simply records the user-friendly features within the development. You can contact the building plan processing officer for your case specific project.

20	For Industrial Building Projects with approved waiver on compliance to accessibility requirement for Production Buildings; Does UDI requirement still applies?	Yes, UDi will generally be applicable. For specific circumstances for your project, please check with your building plan processing officers.
21	For petrochemical and oil refinery projects, there will also be process or plant buildings more for weatherproof of the equipment, if the GFA exceeds 500m2, is UDi applicable to these open sheds?	UDi will generally be applicable, especially if there are facilities within the plants for workers (e.g. office spaces, toilets). For specific circumstances for your project, please check with your building plan processing officers.
22	Will UDi be applicable to Retention Projects (Building to be regularised.)	Please subsequently check with the building plan processing officer. UDi may or may not be applicable depending on the building typology and the extent of retention works.
23	If 2nd phase TOP is applied after 1 Sep '22, is UDi required? Phase 1 applied before 1 Sep '22.	Yes. Applicable. Please complete and submit the UDi as soon as possible before the formal application for the 2nd phase TOP. The UDi checklist is already available in ESPRO and at our website at https://go.gov.sg/bcaudi
24	For A&A internal fitting out work, (Change of use from part of the warehouse to ancillary office production areas). There is no increment of GFA, will this be subjected UDi as the URA and BP already approval say in early 2021?	The UDi would need to be submitted for any BP (including amendment) or TOP applications made after 1 September 2022. This is regardless of when planning permission was applied or when WP was obtained. For the extent of the UDi coverage, please refer to the UDi guide on the applicable scenarios at https://go.gov.sg/bcaud-guides

PREVIEW OF THE DAYLIGHT REFLECTANCE DESIGN GUIDE		
S/N	Participant's Feedback / Enquiry	BCA's Response
1	When will the daylight reflectance guide be rolled out, given it is a preview?	Daylight reflectance guide will be rolled out by Sept 2022.
2	How is the daylight reflectance value generated? What programs can be used for the study?	Some examples of programs for Glare Evaluation Simulation are <ol style="list-style-type: none"> 1. Rhinoceros with the plug-in of Grasshopper, Ladybug, Honeybee & Radiance 2. or Rhinoceros with the plug-in of Grasshopper, ClimateStudio 3. or IES with Radiance 4. or OpenStudio with Radiance

OTHER QUERIES

S/N	Participant's Feedback / Enquiry	BCA's Response
1	Is there a single point of contact in BCA for easy whistle blowing?	You may write to us at www.bca.gov.sg/feedbackform .
2	Will IACC be replaced by Corenet X upon launch?	IACC is a platform for resolution of inter-agency regulatory issues. It is still relevant and complementary to the launch of Corenet X.
3	Has BCA recommenced the walk-in consultation for projects, or it is done through BCA's website?	Qualified Persons who wish to consult with BCA on their plans should submit their requests via our online feedback form at www.bca.gov.sg/feedbackform . The relevant officers will contact them on whether walk-in consultation is necessary.