

Summary of Items Discussed in APSEC Discussion Forum on 18 May 2012

	Items proposed by Convenors for Discussion	Summary of Discussion and BD's Responses
	Items raised by HKIA	
1.	<p><u>Requirement of electrical charging under PNAP APP-2</u> PNAP APP-2 requires that for private carparking spaces to be disregarded from GFA calculation under B(P)R 23(3)(b) they have to be electrical vehicle (EV) charging-enabling. However, there is no mentioning regarding the diversity factor in use of the charging facilities to be adopted. If the design of the fixed electrical system has to allow for all carparking spaces to be charging EVs all at the same time, the power requirement would be enormous and this is unreasonable. It is also doubtful whether the local power supply network can support such power requirement in all new developments. The amount of carparking spaces having EV charging at the same time will also determine the number and sizes of transformer and switch rooms to be provided and hence the GFA exemption area for these essential facilities. Can BD provide more guidelines on this issue?</p>	<p>BD explained that while it was a projection that 30% of vehicles would be EV in the long run, only carparking spaces in new buildings would be required to have EV charging facilities and hence no diversity factor was adopted, i.e. 100% carparking spaces had to be EV charging-enabling in new buildings. BD also advised that GFA exemption would be granted for all necessary electrical rooms and installations associated with EV charging. Regarding exemption of GFA calculations for the space required for installing EV charging devices, especially those installed between carparking spaces, BD requested HKIA to provide information on the space requirement of the charging devices for consideration. BD would advise whether sockets should be provided for each carparking space before OP.</p> <p>[Post-meeting note : BD confirmed that each carpark space should be provided with electricity (provision of socket is optional) for EV charging before OP.]</p>
2.	<p><u>Requirement of open kitchen</u> Open kitchens are allowed in residential units with conditions in the new Fire Safety Code. However, it is not entirely clear regarding the lighting and ventilation requirements when open kitchen designs are adopted. As</p>	<p>BD advised that in addition to complying with the FS Code 2011, in particular its Clause C13.4 from the fire safety perspective, open kitchen should be located in a position where most of the open kitchen area could face the concerned prescribed window(s) of the room for the required natural</p>

	<p>open kitchens are normally designed as part of the living cum dining room of a residential unit we propose that the only requirement should be for the living cum dining room window to satisfy B(P)R 30 & 32 as a room for habitation generally and with the ventilation area slightly increased to cater for the requirement under B(P)R36 for a notional area of the open kitchen. No other requirement should be imposed if the layout of the same living cum dining room should have been acceptable under the regulations without the open kitchen. Can BD confirm this?</p>	<p>lighting and ventilation. In calculating the openable window area provision for a living/ habitable room incorporated with open kitchen, the requirements stipulated in B(P)R 30(2)(a)(ii) might be adopted instead of B(P)R 36(2)(b).</p>
<p>3.</p>	<p><u>Criteria for architectural features</u> In previous forum BD has confirmed that there has been no change to the acceptance criteria for architectural features on external walls to screen off pipe works, which has been taken to mean that provided they are reasonable and not dominating the façade of the building architectural features/screens projecting from the external wall by not more than 500mm should be generally acceptable, including these screens for pipe works. It is noted that for such architectural features to be effective in screening off unsightly pipe works, they have to be reasonably non-transparent. However, some APs have experience that additional requirements have been imposed for the screens to be very transparent in order to be approved. This is quite contrary to the intention of providing such features/screens. Will BD please confirm that provided that these</p>	<p>HKIA supplemented that the features/screens were usually grilles or louvres and hence the proposed 30/70 ratio. However, BD's initial view was that 30% free area might be too low and requested HKIA to provide details with a higher free/solid ratio for consideration.</p>

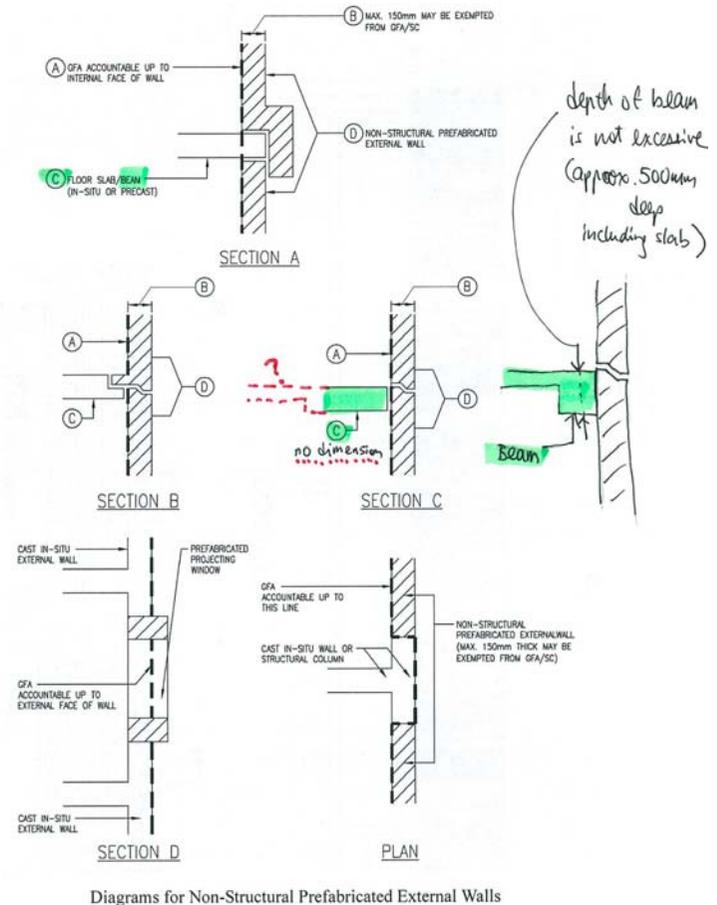
	<p>features/screens do not in effect result in a complete enclosure of the pipe works they should be acceptable? Alternatively a reasonable free area-solid area ratio (say 30%/70%) <u>per floor</u> for these screens may be agreed.</p>	
4.	<p><u>Area of Refuse Storage and Material Recovery Chamber</u> Can BD clarify whether the area for parking of the Refuse Collection Vehicle (RCV) in Refuse Storage and Material Recovery Chamber (RS&MRC) with vehicular access be deducted from the area of provision in these chambers?</p>	<p>BD's preliminary opinion was that the area for parking RCV should not be included as the required floor space of the RS&MRC, and BD would further clarify. [Post-meeting note : BD confirmed that the statement is correct.]</p>
5.	<p><u>The definition of "street"</u> The definition of "street" in PNAP APP-152 (SBD Guidelines) follows that of B(P)R 18A to include the first two categories of specified streets thereunder. It follows that all public lanes and side alleys, however narrow they are, under the management of Highways Department will fall under such definition. Can BD clarify that if it is the intention of BA to eventually widen all these narrow lanes and side alleys to 15m wide as the building setback requirements are apparently applicable?</p>	<p>BD advised that streets (including lanes) of width 4.5m or above which were maintained by HyD would be subject to the building set back requirement. BD also remarked that for public lanes adjoining the lot that have to be widened under lease to width of 4.5m or above would also be subject to the building set back requirement. The above clarification would be incorporated in the definition of "street" in Appendix A of PNAP APP-152 in the next revision exercise.</p>
6.	<p><u>Calculation of compartment area and length under FS Code 2011</u> In the new Fire Safety Code compartment definition has been changed from volumetric to planar. There are still compartments that may cover areas of different shapes on</p>	<p>BD advised as follows: For (a), if connected by floor openings without fire barriers, the compartment area should be the total areas of the concerned floors including all the void</p>

	<p>different floors, such as in department stores where shutters are used to separate compartments around escalator voids. (a) For the calculation compartment size, should the plan areas of different floors of such a compartment (including void areas) be added to give the total compartment area or the area of the largest floor within the compartment be taken as the total compartment area? (b) Regarding the total length of compartment walls for calculation of the 25% openings under Clause 8.1, can compartment walls at different levels be added together to give the total length?</p>	<p>areas.</p> <p>For (b), the length of compartment walls should be measured on a floor-by-floor basis for calculation of the 25% under Clause 8.1.</p>
<p>7.</p>	<p><u>Requirement of sprinkler head for shutter under FS Code 2011</u></p> <p>Regarding the April version of the new Fire Safety Code, Clause 8.1(a) requires “additional” sprinkler heads as one of the condition to relax the insulation requirement of shutters to 30 minutes. Does it mean that the relaxation only applies to a building where sprinklers are not originally provided? Can BD clarify the term “full coverage on each side of the fire rated door or fire shutter” as for a sprinkler system to be accepted by FSD the layout/array/coverage should comply with the LPC Rules incorporating BS EN 12845:2003 anyway?.</p>	<p>BD advised that this relaxation applies to both sprinklered protected buildings and non-sprinklered protected buildings. The sprinkler heads required under Clause C8.1 were in addition to those required under the FSI Code. The phrase “full coverage on each side of the fire rated door or fire shutter” meant each side of the fire rated door or fire shutter should be fully wetted by the additional sprinkler heads installed for the purpose of Clause C8.1. The design and installation of these additional sprinkler heads should comply with the LPC Rules incorporating BS EN 12845:2003 and be accepted by FSD.</p>
<p>8.</p>	<p><u>Change of interpretation of regulations</u></p> <p>There has been feedback from members that a change in the responsible BS on a project often would lead to changes in</p>	<p>BD advised that APs could request the next higher level officer for a review if they thought there was a change to previous interpretations, i.e. review by</p>

	<p>the interpretation of regulations, even when plans have been approved and amendments do not involve the items concerned. This has led to problems of abortive works for projects near OP and a general lack of confidence in the plans approval process. Can BD confirm that an approval of plans is a solemn act and plans already approved should be respected as such even with a change of personnel?</p>	<p>SBS if BS's interpretations were changed, review by CBS if SBS's interpretations were changed, etc. [Post-meeting note : BD has reminded its staff to seek CBS's endorsement if there is a need to request AP to amend plans showing building works which had already been approved previously.]</p>
<p>9.</p>	<p><u>Follow-up on previous items:-</u></p> <p>(a) Whether all MOE requirements in the new Fire Safety Code have to be applied to large plant rooms?</p> <p>(b) Are catwalks and overhead maintenance corridors of steel construction considered as "hanger" under the definition of "Element of Construction"?</p> <p>(c) Are the areas of the car ramps considered occupied spaces requiring means of escape? Is there any relaxation for complying with dead end and gradient requirements for MOE?</p>	<p>(a) BD advised that pursuant to Table B1, a plant room exceeding 100m² in net floor area (i.e. area within the enclosing walls of the plant room) should be assessed for its occupant capacity. Persons who were expected to be present in plant rooms should include authorized/maintenance personnel, and the AP could exercise his professional judgment in providing suitable means of exit therefrom for such personnel.</p> <p>(b) BD clarified that catwalks and overhead maintenance corridors that were not performing the function as floor/beam/column of the building were not "Element of Construction" and hence they were not required to have FRP/ FRR. Whilst such catwalks and overhead corridors offered exit for authorized/maintenance personnel thereon, there was no requirement for such exit routes to have FRP/ FRR.</p> <p>(c) BD advised that when shutters were deployed to form fire compartments in carparks for Table C1 purpose, in case the dispositions of the shutters would result in portions of the car ramps being dead-locked upon activation of the shutters, it would be necessary to provide means of exit to the required</p>

	<p>(d) Can BD commit to a period within which objection or comment may be issued to minor works submissions so that rectification work can be made within reasonable time but not after user-occupation or long into license application procedures, etc.?</p> <p>(e) Recessed final point of exit at Ground Floor.</p>	<p>staircases/open area/ultimate place of safety to cater for any person who might be trapped within such dead-locked portions of the car-ramp. The distance and gradient requirements could be relaxed accordingly for car-ramps.</p> <p>(d) BD advised that MWCS was a self-regulating control system which allowed “minor works” to be commenced or carried out under the “simplified requirements” by prescribed building professionals (PBP)/prescribed registered contractors (PRC). Bearing in mind that the PBP/PRC had the obligation to ensure the subject works were in compliance with the BO and other enactments, they should not rely on BD’s audit check on the documents/works engaged by them. Minor Work Unit had advised that taking into account of the large number of minor works submissions received by BD and the limited resources currently available for handling of the submissions, BD was not yet ready to commit a pledge on replying to PBP/PRC.</p> <p>(e) BD advised that the exit route from a staircase at ground storey should be enclosed by fire barriers up to its ground storey discharge point leading directly to an ultimate place of safety. The design of the ground storey discharge point recessed from the ultimate edge of the building might be acceptable if the covered recessed area was a common area, open in design and not encumbered with features carrying fire hazards. Such recessed covered areas would be counted for SC and PR. However, it would be irrational to set any depth as an acceptable recess, and each case had to be assessed based on its own design, layout and other relevant circumstances.</p>
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	<p>(f) The word “intermediate” has been removed from Clause B8.2(c) of the April version of the New Fire Safety Code. Can BD re-confirm?</p>	<p>(f) BD confirmed the revision.</p>
	<p>Items raised by AAP</p>	
<p>10.</p>	<p><u>JPN1 for Prefabricated External Facade</u> It is our understanding that the diagrams in Appendix B of JPN2, in which the structural profile is very simplified and do not contain any edge beams etc, are indicative only. The common practice of having an in situ edge beam at slab edge to support the prefabricated external facade as marked on the sketch attached below is acceptable for GFA exemption for the prefabricated facade as long as other conditions are complied. Please advise if the above understanding is correct since some BS requested the deletion of the edge beam in GBP amendment.</p>	<p>Members of AAP would like to confirm with BD that the diagrams in Appendix B of JPN2, in which the structural profile was represented by simple lines and did not contain any edge beams etc., are indicative only. The common practice of having an in situ edge beam at slab edge to support the non-structural prefabricated external walls (as marked on the attached sketch) was acceptable for GFA exemption for the non-structural prefabricated external walls as long as other conditions are complied with.</p> <p>The above was confirmed by BD.</p>



11. Validity period for modification exemption approval
 (For redevelopment project) Would it be possible to extend the validity period of the modification approval if the superstructure consent cannot be obtained by the deadline stated in the permit due to the Applicant's inability to secure vacant possession on time for demolition and foundation

Members of AAP questioned whether consent will be granted for approvals of more than two years ago as long as no new building regulations have come into force.

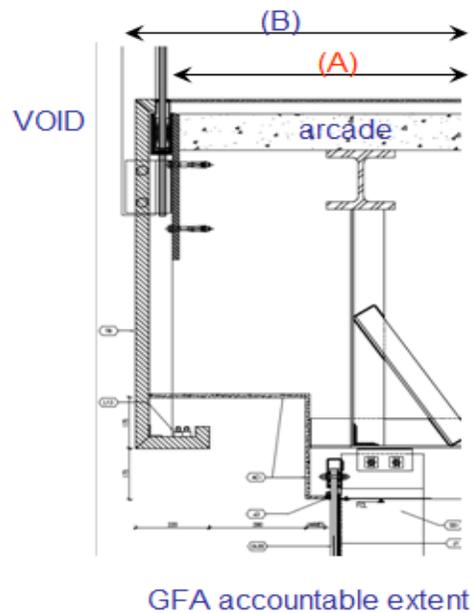
Discussion:

	<p>works due to:</p> <p>Full ownership of site has been acquired and demonstrated. But the existing tenancies don't allow the developer to take vacant possession on time to start the Demolition and Foundation Works.</p> <p>Plans submitted before 21-10-2010 and approved. Subsequent amendment involves modifications which BD approved with validity period. However, full ownership was not obtained on time to allow developer to take vacant possession to start Demolition / Foundation Works.</p>	<p>BD confirmed that S16(3)(d) of the Buildings Ordinance would not be invoked to refuse consent for plans approved more than 2 years ago unless:</p> <p>(i) New building regulations had come into force after approval of plans and consent to commence works of such approved plans had not been granted (details were set out in paragraph 15 of PNAP APP-97); or</p> <p>(ii) A validity period was imposed in a Form BD 106 for the approval of plans and the validity period has expired.</p>
12.	<p><u>Time for approval by BD and FSD</u></p> <p>The time for getting timely GBP approval is getting longer and longer, and often statutory period cannot be met. We observe that FSD and BD both have similar problems.</p>	<p>BD would convey the message to FSD regarding this item. BD would also remind its staff to liaise with APs for early amendment of plans to facilitate early approval of plans.</p>
13.	<p><u>FS Code 2011 - Atrium height</u></p> <p>Clause C 10.3 restricts the atrium height to be less than 15m high / 3 storey high. This creates problems for School project where the normal height at the central grand stair void of School is at least 24m which is the building height.</p> <p>We suggest BD to define the meaning of the "Atrium" to internal atrium where smoke can be trapped. For atriums with 2 sides open like the staircase void in school, the 15m restriction should not apply. Fire engineering approach for</p>	<p>Members of AAP pointed out that the 15m height limit for atriums should be applicable to indoors atrium without natural ventilation only, and atriums commonly found in school or institutional building with natural ventilation should be exempted.</p> <p>School buildings are normally 24 m high and their corridors usually face a common circulation stair inside a naturally ventilated atrium space. This atrium needs to be over 15m high, and according to the current description in</p>

	<p>school projects is not practical as these projects cannot wait 6-9 months for the approval of the fire engineering report.</p>	<p>the COP requires a fire engineering approach for approval. However, the fire risk of a natural ventilated atrium should be much less than an internal atrium and a fire engineering approach seems redundant. A lot of unnecessary works for the AP and BD is induced for the preparation, submission and vetting of the fire engineering report for such atriums which do not have high fire risks. The process is also causing extreme difficulties for school and institutional buildings as these projects usually have extremely tight schedule.</p> <p>BD advised that during the drafting of the FS Code, the 15m high restriction was mainly intended for application in indoor commercial atriums. Since the designs and layouts of buildings varied, it would be impractical to give a definition on “atrium”. Openings at floors for passage of staircase(s) and/or escalator(s) would not be taken as an atrium under Clause C10.3, unless the openings were much larger than the plan area of the staircase(s) or escalator(s) in which case they might be regarded as an atrium. Also where the concerned area was open on two sides to the external air, depending on the layout, it might not be taken as an atrium in the context of the FS Code. BD would take a pragmatic approach in applying the requirement of ‘atrium’ under Clause C10.3, taking into consideration the natural ventilation and the design aspects on a case by case basis in vetting GBP submissions.</p>
	<p>Items raised by HKIS</p>	
<p>14.</p>	<p><u>Existing void above the cinema</u> In the case of converting old style circle type cinemas into other uses such as restaurants or shops, BD sometimes would consider the existing void above the cinema be included as</p>	<p>BD advised that applications for exemption of the existing void above cinemas from GFA arising from A&A works had been accepted by BD from time to time. BD would consider each case on its own merits and AP should</p>

	GFA, thus rendering the conversion unviable if the existing GFA of the development is already exhausted. HKIS would put forward that BD should adopt a more pragmatic and flexible approach when considering such A&A submissions.	submit a Form BD 106 together with justifications for consideration by BD.
	Items raised by HKIE	
15.	<p><u>FS Code 2011 - Protection against Spread of Fire and Smoke Between Floors under</u></p> <p>In previous 1996 FRP code page 14, Item 12, protection against Spread of Fire and Smoke between floors regarding the 450mm drop barrier, there is this statement, “having regard to the difficulties in some situations in providing barriers due to LOW HEADROOM, alternatives installations such as smoke reservoirs, perforate or open ceilings.... may be considered,” But the above statement is omitted in the new 2011 COP, does that mean ONLY 450 drop barrier will be accepted and OPEN CEILINGS will be disapproved? This may induce problem for A&A projects with low existing floor to floor height, especially at areas of escalators landing where a clear height of 2.3m is required for satisfying EMSD’s requirement and this drop panel will compromise the required clear height. Please clarify.</p>	BD advised that the purpose of the down-stand was to activate sprinkler protection as spelled out in the Commentary to Clause C10.1. To cater for tight headroom situations, an acceptable alternative was already spelled out in Clause C10.1(b) by using smoke curtain; and the specification for smoke curtain for the purpose had been supplemented in the Commentary to Clause C10.1 in the April 2012 version. Submission of a fire engineering assessment for such purpose was not required if the proposal complied with Clause C10.1(b) and the details specified in the Commentary.
16.	<p><u>FS Code 2011 - Insulation Fire Shutters</u></p> <p>It’s been difficult to source suppliers supplying INSULATION Fire shutters (required for Fire Shutters > 25% of compartment perimeter by the new Fire Code).</p>	BD advised that a number of local products were already available in the market. BD would only upload these products information in its Central Data Bank upon issuance of OP.

	<p>Most suppliers claim that they have not developed such a model. Does BD have an approved list of suppliers for these Fire Shutters?</p>	
<p>17.</p>	<p><u>GFA accountable extent for atrium void</u> For measurement of GFA at edge of an atrium void, a reasonable way for measurement is towards the edge of concrete or steel structure. [Dimension (A) as marked on sketch attached below refers] However, in some cases, case officer considers GFA is also accountable for the small portion between the concrete structure and the interior cladding at the spandrel. [Dimension (B) as marked on sketch attached below refers]. This seems insensible as the cladding is an interior finish and is not accessible by visitors. Is there any clear guideline?</p>	<p>BD confirmed that for calculation of GFA of a floor involving atrium void, the parent structural support to cladding or other finishing materials should be included as accountable floor area.</p>



18. Tension resistance of a pile

In piling plan submission, the tension resistance of a pile is required to be checked in case there is a net tension force on the pile. In the current practice, the tension resistance should be checked with effective dead weight of the soil mass of a conical volume from the pile toe against a FOS of 1.5. The frictional resistance of the conical surfaces between soil to soil as well as rock to rock face are not allowed to be taken into consideration. This approach is very conservative and making some pile foundation unnecessarily deep into bedrock in particular for those

BD advised that the effective shape of mass of rock lifted was dependent on the degree of jointing, fissuring and the inclination of the bedding plane of the rock. The common approach for calculating the rock mass for pull-out resistance was to adopt a half angle of 30 degrees cone and the shear at interface between the cone surface and surrounding rock and soil would be neglected. If frictional resistance in soil and rock layers of failure cone are to be included in the stability checking, the RSE should submit detailed geotechnical justifications to support his assessment.

	development project with deep basement (high flotation force) and shallower rockhead. It is suggested to allow the application of the frictional resistance between soil and rock in the conical failure checking.	
19.	<p><u>Value for measurement of Scale Factor</u></p> <p>Table 8.1 of the CoP for Site Supervision 2009 specifies the Basic Value for measurement of Scale Factor. In view of recently sharp escalation of construction cost, these values may not be valid. It is suggested to review the Table and other aspects of the CoP to cope with the current industry.</p>	BD advised a Technical Committee (TC) on Site Supervision Plan will be formed shortly. The TC will review CoP and recommend for updating if found necessary.
20.	<p><u>Design wind load in ELS Design</u></p> <p>Can we adopt 70% of design wind load in ELS design for wind force induced by adjacent structures in accordance with clause 4.3 of the CoP on Wind Effects in HK 2004?</p>	BD advised that the structural design of the ELS works should take into account the full wind loads induced from the adjacent building structure in accordance with the wind code.
	<u>AOB</u>	
21.	Matters arising from item 22(b) of the last APSEC Discussion Forum of 16.3.2012 regarding soft copy of Record Plans for R&VD in AutoCAD or Microstation format. (Item raised by BD)	BD reminded members to convey the message to members of their organizations and to provide their response to such request to BD.
22.	Design of window floor boxes (Item raised by BD)	In relation to a recent tragic incident of a girl who fell to her death from a flower box attached to her flat when standing thereon to do cleaning, BD requested members to disseminate to fellow members of their respective

		<p>institutes/associations our call for all APs to re-visit their building projects in hand that had been granted with consent to commence building works but such works were not yet completed to OP stage. If projects incorporated with window flower boxes that did not comply with the design criteria tabled at the joint BSC/APSEC 1/12 meeting on 4.5.2012 were identified, the AP concerned should explore alternative measures that could be implemented to ensure the safe use of the flower boxes by future occupants, and submit amendment building plans incorporating such measures for approval or approach BD colleagues for discussion on the proposed alternative measures before formal submission of the building amendment plans.</p>
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