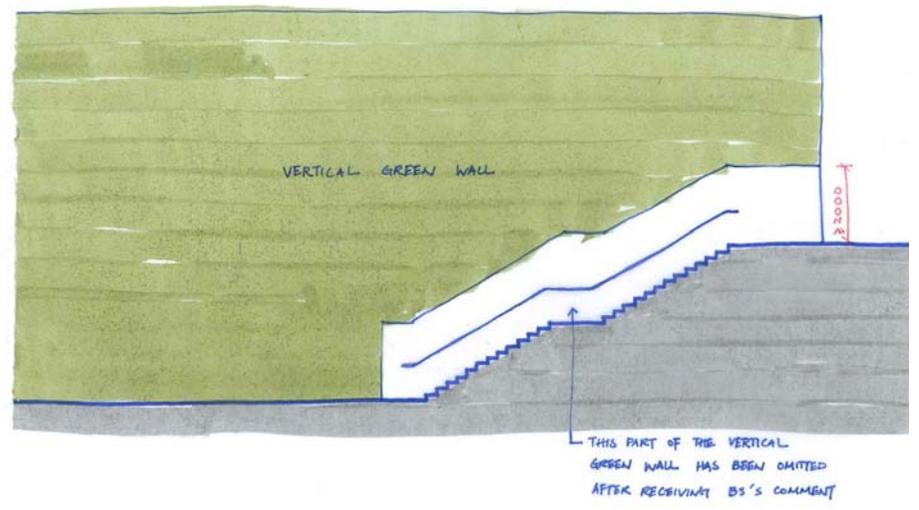


Summary of Items Discussed in 2/2015 APSEC Discussion Forum on 20 March 2015

| | Items proposed by Convenors for Discussion | Summary of Discussion and BD's Responses |
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| | Items raised by HKIA | |
| 1. | <p><u>Pipe Ducts and Essential E&M Ducts Located at Staircase</u></p> <p>According to PNAP APP-93, pipe ducts shall be accessible from the common parts of the building. An unobstructed working space of not less than 700mm in front of the pipes shall be provided for maintenance and repair of the pipeworks. The doors or panels providing access to the pipe ducts shall not be less than 600mm wide by 2000mm high.</p> <p>There are precedents that pipe ducts located at the staircase can be exempted from GFA calculations, given that they fulfill the above mentioned requirements. However, there are recent cases rejected that the access panels or doors should be opened at landings, and the same also apply to other essential E&M ducts.</p> <p>Please clarify if access panels for pipe ducts could be opened at staircases and exempted from GFA calculations if the requirements of PNAP APP-93 are complied with and also for access panels for essential E&M ducts to be opened at staircase if maintenance works could technically be conducted via these access panels (as per the sketch below).</p> | <p>The BD advised that pipe ducts for building services complying with Code of Practice for Fire Safety in Building 2011 (FS Code) Clause C9.3(d) but requiring maintenance and repair should not be provided in such location that would rely on access from a flight of stairs.</p> |

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| <p>2.</p> | <p><u>MOE Discharge to Lawn Area</u></p> <p>Please confirm that MOE discharge to a ground floor open lawn area is acceptable as this will certainly help in greenery calculations. For reference, the CoP for Fire Safety in Buildings only requires EVA to be hard-paved.</p> | <p>The BD clarified that according to item (j) of the guidance on factors to be considered for complying with the Performance Requirements B1 to B7 for MOE in Subsection A8 in Section 2 of FS Code (p. 12), the MOE should be of suitable construction to prevent slipping and falling. Hence, open lawn area should not be accepted.</p> <p>By the same token, the ultimate place of safety should be of suitable surface materials to allow safe gathering of occupants for them to safety disperse away from the subject building.</p> |
| <p>3.</p> | <p><u>Vertical Green Wall Next to MOE</u></p> <p>A comment from BS states that it is not allowed to have a vertical green wall located next to the exit route because the green wall does not have specified fire resistance rating. Therefore, if the MOE staircase is attached to the vertical green wall, the space along the stairs with a height of 2m should be clear and without the vertical green wall system (see diagram below). As there are many</p> | <p>The BD responded that the proposal to allow a horizontal clearance between the surface of the vertical green wall to the edge of the minimum escape width was acceptable. However, the minimum clearance should be determined on a case-by-case basis as it would depend on the types of the plants and the information provided by the</p> |

precedent cases of having planters next to exit routes, we suggest that a vertical green wall can be located next to an open staircase provided that there is a reasonable clearance, say 300mm, of the vertical green wall from the required discharge width of the staircase.



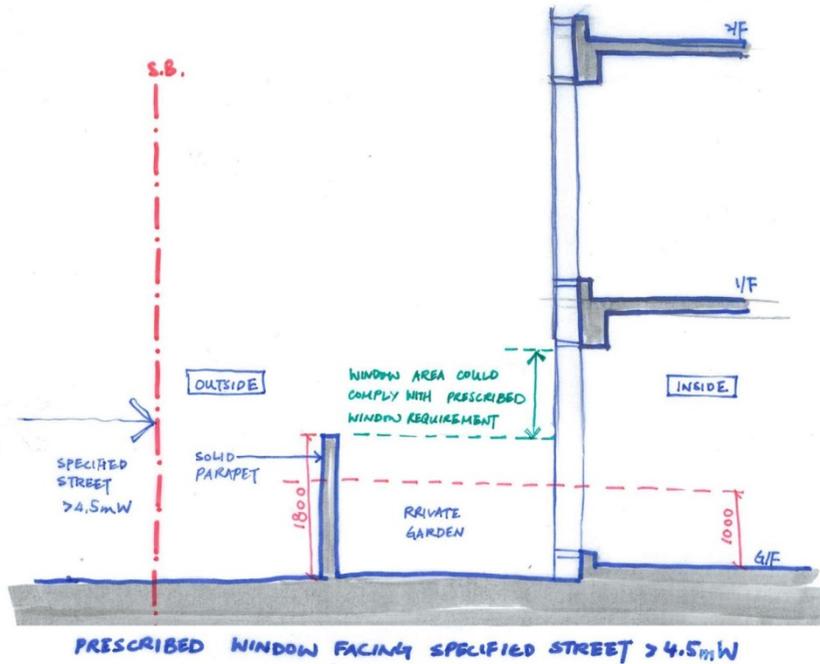
AP.

4. Prescribed Window Calculations for House and Apartment Ground Floor Garden Unit

As the parapet wall for a garden unit on ground floor is usually higher due to the security reason, we wish to reconfirm the following:-

- (a) Prescribed windows can be counted from the top of the fence wall instead of 1m above internal floor level.
- (b) If the window is facing a specified street of not less than 4.5m width, a normal fence wall on the boundary of the private garden or site boundary would not be counted as obstruction.

The BD advised that measurement of the prescribed window should be from the top of fence wall instead of above 1m above the internal floor level for windows abutting a street not less than 4.5m wide. In addition, the use of performance-based approach promulgated in PNAP APP-130 was also acceptable.



5.

Site Supervision

As the technical committee is reviewing the effect of construction cost inflation to the site supervision frequency, we would request the BD to review the method of calculating the supervision frequency of superstructure works. We believe the requirement of using total construction floor area to assess the supervision frequency is unreasonable, especially for large scale development, and this also does not take into account the works already completed. It is commonly adopted practice that the AP/RSE has to break down the works into

The BD acknowledged the issue and advised that the technical committee for the CoP for Site Supervision would review the approaches and methodologies to calculate the frequency of supervision to be required for superstructure works. The BD would advise the outcome of review in due course.

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| | <p>various stages in order to make the supervision frequency reasonable. We suggest BD to review the method of calculation and consider a more pragmatic approach such as calculating the scale factor according to the average construction floor area per month (similar to foundation & ELS works).</p> | |
| <p>6.</p> | <p><u>Discharge of MOE on G/F in Upward Direction</u> A deep and long floor plate that is free of intermediate obstructions (i.e. enclosed MOE routes that cut across the manufacturing area) is often required to satisfy the manufacturing flows/circulations of a specialized industrial undertaking. To cope with the said manufacturing requirement, a series of protected staircases at strategic locations deep inside the manufacturing area on G/F that lead to an elevated protected MOE routes at high level is proposed. The proposed elevated MOE would terminate at the building edge and discharge the occupants to the open air via a set of staircase(s) in downward direction. Please advise if the above proposed upward discharge of MOE on G/F is acceptable.</p> | <p>BD explained that the proposed upward MoE discharge on G/F, as described, might be acceptable provided that each exit route should be physically separated from other exit routes and other required staircases from upper floors .</p> |
| <p>7.</p> | <p><u>Flexibility for Solar Shading of Windows</u> Under existing guidelines, solar shading of windows is controlled as both building projection and thermal performance of glass where sunshades projecting up to 1.5m are permitted under PNAP APP-19 subject to compliance with APP-67 and APP-156. The limited depth of such sunshades is ineffective against afternoon sunlight that penetrates windows (or even balconies) in low angle and/or sideways, resulting in undesirable heat gain and glare problem in habitable spaces. As shown in Figures 1a & 1b, louver screens in front of windows and balconies provide complete shading regardless of sun angle, and they can be slid away at will from the windows and balconies for a fully open</p> | <p>The BD was receptive with the proposed sliding louvres in front of windows to enhance solar protection on a case-by-case basis subject to submission of detailed information of such system as well as the circumstances of individual cases. While the proposed sliding louvres might be considered as an amenity feature under the PNAP APP-42, considerations should be given to the possible reflection of sunlight from the slanted louvres to the surrounding buildings, and derogation of air ventilation through the louvres. The BD strongly advised that pre-submission enquiry with detailed justifications</p> |

view. These moveable sliding louver screens are common environmentally friendly features seen in Europe and Australia. Figures 2a & 2b show a mechanical example from England and a manual system from Germany. Would BD advise if this system is permissible under current Building Regulations and enjoys similar benefits given by relevant PNAP and JPN for green and innovative building features?

including implications arising of the two aforesaid issues, should be made prior to formal submission.

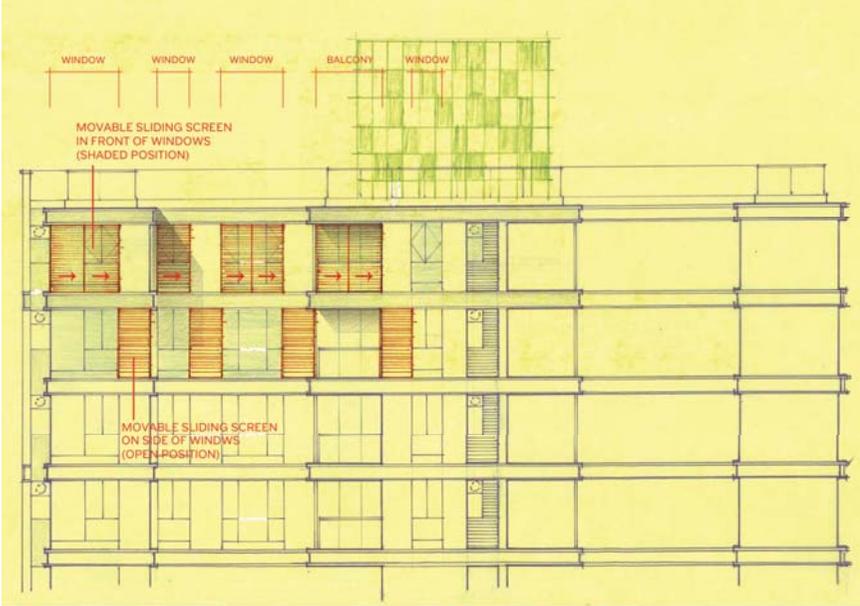


Fig 1a Building Elevation Showing Movable Sliding Screens / Window Relation

ARCHITECTURAL FEATURE / GUIDE RAIL FOR SLIDING SCREEN
(INCL. BUILT-IN MECHANICAL MOVEMENT)

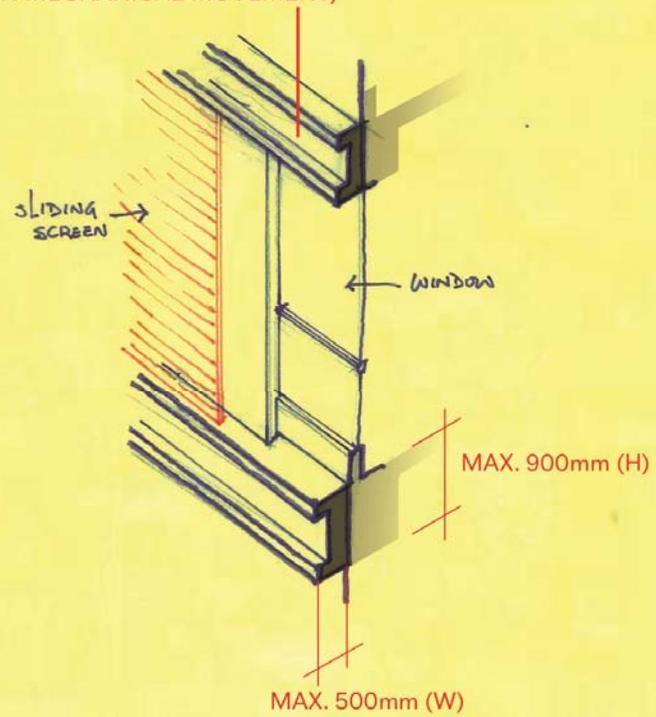
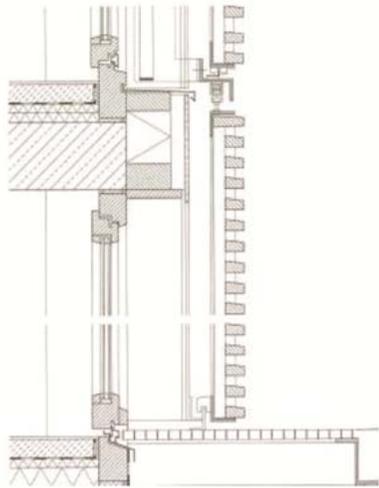


Fig 1b. SLIDING SCREEN CONCEPT



ArtHouse, Kings Cross, England

Fig 2a Reference Images

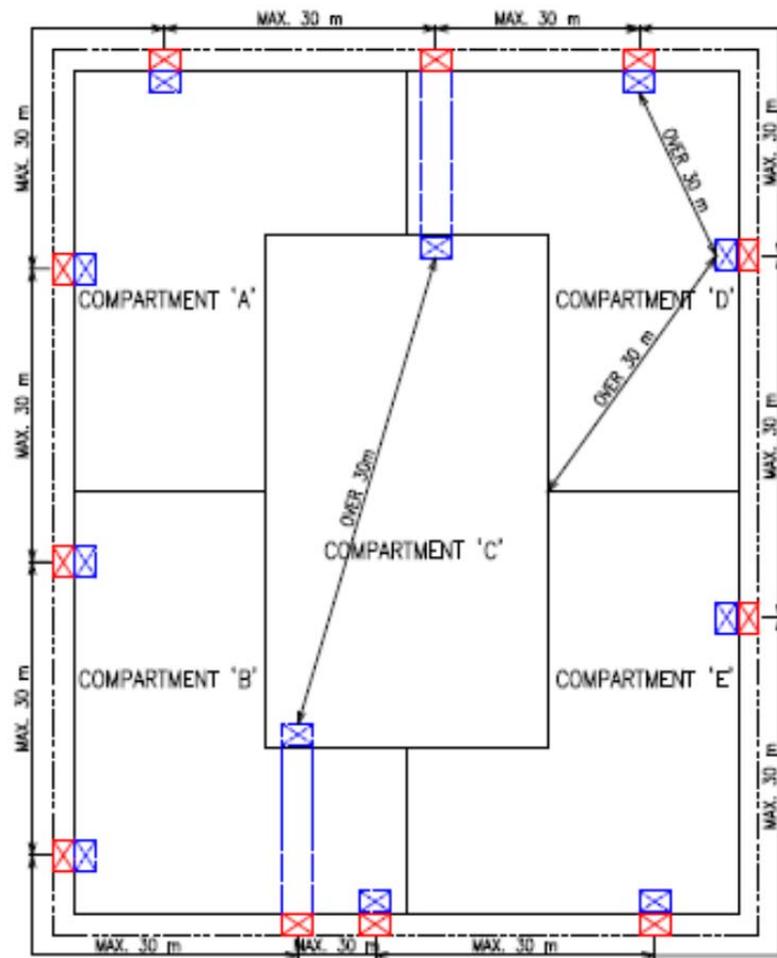


Integrated Housing, Ingolstadt, Germany

Fig 2b Reference Images

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| 8. | <p><u>PNAP APP-130</u></p> <p>Para. 2, Appendix ‘A’ of PNAP APP-130 states that “Primary opening” means any window opening which satisfies the natural lighting requirements stipulated under B(P)Rs or in paragraph 1(a) of PNAP APP-130 or any window opening located in or within 1.5 from end of the external wall where the aforementioned window locates.</p> <p>The above statement appears to imply that “Part III – Ventilation” of the said PNAP can apply to a room where the window can only meet the prescriptive natural lighting requirement under B(P)R 31 but not the performance requirement using UVA method. Please advise if our above understanding is correct.</p> | <p>The BD acknowledged that HKIA’s understanding was correct, i.e. Part III of Appendix A of PNAP APP-130 on guidelines on adoption of performance-based standards for natural ventilation could be applied to a room where the window could only meet the prescriptive natural lighting requirement under B(P)R 31 but not the performance requirement using UVA method. In this connection, reference should be made to the interpretation in Section 2 of Part I of Appendix A of PNAP APP-130.</p> |
| | Items raised by HKIE | |
| 9. | <p><u>BD’s Engineering Manual (EM)</u></p> <p>During the processing of structural submissions, RSE sometimes are requested to comply with some in-house design criteria stipulated in BD’s Engineering Manual (EM). To facilitate a smooth approval process, it is suggested to upload these information onto BD’s website for the industry’s reference.</p> | <p>BD advised that to ensure consistency and facilitate smooth processing of structural plans, the EM outlined the prevailing work practices and commonly adopted engineering design principles for in-house reference. This information can normally be found in PNAPs and Codes of Practice issued by BD and text books in related engineering field. Not all the internal guidelines of the EM are relevant or ready to be publicized and uploaded onto BD’s website. If necessary, RSEs may make use of the pre-submission enquiry facility to clarify with BD the basic design requirements prior to preparing the detailed design.</p> |
| | Items raised by AAP | |
| 10. | <u>Smoke Outlet</u> | The BD confirmed that it would not be necessary to place all smoke |

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| <p>In Discussion Forum dated 10 Jan 2014, BD clarified that <u>external discharge smoke outlets shall be not more than 30m apart and situated along the street frontages or adjacent to external walls under clause C14.2(a).</u></p> <p>Members encountered project recently where the above is interpreted as all smoke outlets for basement fire compartments have to be located within a frontage of 30m. This seems to be not a correct interpretation of the BD Forum minutes record as it is impractical especially for large development with many fire compartments.</p> <p>Furthermore, for large basement with more than 1 compartment, some of the smoke outlet will be in the form of horizontal 'ducts' running at the high level of the basement and for discharging smoke from the external wall at ground level. In such case, the 'internal smoke outlet' might be arranged as attached. We would like to have clarification whether the distance of different 'internal smoke outlets' within the same compartment can be more than 30m apart. (see Sketch)</p> | <p>outlets within a 30m long frontage. However, each smoke outlet should not be more than 30m away from another smoke outlet along the frontage.</p> <p>The BD advised that the arrangement as shown in the diagram was acceptable under FS Code Clause 14.2(a).</p> |
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-  SMOKE VENT INLET
-  SMOKE VENT OUTLET
-  BOUNDARY LINE

BASEMENT PLAN

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| 11. | <p><u>Sustainable Building Design Guidelines (SBD Guidelines)</u> Half of the width of street can be accounted for the intervening space in the calculation of Permeability. Open space under OZP designated as promenade or non-building area may be considered in the calculation of Permeability also.</p> <p>Following the above, it seems that a certain extent of the sea, river or green belt abutting the site boundary could be allowed to be included in the permeability calculation. All these areas are under the control of various statutory entities, similar to street. And future developments will have to set back from common site boundaries if the SBD Guideline still apply.</p> | <p>The BD advised that the matter would be discussed in the Working Sessions formed under the BSC/APSEC on the draft revised PNAP APP-152.</p> <p>The BD responded that as there had been cases where the greenbelt was rezoned for development, inclusion of greenbelt in the permeability calculation would create a lot of problems and it would contradict the principle of a self-sustained design.</p> |
| AOB Items | | |
| 12. | <p><u>Temporary Refuge Spaces (TRS) and Wider Corridor / Lobby</u> (Item raised by AAP)</p> <p>Further to item 14 discussed in 5/2014 APSEC Discussion Forum, AAP enquired that whether Scenario 1 should be adopted instead of Scenario 3 i.e. the location of TRS can be provided in the exempted area of wider corridor/ lobby.</p> | <p>The BD advised that they would check the minutes of the Working Group meetings and follow up in the next Discussion Forum.</p> |
| 13. | <p><u>Sampling of Mechanical Couplers for testing</u> (Item raised by the BD)</p> <p>The rate of sampling for testing of mechanical splices for strength tests by accredited laboratories would be revised in that the number of specimens would be sampled at a rate commensurate with the number of couplers to be used for splicing steel rebars instead of the aggregate amount delivered to the site.</p> | <p>The revised sampling rate enables continuous sampling of the mechanical splices for strength test throughout the construction works on site. The relevant revised standard appendices for approval would be applied to all new submissions approved on or after 1.4.2015.</p> |

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| 14. | <p><u>Protective Barriers for Planter walls</u> (Item raised by HKIA) Whether the 1.1m inner walls of planters located at the perimeter of the podium gardens shall comply with the requirements of the protective barrier under B(C)R 8, as there would have no level difference between the podium floor and the planter?</p> | <p>The BD advised that such inner walls of planters would be considered as protective barrier under B(C)R 8.</p> |
| 15. | <p><u>Review of Occupancy Factor for Flats</u> (Item raised by HKIA) HKIA requests to review whether the occupancy factor of 9 can be uniformly applied to all type of flats in Table B1 of FS Code.</p> | <p>The BD advised that there was no strong reason for review of such occupancy factor. However, as the representative from REDA pointed out that more and more small units would be built to respond to the market demand, the BD would not object to HKIA representative to raise the issue again at the Technical Committee on FS Code.</p> |
| 16. | <p><u>Request for Amendment of Plans</u> (Item raised by AAP) Whether BD can allow AP to amend plans for rectification of contraventions even though the plans are to be disapproved as proof of ownership / realistic prospect of control of the land forming the site cannot be accepted?</p> | <p>The BD noted that the amendments might be possible if the required changes to the plans would not be too extensive and sufficient time would be allowed for the case officers to prepare and issue the refusal letters.</p> |
| 17. | <p>Posting-meeting Note :</p> <p>Item 21 of the Summary of Items discussed on 8 August 2014 <u>FS Code Subsection E13 – Internal Wall and Ceiling Linings and Decorative Finishes (Item raised by HKIA)</u></p> <p>HKIA would like to enquire about the progress in revising the requirement of non-combustibility for decorative finishes and linings within protected</p> | |

exits in Subsection E13 of Part E of the FS Code.

In its 4th meeting held on 31.7.2014, the Technical Committee on FS Code agreed with the recommendation that FS Code Clauses E13.1(a) and E14.1(a) would be amended from Class A1 under European Classification to C (i.e. Class 1 under BS 476 Part 7) for the purposes of maintaining consistent standards between BD and FSD. Corresponding amendments to FS Code would be promulgated.