

立法會
Legislative Council

LC Paper No. CB(1)887/19-20
(These minutes have been seen
by the Administration)

Ref : CB1/PL/DEV

Panel on Development

Minutes of meeting
held on Tuesday, 26 May 2020, at 2:30 pm
in Conference Room 1 of the Legislative Council Complex

Members present : Hon Tony TSE Wai-chuen, BBS (Chairman)
Hon LUK Chung-hung, JP (Deputy Chairman)
Hon Abraham SHEK Lai-him, GBS, JP
Hon Jeffrey LAM Kin-fung, GBS, JP
Hon Starry LEE Wai-king, SBS, JP
Hon CHAN Hak-kan, BBS, JP
Dr Hon Priscilla LEUNG Mei-fun, SBS, JP
Hon Paul TSE Wai-chun, JP
Hon Mrs Regina IP LAU Suk-ye, GBS, JP
Hon Frankie YICK Chi-ming, SBS, JP
Hon CHAN Chi-chuen
Hon CHAN Han-pan, BBS, JP
Hon LEUNG Che-cheung, SBS, MH, JP
Hon Alice MAK Mei-kuen, BBS, JP
Dr Hon Fernando CHEUNG Chiu-hung
Dr Hon Helena WONG Pik-wan
Ir Dr Hon LO Wai-kwok, SBS, MH, JP
Hon Alvin YEUNG
Hon Andrew WAN Siu-kin
Hon CHU Hoi-dick
Dr Hon Junius HO Kwan-yiu, JP
Hon LAM Cheuk-ting
Hon Holden CHOW Ho-ding
Hon Wilson OR Chong-shing, MH
Hon Tanya CHAN

Hon HUI Chi-fung
Hon LAU Kwok-fan, MH
Hon Kenneth LAU Ip-keung, BBS, MH, JP
Dr Hon CHENG Chung-tai
Hon Jeremy TAM Man-ho
Hon Vincent CHENG Wing-shun, MH, JP
Hon CHAN Hoi-yan

Member attending : Hon WU Chi-wai, MH

Members absent : Hon Michael TIEN Puk-sun, BBS, JP
Hon CHEUNG Kwok-kwan, JP

Public officers attending : **Agenda item IV**

Mr Victor CHAN Fuk-yiu
Principal Assistant Secretary (Works)2
Development Bureau

Mr Eric CHENG Yuk-man
Assistant Secretary (Works Policies 2)5
Development Bureau

Mr PUN Wai-keung, JP
Head of Geotechnical Engineering Office
Civil Engineering and Development Department

Mr AU YEUNG Yan-sang, JP
Deputy Head of Geotechnical Engineering Office (Island)
Civil Engineering and Development Department

Mr Sammy CHEUNG Ping-yip
Chief Geotechnical Engineer/Slope Safety
Civil Engineering and Development Department

Agenda item V

Mr Jacky WU Kwok-yuen
Principal Assistant Secretary (Works)5
Development Bureau

Mr Johnny CHAN Chi-ho
Chief Assistant Secretary (Works)3
Development Bureau

Mr Thomas HUI Hoi-hon
Chief Assistant Secretary (Works)5
Development Bureau

Mr HO Yiu-kwong
Assistant Director/Operations and Maintenance
Drainage Services Department

Mr Edwin LAU Shing-cheong
Chief Engineer/Land Drainage
Drainage Services Department

Mr Ricky WONG Chi-pan, JP
Deputy Head of Civil Engineering Office (Port & Land)
Civil Engineering and Development Department

Mr Alan TANG Kai-yan
Chief Engineer/Port Works
Civil Engineering and Development Department

Agenda item VI

Mr Maurice LOO Kam-wah, JP
Deputy Secretary (Planning and Lands)2
Development Bureau

Ms Clarice YU Po-mei
Deputy Director of Buildings

Mr Humphrey HO Hon-kit
Assistant Director of Buildings/New Buildings 2
Buildings Department

Mr HO Chun-hung
Assistant Director of Buildings/Existing Buildings 2
Buildings Department

Clerk in attendance : Ms Doris LO
Chief Council Secretary (1)2

Staff in attendance : Miss Rita YUNG
Senior Council Secretary (1)2

Mr Raymond CHOW
Senior Council Secretary (1)10

Ms Christina SHIU
Legislative Assistant (1)2

Action

I Confirmation of minutes

(LC Paper No. CB(1)598/19-20	— Minutes of meeting on 26 November 2019
LC Paper No. CB(1)621/19-20	— Minutes of meeting on 20 January 2020
LC Paper No. CB(1)657/19-20	Minutes of special meeting on 19 November 2019)

The minutes of special meeting on 19 November 2019, and the minutes of meetings on 26 November 2019 and 20 January 2020 were confirmed.

II Information paper(s) issued since the last meeting

2. Members noted that no information paper had been issued since the meeting on 28 April 2020.

3. The Chairman sought members' views on the Administration's suggestion to delete the item on "Preservation of the General Post Office Building in Central" from the "List of outstanding items for discussion" (the position updated as at 25 May 2020 was reflected in LC Paper No. CB(1)648/19-20(01)) on the ground that the Administration had submitted a progress report on implementation of the heritage conservation policy to the Panel for discussion at the meeting on 28 April 2020, and there was no further

follow-up arising from the discussion at the said meeting. Members raised no objection to the suggested deletion.

III Items for discussion at the next meeting

(LC Paper No. CB(1)648/19-20(01) — List of outstanding items for discussion

LC Paper No. CB(1)648/19-20(02) — List of follow-up actions)

4. Members agreed that the next regular meeting would be scheduled for Tuesday, 23 June 2020, from 2:30 pm to 5:00 pm to discuss the following items proposed by the Administration:

- (a) Work of the Urban Renewal Authority;
- (b) Progress report on funding scheme to support the use of vacant government sites by non-government organizations for the financial year 2019-2020; and
- (c) E&M InnoPortal for wider application of innovation and technology in the Government.

IV Government's preparedness for increasing landslide risk due to climate change

(LC Paper No. CB(1)648/19-20(03) — Administration's paper on Government's preparedness for increasing landslide risk due to climate change

LC Paper No. CB(1)648/19-20(04) — Paper on Government's efforts on landslide prevention prepared by the Legislative Council Secretariat (Updated background brief))

5. At the invitation of the Chairman, Principal Assistant Secretary (Works)2, Development Bureau ("PAS(W)2/DEVB") gave an introductory remark on the Government's preparedness for increasing landslide risk due to climate change. He said that the Government had formulated strategies to prepare Hong Kong for the threat of increasing landslide risk due to extreme rainfall brought about by climate change.

6. With the aid of a powerpoint presentation, Head of Geotechnical Engineering Office, Civil Engineering and Development Department ("Head/GEO/CEDD") briefed the Panel on the details of the Government's effort on addressing the landslide risk brought about by more frequent extreme rainfall events due to climate change.

(Post-meeting note: A soft copy of the powerpoint presentation materials was circulated to members vide LC Paper No. CB(1)689/19-20(01) by email on 26 May 2020.)

Managing landslide risk in Hong Kong

7. The Chairman, the Deputy Chairman, Ir Dr LO Wai-kwok and Dr Fernando CHEUNG appreciated the Administration's efforts in managing landslide risk since the establishment of the former Geotechnical Control Office (now the Geotechnical Engineering Office ("GEO")) of the Civil Engineering and Development Department ("CEDD") in 1977. Members noted that the number of landslides had reduced substantially, and casualties due to landslides had dwindled significantly in recent years. Yet, as landslide threat brought about by extreme rainfall could not be entirely avoided, members considered it necessary for the Administration to continue its efforts in enhancing the preparedness and resilience against landslide disasters, so as to reduce the potential loss of life and damage to property.

8. The Deputy Chairman enquired whether the "Landslide Potential Index" developed by GEO could be used for predicting the exact locations of landslides that might be induced by rainstorms so as to facilitate issuance of Landslip Warnings in a timely manner. The Chairman called on the Administration to make use of new technology to enhance the effectiveness of the Landslip Warning System.

9. Head/GEO/CEDD advised that with the aid of a rainfall-landslide correlation model established based on real-time rainfall data collected by GEO to facilitate the estimation of number of landslides induced by a rainstorm and the rainfall forecasts from the Hong Kong Observatory ("HKO"), GEO was able to identify instance when landslide danger was high and determine the appropriate timing to issue Landslip Warnings jointly with HKO. Head/GEO/CEDD said that technically it was not feasible to identify the exact locations where landslides might occur. Nevertheless, there might be signs of landslide danger on a slope or retaining wall before it collapsed. Some typical signs of landslide danger included sudden change in colour (from clear to muddy) of water flowing from slopes or retaining walls, and cement or concrete surface of slopes bulging or being dislodged. GEO had

developed and put on trial a novel landslide detection system "Smart Barrier", applying modern information technology for monitoring the condition of landslide debris-resisting barriers. The "Smart Barrier" allowed all-weathered and non-stop monitoring of the barriers' conditions and provided alerts in the event of any accumulation of landslide debris, thus forewarning the occurrence of major debris flow. This enabled relevant government departments to arrange timely emergency evacuation of nearby residents and minimize any possible casualties.

10. The Deputy Chairman noted that implementation of the Hong Kong Slope Safety System had successfully reduced the overall risk of landslides in Hong Kong to an "as low as reasonably practicable" ("ALARP") level, and asked about the actual meaning of ALARP level. Head/GEO/CEDD explained that ALARP was a term often used in the regulation and management of risks. GEO had adopted state-of-the-art quantitative risk assessment methodology, which was used worldwide, in the management of landslide risk in Hong Kong. In simple terms, landslide risk could be interpreted by casualties due to landslides. After years of efforts, the overall landslide risk in Hong Kong had been remarkably reduced to less than one-fourth of the risk level in 1977. The number of landslides and casualties due to landslides had reduced substantially in recent years. Since 2010, the prevailing landslide risk in Hong Kong had remained at ALARP level, which was comparable to that of other developed countries.

11. The Chairman expressed concern about the effectiveness of the measures to maintain public awareness of landslide risks, including the erection of landslip warning signs at appropriate locations. In response, PAS(W)2/DEVB said that the Administration strived to raise community resilience against severe landslide events. The public should keep vigilant against landslide danger when the Landslip Warning is in force, especially at locations where landslip warning signs are erected. Head/GEO/CEDD advised that the Administration had adopted a proactive strategy to educate the public on the precautionary measures that they should take when Landslip Warning was in force, in particular, the public should stay away from slopes, watch out and report for signs of landslide danger.

Strengthening slopes against extreme rainfall to prevent landslides

12. Given the hilly terrain in Hong Kong, Ir Dr LO Wai-ki enquired about the Administration's priorities in implementing risk mitigation works for the many natural hillside catchments. Head/GEO/CEDD responded that the Administration launched the Landslip Prevention and Mitigation Programme ("LPMitP") in 2010 to manage the landslide risk of both natural hillside and

man-made slopes in a holistic manner. Under LPMitP, the most deserving natural hillside catchments (e.g. those close to residential areas) were selected for studies each year in accordance with a risk-based priority ranking system. The necessary landslide prevention and mitigation works, as identified by the studies, would be carried out in accordance with the priorities on the ranking list. The Administration implemented risk mitigation works for 30 vulnerable natural hillside catchments each year.

13. Dr Fernando CHEUNG enquired about the progress in implementing risk mitigation works for natural hillside catchments. To effectively manage landslide risks, Dr CHEUNG also asked whether the pledged annual outputs of LPMitP to upgrade 150 government man-made slopes and implement risk mitigation works for 30 natural hillside catchments were sufficient.

14. Head/GEO/CEDD advised that the Administration completed a review of LPMitP in 2015. Based on the review, as of 2015, there remained about 17 600 substandard man-made slopes with moderate risk or affecting squatter dwellings, and 2 800 vulnerable natural hillside catchments that would pose a hazard to the community. The pledged annual output of upgrading 150 government man-made slopes and carrying out mitigation works for 30 natural hillside catchments would be able to deal with approximately the worst 1% of both the remaining man-made slopes and natural hillside catchments. The Administration considered that the pledged annual delivery targets of LPMitP were appropriate in balancing the need to contain landslide risk against public disturbance, and having regard to the capacity of the geotechnical engineering profession and workforce.

Maintenance responsibilities for private slopes

15. Ir Dr LO Wai-kwok and Dr Fernando CHEUNG expressed concern about the technical or financial difficulties faced by private slope owners in maintaining their slopes. Ir Dr LO suggested that taking the opportunity of carrying out maintenance/repair works on government slopes, the Administration should consider carrying out maintenance/repair works on adjacent private slopes together if the owners concerned faced difficulties in maintaining their slopes. In such cases, the Administration might recover the costs of works from the private slope owners afterwards. Given that there were many private slopes some of which were close to residential areas, Dr CHEUNG was concerned about the assistance provided by the Administration to private slope owners in proper maintenance of their slopes to ensure safety.

16. In response, Head/GEO/CEDD emphasized that the responsibility of proper maintenance of private slopes rest with the owners. When a private slope is found to be dangerous, the Buildings Department ("BD") would serve a Dangerous Hillside ("DH") order to require the slope owner to investigate and if necessary to rectify the slope. There was also an established mechanism for BD to carry out the required works in default of the owners to comply with the relevant DH orders and recover the costs of works and supervision charge and surcharge from the owners afterwards.

17. On the support provided to private slope owners, PAS(W)2/DEVB advised that BD administered the Building Safety Loan Scheme to assist owners to carry out maintenance or improvement works of slopes for which they were responsible. Deputy Head of Geotechnical Engineering Office (Island), CEDD ("Deputy Head/GEO(I)/CEDD") advised that GEO had set up a Community Advisory Unit to proactively provide community advisory services to private slope owners, and help them fulfil their slope maintenance responsibilities and comply with DH orders promptly and effectively. The Unit offered free-of-charge technical advice and assistance in regard to the related geotechnical works, including advice on the procedures in engaging qualified engineers and contractors to carry out slope maintenance works.

18. The Chairman enquired about the details of the safety-screening studies on private man-made slopes conducted by the Administration, and the compliance of private slope owners in respect of DH orders served. Deputy Head/GEO(I)/CEDD replied that under LPMitP, the pledged annual output was to conduct safety-screening studies on 100 private man-made slopes. On average, about 10% to 15% of the private slopes examined were identified to be substandard, and DH orders would be served by BD. There were about 20 000 private man-made slopes in Hong Kong and about 6 000 private slopes had been studied over the last few decades. According to the BD records, there were currently about 600 outstanding DH orders, and the owners of about 40% of these cases were in default of complying with the DH orders. Deputy Head/GEO(I)/CEDD emphasized that there were no immediate risks on these private slopes with long overdue DH orders. If there was safety concern, BD might carry out the required works on the owners' behalf and would recover the costs plus supervision charges and a surcharge from the owners afterwards.

V Management of typhoon season flood risk

(LC Paper No. CB(1)648/19-20(05) — Administration's paper on management of typhoon season flood risk

LC Paper No. CB(1)648/19-20(06) — Paper on management of typhoon season flood risk prepared by the Legislative Council Secretariat (Background brief)

19. At the invitation of the Chairman, Principal Assistant Secretary (Works)5, Development Bureau ("PAS(W)5/DEVB") gave an introductory remark on the management of typhoon season flood risk.

20. With the aid of a powerpoint presentation, Chief Assistant Secretary (Works)5, Development Bureau briefed the Panel on the flood risk in Hong Kong in the typhoon season and the corresponding management measures being taken by the Government.

(Post-meeting note: A soft copy of the powerpoint presentation materials was circulated to members vide LC Paper No. CB(1)689/19-20(02) by email on 26 May 2020.)

Flood risk in Hong Kong

21. Ir Dr LO Wai-kwok, Mr LAU Kwok-fan, Dr Fernando CHEUNG and Mr LEUNG Che-cheung appreciated the Administration's efforts in reducing flood risk in Hong Kong. Members noted that the Drainage Services Department ("DSD") had eliminated most of the flooding blackspots, and the number of flooding cases had reduced in recent years. Yet, given that under inclement weather, such as super typhoons or prolonged localized heavy rains, flooding might still occur at the affected areas, and threats induced by extreme weather were also expected to be more frequent and severe due to climate change, members called on the Administration to stay vigilant and sustain its efforts in taking appropriate flood prevention measures.

22. In response, PAS(W)5/DEVB said that since 1995, DSD had eliminated 126 flooding blackspots. At present, there were only five flooding blackspots in Hong Kong. Among them, the drainage improvement works at Ting Kok Road in Tai Po had been completed, and subject to the result of the flood monitoring, this flooding blackspot might be eliminated after the rainy season this year. PAS(W)5/DEVB added that rainstorm warning had been issued a couple of times so far this year, and no flooding cases were reported, illustrating that the flood management measures, including the "just-in-time clearance" arrangement (i.e. deploying manpower to timely inspect the around 200 locations that were vulnerable to blockages by washouts or other obstructions) implemented by DSD were effective.

Combating flood risk due to rainstorm

23. Mr LAU Kwok-fan expressed concern about the flooding problem in Yuen Long and the North District during inclement weather, and he asked about the Administration's measures to combat flood risk in the New Territories ("NT") due to rainstorm. PAS(W)5/DEVB responded that to enhance the flood prevention ability of the stormwater drainage facilities in the whole territory under heavy rains, DSD had been conducting drainage studies in stages since 1994 to formulate and review the drainage improvement proposals in the territory, including Yuen Long and the North District. In parallel, DSD progressively delivered a number of works projects based on the drainage improvement measures proposed by these studies.

24. Mr LAU Kwok-fan enquired about the Administration's measures to eliminate the four flooding blackspots located at San Tin Shek Wu Wai in Yuen Long, Lam Tsuen Valley Basin in Tai Po, Chatham Road South in Tsim Sha Tsui and Pokfulam Village in the Southern District respectively. Assistant Director/Operations and Maintenance, Drainage Services Department ("AD/O&M/DSD") advised that the above-mentioned four flooding blackspots were covered by DSD's 25 drainage works projects currently in the planning and design stage. Meanwhile, DSD adopted short-term measures to reduce flood risk at these blackspots, including deploying emergency response teams to provide emergency support for the local residents, such as providing sandbags and water pumps.

25. Mr LEUNG Che-cheung expressed concern about the serious flooding occurred at Chuk Yuen Tsuen in Yuen Long recently, and called on DSD to commence the long outstanding drainage improvement works there to reduce the flood risk. AD/O&M/DSD responded that many drainage improvement works in NT might involve land resumption and hence require longer time to implement. DSD was aware of the flooding problem at Chuk Yuen Tsuen in Yuen Long, and would strive to expedite the implementation of relevant drainage improvement works.

26. Mr CHU Hoi-dick pointed out the problem that the landfilling works carried out before the construction of some NT Exempted Houses (commonly known as "small houses") had increased the risk of flooding at the relatively low-lying land in the surrounding areas, and he asked about the Administration's measures to deal with the above problem. In response, PAS(W)5/DEVB said that when processing applications for construction of

small houses involving potential drainage issues, the Lands Department would consult DSD on the drainage works required to be carried out.

Combating flood risk due to storm surge and overtopping wave

27. The Deputy Chairman, Ir Dr LO Wai-kwok and Dr Fernando CHEUNG expressed concern about the threat of storm surges and overtopping waves on coastal areas such as Heng Fa Chuen in Chai Wan and South Horizons in Ap Lei Chau during typhoons, and they enquired about the Administration's measures to cope with the coastal flood risk. Dr CHEUNG asked whether the Administration would require private developers to include flood preventive features in the design of residential development projects at coastal areas. Mr CHU Hoi-dick enquired about how the Administration coped with the threats of inundation at Tai O. Dr CHENG Chung-tai expressed concern that the waterfront parks at various districts would also be subjected to the threat of storm surges and overtopping waves during typhoons.

28. PAS(W)5/DEVB responded that with a view to alleviating the adverse impact of storm surges and overtopping waves at coastal areas and facilities, DSD and the Civil Engineering and Development Department ("CEDD") had been overseeing the revision of relevant design standards, such as updating the Stormwater Drainage Manual and Port Works Design Manual in 2018. The Administration had set up an early alert system for locations affected by storm surges and overtopping waves, such as Tai O. DSD would deploy the emergency response teams to provide emergency support to the local communities, including providing sandbags and water pumps, as well as installing demountable flood barriers at specific locations, etc. The Administration had constructed planter walls and flood gates in the Heng Fa Chuen Playground to prevent the influx of overtopping wave water into the Playground. The construction works of the planter walls were completed in September 2019. PAS(W)5/DEVB further said that DSD conducted inter-departmental rescue and evacuation drills jointly with other relevant departments. An example was the annual drill held at Tai O, which aimed to properly prepare for the typhoon season through mock evacuation, rescue and emergency support operations.

29. PAS(W)5/DEVB advised that to enhance the capability of coastal areas against wave attack in the long-term, CEDD engaged consultants in April 2019 to commission a study on coastal hazards under climate change and extreme weather to comprehensively review the condition of the low-lying coastal or windy locations, and to carry out relevant assessment of the impacts storm surges and overtopping waves under extreme weather on

these locations. The initial findings of the study were expected to be available by end 2020. Based on the outcomes of the study, the Administration would formulate appropriate protection measures, including improvement works and management measures etc., to mitigate the impact of extreme weather and climate change on the low-lying coastal or windy areas.

30. Deputy Head of Civil Engineering Office (Port & Land), CEDD advised that in September 2018, Super Typhoon Mangkhut battered Hong Kong, bringing severe storm surge to the territory. The maximum water level recorded at tide stations was the second highest on record. In preparation for combating flood risk due to storm surge and overtopping wave, CEDD collaborated with local universities to conduct study on frequency analysis of extreme sea levels. The study was expected to be completed in end 2020.

Preparation and contingency measures for typhoon season

31. Mr Holden CHOW called on the Administration to swiftly analyze the risk of flooding in villages in NT, in order to issue storm surge alert messages in a timely manner and promptly take appropriate contingency measures, including evacuation of villagers.

32. In response, PAS(W)5/DEVB said that the Administration had set up an early alert system for vulnerable locations likely to be affected by storm surges and overtopping waves. When it was predicted that the sea level at these locations would exceed the corresponding alert level, a storm surge alert message would be sent to the relevant departments via short message service. The District Offices would contact the relevant residents, village representatives, etc. in order to make the necessary preparations against floods as early as possible.

33. Dr CHENG Chung-tai expressed concern that the Administration had only provided limited support to the residents of outlying islands such as Lamma Island and Peng Chau in coping with flood risk during typhoons. He also relayed the residents' disappointment over the inadequate drainage systems at these outlying islands. Mr CHU Hoi-dick also called on the Administration to provide appropriate support to the villagers in NT in flood relieve.

34. PAS(W)5/DEVB took note of the concerns of the residents of outlying islands, and said that DSD strived to enhance its emergency preparedness about the related contingency measures in the event of serious flooding. DSD would liaise with the relevant District Councils and Rural Committees to

assist the residents to make the necessary preparations against floods. DSD would also respond to any requests for assistance from the villagers in NT regarding flood prevention, and provide necessary equipment and support accordingly. AD/O&M/DSD reiterated that DSD had been conducting studies in stages to formulate and review the drainage master plan in the territory, including Lantau Island and Outlying Islands such as Lamma Island and Peng Chau. DSD would also carry out interim drainage improvement measures when necessary.

VI Standards for glass windows of buildings

(LC Paper No. CB(1)69/19-20(01) — Administration's paper on standards for glass windows of buildings)

35. At the invitation of the Chairman, Deputy Secretary (Planning and Lands)2, Development Bureau ("DS(P&L)2/DEVB"), and Assistant Director of Buildings/New Buildings 2, Buildings Department ("AD(NB2)/BD"), the latter with the aid of a powerpoint presentation, briefed members on the standards and regulations relating to the construction of glass windows (including glass curtain walls, aluminium windows and glass walls, collectively referred to as "Glass Windows") under the Buildings Ordinance ("BO") (Cap. 123), and updates made in recent years, including the issuance of various Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers ("PNAPs"), a new Code of Practice for Structural Use of Glass ("Glass Code") and revisions to the Code of Practice on Wind Effects in Hong Kong ("Wind Code"), so as to ensure the construction standards of Glass Windows within buildings were in line with international standards and, given proper maintenance, could resist inclement weather.

(Post-meeting note: A soft copy of the powerpoint presentation materials was circulated to members vide LC Paper No. CB(1)689/19-20(03) by email on 26 May 2020.)

Standards and regulations relating to Glass Windows

36. Ir Dr LO Wai-kwok recalled that during the passage of Typhoon York in 1999 when the Hurricane Signal No. 10 was hoisted, the glass curtain walls of several government office towers in Wan Chai were seriously damaged. He asked if glass windows of buildings constructed in accordance with the latest standards and regulations could withstand hurricane force winds.

37. Dr Helena WONG was concerned about the reasons for the serious damage of the glass curtain walls of the Harbourfront office towers in Hung Hom when Super Typhoon Mangkhut hit Hong Kong in 2018. She queried why building plans for structural glass works designed according to the previous glass standard and the previous Wind Code were still accepted within the 12-month grace period after the promulgation of the Code of Practice for Structural Use of Glass 2018 ("the 2018 Glass Code") and the Code of Practice on Wind Effects in Hong Kong 2019 ("the 2019 Wind Code"). She further asked whether the glass curtain walls of the Harbourfront office towers reinstalled after Super Typhoon Mangkhut complied with the latest requirements under the 2018 Glass Code and the 2019 Wind Code.

38. DS(P&L)2/DEVB advised that while there were regulations on the design and construction of Glass Windows to ensure that the Glass Windows could resist extreme wind forces, proper maintenance of Glass Windows and implementation of precautionary measures during typhoon season were equally important in order to ensure window safety. In this connection, the Buildings Department ("BD") had issued circular letters to enhance public awareness in the matter.

39. On the window repair works of the Harbourfront office towers, Deputy Director of Buildings ("DDB") said that in compliance with an investigation order issued by BD, the building owner had appointed an Authorized Person ("AP") to study the causes of the damage, and an investigation report prepared by the AP concerned based on the results of material and wind tunnel tests was submitted to BD. According to the investigation report, the extensive damage was due to three main reasons: some openable windows on the glass curtain walls were not properly closed; the glass curtain walls were struck by flying objects during typhoon; and upon damage of some glass panels and windows, the debris including those from inside the building further struck other glass panels causing knock-on damages to the curtain walls. BD considered the above investigation findings reasonable. On the reinstatement proposals submitted by the AP concerned, the broken windows were quickly replaced first as an interim measure, and a complete replacement of the all curtain wall glazing with laminated glass panes that complied with the latest standards under the 2018 Glass Code had also been substantially completed and was pending the submission of relevant documentation to BD by the AP concerned.

40. AD(NB2)/BD added that the design wind velocities adopted in the Wind Code had all along been higher than the gust wind velocities that would trigger the hoist of the Hurricane Signal No. 10 by the Hong Kong

Observatory. Also, an additional safety factor was required to be applied when determining the wind loads for the design of Glass Windows. Therefore, with proper maintenance, Glass Windows designed according to the Glass Code, the Wind Code and relevant PNAPs should be able to withstand wind forces due to super typhoons.

41. Dr Helena WONG requested the Administration to provide the said investigation report on the damage of the glass curtain walls of the Harbourfront office towers, as well as a comparison of the original glass standard and the original Wind Code with the 2018 Glass Code and the 2019 Wind Code. As the investigation report and the Glass Windows standards under the relevant Codes were very technical in nature, the Chairman suggested that it would be more appropriate for the Administration to give an explanation to Dr WONG in details after the meeting.

42. Ir Dr LO Wai-kwok relayed the concerns expressed by members at various meetings about the nuisance caused by reflected glare from glass curtain walls of buildings, and enquired about the Administration's stance on the issue. Dr Helena WONG expressed concern over the adverse impact of reflected glare from glass curtain walls on residents nearby and driving safety, and urged the Administration to regulate the use of external Glass Windows in building design.

43. DDB replied that the control of reflected glare from glass curtain walls was not under the purview of BO. Notwithstanding this, BD would communicate with the building owners concerned to discuss ways to minimize the nuisance after receiving reports about reflected glare from the glass curtain walls. DDB further explained that the energy efficiency of buildings in terms of the amount of heat transferred through a building envelope was currently regulated under the BO. To reduce heat transfer through the building envelope, appropriate choice of Glass Windows with a low thermal transmittance characteristic should be made.

44. Given the safety, nuisance and energy efficiency concerns over glass curtain walls and to encourage diversified building designs and a wider use of different external building materials, Mr WU Chi-wai enquired if the Administration would consider setting a cap of, say, 50% on the surface area of the external wall of a building that could be covered by glass curtain walls. Mr Holden CHOW also suggested that the Administration should consider reducing the use of glass curtain walls in government buildings to minimize the risk of damage caused by the increasingly frequent super typhoons as a result of climate change.

45. DS(P&L)2/DEVB and DDB responded that the latest updates to the standards for Glass Windows had taken into account the need to cope with extreme weather events arising from climate change and to cater for the latest developments in the design and construction methods of glass structures, whilst leaving room for creativity by building designers. In considering whether it was appropriate to set a cap on the surface area of external wall of a building that could be covered by glass curtain walls, the Administration had to ascertain the purpose of imposing such regulation and take into account relevant international practice. As for the suggestion of reducing the use of glass curtain walls in government buildings, the Development Bureau would refer the suggestion to relevant government departments for consideration.

Repair and maintenance of Glass Windows

46. The Chairman urged the Administration to encourage building owners to step up the repair and maintenance works for Glass Windows to enhance public safety during typhoon season. Mr Holden CHOW asked if building owners were required to follow the latest standards of the 2018 Glass Code and the 2019 Wind Code when carrying out repair and maintenance works for Glass Windows under the Mandatory Building Inspection Scheme ("MBIS")/Mandatory Window Inspection Scheme ("MWIS"), and bear the related repair and maintenance costs. He also enquired about the implications of the proposed amendment to the extant Building (Minor Works) Regulation ("B(MW)R") (Cap. 123N) on the repair and maintenance works for Glass Windows.

47. DDB explained that repair of glass curtain walls required prior approval and consent from the Building Authority ("BA"). To facilitate building owners in carrying out the repair works, BD had introduced legislative amendments to B(MW)R by adding and amending certain minor works items so that the repair of glass curtain walls could be carried out under the Minor Works Control System by the Prescribed Registered Contractors without the need to obtain prior approval and consent by BA. Regarding the application of new Codes to existing buildings, DDB said that as those existing buildings were built before the promulgation of the 2018 Glass Code and the 2019 Wind Code, repairs to these existing buildings as required under MBIS/MWIS could follow the original glass standards and the original Wind Code that were applicable when the buildings were built.

48. Given that proper installation of glass curtain walls and use of structural sealant were crucial for window safety, the Chairman sought relevant details

including the regulations, as well as the serviceable life and requirements (if any) on the regular inspections and replacement of aged sealant.

49. AD(NB2)/BD advised that prior to the installation of glass curtain walls, it was required under the relevant PNAP and 2018 Glass Code that a representative module should undergo and pass designated safety tests. Moreover, structural sealant manufacturers were required under PNAP APP-37 — Curtain Wall, Window and Window Wall to submit compliance certificates (including sealant compatibility test report and sealant adhesion test report, etc.) and deglazing test report to BA. Besides, building owners were obliged to inspect and repair, if found necessary after inspection, their Glass Windows under MBIS/MWIS.

VII Any other business

50. There being no other business, the meeting ended at 5:00 pm.