

A. Introduction

The Audit Commission ("Audit") conducted a review to examine the Government's efforts in the management of restored landfills.

Background

2. Hon Kenneth LEUNG declared that he was a member of the Craigenhower Cricket Club.

3. There are 16 landfill sites in Hong Kong, of which three large strategic landfills are operating and used for final waste disposal¹ and 13 relatively small landfills² were closed between 1975 and 1996. These 13 closed landfills were not designed with contemporary environmental standards and demand dedicated and effective efforts of restoration over some 30 years or more aftercare period. The landfilled waste is continuously undergoing biodegradation and the generated landfill gas and leachate³ present environmental and safety hazards to the surrounding areas. The landfills are also subject to differential ground settlement during the process.⁴

4. Restoration of the 13 closed landfills comprises two stages: (a) restoration works which include construction and installation of restoration facilities;⁵ and (b) aftercare work which would commence after completion of restoration works

¹ The three operating strategic landfills are Southeast New Territories Landfill in Tai Chik Sha of Sai Kung District, Northeast New Territories Landfill in Ta Kwu Ling of North District and West New Territories Landfill in Nim Wan of Tuen Mun District.

² For location of 13 closed landfills, see Figure 1 in paragraph 1.2 of the Director of Audit's Report.

³ Landfill gas is malodorous and potentially asphyxiating, flammable and explosive. Leachate is highly polluting and, if not properly controlled, may seriously contaminate water bodies due to direct discharge of leachate.

⁴ Municipal solid waste disposed of at landfills does not exhibit homogenous geotechnical properties as it is subject to continuing biological decomposition process, which results in differential ground settlement of the landfill surface which may lead to slope instability problems.

⁵ Restoration facilities include: (a) leachate management systems to extract, collect, treat and dispose of leachate; (b) landfill gas management systems to control gas emission and prevent off-site gas migration; (c) engineered capping layers and surface water drainage system to reduce infiltration of rain water into the waste mass and thereby reducing the amount of leachate generated; and (d) improvements to slope stability, landscaping of landfill sites and other ancillary engineering works.

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to ensure that the landfill is maintained in a safe condition and is environmentally acceptable for appropriate future beneficial uses.⁶

5. The Environmental Protection Department ("EPD") has used a design-build-operate ("DBO") form of contract for the restoration and management of the 13 closed landfills under which a contractor is responsible for the design and construction of restoration facilities and aftercare of a landfill for 30 years after completion of the restoration facilities. The construction and installation of restoration facilities at the 13 landfills were completed between 1997 and 2006 at a total capital cost of \$1,317.7 million and such facilities have been commissioned. The total actual operating cost of the aftercare work was \$67.9 million in 2016-2017.

6. The 13 restored landfills occupy a total area of 320 hectares ("ha"). According to EPD, except for areas occupied by restoration facilities required for aftercare work, all the remaining areas would in principle be available for afteruse as long as the nature of afteruse projects could fulfill the specified conditions and constraints at the remaining area.⁷ In light of the many development restrictions at restored landfills, recreational use (e.g. public parks and sitting-out areas) is considered the most suitable afteruse option at these landfills. As of February 2018, the current and planned afteruse at the 13 restored landfills occupied a total area of about 113 ha (35% of 320 ha).

7. With delegated authority from the Lands Department ("LandsD") under the Land (Miscellaneous Provisions) Ordinance (Cap. 28), EPD grants land licences to applicants (mainly non-governmental organizations ("NGOs") and National Sports Associations) to develop and operate recreational facilities at restored landfills. As of December 2017, EPD had granted five land licences to five licensees for developing and operating recreational facilities at four restored landfills (as two land

⁶ Aftercare work includes operation and maintenance of leachate management systems and landfill gas management systems, environmental monitoring and auditing and maintenance of landscape and site infrastructure.

⁷ In general, flat area of a restored landfill is considered readily available and suitable for afteruse development, while slopes render difficulties to afteruse project proponents as they have to deal with technical risk management and administrative issues, such as implementing slope stabilization measures and conducting natural terrain hazard assessment and/or slope failure analysis.

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licences were issued for one landfill) on a self-financing basis for use by the general public and/or members of the licensees.⁸

8. The 2014 Policy Address announced that the Government had earmarked \$1 billion to set up the Restored Landfill Revitalization Funding Scheme ("Funding Scheme") to expedite the development of recreational facilities or other innovative proposals at restored landfills. According to EPD, 6 of the 13 restored landfills have been developed for public use or reserved for conservation or other uses. The Funding Scheme covers the remaining seven restored landfills.⁹

The Committee's Report

9. The Committee's Report sets out the evidence gathered from witnesses. The Report is divided into the following parts:

- Introduction (Part A) (paragraphs 1 to 13);
- Aftercare of restored landfills (Part B) (paragraphs 14 to 29);
- Development of government recreational facilities at restored landfills (Part C) (paragraphs 30 to 100);
- Monitoring of non-governmental bodies' afteruse facilities at restored landfills (Part D) (paragraphs 101 to 123); and
- Conclusions and recommendations (Part E) (paragraphs 124 to 126).

Public hearings

10. The Committee held three public hearings on 14 and 26 May and 26 June 2018 respectively to receive evidence on the findings and observations of the Director of Audit's Report ("Audit Report").

⁸ See Table 5 in paragraph 4.3 of the Director of Audit's Report for details of the five licences granted by EPD.

⁹ For details of the restored landfills covered under the Funding Scheme, see Table 1 in paragraph 1.11 of the Director of Audit's Report.

Site Visit

11. On 26 May 2018, the Committee visited the Gin Drinkers Bay Landfill, Kwai Chung Park and Wan Po Road Pet Garden ("the Pet Garden") to better understand the development of government recreational facilities at restored landfills.



The Chairman and members of the Public Accounts Committee visited the leachate treatment facilities at the Gin Drinkers Bay Landfill to better understand its operation.

Speech by Director of Audit

12. **Mr David SUN Tak-kei, Director of Audit**, gave a brief account of the Audit Report at the beginning of the Committee's public hearing held on 14 May 2018. The full text of his speech is in *Appendix 4*.

Opening statement by Secretary for the Environment

13. **Mr WONG Kam-sing, Secretary for the Environment**, made an opening statement at the beginning of the Committee's public hearing held on 14 May 2018, the summary of which is as follows:

- restored landfills were of a special nature and substantially different from ordinary land pieces as they consisted of numerous waste slopes and were subject to continuous ground settlement. The development

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of afteruse projects in restored landfills had to overcome very challenging constraints and technical difficulties. Technical risk management including risk assessments on slope, natural terrain and landfill gas hazards was necessary to ensure that a few suitable land pieces in restored landfills would be made available for beneficial uses without affecting the aftercare work;

- currently, 16 projects of different uses having completed development or under planning for construction took up about 35% of the total area of restored landfills (i.e. about 112.6 ha), and a predominant portion of the remaining land (about 90%) with slopes and trees could hardly be used for other development purposes. It was estimated that there were now about 12.9 ha of flat ground and platform which was easy to develop (representing about 6% of the remaining land or about 4% of the total area of restored landfills) and yet to be designated for specific use;
- Batch 1 of the Funding Scheme had been launched in 2015, under which interested non-profit-making organizations or National Sports Associations might apply for funding to develop four sites with a total area of 8.4 ha in three restored landfills into recreational facilities or for other innovative use. EPD would continue to proactively identify suitable uses for the remaining 9.4 ha of land (i.e. representing about 2.9% of the total area of restored landfills) in conjunction with other relevant departments and consult the community;
- in implementing the Funding Scheme, EPD enhanced consultation with the relevant District Councils ("DCs") during the process to gain recognition with the community. Despite a longer time required, such consultation and discussion were necessary as the Government could have a thorough understanding of the opinions of the relevant DCs and residents before making decisions;
- currently all the licensees of the land licences granted for the development and operation of the five afteruse projects were on a self-financing basis. The Administration's priority was to ensure that these licensees could continue to carry out construction works of the afteruse facilities or maintain the normal operation of the relevant facilities for the general public or users. The inclusion of overly stringent licensing conditions was likely to discourage the existing licensees from continuing to provide such facilities. EPD would collaborate with the relevant bureaux and departments ("B/Ds") to

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study the implementation of the recommendations on stepping up monitoring of land licence conditions in the Audit Report; and

- regarding the management and supervision of contractors of restoration facilities, EPD conducted a comprehensive review of the monitoring system for waste treatment facilities in 2016. A number of improvement measures were introduced subsequently.

The full text of Secretary for the Environment's opening statement is in *Appendix 5*.

B. Aftercare of restored landfills

14. The Committee noted that there were various statutory and contractual requirements for compliance by landfill restoration contractors (paragraph 2.4 of the Audit Report refers), and enquired about the commonalities and differences between these requirements and penalty involved, in particular whether stricter control was imposed under the landfill restoration contracts.

15. **Director of Environmental Protection** provided related information in his letter dated 25 May 2018 (*Appendix 6*) listing out the requirements in the licences issued under the Water Pollution Control Ordinance (Cap. 358) ("WPCO"), the Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (Cap. 358AK) and the contractors' obligations under the landfill restoration contracts. **Mr Donald TONG Chi-keung, Director of Environmental Protection** replied at the public hearings and further supplemented in the abovementioned letter (*Appendix 6*) that:

- the requirements under the landfill restoration contracts were more stringent than the statutory requirements stipulated under WPCO and covered a wider range and additional non-statutory requirements. Specifying such requirements under the contracts would allow the contractors to discover problems early and take proactive actions and implement mitigation measures so as to avoid causing environmental pollution and/or breaching the law. In case of any non-compliance with the contractual requirements, the contractor would not only be penalized by way of deduction of operation payment but also required to increase the monitoring frequency until the contractual requirements were complied with;

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- WPCO provided general controls on the discharge of polluting matters in waters of Hong Kong by any person. These controls aimed to broadly cover offences of all kinds and those without specific discharge routes. The Water Pollution Control (General) Regulations (Cap. 358D) ("WPC(G)R") provided more specific controls on WPCO licensees (generally involving facilities with regular discharges such as wastewater treatment plants and restaurants). Any discharge of effluents in breach of the terms and conditions specified in the licence was an offence under WPC(G)R liable to prosecution, irrespective of whether the discharge involved polluting matters or not; and
- the respective maximum penalties of offences under WPCO and WPC(G)R were different with details provided in *Appendix 6*.

16. The Committee enquired whether EPD would still pursue civil remedies if contractors committed an offence and had resulted in a fine or imprisonment, and sought details regarding the demerit point system mentioned in paragraph 2.33 of the Audit Report.

17. **Director of Environmental Protection** and **Ms Betty CHEUNG Miu-han, Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- Environmental Infrastructure Division of EPD was responsible for monitoring the operational performance of the contractors while Environmental Compliance Division of EPD was responsible for enforcing relevant environmental legislation. Both divisions under EPD would take actions against contractors who had violated contractual and statutory requirements accordingly. There was no contractual clause in the current landfill restoration contracts which stipulated that the contractors' conviction results could be used as evidence for deducting points under the demerit point system. EPD agreed to consider reviewing introducing such mechanism for future contracts with relevant government tendering boards. EPD would need to consider the possible impact, for example, whether it was consistent with the contractual mechanisms of other B/Ds;
- both the contractor's non-compliance with contractual requirements and convictions would be reflected in the performance reports prepared by

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EPD. Such performance assessment would directly affect the contractor's grading when bidding new government contracts (i.e. not limited to new contracts under EPD) and the opportunities for future appointments; and

- the demerit point system was only for calculating payment deduction due to non-compliances with contractual requirements. EPD's five landfill restoration contracts all included a deducting point system which specified the number of points and the maximum points to be deducted in a month for each specified non-compliance with the environmental and pollution control requirement. Taking the Pillar Point Valley Landfill ("PPVL") contract as an example, if the total nitrogen level of leachate discharge sample exceeded the specified limit, one point would be deducted and the maximum number of points to be deducted for various non-compliances in a month was 35.

18. The Committee sought the reasons for EPD to adopt a DBO form of contract for the restoration and management of the 13 landfills and whether such form of contract would hinder the effectiveness of the contract termination clause as a last resort for consistent poor standard of performance of contractors.

19. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- in DBO contracts which had been adopted since 1980s, requirements on the performance of the waste facilities and their relevant environmental parameters (such as waste handling capacity, odour control, wastewater discharge and air emission standards, etc.) were stipulated. A specialized contractor had to choose the most appropriate design and operational mode to meet the contractual requirements;
- the DBO concept was that the Government would pay for the construction cost while the contractor carried out design and construction works for the facilities in accordance with the requirements set out by the Government as well as operating the facilities in accordance with the contractual operational requirements. For restored landfill projects which were unique in nature and required specialized technologies and equipment, EPD considered that DBO

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form of contract should be adopted. EPD's waste facilities awarded under DBO contract had been operating smoothly in general; and

- the landfill restoration contracts stipulated that the Government had the right to terminate the contracts anytime by giving the contractor 9 or 12 months advance notice in writing (i.e. depending on the relevant clauses of various contracts). When deciding whether to terminate early the contract, the Government would take into account a host of factors including but not limited to whether the non-compliances with contractual/statutory requirements involved any systemic fault of the contractor; the contractor's performance and whether the contractor had promptly taken responsible and appropriate follow-up actions upon receipt of EPD's warning; whether the contractor had intentionally created loopholes/committed non-compliances with the contractual and statutory requirements so as to indirectly avoid his legal and contractual obligations; potential risks associated with litigation and contractual claims made by the contractor; implications of early contract termination on the community in relation to environmental and waste management; and how to ensure there were other companies with suitable professional background and qualifications to participate in the re-tendering, etc.

20. Noting that the Administration would carry out an environmental review for each restored landfill every five years to determine whether the post-completion aftercare work should continue, the Committee enquired about the details of the first review conducted for PPVL and reasons for conducting the second review six years afterwards (Note 15 in paragraph 2.7 of the Audit Report refers).

21. **Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- the main objective of conducting environmental review was to understand the progress of the aftercare work and the environmental conditions of the restored landfill. A restored landfill was deemed to be fully restored and aftercare needed not continue when the following conditions were satisfied:

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- (a) the untreated landfill gas had a methane content of less than 1% by volume; and
 - (b) the quality of untreated leachate met the relevant standards before discharging to the government sewers;
- the first environmental review for PPVL commenced in early 2011 and was completed in April 2011. During the review, EPD gathered the past environmental monitoring data of the restored landfill (from July 2006 to December 2010); and
 - for PPVL's second environmental review (which was supposed to commence in the first half of 2016), in view of the nine-month overhaul and shutdown period for the leachate treatment plant ("LTP") from May 2016 to January 2017, related water quality monitoring was rescheduled to early 2017. Due to prolonged heavy rainfall in 2017, significant amount of leachate was generated on site, which hindered the operation of LTP, and the contractor had to continue with follow-up remedial works. EPD considered it more appropriate to conduct the second environmental review and collect all relevant data from 2011 to 2018 (including the leachate generated in 2018 wet season) only after the maintenance works were completed and LTP resumed normal operation, so as to comprehensively and effectively review the environmental conditions of PPVL. EPD expected to complete the concerned review by end of 2018.

22. Referring to paragraphs 2.8 to 2.13 of the Audit Report, EPD conducted investigations on complaints received in January to April 2016 regarding operations of PPVL facilities, and revealed a long period of non-compliances with statutory and contractual requirements at PPVL by Contractor A ("PPVL incident"). The Committee enquired how EPD conducted monitoring of the contractor's performance and compliance with contractual requirements.

23. **Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- all restored landfill contracts required relevant contractors to carry out specific environmental monitoring and take environmental samples

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regularly for testing by independent qualified laboratories. The testing reports would be submitted to EPD for review to prove that the landfill operation complied with contractual requirements; and

- EPD staff would also conduct regular inspections and complete the daily operation checklists for cross-checking the monitoring results reported in the contractor's aftercare monthly reports (which provided information including monitoring data on leachate discharge, landfill gas and ground settlement). In case of non-compliances or abnormalities, EPD staff would follow up swiftly with the contractor and handle the issue in strict accordance with contractual requirements.

24. The Committee noted from paragraph 2.15 of the Audit Report that on-site monitoring at PPVL based on regular sampling, daily visual inspections and manual checking of contractors' operating data were conducted by EPD staff prior to the PPVL incident. The Committee enquired why the PPVL incident was not detected and reasons of not conducting round-the-clock monitoring prior to the incident.

25. **Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- prior to the PPVL incident, EPD had been monitoring the contractors' compliance with the contractual requirements mainly through the following means:
 - (a) carrying out regular inspections and completing the daily operation checklists by on-site staff for cross-checking the monitoring results reported in the contractors' aftercare monthly reports; and
 - (b) reviewing the aftercare monthly reports submitted by contractors;
- EPD's daily operation inspection records did not reveal any contractor's non-compliance prior to the PPVL incident. Under the PPVL contract, there was no requirement for the contractor to keep the data record of flare temperature of the landfill gas flaring plant ("LGP")/landfill gas utilization plant for submission to EPD. After the receipt of complaints in January 2016, EPD had requested the

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contractor to provide daily log sheets covering 973 days from January 2013 to August 2015 for checking. However, daily log sheets for 299 days were found missing and one daily log sheet was found undated. EPD could not take further actions as failure to provide data record of the flare temperature of the LGP/landfill gas utilization plant was not a breach of contractual or statutory requirements;

- all past environmental monitoring results had showed that the restored landfills were operating normally and the contractors complied with the contractual and relevant statutory requirements. In allocating manpower resources to manage the various tasks at the restored landfills, EPD had taken into consideration their relatively low environmental risk and effective use of manpower resources; and
- subsequent to a review on the robustness of environmental monitoring practices at its waste facilities by EPD in 2016 arising from the PPVL incident, EPD had implemented improvement measures to strengthen site supervision of contractors in the restored landfills, including updating the operation manual and daily operation checklists, installation of advanced equipment in PPVL and other restored landfills with LTP, LGP and landfill gas utilization plant; conducting surprise checks on weekdays and weekends; adopting random inspection mode; and identifying new sampling points of leachate discharge, etc. Installation of advanced equipment, including upgrading data logging systems, could provide real-time monitoring of the operating data of LTPs, LGP and landfill gas utilization plants, obviating the need for cross-checking contractors' site records with aftercare monthly reports.

26. According to a statement made by Assistant Director (Environmental Infrastructure) of Environmental Protection Department at the public hearings, sampling points for collecting leachate discharge from PPVL for testing were stipulated in the tender documents which included effluents discharged from nearby settlements (such as offices). The Committee enquired about the justifications for specifying sampling locations which might affect the accuracy of sampling tests, how EPD could ensure concentration of the discharge was in compliance with statutory and contractual requirements if sampling points were improperly selected and how the new sampling points were chosen.

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27. **Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that when the PPVL contract was awarded, the location of leachate sampling points was not specified as the design proposal of LTP had yet to be finalized. At a later stage, the sampling location was designated at the terminal foul water manhole of the site (i.e. the last discharge point prior to entering to the public foul sewer), where the treated leachate (taking up more than 99.5% of the total discharge) was mixed with sewage from the site office (taking up less than 0.5% of the total discharge). The review conducted in 2016 arising from the PPVL incident concluded that although the effluent in the sampling point could reflect the quality of effluent discharge into the public sewer, it might not reflect accurately the quality of treated leachate discharge from LTP. EPD changed the sampling point location so as to ensure further that the treated leachate discharge would be in compliance with both licence and contract requirements.

28. The Committee asked about the latest installation progress of advanced equipment, especially on "reviewing and installing automatic sampling device/on-line analyzer" which was still in the stage of quotation exercise, and reasons for the delay as depicted in Table 3 in paragraph 2.21 of the Audit Report.

29. **Assistant Director (Environmental Infrastructure) of Environmental Protection Department** replied at the public hearings and **Director of Environmental Protection** supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- EPD had completed the installation of surveillance cameras at restored landfills with both LTP and LGP except Jordan Valley Landfill.¹⁰ As at 21 May 2018, the advanced equipment installation progress at the five restored landfills with both LTP and LGP was as follows:
 - (a) reviewing and upgrading data monitoring system:
 - EPD had upgraded the data monitoring system at PPVL and the Jordan Valley Landfill. Regarding the Tseung Kwan O

¹⁰ EPD considered it not necessary to install surveillance cameras at the Jordan Valley Landfill because LTP of the Jordan Valley Landfill adopted biological technology for leachate treatment, and the respective restoration contract did not stipulate the operation temperature requirement for LTP.

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Stage II/III Landfill and the Gin Drinkers Bay Landfill where data monitoring system had not yet been upgraded, the contractor had arranged an overseas specialist to carry out on-site inspection in mid May 2018 to review if such upgrading was compatible with existing LTP. It was anticipated that the results and study report would be submitted to EPD on or before the 4th quarter of 2018 to determine whether the existing systems at the two landfills could be upgraded and, if affirmative, the expected upgrading time; and

- as LTP at the Ma Yau Tong Central Landfill operated in wet seasons only, EPD considered it not economical to install data monitoring system; and

(b) reviewing and installing automatic sampling device/on-line analyzer:

- EPD had installed automatic sampling devices at the Jordan Valley Landfill and Ma Yau Tong Central Landfill. For PPVL, the Tseung Kwan O Stage II/III Landfill and Gin Drinkers Bay Landfill, the automatic sampling devices had been delivered to the sites; and
- EPD considered that the current arrangement of delivering samples as collected from auto-sampling devices to laboratory for testing could more effectively monitor the operation of LTPs.

C. Development of government recreational facilities at restored landfills

30. Referring to Note 39 in paragraph 3.2 of the Audit Report, the Committee sought details regarding the "sub-allocation" arrangement between EPD and the Leisure and Cultural Services Department ("LCSD"), difference in role, division of work and responsibilities between EPD, LCSD and works agents and whether EPD would provide technical advice to other departments when developing restored landfills.

31. **Director of Environmental Protection** replied in his letter dated 11 June 2018 (*Appendix 7*) that LandsD allocated land at restored landfills to EPD via temporary government land allocations to facilitate EPD to carry out restoration

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works and aftercare work. According to the relevant conditions in the temporary government land allocations, EPD might, subject to LandsD's approval, sub-allocate portions of the sites to other government departments, including LCSD for developing recreational facilities. Throughout the design, construction and operation periods of the recreational facilities, EPD would continue to carry out aftercare work such as management and maintenance of all restoration facilities and environmental monitoring. EPD had provided LCSD and other works agents with relevant information of restored landfills and professional advice (such as loading limits, settlement changes, potential challenges on project coordination and interface and vetting of landfill gas hazard assessments submitted by client departments) in order to overcome various constraints and technical difficulties.

32. Using Table 4 in paragraph 3.2 of the Audit Report as illustration, **Director of Home Affairs** and **Director of Leisure and Cultural Services** provided related information in their letters dated 15 June 2018 (*Appendix 8*) and 19 June 2018 (*Appendix 9*) respectively that:

- the Pet Garden, Ma Yau Tong West Sitting-out Area and Ma Yau Tong Central Sitting-out Area projects (items 2, 5 and 6 respectively) were District Minor Works Projects under which LCSD was the lead department during the construction stage and was responsible for working with the respective DCs and awarding the works contracts on the advice of the Home Affairs Department ("HAD"). HAD was the project manager and administrator of the term consultant and EPD was the management authority of the restored landfills;
- the Kwai Chung Park, Jordan Valley Park and Ngau Chi Wan Park (i.e. items 1, 3 and 7 respectively) were capital works projects. LCSD as the client department was mainly responsible for providing user requirements of the proposed projects to the works agent and/or its consultant/contractor for design and construction works and to seek funding for implementation of the projects; and
- LCSD was responsible for venue management.

33. In reply to the Committee's enquiry on the assignment of different departments as works agents for different projects (Table 4 in paragraph 3.2 of the Audit Report refers), **Director of Environmental Protection** explained in his letter dated 11 June 2018 (*Appendix 7*) that the development of the seven recreational projects mentioned in Table 4 were led by the relevant policy bureaux with their

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respective departments acting as client departments responsible for the planning and development of the recreational projects, including consultation with DCs and other stakeholders, funding application and facilities operation. The works agents were responsible for design and construction of the recreational facilities projects. The client departments and works agents for the seven recreational facilities were as follows:

Recreational Facilities Project		Client Department	Works Agent
1	Kwai Chung Park	LCSD	Architectural Services Department ("ArchSD")
2	Wan Po Road Pet Garden	LCSD	HAD
3	Jordan Valley Park	LCSD	ArchSD
4	Sai Tso Wan Recreation Ground	Home Affairs Bureau ("HAB")	EPD
5	Ma Yau Tong West Sitting-out Area	LCSD	HAD
6	Ma Yau Tong Central Sitting-out Area	LCSD	HAD
7	Ngau Chi Wan Park	LCSD	ArchSD

For Sai Tso Wan Recreation Ground, which was the first recreational facility developed at a restored landfill in Hong Kong, EPD acted as the works agent to develop the project through a DBO contract arrangement.

34. **Director of Architectural Services** supplemented in her letter dated 11 June 2018 (*Appendix 10*) that depending on the works nature, ArchSD would usually be the works agent for LCSD's capital works projects. For the Jordan Valley Park project and Ngau Chi Wan Park project, the role of ArchSD was the works agent and the work involved:

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- assisting user departments in developing their requirements;
- appointing consultants to carry out design and construction supervision for the facilities to meet users' requirements and Government's needs;
- appointing contractors to carry out construction of the facilities; and
- inspecting works to ensure the facilities were developed up to standard.

35. The Committee enquired whether there was a standing mechanism for LCSD, HAD and ArchSD to inform EPD of the progress of the development of recreational projects at restored landfills and findings of the studies/surveys conducted on the landfills by consultants/contractors commissioned by these departments.

36. **Director of Architectural Services** replied in her letter dated 11 June 2018 (*Appendix 10*) that there was no standing mechanism between ArchSD and EPD. Normally during implementation of projects at restored landfills, ArchSD with its consultant would closely liaise with EPD and its contractor regarding progress, design and construction issues that would affect the aftercare facilities as appropriate. ArchSD would submit those studies and surveys that were related to landfill aftercare facilities to EPD for comments, meetings and joint site visits would be conducted for resolving design issues. EPD had also been informed about the findings/studies related to the landfill aftercare facilities during the whole process of design development. The landfill gas hazard assessment and the design details of the proposed afteruse facilities had been submitted to EPD for comments.

37. **Director of Leisure and Cultural Services** advised in her letter dated 19 June 2018 (*Appendix 9*) that there was no standing mechanism for LCSD to inform EPD of the progress of the development of recreational projects at restored landfills. Given the complexity of the landfill sites, LCSD might seek advice from EPD from time to time during planning and implementation of the projects wherever necessary.

Kwai Chung Park

38. The Committee sought information on the involvement of relevant stakeholders, such as relevant B/Ds, DCs and local communities when deciding the

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development of the Kwai Chung Park in the restored Gin Drinkers Bay Landfill, and whether EPD/ArchSD had provided technical advice to LCSD regarding the site constraints.

39. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 11 June 2018 (*Appendix 7*) that:

- EPD provided LCSD and other works agents with technical advice and relevant information of restored landfills. In 2001 and 2002, technical advice was provided on LCSD's proposals of a football training centre and grass skiing ground;
- between June and October 2013, EPD provided technical advice on the proposed the Kwai Chung Park, including that LCSD and ArchSD needed to: (a) consider the maximum loading capacity and differential ground settlement at the Gin Drinkers Bay Landfill; (b) carry out landfill gas hazard assessment and adopt mitigation and safety precaution measures in accordance with the assessment findings; and (c) consider the large sloping areas and large number of monitoring wells within the Gin Drinkers Bay Landfill; and
- EPD staff also attended meetings of the working group on development of the Kwai Chung Park under Kwai Tsing DC; briefed DC members on the aftercare work and the environmental monitoring conducted at the restored landfill; and arranged on-site inspection by DC members, LCSD and other relevant government departments.

40. **Mrs Sylvia LAM YU Ka-wai, Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 11 June 2018 (*Appendix 10*) that ArchSD provided advice to LCSD on the technical aspects highlighted as follows:

- preliminary landfill gas hazard assessment would need to be conducted in the feasibility study stage for submission to EPD and the detailed assessment would be required for completion before finalization of detailed design;
- various site constraints would need to be addressed such as large areas of slopes would limit development area and increase maintenance cost; widespread gas monitoring wells in the site would restrict the proposed

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project development. ArchSD recommended LCSD to reconsider incorporating the other flatland into the site (e.g. the bicycle motocross ("BMX") Park and temporary cricket grounds) for better planning of use or review the site area by confining to the flatland gentle slope areas; and

- in view of the site constraints, functional areas and spaces would be fragmented, and this would induce security and management problems.

41. In reply to the Committee's enquiry on the standard workflow in planning recreational facilities such as the Kwai Chung Park, **Ms Michelle LI Mei-sheung, Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that:

- in planning capital works projects for recreational and sports facilities, LCSD would normally review the provision and usage of existing facilities in the district, local demand and take into account the recommendations of the Hong Kong Planning Standards and Guidelines, and then draft the scope of works;
- initial comments from HAB would be sought and the relevant DC(s) would also be consulted. After securing support from DC(s) on the proposed facility, LCSD would prepare a Project Definition Statement for HAB's consideration and issuance to ArchSD for conducting a technical feasibility study and preparing a Technical Feasibility Statement in accordance with the established procedures for capital works projects; and
- upon completion of the Technical Feasibility Statement, ArchSD might carry out various technical assessments and start working on the preliminary design for the project, so that the Government might apply for funding to take forward the project. In the planning stage, LCSD would from time to time consult relevant works agent wherever necessary. If the site involved a restored landfill, EPD would also be consulted.

Director of Leisure and Cultural Services provided a consultation paper for DC on the Kwai Chung Park in *Appendix 9* for the Committee's reference.

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42. Noting from paragraphs 3.5 and 3.14(d) of the Audit Report that LCSD had agreed to step up efforts to follow up the recommendations contained in the Director of Audit's Report No. 60 in 2013 by devising an action plan for the development of the Kwai Chung Park, the Committee asked for a chronology of actions taken and the length of delays, if any, with explanation.

43. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that:

- LCSD consulted the District Facilities Management Committee of Kwai Tsing DC in June and December 2013 on the development of the Kwai Chung Park. The Committee gave consent to the development of recreation and sports facilities, including a natural turf cricket cum football pitch, a golf driving range with 30 golf driving bays, a landscaped garden, a jogging trail, a fitness corner, a children's playground, a community garden and a pet garden on the site. On this basis, LCSD started planning work and prepared a Project Definition Statement for approval by HAB. In May 2014, HAB issued the Project Definition Statement for ArchSD to conduct technical feasibility study on the proposed facilities in the restored landfill;
- in July 2014, ArchSD informed HAB and LCSD that due to site limitations, the site could not physically accommodate the proposed golf driving range and thus the proposed project scope had to be revised;
- to put the Park into gainful use, HAB had given policy support and co-ordinated related issues on the land use application for temporary cricket grounds on a short term basis since early 2015. In March 2016, EPD granted a three-year Government Land Licence to Licensee A for the use of about 4.5 ha of relatively flat area to develop temporary cricket grounds. During this period, LCSD worked with HAB and EPD on the relevant matters; and
- in November 2016, LCSD reported the progress of the Kwai Chung Park project to the Kwai Tsing DC and explained the technical limitations in details to the members. In September 2017, LCSD and Kwai Tsing DC members discussed the proposed facilities and estimated programme of the project in further details, and finally agreed to implement the project by phases.

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44. With reference to Appendix G of the Audit Report, the Committee enquired about the reasons for not pursuing a football training centre and the options mentioned in items 11 (a) to (e).¹¹

45. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that:

- there were various site constraints for the proposal of the construction of a football training centre at the proposed Kwai Chung Park site, mainly as follows :
 - (a) the orientation of the football pitch proposed in the design did not meet the requirements of the Federation Internationale de Football Association/Hong Kong Football Association for standard football pitches;
 - (b) with its size limited by the surrounding environment and slopes, the site could not accommodate a standard 11-a-side football pitch with adequate safety margin;
 - (c) it might not be feasible to provide the pitch with floodlights as it would involve the construction of at least four heavy lighting columns with deep foundation, which would probably disturb the underlying geomembrane capping;
 - (d) irregular differential settlement was detected at the site; and
 - (e) technical difficulties in slope treatment; and
- the options mentioned in items 11 (a) to (e) of Appendix G were not pursued mainly due to the following: a large area of the project site was covered by slopes leaving little usable area; the entire stretch of land was covered in a capping layer and installed with facilities such as landfill gas collection pipes, gas extraction wells and leachate collection pipes, which posed challenges to the design of the venue and

¹¹ The development options were:

- (a) opening part of the Park facing Tsuen Wan Road to the public;
- (b) a community garden cum sitting-out area in the Park;
- (c) a model car racing track in the Park;
- (d) a multi-purpose lawn in the Park; and
- (e) developing part of the Park into a leisure ground (including a cycling ground).

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construction of superstructures. Another factor for consideration was the availability of resources at the time. As the facilities of the Park were built a long time ago, some of them were rather dilapidated, not meeting the prevailing safety standards. These proposed projects were shelved due to the high cost involved, which would probably exceed the funding ceiling for minor building works.

46. Regarding the proposed golf driving range as mentioned in paragraph 3.6 of the Audit Report, the Committee enquired about the justifications for the proposal, whether advice had been sought from ArchSD or EPD beforehand and references were drawn from previous experience when exploring the development of football training centre and other development options between 2001 and 2009.

47. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that during the consultation process with Kwai Tsing DC at a meeting held on 18 June 2013, District Facilities Management Committee of Kwai Tsing DC agreed that the Kwai Chung Park was a site suitable for development of a golf driving range. LCSD had consulted EPD before submitting the proposal, and had made reference to the past Kwai Chung Park development options and comments of EPD.

48. Referring to paragraphs 3.7, 3.10 and 3.11 of the Audit Report, ArchSD informed HAB/LCSD in 2014 and 2017 that a landfill gas hazard assessment should be conducted before proceeding with the Technical Feasibility Statement and was concerned whether the project could be launched before 2022. The Committee queried why EPD/ArchSD expressed "no objection" in June 2017 to HAB/LCSD's plan to carry out the aforesaid assessment at detailed design planning stage despite that the assessment findings might affect the completion time and cost of the project.

49. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 11 June 2018 (*Appendix 7*) that:

- according to the "Landfill Gas Hazard Assessment Guidance Note" ("Guidance Note") and the "Professional Persons Environmental Consultative Committee Practice Note PN 3/96", when developing any piece of land within a landfill site or within a 250-metre zone around any landfill site, the project proponent and/or the works agent should

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adopt suitable precautionary measures to minimize the risk due to the lateral migration of landfill gas;

- as per the Guidance Note, the landfill gas hazard assessment often comprised two stages. The first stage, or "preliminary qualitative assessment", was carried out at the planning stage of a development project. While its assessment scope would be constrained by the level of available detail about the proposed development, the assessment result might be used to determine the in-principle acceptability of a proposed development and to identify the scope of any further investigations which might be required to complete the assessment; and
- EPD expressed no objection to LCSD in January 2015 and June 2017 making reference to the practices adopted in previous relevant examples, i.e. to carry out preliminary qualitative assessment for the Kwai Chung Park project in accordance with the Guidance Note and to review and reassess in detail during the project's detailed design stage. Based on past experience in developing similar projects, EPD opined that such arrangements in general would not affect the project's completion date and cost.

50. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 11 June 2018 (*Appendix 10*) that ArchSD had indicated to LCSD that it had no strong view on conducting landfill gas hazard assessment at a more detailed planning stage, but also advised LCSD that in case significant changes to the scope, design and construction of the project were necessary at a more detailed design stage due to the finding of the assessment, there would be time and cost implications which could have been dealt with or mitigated earlier during the preliminary qualitative assessment stage.

51. **Mr Jack CHAN Jick-chi, Under Secretary for Home Affairs** replied at the public hearings and **Secretary for Home Affairs** supplemented in his letter dated 13 June 2018 (*Appendix 11*) that HAB requested LCSD to confirm with ArchSD and EPD in early June 2017 on their views on landfill gas hazard assessment and technical feasibility study. Subsequently, ArchSD and EPD clarified that the preliminary assessment should normally be carried out after confirmation of the proposed project scope or issuance of Project Definition Statement and during the stage of technical feasibility study for completion of the Technical Feasibility

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Statement, and the detailed assessment could be carried out at the detailed design stage.

52. The Committee further asked HAB for the reasons of not conducting the landfill gas hazard assessment according to the requirement of EPD's Guidance Note (Note 43 in paragraph 3.7 of the Audit Report refers).

53. **Under Secretary for Home Affairs** replied at the public hearings and **Secretary for Home Affairs** supplemented in his letter dated 13 June 2018 (*Appendix 11*) that HAB considered that one of the crucial factors for taking forward the Kwai Chung Park project was to confirm the proposed project scope so as to facilitate ArchSD to commence technical feasibility study, including the carrying out of landfill gas hazard assessment, according to the proposed project scope. As ArchSD stated in July 2014 that the site could not accommodate the proposed golf driving range with 30 golf driving bays, HAB considered it necessary to follow up on the proposed project scope first and revise the Project Definition Statement and thus did not provide funding for LCSD at that time.

54. The Committee enquired about the reasons for ArchSD's statement that HAB should arrange funding for carrying out landfill gas hazard assessment in July 2014 despite that it had advised that the site was not suitable for the proposed golf driving range but no proposed new use was stated in HAB's Project Definition Statement (paragraph 3.7 of the Audit Report refers), and whether ArchSD was of the view that the assessment should be conducted irrespective of whether a specific use had been identified.

55. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 11 June 2018 (*Appendix 10*) that ArchSD considered that the landfill gas hazard assessment should be conducted after the proposed project scope had been determined as the assessment should take into account the specific use on the site. ArchSD advised HAB on 10 July 2014 to review the project scope by removing the golf driving range. In order to ascertain the feasibility of the revised scope of work, it was necessary to conduct a landfill gas hazard assessment. ArchSD advised HAB/LCSD to source necessary funding such that the assessment could be carried out in good time once the project scope was confirmed.

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56. Given the slow progress with a lapse of 17 years in the development of the Kwai Chung Park, the Committee enquired about the Administration's priority in developing the Park and the development timeline, and whether the Administration had considered hiring a consultant to conduct a comprehensive feasibility study and propose a list of development options for consideration by government departments and relevant stakeholders in order to speed up the process.

57. **Under Secretary for Home Affairs** replied at the public hearings and **Secretary for Home Affairs** supplemented in his letter dated 13 June 2018 (*Appendix 11*) that the Kwai Chung Park project was included in the Policy Address of January 2017 as one of the 26 projects under the Five-Year Plan for Sports and Recreation Facilities and resources had been reserved. On 18 May 2018, HAB issued the Project Definition Statement to ArchSD and also reserved funding for ArchSD to carry out landfill gas hazard assessment during the stage of technical feasibility study. Taking into account the various preparatory work and procedures, e.g. detailed design, DC consultation of the design, etc., HAB targeted to seek funding approval from the Finance Committee ("FC") of the Legislative Council ("LegCo") in the 2020-2021 legislative year for commencement of works by end 2021.

58. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that under the established mechanism for capital works projects, the client department might seek technical advice from relevant works departments regarding the project scope during the pre-planning stage wherever necessary. When considering whether, for future development of any restored landfills, it would be beneficial to hire a consultant to conduct a comprehensive feasibility study, recommend mitigation measures and propose a list of development options before the issuance of the Project Definition Statement so as to speed up the development process, as additional resources would be required for hiring a consultant, LCSO would consider the need on a case-by-case basis by assessing the project scale and resources required with reference to past experiences, and seek technical advice from ArchSD and EPD according to the established mechanism of capital works projects.

59. The Committee sought the latest development progress and action plan with timeline for Stage I and II development of the Kwai Chung Park, the target commission date of the temporary cricket grounds and whether the facilities were proposed for temporary usage only.

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60. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 19 June 2018 (*Appendix 9*) that:

- Stage I development as endorsed by the Kwai Tsing DC meeting held on 14 September 2017 would cover areas not occupied by the temporary cricket grounds and the BMX park so as to open the Park for public use as early as possible. After the commencement of the related works, LCSD would proceed with the preparation work for the development of the areas occupied by the temporary cricket grounds and the BMX park in Stage II;
- on 15 September 2017, LCSD submitted the draft revised Project Definition Statement to ArchSD and EPD for comments. ArchSD and EPD gave their preliminary views in February and March 2018. The revised Project Definition Statement was submitted to HAB on 11 May 2018 for consideration. Subsequently, HAB issued the revised Project Definition Statement on 18 May 2018 requiring ArchSD to conduct a technical feasibility study;
- upon approval of the Technical Feasibility Statement by the Development Bureau, LCSD would request ArchSD to proceed with the design work and consult DC on the conceptual design pursuant to the established procedures for capital works projects; and
- the site of the cricket grounds at the Gin Drinkers Bay Landfill was granted to Licensee A by EPD in March 2016 under a three-year land licence. As it was the first time that cricket grounds were constructed in a landfill, the Government should be prudent to observe their operation on a temporary basis before a decision on the term of renewal was made. The current land licence would expire in March 2019 and Licensee A had already applied for its renewal for three years. The application was now being processed by government departments concerned.

Director of Environmental Protection advised in his letter dated 4 October 2018 (*Appendix 12*) that the cricket grounds were opened for public use on 1 September 2018.

Wan Po Road Pet Garden

61. The Committee enquired about the workflow and procedures in determining the project scope of the Pet Garden.

62. **Miss Janice TSE Siu-wa, Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) regarding the workflow of initiating the Pet Garden project as follows:

- the project proponent (in this case a DC member) prepared project statement which included the project scope, location, estimated cost, etc;
- under District Minor Works Programme, LCSD was the lead department in implementing minor works for leisure, cultural, sports, soft landscaping and recreation type of facilities and HAD was the lead department for projects such as walkway covers and rain shelters. For projects with high technical complexity and/or more design elements, HAD or LCSD would assign a term consultant who had the expertise to provide a greater variety of designs, as opposed to design work conducted in-house by the Works Section of HAD; and
- upon endorsement of the project by the relevant DC, the lead department would seek funding approval from the officer exercising delegated authority before assigning the project to the term consultant.

63. In reply to the Committee's enquiry regarding the selection criteria, appointment and performance monitoring of a term consultant (paragraph 3.22 of the Audit Report refers), **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that:

- the process of selection and appointment of term consultant involved the following procedures:
 - (a) invitation for expression of interest from the list of architectural consultants managed under the Development Bureau's purview;
 - (b) short-listing of interested consultants based on their submissions in response to the invitation for expression of interest and

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- performance records of the consultants maintained by the Development Bureau;
- (c) invitation of short-listed consultants to submit Technical and Fee proposals; and
 - (d) award of the consultancy contract to the consultant with the highest overall score based on the Technical and Fee proposals. In the course of assessing Technical proposals, the performance records of the consultants maintained by the Development Bureau would be taken into account; and
- the process of performance monitoring of the term consultant involved the following procedures:
- (a) regular management of the consultant by project managers, overseen by a senior architect and a chief engineer in the Works Section of HAD via written exchanges, meetings and interviews as appropriate; and
 - (b) the execution of a three-tier system in performance monitoring which included: (i) monthly progress meeting chaired by the senior architect; (ii) quarterly project review meeting chaired by the chief engineer; and (iii) quarterly Consultant Review Committee meeting chaired by an Assistant Director. The performance of the term consultant would be rated and submitted quarterly to the Consultants' Performance Information System of the Development Bureau which was an online system available to government departments intending to engage consultants in the lists under the purview of the Development Bureau.

64. Given the technical complexity involved at restored landfills which were different from an ordinary site, the Committee queried the justifications for adopting a term contract for the Pet Garden project and asked whether technical advice was sought from EPD before appointing Consultant A.

65. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that Consultant A was appointed by HAD in February 2007 as one of the pilot term consultants to carry out District Minor Works Projects in Sai Kung District that commenced in the period from

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27 February 2007 to 26 February 2008. Accordingly, Consultant A was assigned to implement relevant projects under the term consultancy approach during the period, including the Pet Garden project which was endorsed by Sai Kung DC in June 2007. EPD had no role to play in the appointment of term consultant and the assignment of projects to term consultant.

66. The Committee sought details on the term contract for Consultant A, in particular, the calculation of consultancy fee for the Pet Garden project and monitoring of project cost by the consultant.

67. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that:

- the consultancy fee for Consultant A was calculated based on the actual construction cost of the project multiplied by the proposed percentage fee submitted in the awarded tender by the consultant. For the Pet Garden project, the construction cost was \$22.7 million and the percentage fee was 6.8%. The consultancy fee was about \$1.54 million;
- project cost was affected by the project scope (i.e. items of works to be included in the project) and the prevailing price of the works involved. There was an established mechanism to control the project scope and ensure a competitive pricing for works through open selection of contractor:
 - (a) in the case of Pet Garden project, the project scope was vetted by the lead department and endorsed by Sai Kung DC. HAD as the project manager overseeing the term consultant, provided professional advice to LCSD in vetting the project scope. Any additional works after the award of contract had to be endorsed by DC and approved by the relevant authority in the Government. HAD also gave professional advice to LCSD on any proposed additional works during the construction stage. In short, Consultant A could not vary the project scope or instruct the contractor to carry out additional works without the prior approval of DC, the lead department and the relevant authority in the Government; and

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- (b) an open tender exercise was conducted for the works contract to ensure a fair, open and competitive selection process. The lowest returned tender was accepted. The construction cost was therefore determined by the price in the returned tender for the works contract; and
- HAD could assign projects to Consultant A upon request by the lead departments during the one-year term but Consultant A was required to see through the project to completion which might span over one year, as in the case of the Pet Garden project. There was no limit to the number of projects to be assigned to Consultant A. At the time of inviting proposals for the term consultancy, there was no estimate on the number of projects to be included in the consultancy.

68. The Committee noted from paragraphs 3.26 and 3.27 of the Audit Report that it was a standard practice for consultants to carry out topographical surveys before conducting works design. EPD reminded Consultant A to conduct an updated survey to ascertain actual site conditions for carrying out design and works. Consultant A commenced the design work of the Pet Garden based on EPD's records and only conducted a topographical survey afterwards in April 2009, and discovered a site level difference of 0.7 metre at one of the surveyed points. In this regard, the Committee enquired about:

- average cost and time required for conducting a topographical survey;
- any guidelines on the number and location of survey points in a topographical survey;
- reasons for not taking on board EPD's reminder to conduct a topographical survey before works began and allowing Consultant A to deviate from the above standard practice; and
- whether HAD has sought advice from EPD on remedy or mitigation measures on the considerable site level difference.

69. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that:

- the cost of topographical surveys varied according to the size, topography, accessibility, etc. of the site. The current cost for

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topographical surveys of District Minor Works Projects was generally below \$100,000. Normally, it took several weeks including field work and preparation of reports;

- there were no standard guidelines on the number and location of survey points but the topographical survey should cover adequately the existing ground levels and features within the site;
- HAD could not trace any record of EPD reminding Consultant A of the need to conduct an updated topographical survey in 2007. Nevertheless, it was HAD's standard practice to conduct a topographical survey for all sitting-out area projects (including the Pet Garden project) after funding approval. This standard practice was followed in the case of the Pet Garden project. The conceptual design in the feasibility report, which was a desktop study, was based on the records from EPD. Once the funding for the project was approved in April 2009, Consultant A engaged a land surveyor to carry out the topographical survey in the same month to verify the viability of the conceptual design;
- in the case of the Pet Garden project, even if topographical survey was conducted earlier than April 2009, it would not have obviated the need to revise design during the construction stage, because further settlement had taken place during the design stage and tendering stage, as revealed by the topographical survey conducted by Contractor C between January to March 2011;
- based on the site levels obtained in April 2009, Consultant A tackled the issue of site level differences by revising the design. HAD could not trace from records about communication with EPD on site settlement after the topographical survey; and
- in August 2009, Consultant A, HAD and EPD conducted a joint site visit for clarification of various site issues. Discrepancies of the existing drainage system were clarified and updated drainage drawings were provided to HAD by EPD.

70. According to paragraph 3.27(e) of the Audit Report, topographical survey results in March 2011 showed a significant difference in site levels of 1.59 metres compared to the records in 2009. The Committee enquired about:

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- details of topographical survey(s) conducted by Consultant A;
- whether HAD or Consultant A had continuously monitored the ground settlement between April 2009 and March 2011 knowing that the site was susceptible to ground settlement problems; and
- measures taken by HAD in response to ground settlement problem and delay in project completion.

71. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that:

- apart from a survey in April 2009 undertaken by Consultant A, a requirement was included in the works contract for Contractor C to carry out a topographical survey to verify the site levels before construction. Contractor C conducted the survey in March 2011. The comparison of records provided by EPD in 2007 and the surveys by Consultant A and Contractor C was in *Appendix 8*; and
- the inclusion of the additional requirement for topographical survey in the works contract was one of the measures taken in response to the special condition of the project site being a restored landfill site. In anticipation of the delay in project completion, HAD had issued warning letters to Consultant A and urged the latter to expedite the revision of design and to supervise the project progress with due diligence.

72. Referring to paragraphs 3.26(b) and 3.27(e) of the Audit Report, the Committee asked whether the unusual ground settlement problem was identified from the topographical surveys conducted by EPD on the site between 2007 and 2011, and whether HAD had informed EPD about the site level differences of 0.7 metre and 1.59 metres being recorded by Consultant A and Contractor C in April 2009 and March 2011 respectively.

73. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 11 June 2018 (*Appendix 7*) that:

- according to the Tseung Kwan O Landfills restoration contract, the contractor had installed about 40 settlement markers at the Tseung Kwan O Stage I Landfill at a maximum spacing of 100 metres,

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such that the settlement monitoring would cover the entire restored landfill. The contractor had been carrying out settlement monitoring at a frequency of not less than twice a year, and had been recording the settlement readings for each marker. There were three settlement markers in the vicinity of the Pet Garden (i.e. SM3, SM6, and SM9 as depicted in the following diagram). From 2007 to 2011, the records of these settlement markers were tabulated as follow:



Year	Metres above Principal Datum for settlement markers		
	SM3 (Outside Pet Garden)	SM6 (Inside Pet Garden)	SM9 (Outside Pet Garden)
Late 2007	20.886	27.582	17.002
Late 2008	20.885	27.573	17.000
Late 2009	20.876	27.564	16.997
Late 2010	20.864	27.553	16.987
Late 2011	20.850	27.542	16.977
Settlement (metres)	0.036 (i.e. 36 millimetres ("mm"))	0.04 (i.e. 40 mm)	0.025 (i.e. 25 mm)
Average settlement rate (metres/year)	0.009 (i.e. 9 mm/year)	0.01 (i.e. 10 mm/year)	0.00625 (i.e. 6.25 mm/year)

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- according to the records above and EPD's on-site observations, EPD had not noticed any unusual settlement in the Pet Garden vicinity and the rest of the Tseung Kwan O Stage I Landfill during the restoration and aftercare period. EPD did not receive the topographical survey records from Consultant A, Contractor C, or the relevant departments that were conducted during the aforementioned period.

74. With reference to paragraphs 3.33(b) and 3.35 of the Audit Report, the Committee enquired about measures taken by HAD/LCSD to minimize changes in users' requirements and steps taken and discussion details between HAD/LCSD and Sai Kung DC in this respect.

75. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that:

- HAD required the consultant to obtain comments from the lead department and other relevant departments to ensure all user requirements were captured at each stage and fully incorporated in the tender documents, such that late changes were contained as far as possible. Any proposed additional works would be vetted by HAD and endorsed by the relevant DC and the lead department;
- the main reason for the additional works requested by Sai Kung DC was to suit future operational needs. In the beginning, it was proposed that the Pet Garden would be opened from 07:00 hours to 18:00 hours or 19:00 hours only. Currently, it was opened until 21:00 with lighting provided until 21:30; and
- discussion details, including dates of meetings and discussion summary, between LCSD/HAD and Sai Kung DC on providing lighting at the Pet Garden were as below:

May 2008	Having considered the potential problem of light pollution and the views of nearby residents, members of the District Facilities Management Committee under Sai Kung DC agreed that the facilities should be opened during day time only. Apart from the emergency lighting at the entrance, there would not be any lighting facility.
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April 2012	Members of the District Facilities Management Committee of Sai Kung DC endorsed the following arrangement: from September every year to April of the next year, the Pet Garden would be opened from 07:00 hours to 18:00 hours; whereas from May to August every year, the opening hours would be from 07:00 hours to 19:00 hours. Nevertheless, the District Facilities Management Committee suggested that LCSD should review the usage pattern of the Pet Garden three months after its opening and look into the feasibility of extending the opening hours of the Garden to night time having regard to general users' comments.
October 2012	The District Works Working Group of the District Facilities Management Committee under Sai Kung DC discussed and endorsed the revised project estimate of \$21 million. Amongst the additional facilities, there was provision for installation of underground cabling. The provision was to cater for the need for lighting at the sitting-out area if it were to be opened at night in future.

76. **Director of Leisure and Cultural Services** supplemented in her letter dated 19 June 2018 (*Appendix 9*) that LCSD normally conveyed all the works requirements to the works agent (i.e. HAD's Works Section) before the tendering exercise for inclusion in the tender documents so as to avoid changes of works requirements after the award of contract. Should any works modifications arise from the actual site conditions and/or unforeseeable circumstances after the estimated expenditure of the project had been approved, LCSD would first review the project scope with the works agent to contain the expenditure as far as possible. Where there was no other alternative, LCSD would report the details to the relevant DC and sought its consent for additional funding. Approval would then be sought from an officer with delegated authority in accordance with the applicable authorized expenditure limit.

77. The Committee asked about the necessity to employ quantity surveyor in estimating cost components in future.

78. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that since April 2008, HAD had engaged an independent quantity surveyor for all term consultancy agreements to

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provide comprehensive advice on cost items and control, including the updating of the latest project cost estimates at each work stage, working out the pre-tender estimates and post-contract valuations in the case of variation of works order during the construction stage.

79. According to paragraph 3.36 of the Audit Report, LCSD identified technical difficulties in handling the project and that HAD's Works Section was unable to provide expert advice and timely assistance due to limited resources. The Committee asked about the establishment of HAD's Works Section and when HAD was aware of LCSD's comments and follow-up actions in this regard.

80. **Director of Home Affairs** replied in her letter dated 15 June 2018 (*Appendix 8*) that HAD could not trace from record about communication with LCSD regarding resources issue in 2013. HAD only came to know about the comments from the Audit Report. During the development of the Pet Garden project from 2008 to 2013, HAD Works Section had increased the number of project managers (architects) to seven, who were overseen by a senior architect and a chief engineer to manage the projects assigned to term consultants. The number of District Minor Works Projects handled by the term consultants during the period was 354 with a total project value of some \$850 million.

81. Referring to paragraph 3.37 of the Audit Report, the Committee asked about lessons learnt and remedy to be taken to address the ground settlement problem in the development of restored landfills in future, the progress of the conduct of a review on the ground settlement of the Tseung Kwan O Stage I Landfill and whether unusual ground settlement problem had been observed at the other 12 landfills.

82. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 11 June 2018 (*Appendix 7*) that according to the Tseung Kwan O Stage I Landfill contractor's settlement monitoring data and EPD's on-site observations, there was no unusual settlement found at the site. EPD would consider conducting a review on the ground settlement at the Tseung Kwan O Stage I Landfill when a new afteruse project was to be implemented at this site for reference by the project proponent when planning and designing the project. For the rest of the 12 restored landfills, EPD had not observed any unusual settlement and would take immediate follow-up actions should there be any unusual settlement. With the successive completion of various afteruse facilities at restored landfills, EPD would share the experience and key points of afteruse development (e.g. differential

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settlement at the site area, maximum allowable loading, etc.) with relevant B/Ds and NGOs to facilitate their future afteruse developments.

83. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that for future works projects involving restored landfills or sites susceptible to ground settlement, HAD would seek expert advice from EPD in the course of implementing the projects, just as in the case of the Pet Garden project. Where time and resources permitted, HAD would recommend consultants to ascertain up-to-date site conditions for design work before tendering (particularly in situations where ground settlement had already been observed in a topographical survey carried out by a consultant at an early stage and where the design stage took a longer duration).

84. Given the complexity of works involved, the Committee asked if HAD had the relevant expertise and experience to assume the role of works agent in developing the Pet Garden project in restored landfills, and the appropriateness of including the project under District Minor Works Programme from project management perspective.

85. **Director of Home Affairs** replied at the public hearings and supplemented in her letter dated 15 June 2018 (*Appendix 8*) that in general, HAD was capable of conducting minor works costing not more than \$30 million. As works agent, HAD had also developed a number of pet garden projects under the District Minor Works Programme in various districts since 2008. Drawing from the experiences of the Pet Garden project, HAD noted that carrying out works project in a restored landfill site required special attention, as the site might be susceptible to settlement and there were other issues such as different utilities below the ground surface. While HAD had already sought expert advice from EPD in the course of implementing the project, HAD considered that the extent of settlement at the project site during the design and tender stage was unusual and should have posed challenges to any works agent.

Jordan Valley Park

86. The Committee enquired about reasons for assigning Jordan Valley Park as one of the 25 projects for priority implementation in the Policy Address of 2005 and the Administration's timetable of implementing the project as at end 2005.

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87. **Director of Leisure and Cultural Services** replied at the public hearings and supplemented in her letter dated 12 July 2018 (*Appendix 13*) that the decision was made after having reviewed the ex-Municipal Council projects and the distribution of leisure and cultural facilities, the needs of various districts due to increasing population, views of DCs, and keen demand for open space in the densely populated Kwun Tong District. Based on the initial estimate as at end 2005, the Administration anticipated that the related works would commence in 2008 for completion in 2010.

88. Referring to paragraph 3.46(a) (excluding item (iii)) of the Audit Report, the Committee sought the reasons and necessity for the additional works, why the items were not incorporated into the tender documents and whether the additional works could be avoidable if adequate time and planning had been allowed before awarding the contract.

89. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that:

- the project, as one for priority implementation, was implemented in a very tight timeframe and a fast track programme was adopted to meet the need of the local community. The consultants had to carry out many design development/coordination activities and tender documentation in parallel. The consultant's design with Independent Checker's checking was completed just before the issue of tender. To enable early completion of the project for public enjoyment, it was then decided to proceed with the tendering exercise before EPD provided their comments. ArchSD expected EPD's comments, if any, would not instigate substantial change to the design because the design had been checked by Independent Checker. If necessary, EPD's comments could be incorporated by variation orders under the contract. As such, the additional works mentioned in paragraph 3.46(a)(i) of the Audit Report regarding revisiting the design of buildings and fence wall footings locating above the capping layer, leachate system, landfill gas system and sub-soil drain system to resolve building location issue had not been included in the tender document with the assumption that they could be resolved after contract commencement;
- the necessity for additional works mentioned in paragraph 3.46(a)(ii) and (iv) of the Audit Report (i.e. variation works for compliance with statutory requirements and requirements and comments on provision of

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utilities from other government departments and additional measures to monitor the extent of ground settlement at the landfill and related works) emerged after the contract had commenced. The former item was required to suit latest requirements given by statutory bodies and utilities departments while the latter was required to comply with EPD's requirements given at construction stage; and

- if sufficient time had been allowed for completion of all the design development, Independent Checker's checking and obtaining EPD's comments for incorporation into tender document before tender, the amount of the variation works might be reduced. However, the expenditure would have been incurred irrespective of whether the works were included in the tender or as a variation subsequent to the award of the contract.

90. At the request of the Committee, **Director of Architectural Services** provided diagrams illustrating new design of buildings and fence wall footings locating above the capping layer, leachate system, landfill gas system and sub-soil drain system of the landfill in *Appendix 14*.

91. The Committee enquired about details regarding variation works of \$4.8 million requested by LCSD on the radio-controlled model car racing circuit and the necessity of the additional works (paragraph 3.46(a)(iii) of the Audit Report refers).

92. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that the variation works of \$4.8 million were considered necessary on operational grounds after site visit during the construction stage. Apart from other revisions and additional works, the design of the radio-controlled model car circuit was revised by:

- adding high traction fine asphalt floor for radio-controlled model car circuit and adding compact flexible surfacing works including road hump and marking paint at indoor radio-controlled model car circuit covered pit area;
- adding noise barrier for the driver's stand;
- adding Plexiglas wall at radio-controlled model car circuit;

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- adding working benches and seats for covered pit area; and
- some minor variation works for the radio-controlled model car circuit.

Director of Architectural Services provided the layout plan showing the variation works in *Appendix 14*.

93. The Committee noted from paragraph 3.45 of the Audit Report that three consultants were appointed for the project, but there were still project cost overrun and delay problems. In this regard, the Committee enquired about the role of the three consultants in avoiding cost overrun and delays.

94. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that:

- the three consultants appointed by ArchSD for the project were responsible for different duties: a lead consultant for design and construction supervision; a quantity surveyor for preparation of tender documents and valuing the cost of works; and a specialist Independent Checker for reviewing the design and layout plans and, in view of the special nature of this project, checking compliance with EPD's technical specification for carrying out works in restored landfills;
- the project was very unique and was the first project constructed on a landfill site implemented by ArchSD; and
- the contract was originally scheduled for completion in September 2009. Extension of 185 days were issued due to inclement weather and extension of two days were issued due to truck drivers on strike. Hence, the contract was completed in March 2010, against the completion date of December 2009 stated in the paper submitted to the Public Works Subcommittee of LegCo.

95. According to paragraph 3.50 of the Audit Report, EPD requested ArchSD to provide the detailed design and layout plans of the project for its comments when available. ArchSD only consulted EPD after issuing tender. Although building location issue was identified before the award of contract, ArchSD had not revised tender requirements but instead decided to resolve the issue by variation orders. The Committee enquired about:

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- reasons for not providing detailed design and layout for EPD's comments;
- justifications for the decision of resolving the building location issue by variation orders;
- reasons for not informing the Central Tender Board ("CTB") of the change in design as set out in tender documents and whether ArchSD had consulted the Financial Services and the Treasury Bureau ("FSTB") or other B/Ds before deciding not to inform CTB;
- given the additional variation works of \$23.8 million (paragraph 3.46(a) of the Audit Report refers), whether ArchSD considered the practice equitable to all tenderers. In this connection, whether Contractor D's bid was the lowest bid among the proposals and the price of the second lowest bid; and
- details of the settlement claims of \$16.5 million, including the nature of the disputes, negotiation between ArchSD and Contractor D and the settlement agreement (paragraph 3.46(b) of the Audit Report refers).

96. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that:

- during the feasibility study stage, ArchSD had incorporated EPD's requirements into the Technical Feasibility Statement. During the design process, ArchSD and its consultant had closely liaised with EPD for the design, ground investigation, requirements of landfill gas hazard assessments, necessary modification works of the aftercare facilities etc. Due to tight project time frame, submissions of the layout plans and detailed design to EPD took place after the issue of tender;
- it was decided not to revise the tender requirements for re-tendering and not to postpone the award of the contract after taking into account the following considerations:
 - (a) to avoid delaying the project programme;
 - (b) the Government would suffer a greater loss if the project were to be re-tendered in view of the rising trend of construction costs;

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- (c) for construction works contracts in general, it was expected and unavoidable to have certain site constraint matters resolved during construction and the costs absorbed by contingencies; and
- (d) the anticipated variations would not be substantial;
- ArchSD considered that the conflicts of the afteruse facilities with the aftercare facilities could be resolved by design changes which would not be substantial and could be resolved by variation works at post contract stage. Of such problem with the four building blocks and the model car circuit located above the landfill gas pipes and sub-soil drain system, two of the building blocks were overcome by minor re-positioning of the buildings. Hence, ArchSD did not inform CTB of the change in design and ArchSD had not consulted FSTB or other departments before making the decision;
- there were no guidelines on what changes/issues needed to report back to CTB. According to ArchSD's record, there were no cases with ArchSD that changes/issues were reported back to CTB in the past 10 years;
- as regards the variation works, irrespective of whether incorporating them into the tender documents if sufficient time was allowed, or had to be resolved during the post contract stage by variation orders, the relevant expenditure was considered necessary and therefore applicable to all tenderers. ArchSD considered that the practice was equitable to all tenderers. Contractor D was the lowest price tenderer. The tender price of the lowest tender and the second lowest tender were \$137.70 million and \$150.22 million respectively;
- upon the issue of the draft final account by quantity surveyor consultant to Contractor D for agreement in February 2012, Contractor D disagreed with the draft final account and served a notice of arbitration in May 2012 claiming for all disagreement items in respect of site levels, prolongation costs, methods of measurement, principles of valuing variations and whether the variation items were under the Architect's Instructions. Details of the disputes were in *Appendix 14*;
- upon receiving the notice of arbitration, ArchSD sought legal advice within the Government and employed an independent quantum expert to study and analyze Contractor D's claims on individual disputed items. Legal advice considered that it would be a good deal for the

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Government if protracted and expensive arbitration could be avoided by securing the contractor's agreement to settle the final account in total of \$178 million through negotiation. As the arbitration expenses would be substantial for both parties, ArchSD took the legal advice and proceeded to seek FSTB's approval in accordance with the Stores and Procurement Regulations to settle the disputes by negotiation; and

- in June 2013, FSTB's approval was obtained to negotiate with Contractor D for full and final settlement of all disputes. In July 2013, ArchSD formed a negotiation team to conduct negotiation with Contractor D to request for withdrawal of the notice of arbitration, and full and final settlement of all the disputes on a without prejudice basis. Subsequently, a lump sum settlement sum of \$16.5 million was reached by the parties. Upon further approval from FSTB, the results of the negotiation were recorded in a settlement agreement executed in August 2013.

97. In reply to the Committee's enquiry on whether the Administration had issued any circulars/guidelines on the kind of changes during project implementation that would require the responsible B/D to report to CTB and whether FSTB considered that ArchSD should inform the Board of the changes in this project, **Ms Candy NIP, Principal Assistant Secretary for Financial Services and the Treasury (Treasury)(A)** replied at the public hearings and **Secretary for Financial Services and the Treasury** supplemented in his letter dated 12 July 2018 (*Appendix 15*) that:

- as laid down in the Stores and Procurement Regulations, procuring departments were responsible for drawing up tender specifications to meet their specific procurement needs, defining the contract requirements and conducting tender exercises in a manner meeting the government procurement principle of maintaining open and fair competition. Procuring departments were also responsible for project implementation and contract management. If and when there were any changes to the contract requirements after contract award, procuring departments should execute variations to contracts according to the authority provided in the Stores and Procurement Regulations;
- upon conclusion of tender evaluation, the procuring departments should prepare a tender report containing a clear recommendation in the standard format for consideration by the relevant tender board. Apart from the usual information required, procuring departments should also

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include in the tender report any special circumstances applicable to the tender recommendation. In general, when considering whether to initiate a change to the tender requirement at the tender stage or to pursue the change at the post-tender stage through a contract variation, the procuring departments should take into account the need to maintain open and fair competition, as well as relevant operational considerations; and

- for the case in question, CTB was not informed of the need to change the design of the project in the tender report submitted by ArchSD in November 2007. FSTB noted in paragraph 3.48 of the Audit Report that ArchSD considered that the building location issue could be resolved at the post-contract stage and therefore did not inform the Board of the change in design.

98. Referring to the paper submitted to the Public Works Subcommittee of LegCo on 15 June 2007, the Committee sought the basis on how the \$11.6 million contingencies for the estimated capital cost of the project was calculated and under what conditions the contingencies would be deployed.

99. **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that the contingencies of \$11.6 million stated in the paper submitted to the Public Works Subcommittee was allowance of around 7.5% of the total estimated cost of works for works or expenditure which could not be foreseen at the time of preparing the paper. Generally, allowing 7.5% contingency for an open space project was appropriate at that period of time.

100. In reply to the Committee's enquiry for the reasons for ArchSD to adopt a fixed price contract for implementing the project, knowing that there might be variations and complications when developing facilities in a restored landfill, **Director of Architectural Services** replied at the public hearings and supplemented in her letter dated 16 July 2018 (*Appendix 14*) that generally, lump sum fixed price contract (instead of re-measurement contract) was adopted for implementing projects in which the client's requirements could be established at early stage and the detailed design information and drawings were available for estimation and preparation of tender documentation, which was the case of the Jordan Valley Park.

D. Monitoring of non-governmental bodies' afteruse facilities at restored landfills

101. Referring to Table 5 in paragraph 4.3 of the Audit Report regarding land licences granted by EPD, the Committee sought the similarities and differences between licences granted by EPD and projects approved under the Funding Scheme, such as invitation for applications, consideration and approval of applications, assistance provided to successful applicants and monitoring of compliances.

102. **Director of Environmental Protection** provided relevant information in his letter dated 12 July 2018 (*Appendix 16*) as follows:

Modes of inviting applications

- for land licences granted by EPD, four licensees (except Licensee C) were National Sports Associations who obtained prior policy support from HAB before formally submitting applications to EPD. For Licensee C, after consulting relevant B/Ds, EPD granted the land licence under the delegated authority of LandsD;
- projects under the Funding Scheme were open for all eligible organizations to apply within specified period;

Process of considering and approving applications

- EPD would grant land licence to the applicant if supported by relevant B/Ds and there being no other applications received;
- for projects under the Funding Scheme, EPD had established a Steering Committee to assist in assessing the applications based on established assessment criteria. Subject to the satisfaction of the Steering Committee with the detailed proposals, the Steering Committee would recommend Secretary for the Environment to grant an approval-in-principle to the selected organizations to take forward the projects. The selected organizations would then carry out the design and planning of the projects, and prepare the detailed cost estimates of the works. EPD would follow the Government's established procedures including seeking the necessary funding approval from FC of LegCo after consulting relevant DCs;

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Assistance provided to successful applicants

- for land licences, the afteruse facilities were to be developed by the applicants on a self-financing basis. EPD and the relevant B/Ds would provide the licensees technical information and advice to allow the licensee to fully address the conditions of the restored landfill during the design stage and complete its design and construction of the suitable facilities at the restored landfills as soon as possible;
- under the Funding Scheme, funding support would be provided in respect of (a) a capital grant subject to a cap of \$100 million (in money-of-the-day prices) per project to cover the cost of capital works and related matters; and (b) a time-limited grant subject to a cap of \$5 million (in money-of-the-day prices) per project to meet the starting costs and operating deficits (if any) for a maximum of the first two years of operation. EPD would also provide other assistance such as consultation with the stakeholders, liaising with relevant government departments to obtain professional advice and preparing the necessary information for funding application etc.;

Monitoring of licensees

- in accordance with the land licence conditions, EPD would request the applicant to submit detailed construction plans and programmes; and carry out inspections and monitor the construction progress and operation of the afteruse facilities; and
- the selected organizations were required to submit progress reports and audited financial statements to EPD regularly. EPD and relevant government departments would also conduct site visits and inspections from time to time to ensure that the development and operation of the approved projects complied with the terms and conditions of the land licences approved under the Funding Scheme.

103. Referring to paragraphs 4.25 to 4.30 of the Audit Report, the Committee enquired about the justifications for implementing the Funding Scheme in three batches, timetable for implementing the projects under Batches 1 to 3 as listed in Table 7 in paragraph 4.25, and sought explanations for the delays as depicted in Table 8 in paragraph 4.26.

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104. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 25 May 2018 (*Appendix 6*) that:

- at the time the Funding Scheme was launched, six restored landfills had already been developed into various types of recreational facilities or planned for designated uses for most of the usable areas. For the remaining seven restored landfills, the Government set up the Funding Scheme for non-profit-making organizations and National Sports Associations to develop recreational facilities or other innovative proposals at these restored landfills;¹²
- the Steering Committee on the Funding Scheme considered that the seven restored landfills under the Scheme should be launched in batches so that the operating details of the Funding Scheme could be refined after taking account of the experience from the first batch. Subsequent to the site visits to the restored landfills and having considered various factors such as location of the restored landfills, the Steering Committee agreed grouping the seven restored landfills into three batches as depicted in Table 7 in paragraph 4.25 of the Audit Report;
- EPD would commence the review of Batch 1 of the Funding Scheme, with the outcome of the review and the proposed refinements expected to be provided to the Steering Committee for consideration in 2019. EPD would then develop the refinement details and relevant application information and arrangement for Batch 2 of the Funding Scheme. Following the completion of the assessment of Batch 2 applications, implementation of Batch 3 of the Funding Scheme would commence. EPD would expedite the commencement and implementation of Batches 2 and 3 of the Funding Scheme;
- there were delays of one month, seven months and seven to nine months respectively in seeking FC's funding approval, invitation of preliminary proposals and the conduct of briefings and site visits for interested parties due to the following reasons:
 - (a) revisions in the operation details and arrangement of the Funding Scheme based on the suggestions from the Steering Committee;

¹² See Table 1 in paragraph 1.11 of the Audit Report regarding details of the six landfills which had been developed with recreational facilities and seven landfills included under the Funding Scheme.

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- (b) the conduct of site surveys for each restored landfill for collecting the latest site information;
 - (c) preparation of more detailed documentation to facilitate applicants to take due consideration of the site characteristics, details and development constraints of PPVL and the assessment requirements; and
 - (d) consultation with Tuen Mun DC on the preferred afteruses of the PPVL; and
- there were delays of 18 to 28 months in conducting vetting and assessment by the Steering Committee because of the following reasons:
- (a) taking note of the considerable constraints and technical difficulties in developing afteruse projects in restored landfills, EPD had allowed a longer period for the applicants to prepare and submit their applications, which was closed on 29 April 2016;
 - (b) technical details provided in the applications received were in general not sufficient. EPD invited all applicants to provide supplementary information on the engineering and environmental feasibility of their proposed projects. The supplementary information received was provided to relevant B/Ds for further comment; and
 - (c) EPD consulted Tuen Mun DC on the proposed uses received for PPVL to enhance district consultation.

105. The Committee asked for details regarding applications received in Batch 1 of the Funding Scheme.

106. **Director of Environmental Protection** provided relevant information in his letters dated 25 May 2018 (*Appendix 6*) and 12 July 2018 (*Appendix 16*) as follows:

- for Batch 1 of the Funding Scheme, EPD received a total of 27 applications, including seven applications each for the Ma Yau Tong Central Landfill and PPVL, and 13 applications for the

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Tseung Kwan O Stage I Landfill. Since applications received on PPVL in general failed to address the various site constraints in their proposals, the Steering Committee did not recommend the Government to accept any application. EPD would review the development constraints of PPVL and consider how best to address the issues concerned to facilitate the future afteruses of PPVL;

- an approval-in-principle was granted to an applicant in February 2018 on the proposal to develop a camp site-cum-green education ground at the Tseung Kwan O Stage I Landfill, and the applicant was now preparing the Technical Feasibility Statement for the proposed project. Upon the approval from the relevant bureau, pre-construction activities would be carried out (including site investigation and survey, landfill gas hazard assessment, detailed design, drafting of tender documents etc.) with a view to seeking funding approval from FC of LegCo in 2019-2020; and
- another applicant was preparing the detailed revitalization proposal for the Ma Yau Tong Central Landfill with a view to obtaining the approval-in-principle the soonest possible.

107. The Committee enquired in what ways EPD had drawn experience from processing Batch 1 applications and the management and operation of existing afteruse facilities in developing other restored landfills in future under the Funding Scheme.

108. **Director of Environmental Protection** replied at the public hearings and supplemented in his letters dated 25 May 2018 (*Appendix 6*) and 12 July 2018 (*Appendix 16*) that:

- during implementation of the Funding Scheme, it was considered necessary to introduce various refinements to the operation arrangement. The main refinements included:
 - (a) more detailed documentation (including a detailed application form, a guide to applications, a technical information kit for each restored landfill and a dedicated website for the Funding Scheme etc.) to facilitate the applicants to take due consideration of the site characteristics and constraints as well as the assessment

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requirements, so that the applicants were well informed to prepare their submissions;

- (b) interviews with shortlisted applicants such that the Steering Committee might seek direct clarifications from applicants, and selected applicants were able to enhance their proposals based on the suggestions received during the assessment process; and
 - (c) enhanced engagement with relevant DCs at an early stage of the Funding Scheme such that views of the local community could be considered in the assessment process in a timely manner. EPD and the Steering Committee consulted the DCs concerned in September 2015 prior to the launching of Funding Scheme, and in January 2017 after receiving the applications;
- EPD in conjunction with the Steering Committee would review the operation arrangement and the experience gained from processing Batch 1 applications, including the flow of conducting various steps, the arrangement of DC consultation etc. so as to enhance the overall progress and operation of the Funding Scheme; and
 - EPD had made reference to relevant overseas experience during the consideration of afteruses of restored landfills.

109. The Committee enquired whether Licensees A to E in Table 5 in paragraph 4.3 of the Audit Report could apply for the Funding Scheme to further enhance and develop their facilities.

110. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that the purpose of the Funding Scheme was to provide funding support for non-profit-making organizations and National Sports Associations to develop recreational facilities or other innovative proposals at the seven restored landfills which did not have development plan yet. The grant provided under the Funding Scheme was not applicable to the projects or facilities shown in Table 5 of the Audit Report. If the licensees in Table 5 were interested in applying the grant under the Funding Scheme, EPD would need to terminate their land licences earlier and include such restored landfills into the Funding Scheme for open applications. EPD would then consider all applications in accordance with the assessment procedures of the Funding Scheme, and there was

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no guarantee that the applications submitted by the licensees in Table 5 would be selected.

111. The Committee sought details on how the Steering Committee vetted the proposals received and the types of assistance offered, if any, to speed up the development of feasible and approved proposals.

112. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that the assessment procedures, criteria and requirements etc. were set out in the "Guide to Application" prepared for the Funding Scheme and were made available to all applicants for reference so that they could understand the details, eligibility and assessment requirements etc. of the Funding Scheme. Apart from providing funding support to the selected organizations, EPD would also provide other assistance for applicants to take forward their projects. A copy of "Guide to Application" is provided in *Appendix 16*.

113. The Committee enquired about the differences between temporary or permanent facilities as shown in Table 5 in paragraph 4.3 of the Audit Report in terms of conditions and duration and reasons for some facilities having operated for 15 years (the temporary golf driving range) while some had operated for two years (the temporary shooting range).

114. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that:

- in case the restored landfills would be developed for long-term uses (such as recreation parks or sitting-out areas) while the detailed construction programme was yet to be finalized, EPD would try to use the lands for suitable temporary beneficial purposes on condition that the applicant had obtained policy support from the relevant bureaux. In general, if there was already an imminent development plan, the land licences would be granted for a shorter period (about less than three years) and there would also be a condition for early termination of the land licence (usually with an "advance notice" period of six to nine months). For the land licences in Table 5 of the Audit Report, the development plans of the corresponding restored landfills were as follows:

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Afteruse facilities	Licence period	Long-term development plan of the restored landfills
Temporary cricket grounds	three years	Kwai Chung Park
Temporary shooting range	two years	Included in Batch 1 of the Funding Scheme
Temporary golf driving range	two years	Golf course (Non-in-situ land exchange)

- for the BMX Park and football training centre, having considered that the proposed recreational uses would not affect the long-term development plan of the respective restored landfill, and with the policy support from the relevant bureau, their land licences were granted with a longer licensing period. These included: (a) the 21-year licence issued to Licensee D in 2008 for the development of BMX Park at the restored Gin Drinkers Bay Landfill; and (b) the 10-year licence issued to Licensee B in 2016 for the development of football training centre at the restored Tseung Kwan O Stage I Landfill; and
- land licence for the temporary golf driving range at the restored Shuen Wan Landfill was first granted in 2003 was renewed subsequently for seven times, with extended periods ranging from one to three years. Hence, the licensing periods of the temporary golf driving range (with licence periods of one to three years) and the temporary shooting range (with licensing period of two years) were of similar time duration.

115. The Committee sought the reasons for renewing the temporary licence of Licensee C seven times for a consecutive period of 15 years without identifying a permanent usage of the site within the period.

116. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that:

- a land licence was granted by EPD to Licensee C on the operation of a temporary golf driving range in the Shuen Wan Landfill in 2003. EPD, after consulting relevant B/Ds, carried out an open Expression of Interest exercise in 2009 to invite all interested parties to submit

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proposal on developing a 9-hole golf course. Taking into account the time required for the applicant to carry out detailed design and associated environmental impact assessment process, the land licence was extended accordingly;

- the Government announced in the Policy Address 2017 that the Chief Executive-in-Council had given in-principle agreement to the pursuit of a proposal for the contemporaneous surrender of private land with high ecological importance in Sha Lo Tung to the Government and granting of a piece of land at the Shuen Wan Landfill to the Sha Lo Tung Development Company Limited (the non-in-situ land exchange). EPD had also extended the land licence of the temporary golf driving range to tie in with the latest developments; and
- in view of the uncertainty of the development plan and timetable for the land disposal arrangement of the Shuen Wan Landfill, it would be difficult for other organizations/companies to invest in the temporary use of the land. Licensee C had already invested in the infrastructure for the driving range and EPD was satisfied with its operation and financial position. EPD hence considered it more appropriate and cost-effective to extend the licence for Licensee C, while discussion on long term development continued.

117. The Committee enquired about reasons for the delays in completing the afteruse facilities as depicted in Table 6 in paragraph 4.5 of the Audit Report and whether the target completion dates were over optimistic.

118. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that:

- the delays in the completion of temporary cricket grounds and football training centre were mainly due to the need for Licensee A and Licensee B to connect the necessary power and water supply for the facilities, and the more-than-expected time required to provide submissions for meeting the statutory requirements and to obtain the respective approvals. In addition, with a view to providing the public and its members with a more suitable environment for practicing, Licensee A informed EPD during construction (i.e. May 2017) that there was a need to carry out ground levelling works at the licensed area. To this end, in accordance with the land licence conditions,

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Licensee A submitted further relevant information to EPD and its restoration contractor for advice and approval. In the end, the Licensee A took another six months to complete such additional works;

- to tie in with the construction progress of the football training centre, EPD had been liaising with HAB, Licensee B and its consultants, and giving advice to resolve design/technical problems. Due to the development constraints of restored landfills, the consultants of the football training centre had to spend more time to obtain approvals from the relevant authorities (such as the Buildings Department and Geotechnical Engineering Office) for the design submissions; and
- EPD would enhance future communication with the relevant organizations and share with them the development experience before drafting or issuing land licences. This would assist the licensees to understand the time required and potential challenges during design and construction of afteruse facilities at restored landfills, and avoid as far as practicable significant difference in the time gap between the actual completion date and target completion date as set out in the land licence.

Director of Environmental Protection subsequently informed the Committee in his letter dated 4 October 2018 (*Appendix 12*) that the football training centre and temporary cricket grounds commenced their operations on 3 August and 1 September 2018 respectively.

119. According to paragraphs 4.8 and 4.9 of the Audit Report, EPD reckoned that it did not possess the relevant expertise to monitor a licensee's compliance with licence conditions. The Committee enquired whether EPD had sought assistance from LCSD or other government departments, whether the long-time closure of some facilities in the BMX park was attributable to EPD's inability to monitor contractor's performance or the licensee's financial difficulties in maintaining the facility; and whether the licensee could apply financial assistance from the Funding Scheme.

120. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that:

- the BMX Park's international racing track at the restored Gin Drinkers Bay Landfill was temporarily closed for maintenance from October 2016 to December 2017. During that period, Licensee D had

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encountered difficulties in tendering and awarding the improvement and maintenance contract (for example, re-tendering was needed as qualified contractor could not be selected during the tendering process), leading to a more than expected time required for the track maintenance. The other facilities at the BMX Park remained open for public use;

- during the maintenance period, EPD sought technical advice from the relevant B/Ds (such as selection of suitable surfacing materials for the track) to assist the licensee. EPD did not find Licensee D incapable of continuing to develop and operate the facilities due to financial problem;
- to tie in with the 2009 East Asian Games, land licence of the BMX Park was awarded to Licensee D in July 2008 to design, construct and operate the BMX Park till 2029. However, the Funding Scheme was only rolled out in November 2015 to include restored landfills not yet developed for suitable facilities (excluding the licensed area of BMX Park); and
- if complying with the eligibility criteria, NGOs could also apply for the Sir David Trench Fund for Recreation or other charitable funds (such as the Hong Kong Jockey Club Charities Trust) to finance their development plans.

121. With reference to paragraphs 4.11 to 4.12 and 4.15 to 4.17 of the Audit Report, the Committee enquired about details regarding EPD's inspections, such as whether there was a checklist to facilitate monitoring by on-site staff, and the reasons of not requiring licensees to submit audited financial statements for ensuring their financial viability to maintain facility operation.

122. **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that:

- the inspection form was designed mainly for the purpose of environmental monitoring and did not cover specifically items related to the land licensees' compliance with land licence conditions. Nevertheless, EPD's site staff would also inspect the overall conditions of the afteruse facilities in general and conduct inspections from time to

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time to monitor the licensees' compliance with licence conditions and to record the results in the inspection form;

- to further enhance the monitoring of the licensees' compliance with the licence conditions, EPD was reviewing and updating the current inspection form as recommended in the Audit Report. It was expected that the review would be completed by end 2018;
- EPD had required Licensee C to submit audited financial statements and EPD was satisfied with Licensee C's financial condition; and
- EPD considered that the other four licensees (i.e. Licensees A, B, D and E) had all been proactively carrying out the construction works or upkeeping their normal operation, demonstrating that they were both operationally and financially capable of running the afteruse facilities. To avoid imposing extra financial burden to the licensees by requesting them to submit audited financial statements (e.g. the licensees have to employ independent auditors to audit the financial statements), EPD did not request them to submit audited financial statements in the past. EPD would consider Audit's recommendations and request licensees to submit audited financial statements annually so as to assess in more details their ability to continually operate the afteruse facilities.

123. In reply to the Committee's enquiry on the actions taken and timeframe to take forward the Audit's recommendation in paragraph 4.19(d) of the Audit Report regarding incorporating quantitative measures in land licences, **Director of Environmental Protection** replied at the public hearings and supplemented in his letter dated 12 July 2018 (*Appendix 16*) that EPD was reviewing the land licences that were soon to be renewed, so as to explore the possibility of introducing quantitative indicators for monitoring the licensees' performance in the future. EPD would seek views from relevant B/Ds on this matter and expected that the work would be completed by the first half of 2019.

E. Conclusions and recommendations

<p>Overall comments</p>

124. The Committee:

- emphasizes that as land resources are scarce and valuable in Hong Kong and there is a pressing need for district recreational amenities facilities, the 13 restored landfills which occupy a total area of 320 hectares ("ha") (except for areas occupied by restoration facilities for aftercare work) should be put into gainful use for public enjoyment as early as practicable;
- notes that restored landfills are no ordinary pieces of land and any development of afteruse facilities in restored landfills should have taken into account the following constraints:
 - (a) landfilled waste is continuously undergoing biodegradation and generating landfill gas and leachate. It is important to stringently supervise and monitor contractors' operation of restoration facilities and their compliance with relevant statutory and contractual requirements to ensure that landfills are safe and also environmentally acceptable for afteruse; and
 - (b) development of afteruse facilities in restored landfills involves technical risk assessment and management to address the development restrictions, such as differential ground settlement. Concerted efforts and coordination from different government departments are essential for the effective implementation of afteruse development projects;
- stresses that early involvement and consultation with local communities and stakeholders, such as District Councils ("DCs") in the development of afteruse facilities in restored landfills with comprehensive and accurate information provided on all viable development options are essential to speed up the development process with a view to addressing local needs in a timely manner;

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Ineffective monitoring of contractor's aftercare work

- expresses astonishment and grave concern and finds it unacceptable about the Environmental Protection Department ("EPD")'s failure in its important role to monitor Contractor A's compliances with statutory and contractual requirements in operating restoration facilities at the Pillar Point Valley Landfill ("PPVL"),¹³ as evidenced by the following:
 - (a) despite the deployment of on-site staff to conduct regular inspections and sampling tests in monitoring contractors' works since 2004, EPD had not detected Contractor A's long period of non-compliances with statutory and contractual requirements until investigations were conducted pursuant to complaints received by EPD from January to April 2016;
 - (b) the extent of Contractor A's non-compliances with statutory and contractual requirements¹⁴ were extensive, spanning over 24 months between December 2015 and November 2017;
 - (c) before June 2016, EPD had only monitored contractors' performance on their aftercare work in restored landfills with slimmer on-site staff, where assessment of contractors' performance was largely based on regular sampling results, daily

¹³ In 2004, EPD entered into a landfill restoration contract with Contractor A for the design and construction of restoration facilities at PPVL and the aftercare of the landfill for 30 years after the completion of the restoration facilities. Contractor A needs to comply with the statutory requirements stipulated under relevant environmental legislation (e.g. Water Pollution Control Ordinance (Cap. 358)) and contractual requirements in various major environmental parameters as stipulated in the landfill restoration contract.

¹⁴ Contractor A's non-compliances with statutory and contractual requirements included:

- (a) 10 offences in May 2016 for exceeding the stipulated maximum daily discharge limit of leachate;
- (b) two offences in May 2016 for failing to notify EPD within 24 hours of incidents depicted in (a) above;
- (c) nine offences from June 2016 to July 2017 for exceeding the stipulated total nitrogen level in treated leachate discharge;
- (d) non-compliances with the contractual requirement on treatment capacity of the leachate treatment plant in 347 days from May 2016 to November 2017;
- (e) non-compliances with the contractual requirement on the total nitrogen level in treated leachate discharge in 20 days from June 2016 to August 2017; and
- (f) non-compliances with the contractual requirement on the operating temperature of landfill gas flaring plant in 28 days from December 2015 to March 2016.

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visual inspections during daytime on weekdays and manual checking of contractors' operating data; and

(d) Contractor A was required to maintain proper site records including daily log sheets for EPD's inspection upon request. However, EPD had never initiated any checking on the daily log sheets against the contractor's aftercare monthly reports submitted to EPD to verify the accuracy of data contained in the reports. It was until mid 2016 when EPD requested Contractor A to provide daily log sheets covering 973 days from January 2013 to August 2015 for checking that EPD discovered that daily log sheets for 299 (31% of 973) days were missing and one daily log sheet was found undated;

- expresses astonishment and grave concern and finds it unacceptable about EPD's rationale for its decision to choose the terminal foul water manhole of PPVL site as the sampling point for collecting leachate discharge for testing, whereby the discharge would have been mixed with sewage from the nearby site office, rendering the sampling test results unreliable or even ineffective in monitoring Contractor A's compliance with statutory and contractual requirements on treated discharge;
- expresses grave concern about the progress in the implementation of measures to strengthen EPD's monitoring of contractors' aftercare work in restored landfills, including the installation of advanced equipment items.¹⁵ As of March 2018, the installation dates of certain advanced equipment items at PPVL and four other restored landfills were later than the target dates as set in the review conducted by EPD in 2016, and the data monitoring systems at two restored landfills (namely the Gin Drinkers Bay Landfill and the Tseung Kwan O Stage II/III Landfill) had not been upgraded;
- urges EPD to expedite the installation of advanced equipment at PPVL and other restored landfills installed with leachate treatment plants

¹⁵ After having received complaints about Contractor A's non-compliances with statutory and contractual requirements, EPD had conducted a review in 2016 on the robustness of environmental monitoring practices at EPD's waste facilities, and implemented a number of measures including installing advanced equipment for automating the monitoring work, conducting daily and weekend surprise checks, adopting irregular inspection patterns and locating new sampling points for leachate discharge.

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("LTP") with a view to automating the monitoring work and detecting cases of non-compliance in a more timely manner;

Lack of effective communication between government departments in developing afteruse facilities in restored landfills

- expresses serious dismay and finds it unacceptable about the delays and lack of effective cross-departmental coordination in the development of afteruse facilities in restored landfills in that no concerted efforts among related government departments had been made to address the technical constraints and obstacles presented in restored landfills,¹⁶ resulting in project delays and cost overrun, as revealed in the cases of development of the Kwai Chung Park, Wan Po Road Pet Garden and Jordan Valley Park;

Kwai Chung Park

- expresses serious dismay and finds it unacceptable about the slow progress of the development of the Kwai Chung Park at the Gin Drinkers Bay Landfill as evidenced by the following:
 - (a) 17 years had elapsed since the completion of restoration facilities by EPD in September 2000, but the development of the Park was still at a preliminary planning stage as at February 2018;
 - (b) although the slow development progress was covered in the Director of Audit's Report No. 60 published in 2013 and the Leisure and Cultural Services Department ("LCSD"), the lead department for the project, agreed to devise an action plan to put the site into gainful use as soon as practicable, only the bicycle motocross ("BMX") park (3.9 ha) and the temporary cricket grounds (4.5 ha)¹⁷ had been opened for public use. The remaining areas (i.e. 17.1 ha or 67% of the total site area of 25.5 ha) had not been opened for public use for over 17 years; and

¹⁶ Technical constraints and obstacles include the presence of underground restoration facilities, potential landfill gas hazards, limitation on loading capacity of the sites and differential ground settlement problem.

¹⁷ Target completion date for the temporary cricket grounds as stipulated in the relevant land licence was 23 September 2016 and it was opened for public use on 1 September 2018, with a delay of nearly two years.

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- (c) according to the present progress, the commissioning target of the Kwai Chung Park in or before 2022 in accordance with the five-year plan as announced in the 2017 Policy Address¹⁸ might not be achievable. Since 2013, considerable time had been spent in the process of confirming the technical feasibility of the proposed project scope of a golf driving range,¹⁹ and the arrangement of funding for conducting the landfill gas hazard assessment²⁰ between LCSD, the Architectural Services Department ("ArchSD") and Home Affairs Bureau ("HAB");
- is unconvinced and finds it unacceptable about LCSD's capability in spearheading the Kwai Chung Park project in that it had underestimated the technical difficulties in developing the site. Despite various site limitations identified²¹ arising from the failure of various development proposals explored between 2001 and 2009,²² LCSD had not learned any lesson when proposing the new development option of the golf driving range by ascertaining with ArchSD and EPD on its feasibility before putting it forward to Kwai Tsing DC for consideration in 2013. In addition, LCSD only sought technical advice from EPD and ArchSD on a case-by-case basis, without considering the need for establishing a standing mechanism or setting up a working group between the three departments to proactively mapping out feasible way forward in developing the site;

¹⁸ The Kwai Chung Park was included in the 2017 Policy Address as one of the projects in the five-year plan for sports and recreation facilities targeted to be launched in or before 2022.

¹⁹ In 2013, LCSD proposed to a committee under the Kwai Tsing DC the project scope of the Park which included a golf driving range with 30 golf-driving bays, and the committee endorsed LCSD's proposed project scope. ArchSD informed HAB and LCSD in July 2014 that the site could not accommodate the proposed golf driving range due to site constraints.

²⁰ In January 2015, LCSD informed HAB that it was unable to arrange funding for the landfill gas hazard assessment to evaluate the potential hazards of landfill gas to the Park due to the very stringent financial position. According to LCSD, it tried to seek the required funding from HAB but in vain.

²¹ The site constraints identified included irregular differential settlement of the site, existence of slopes leaving little usable areas, technical difficulties in slope treatment, and the entire stretch of land being covered in a capping layer and installed with restoration facilities, which posed challenges to the design of the venue and construction of superstructures.

²² Various development options explored between 2001 and 2009 by LCSD included:

- (a) a football training centre;
- (b) opening part of the Park to the public;
- (c) a model car racing track;
- (d) a multi-purpose lawn; and
- (e) developing part of the Park into a leisure ground (including a cycling ground).

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- observes that the site for the temporary cricket grounds was not easily accessible and its condition was unsatisfactory, and the three-year term of the current licence is too short for the licensee to plan and invest on the cricket grounds (the current licence will expire by March 2019);

Wan Po Road Pet Garden

- expresses serious dismay and finds it unacceptable about the decision of the Home Affairs Department ("HAD") to appoint a consultant in January 2008 under a term consultancy to provide consultancy services for feasibility study, design, tendering, site supervision and contract administration for the Wan Po Road Pet Garden project, which involved tackling special technical issues in restored landfills, in particular ground settlement. Significant project delay and cost overrun²³ demonstrated that the consultant might not possess the relevant experience and expertise to supervise the project;
- expresses serious dismay and finds it unacceptable about HAD's ineffective monitoring over the consultant's work and the lack of inter-departmental coordination between HAD, EPD and LCSD in tackling the continuous ground settlement problem of the site, resulting in constant design alterations, cost overrun and delay of project implementation as revealed in the following:
 - (a) despite EPD's reminder in 2007 to conduct an updated topographical survey to ascertain site levels, the consultant only conducted the survey until April 2009 at a cost of \$9,000 and discovered a site level difference of 0.7 metre at one of the surveyed points. Revisions to the design were required which resulted in a delay of seven months in inviting tenders;
 - (b) even knowing the site level difference in (a) above and that the site would continue undergoing ground settlement problem, HAD took the problem lightly and had not instructed the consultant to continue monitoring site levels. The second topographical survey was conducted two years later by the contractor of the project from January to March 2011 and discovered a site level difference of up to 1.59 metres. Further revisions to the design was needed resulting in an additional cost of \$4.4 million in

²³ There was a delay of 29 months and a cost overrun of \$12.8 million, which was 100% higher than the original approved project estimate.

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adjusting works design. The extent of design revisions during the construction stage could have been reduced if the consultant had conducted another topographical survey to ascertain the site levels before tendering the works to the contractor;

- (c) HAD had neither informed EPD of the unusual ground settlement problem discovered at the site nor sought advice from EPD on the matter;
- (d) LCSD, as the lead department of the project, conducted an internal review and found that both the consultant and contractor had difficulties in handling the project and although HAD's Works Section was expected to provide expert advice on the project, limited resources had hindered it from providing timely assistance and proper technical advice. Yet Director of Home Affairs replied in her letter to the Committee that she only came to know about LCSD's above comments from the Director of Audit's Report ("Audit Report") after project completion; and
- (e) after award of the contract for the construction of the Pet Garden, additional works items were carried out by the contractor to suit the revised works design and according to comments offered by the relevant government departments. As a result, the contractor was granted an extension of time for 4.5 months and the total cost of additional works items was \$7.6 million (accounted for over 50% of the original contract sum of \$15.1 million);

Jordan Valley Park

- expresses serious dismay and finds it unacceptable that ArchSD had not followed the best practices in the design and construction of the Park to include all requirements in the tender documents, leading to variation works of \$9.4 million after awarding the contract. Even though the design change was known before the award of contract, ArchSD had not informed the Central Tender Board ("CTB") of such change. Details of the deficiencies are as follows:
 - (a) EPD had requested ArchSD to provide detailed design and layout plan for its comments when the plans were available, but ArchSD only consulted EPD after inviting tenders. EPD later advised that many aspects of the design deviated from the design requirements, in particular that 4 of the 13 blocks of buildings

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were located above the landfill restoration facilities ("building location issue");

- (b) ArchSD awarded the contract and decided to resolve the building location issue at post-contract stage instead of revising tender requirements and re-tendering, and it had not informed CTB of such a decision; and
- (c) variation works arising from building location issue amounted to \$9.4 million, the cost of which might be reduced if they could be included in the original contract after EPD's comments were sought;

Ineffective liaison with DCs and relevant stakeholders on the development of afteruse facilities in restored landfills

- is unconvinced and finds it unacceptable that LCSD, who assumed the liaison role with DCs and other relevant stakeholders on the development of the Kwai Chung Park, Wan Po Road Pet Garden and Jordan Valley Park, failed to effectively communicate with DCs and relevant stakeholders on the development constraints of the restored landfills and propose viable options for their consideration in accordance with the Administration's laid down procedures, resulting in wastage of time or imposition of additional costs in project implementation, as evidenced by the following:
 - (a) for the development of the Kwai Chung Park, LCSD adopted a piecemeal approach in that it proposed the project scope including a golf driving range in response to Kwai Tsing DC members' concerns about the development of the Park in 2013, yet without prior assessment on whether the option was feasible. After knowing ArchSD's comments that the site could not accommodate a golf driving range in July 2014, LCSD had not informed Kwai Tsing DC of the site constraints and explored other viable options to address the problem. It was until November 2016, in response to Kwai Tsing DC members' concerns regarding the Park that LCSD informed them of ArchSD's views; and
 - (b) in accordance with the Development Bureau's directive in 2008, all works requirements should be incorporated into the tender documents and changes to works requirements should be avoided

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after contract award.²⁴ For the development of the Wan Po Road Pet Garden and Jordan Valley Park, additional works items were initiated from the relevant DCs and stakeholders during the construction stage, resulting in additional contract cost of \$3.2 million and \$4.8 million respectively.²⁵ LCSD should have consulted the relevant DCs and stakeholders thoroughly on their requirements during the design stage and incorporate them into the tender documents, and communicated clearly with DC and relevant stakeholders of the Administration's intent on budgetary control; and

- recommends that:
 - (a) for developing afteruse facilities in restored landfills in future, LCSD should explore the feasibility of setting up a working group between the client departments and the works agents to strengthen inter-departmental coordination in addressing the site constraints and speeding up the development process;
 - (b) LCSD should consider hiring an external consultant to assist in identifying all viable development options for the restored landfills having regard to each landfill's characteristics and limitations, so as to facilitate consultation with DCs and relevant stakeholders to avoid unnecessary delays;
 - (c) HAD should ascertain the suitability of using a term consultant in supervising the development of afteruse facilities in restored landfills having regard to the extent of technical difficulties involved. In addition, it should review the manpower and competence of its Works Section in undertaking development projects in restored landfills; and

²⁴ In July 2008, the Development Bureau informed the Finance Committee of the Legislative Council that, for strengthening the financial management and enhancing budgetary control of capital works projects, the Government's objective was to contain the need for changes to user and programme requirements to those that were absolutely essential and necessary to prevent cost overrun due to client-initiated changes.

²⁵ For the Wan Po Road Pet Garden project, additional works items of \$3.2 million were originated from discussions with Sai Kung DC during the construction stage, or for meeting operational needs or improving the works design. For the Jordan Valley Park, additional works items of \$4.8 million were required to improve facilities of the radio-controlled model car racing circuit based on the advice of related local professional groups collected on their on-site visits during construction stage.

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- (d) the Financial Services and the Treasury Bureau should consider conducting a review on its existing mechanism of reporting changes in contract requirements to CTB, setting out clearly circumstances under which government bureaux/departments should, as the situation warrants, report changes in tender requirements at the tender stage, or changes at the post-tender stage through contract variation(s) with explanation, so as to adhere to the principle of maintaining open and fair competition for all tenderers.

<p>Specific comments</p>

125. The Committee:

Aftercare of restored landfills

- expresses astonishment and grave concern and finds it unacceptable that:
 - (a) from May 2016 to January 2017, owing to LTP overhaul works at PPVL and the forecast increase of leachate inflow in the wet season, Contractor A had to suspend LTP operation and arrange direct transfer of leachate by vehicles to the Government's other facilities for off-site treatment. Moreover, from July to November 2017, mainly due to heavy rainfall, the leachate inflow at PPVL far exceeded LTP treatment capacity and reached the alert level of leachate storage tanks. As a result, Contractor A had to directly transfer leachate by vehicles from PPVL to the Government's other facility for off-site treatment. While the transfer arrangement ceased in November 2017, mitigation measures to address the leachate inflow/overflow problem at PPVL have yet to be implemented;
 - (b) while EPD's five landfill restoration contracts require contractors to comply with the requirements of any licences issued under Water Pollution Control Ordinance (Cap. 358) ("WPCO"), apart from total nitrogen limit, the demerit point system does not cover contractors' non-compliances with the other statutory

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requirements under WPCO, e.g. maximum discharge limit of leachate; and

- (c) there were inadequate security measures in place to ensure that all facilities at restored landfills were maintained in good conditions. For example, frequent trespassing and damaged fencing were observed at some of the restored landfills;
- notes that Director of Environmental Protection has agreed with the Audit Commission ("Audit")'s recommendations in paragraph 2.42 of the Audit Report;

Development of government recreational facilities at restored landfills

- expresses serious dismay and finds it unacceptable that:
 - (a) since the early 2000s, the Government has planned/implemented projects for developing recreational facilities at seven restored landfills. The implementation of five government recreational projects at restored landfills was that one project's development progress was slow (still at preliminary planning stage) and there were cost overrun and delay for the remaining four projects;
 - (b) there was under-estimation of the tender price for the works contract of the Wan Po Road Pet Garden project as the prices of the returned tenders ranged from \$15.1 million to \$23.5 million, exceeding the pre-tender estimate of \$11.7 million by 29% to 101%; and
 - (c) the feasibility study by HAD's consultant had only allowed three months for the tender stage of the Wan Po Road Pet Garden project which would normally take six months to complete, leading to under-estimation of three months for the tender stage;
- notes that:
 - (a) LCSD had been revising the project scope of the Kwai Chung Park in collaboration with ArchSD and EPD having regard to the site constraints and views of Kwai Tsing DC, and adopted a phased approach to develop the Park with a view to speeding up the process. LCSD targeted to seek funding approval from the

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Finance Committee of the Legislative Council in the 2020-2021 legislative year for commencement of works by end 2021;

- (b) since April 2008, all consultancies executed by HAD under District Minor Works Programme have included separate quantity surveying consultants to provide comprehensive advice on project cost;
- (c) Director of Leisure and Cultural Services has agreed with the Audit's recommendations in paragraphs 3.18(a) and 3.40 of the Audit Report;
- (d) Secretary for Home Affairs has agreed with the Audit's recommendation in paragraph 3.18(b) of the Audit Report;
- (e) Director of Architectural Services has agreed with the Audit's recommendations in paragraphs 3.18(c) and 3.58 of the Audit Report;
- (f) Director of Home Affairs has agreed with the Audit's recommendations in paragraphs 3.38(a) and (b), 3.39 and 3.40 of the Audit Report; and
- (g) Director of Environmental Protection has agreed with the Audit's recommendation in paragraph 3.39 of the Audit Report;

Monitoring of non-governmental bodies' afteruse facilities at restored landfills

- is surprised and regrets to note that:
 - (a) as of December 2017, the afteruse facilities at two restored landfills (namely, football training centre at the Tseung Kwan O Stage I Landfill and temporary cricket grounds at the Gin Drinkers Bay Landfill) had not been completed, with delays of 6 and 15 months respectively;
 - (b) while the land licence for the BMX park at the Gin Drinkers Bay Landfill had required the licensee to operate a high-quality facility and maximize the facility utilization, there were complaints on the poor quality and lack of maintenance of the BMX park, and the

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main track of the park was closed for maintenance for over one year from October 2016 to December 2017;

- (c) given the diversified nature of afteruse facilities, it was beyond EPD's expertise to maintain the standards and quality of sports facilities or to monitor a licensee to do so. In addition, while EPD could check a licensee's compliance with the licence conditions, it did not have the expertise and capacity to ensure that a licensee would operate a high-quality facility and maximize the facility utilization;
- (d) while some land licences contained conditions that were qualitative in nature (e.g. the need to maximize the facility utilization), quantitative/objective measures were not specified in these conditions, rendering it difficult for EPD to assess whether the licensees met such conditions;
- (e) under the land licences, for two licensees who had opened their afteruse facilities for use, upon EPD's written request, they should submit to EPD the audited financial statements on their operation and maintenance of the facilities. However, EPD had not requested the two licensees to submit audited financial statements;
- (f) as of December 2017, there were delays in implementing five of ten key actions under Batch 1 (covering three restored landfills) of the Restored Landfill Revitalization Funding Scheme ("Funding Scheme"), ranging from 1 to 28 months. In particular, no in-principle approval had been granted as of December 2017, giving rise to the longest delay of 28 months;
- (g) while EPD originally planned to invite applications under Batch 2 (covering another four restored landfills) and Batch 3 (covering any landfills unallocated from Batches 1 and 2) of the Funding Scheme in the second quarter of 2016 and the first quarter of 2017 respectively, as of December 2017, EPD was still processing the applications under Batch 1 of the Funding Scheme, and applications under Batches 2 and 3 had not been invited;
- (h) as of December 2017, EPD had not commenced a review on the technical constraints of the PPVL site and considered how best to address the issues concerned (i.e. lack of direct access, utilities and infrastructure) for afteruse of the site; and

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- (i) EPD has not formulated any guidelines for its officers to assess the reasonableness and appropriateness of related party transactions as disclosed in a licensee's audited accounts; and
- notes that:
 - (a) the football training centre commenced its operation on 3 August 2018 while the temporary cricket grounds commenced its operation on 1 September 2018;
 - (b) the Environment Bureau and EPD will seek additional resources in order to launch other batches of the Funding Scheme as soon as possible;
 - (c) Director of Environmental Protection has agreed with Audit's recommendations in paragraphs 4.19, 4.36 and 4.37 of the Audit Report; and
 - (d) Secretary for the Environment has agreed with the Audit's recommendation in paragraph 4.36 of the Audit Report.

Follow-up action

126. The Committee wishes to be kept informed of the progress made in implementing the various recommendations made by the Committee and Audit.