

**For discussion on
22 February 2021**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**Improvement and Extension Works of
Waste Management Facilities**

PURPOSE

To dovetail with waste management strategies and provide adequate facilities for waste reception and disposal, we propose to upgrade three projects on waste management facilities to Category A. This paper seeks Members' views on our proposals as follows:

Part of **5165DR** – West New Territories (WENT) landfill extension;

5184DR – Refurbishment and upgrading of West Kowloon transfer station; and

5185DR – Refurbishment and upgrading of Island West and Island East transfer stations.

BACKGROUND

2. On 8 February 2021, the Environment Bureau (ENB) unveiled the *Waste Blueprint for Hong Kong 2035* (the Blueprint) to take forward further multi-pronged initiatives to achieve our vision of “Waste Reduction • Resources Circulation • Zero Landfill”. The Blueprint sets out a series of measures encouraging waste reduction, promoting resources circulation, as well as developing a number of waste management facilities, with a view to

achieving our long-term goal to move away from the reliance on landfills for disposal of municipal solid waste (MSW).

3. Although a number of large-scale waste management facilities have already been put into operation or are under planning, we still need to have adequate landfill capacities to meet the waste disposal need in the short to medium term before sufficient waste-to-energy/resources facilities are made available. Currently, the three strategic landfills (namely the WENT Landfill, the South East New Territories (SENT) Landfill and the North East New Territories (NENT) Landfill) together with the seven refuse transfer stations (RTS) located in Hong Kong Island, Kowloon, the New Territories and outlying islands are the backbone facilities for handling about 15 000 tonnes of solid waste per day (about 11 000 tonnes of MSW, 3 500 tonnes of construction waste and 500 tonnes of special waste) in Hong Kong. Amongst these facilities, the SENT Landfill receives only construction waste¹ and the inland NENT Landfill (located in Ta Kwu Ling) can receive waste via land transportation only. The WENT Landfill is the largest landfill in Hong Kong and the only one that can receive waste transported by sea.

4. Since the existing capacities of the three strategic landfills would be exhausted progressively, the Finance Committee (FC) of the Legislative Council approved in December 2014 the funding for the extension works of the SENT Landfill and the NENT Landfill², as well as a design and related consultancy study for preparation of the WENT Landfill Extension project. A consultancy study was commissioned in September 2015 to proceed with various work including preliminary design, ground investigation and related preparatory work for the WENT Landfill Extension project. The related design and investigation work have been substantially completed.

5. Most of our existing RTS in Hong Kong were completed in the 1990s and have been in operation for over two decades, hence most of the facilities and equipment in each transfer station are aging or even beyond their designed

¹ Since 6 January 2016, the SENT Landfill can only receive and dispose of construction waste, which mainly includes inert materials (e.g. rock, debris, silt and concrete, etc.) and some nearly non-degradable materials (e.g. wood, bamboo, metals and packaging of construction materials, etc.). Similarly, the extension of the SENT Landfill to be commissioned will receive and dispose of construction waste only.

² The SENT landfill extension project commenced in 2018 and the basic extension works is expected to be completed by the end of 2021 for reception of construction waste. The NENT landfill extension contract was tendered in late 2020 and is expected to be awarded by the end of 2021.

service life. Increasingly frequent breakdowns and repairs have directly affected the overall operational efficiency of these RTS. As the current operation contracts for the West Kowloon, Island West and Island East transfer stations with sea transportation of wastes will expire in December 2022, we have commenced consultancy studies to examine the refurbishment, upgrading and operation of these three RTS, and to formulate the arrangement for the new Design-Build-Operate (DBO) contracts as well. We also plan to take the opportunity to implement the refurbishment and upgrading works to enhance the operational efficiency and environmental performance of the three RTS.

Part of 5165DR – West New Territories (WENT) landfill extension

PROPOSAL AND JUSTIFICATIONS

6. At present, the WENT Landfill is the largest landfill in Hong Kong and the only one that can receive waste transported by sea, handling over half of the MSW in Hong Kong (i.e. about 6 000 tonnes per day). It plays an indispensable role in the waste management strategies for Hong Kong. Given that the WENT Landfill is expected to be exhausted in 2026³ and it normally takes three to four years to complete the basic extension works for commissioning a landfill, timely commencement of the WENT landfill extension works is of utmost importance.

7. Since the funding approval given to the “West New Territories landfill extension – consultants’ fees and investigations” in December 2014, a consultancy study was commissioned in September 2015 to proceed with various preparatory work. The design and ground investigation work have been substantially completed, including the detailed examination of different

³ As of the end of 2020, the remaining capacity of the WENT Landfill was about 13.5 million cubic metres. Assuming that the operation of the WENT Landfill remains unchanged in the coming few years, we estimate that about 7 000 tonnes of solid waste per day will be received and disposed of at the landfill (owing to the pandemic and slow down of economic activities, only about 6 400 tonnes of solid waste per day were received and disposed of at the WENT Landfill in 2020). Calculated with the assumption that 1.1 tonnes of waste will occupy 1 cubic metre of landfill capacity, we estimate that the remaining serviceable life of WENT Landfill is about 5.8 years (=13 500 000 cubic metres x 1.1 weight conversion factor / 7 000 tonnes / 365 days). We thus estimate that the WENT Landfill would become exhausted in 2026. The serviceable life of landfills depends on a number of variable factors, including external factors of population growth, district development, economic activities, effectiveness of waste reduction and recycling initiatives, provision of waste treatment and waste-to-energy facilities, and internal ones such as landfill design, operation mode, rate of settlement, etc. As most of these factors are variable and dynamic in nature, the serviceable landfill life estimation is only for reference, which needs to be reviewed and updated from time to time according to the latest available information.

landfill extension options and land requirements. Having regard to the views of local communities and taking into account that the Government is proactively planning to develop more waste-to-energy/resources facilities to handle MSW, we plan to reduce the landfill extension area from the original design of about 200 hectares (ha) to about 100 ha. The landfilling area is also halved, from the original design of about 180 ha to about 94 ha. In addition, the whole project does not require resumption of any private land or removal of existing graves and temples. We can speed up the project progress and reduce its impacts on the relevant parties. According to the preliminary design, the landfill extension can provide a landfilling capacity of about 76 million cubic metres to meet waste disposal need in Hong Kong in the short to medium term.

8. The part of **5165DR** which we propose to upgrade to Category A comprises –

- (a) detailed design of the landfill and ancillary works/facilities;
- (b) site formation;
- (c) construction of basic and supporting facilities;
- (d) installation of impermeable landfill liner system;
- (e) installation of leachate collection and treatment system;
- (f) installation of landfill gas collection and management system;
- (g) implementation of measures to mitigate environmental impacts;
- (h) conduction of environmental monitoring and auditing;
- (i) enhancement to the environment and facilities of the local community; and
- (j) construction of restoration and aftercare facilities.

9. The location plan of the proposed WENT landfill extension is at **Annex 1**. Subject to funding approval from the FC, we shall proceed with the subsequent work as soon as possible and commence the proposed works project in end 2022, with a view to commencing waste intake in 2026. We plan to implement the proposed project under a DBO contract arrangement, as in the case of other existing landfill projects.

10. We shall retain the remainder of **5165DR**, i.e. the proposed road works for Nim Wan Road (South), in Category B. We have already commenced the associated planning and design work. Funding application will be made in due course upon completion of the relevant preparatory work.

PUBLIC CONSULTATION

11. Since the funding approval given by the Legislative Council for the “West New Territories landfill extension – consultants’ fees and investigations” in 2014, the ENB and the Environmental Protection Department (EPD) have been in close dialogue with various stakeholders. They include village representatives of Lung Kwu Tan Village and Ha Pak Nai Village, the Tuen Mun and Ha Tsuen Rural Committee, the Tuen Mun District Council, the Yuen Long District Council, and various liaison groups. Communication has been maintained to collect their views on the planning and development of the WENT landfill extension as well as road improvement works in the vicinity, and to facilitate their understanding of the operation of the major waste treatment facilities in the district as well as the related environmental monitoring work, thereby relieving their concerns and proactively addressing their demands.

12. In order to address the comments raised by the local stakeholders on mitigation measures and enhancement to the environment near the landfill, we have proactively responded and undertaken / planned various initiatives including the following:

- **Enhancing the design of the extension** – We have substantially reduced the extension area and proposed to adopt a “deep bowl” design. The excavation and landfilling will be carried out at the back of the landscaped earth bund so as to effectively control and contain the potential nuisance of odour, dust, wastewater and noise from the landfill. The whole project will not involve resumption of any private land or removal of existing graves and temples, minimising the impact to the relevant parties;
- **Reducing waste collection vehicles** – We have arranged livestock waste collection vehicles and large-scale government waste

collection trucks not to use the Lung Kwu Tan Road. The number of waste vehicles passing through Lung Kwu Tan was reduced by 100 vehicles per day to an average of about 180 vehicles per day. These vehicles mainly collect odourless construction waste, wooden waste, waste tyres and others in the vicinity of Butterfly Beach and Tuen Mun. We have also increased the proportion of waste transported by sea to the WENT Landfill to about 90%, which is much higher than our previous pledge of no less than 80%;

- **Enhancing road safety** – Since August 2013, the EPD, Hong Kong Police Force and Food and Environmental Hygiene Department have jointly conducted over 130 ambush operations at Lung Kwu Tan Road and Nim Wan Road to combat safety and hygiene issues including overloaded vehicles, insecure load, wastewater dripping, etc. We have also installed a speed enforcement camera at Lung Kwu Tan Road to combat speeding;
- **Improving environmental hygiene** – In order to enhance the local environment, we have stepped up the cleansing of the road section between Lung Kwu Tan Village and the landfill, including three road sweeps and one road wash a day. In addition, we conduct deep cleansing at the road sides of Lung Kwu Tan Road from time to time, including washing and dust removal of pedestrian pavements, road-crossing islands, roadside railings and traffic signs. EPD has also installed two sets of closed circuit televisions at Lung Mun Road and Siu Lang Shui Road for surveillance and combating illegal dumping. EPD has successfully made 40 prosecutions since the launch of the system in March 2013, which is effective in deterring flytipping activities;
- **Enhancing water supply** – In order to enable more effective share-utilisation of the water resources of Tai Shui Hang by the landfill and nearby Ha Pak Nai Village, we have repaired the water pumping system and connecting pipes to provide free water supply to villagers regularly. In addition, we are installing a

large water tank in the landfill so as to ensure sufficient water supply for daily use by both Ha Pak Nai Village and landfill operation during dry seasons;

- **Stepping up landscaping efforts** – We have committed to promoting the greening of the landfill. The restoration works have been advanced and a large amount of tree seedlings have been planted at the slope facing Ha Pai Nai Village. We will soon conduct a planting trial in the landfill with various plant species to provide a reference for large scale planting in future. We also plan to provide green belts of 10 to 30 meters wide and an earth bund at the peripheral area of the extension site. The greening works will be initiated at the early stage of the extension works so as to minimise the nuisance to nearby environment;
- **Improving local transport infrastructure** – We have completed the feasibility study for the upgrading of Deep Bay Road, Nim Wan Road (North) and Nim Wan Road (South) to a standard single two-lane carriageway. The Nim Wan Road (South) and Deep Bay Road sections will be gazetted later this year, to be followed by detailed design and related land resumption arrangements. Regarding the proposal of constructing a tunnel to connect the WENT Landfill and Tuen Mun/Yuen Long raised by local stakeholders, we have conducted a preliminary study for different route options, the outcome of which reveals different levels of difficulties and challenges. The cost-effectiveness of the proposal can hardly be established with consideration of the existing population and traffic demand in the district. On the other hand, the Civil Engineering and Development Department (CEDD) is planning to commission the proposed “Planning and Engineering Study for Lung Kwu Tan Reclamation and the Re-planning of Tuen Mun West Area (the P&E Study)”, which would include a review of the strategic as well as local transport network. The Government would take this opportunity to re-examine the feasibility of the above-mentioned tunnel proposal, with regard to the proposed Lung Kwu Tan Reclamation and the re-planning strategy. We also note that the CEDD would explore the construction of new roads within the reclaimed area under the P&E Study, serving as an alternative to Lung Kwu Tan Road. This would help address the residents’ concerns on the

environmental nuisance arising from heavy vehicles passing by Lung Kwu Tan Village; and

- **Reinforcing communication efforts** – We have set up a liaison group and invited relevant local stakeholders to join. We have held regular meetings and arranged site visits to the WENT Landfill, T · PARK, EcoPark, WEEE · PARK, etc. to facilitate the group members to better understand the operation of the waste treatment facilities as well as the related environmental monitoring work.

13. In January and February 2021, the ENB and EPD have briefed the Tuen Mun and Ha Tsuen Rural Committees, the Lung Kwu Tan and Ha Pak Nai Villages, and the Area Committees of Tuen Mun on the future waste management strategies for Hong Kong and the latest proposal on the WENT landfill extension. Some village representatives opposed the extension plan, raising specific concerns on local traffic conditions and transport planning in the area, in addition to their concerns relating to landfill operation and environmental hygiene matters. The Rural Committees noted the Government's proposal and requested the Government to improve the transport planning of the district, particularly with the commissioning of the Tsang Tsui Columbarium as well as the Northern Connection of the Tuen Mun-Chek Lap Kok Link. EPD will follow up on their suggestions and concerns relating to landfill operation and related environmental impacts, and maintain close contact with the stakeholders, striving to improve the surrounding environment of the landfill and implement the road improvement works. Their views on the transport planning of the district will be conveyed to relevant departments for consideration and follow up.

ENVIRONMENTAL IMPLICATIONS

14. The proposed WENT landfill extension project is a designated project under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). The EIA report was approved in November 2009 after consultation with the general public and the Advisory Council on the Environment. An Environmental Permit (EP) was issued in June 2010, stipulating that the project would need to comply with the requirements in accordance with the EP conditions.

15. In order to minimise the impact of the project on the neighbourhood, we have enhanced the design of the extension works and substantially reduced the landfill extension area by half from the original design of about 200 ha to about 100 ha. The extension part will also adopt a “deep bowl” design with a 30-metre-high landscaped earth bund to be built along Nim Wan Road in advance and the excavation and landfilling works will be carried out behind the earth bund. This can control and handle the potential nuisances such as odour, dust, wastewater and noise generated from the landfill more effectively. The surrounding green belt of 10 to 30 metres wide also provides visual and environmental enhancement.

16. During the construction, a variety of mitigation measures will be implemented to control noise, dust and site run-off to levels within established standards and guidelines. The measures include control of working hours, sea transportation of materials wherever possible, use of quiet construction plant to reduce noise generation, water-spraying to reduce dust emission as well as proper containment and treatment of site’s run-off.

17. During the operation, we will control the size of active tipping areas, apply daily cover on waste and cover up inactive tipping areas with plastic liners to minimise odour nuisance. Besides, a condition will be included in the contract requiring the landfill contractor to cover up all (both temporary and permanent) leachate storage tanks to further control the potential odour sources.

18. The landfill design is a containment design and its impermeable bottom liner separates the waste from the nearby environment. Leachate and landfill gas (LFG) generated during biodegradation process will be contained, collected and properly treated in a controlled environment. LFG will be used to generate electricity for site operation and the leachate treatment process. Any surplus LFG will be utilised for other beneficial uses. The contained leachate will be collected by pipe networks and treated at the leachate treatment plant within the landfill. We will ensure that both LFG and leachate will have no adverse impact on the surrounding environment.

19. At the planning and schematic design stages, we will require the landfill contractor to reduce the generation of construction waste wherever

possible. At the construction stage, the contractor will be required to submit for approval a waste management plan setting out appropriate mitigation measures to avoid and reduce the generation of inert construction waste, and to reuse and recycle such waste in the landfill or other suitable construction sites. We will ensure the day-to-day operations on site comply with the approved waste management plan and require the contractor to handle the inert and non-inert construction waste separately on site. We will monitor the disposal of inert and non-inert construction waste through a trip-ticket system.

20. Compensatory tree planting and greening work will be carried out in accordance with the contract to compensate for the loss of existing wood land and shrub land within the site boundary. When the landfill is fully filled and restored, the site will be planted with vegetation to match with its surrounding landform and patterns.

21. The approved EIA report has provided a comprehensive assessment on the potential environmental impacts associated with the construction, operation, restoration and aftercare phases of the project. The assessment has concluded that, with the implementation of the proposed mitigation measures, the environmental impacts of the WENT landfill extension project will be controlled to levels within established standards and guidelines. We will also conduct environmental monitoring and audit to ensure the effectiveness of the proposed mitigation measures.

HERITAGE IMPLICATIONS

22. The proposed project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological research value and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

23. The proposed project will only involve government land and no resumption of private land is required. No structures will be affected or have to be cleared within the site boundary. All graves near the site will not be

affected by the proposed works and thus no resumption of burial ground or removal of human remains in graves, vaults or urns is required.

5184DR – Refurbishment and upgrading of West Kowloon transfer station; and

5185DR – Refurbishment and upgrading of Island West and Island East transfer stations

PROPOSAL AND JUSTIFICATIONS

24. The West Kowloon transfer station (WKTS) is located on the Stonecutters Island (see **Figure 1** in **Annex 2**) and has been in operation since 1997. Every day, the waste delivered to the WKTS is immediately compacted and containerised in purpose-built sealed containers for onward sea transportation by purpose-built container vessels to the WENT Landfill for disposal. Currently, the WKTS receives from Kowloon, Kwai Tsing, Tsuen Wan and their neighbouring areas with a daily average of about 2 600 tonnes of MSW (equivalent to about 680 refuse collection vehicle (RCV) trips per day). Another 500 tonnes per day of grease trap waste from restaurants and food processing establishments are also delivered to the WKTS where they are processed by a grease trap waste collection and treatment facility, which extracts highly concentrated grease for delivery to suitable recyclers for biodiesel production.

25. The Island West transfer station (IWTS) and the Island East transfer station (IETS) are located at the waterfront of Kennedy Town and Sun Yip Street in Chai Wan respectively (see **Figures 2 and 3** in **Annex 2**), the former has been in operation since 1997 and the latter since 1992. Their operation is similar to that of the WKTS. Currently, the IWTS receives from the Central and Western District and its neighbouring areas a daily average of about 1 000 tonnes of MSW, equivalent to about 260 RCV trips per day. The IETS receives from the Eastern District and its neighbouring areas a daily average of about 1 100 tonnes of MSW, equivalent to about 300 RCV trips per day.

26. Currently, the three RTS mentioned above have been operating for over 20 years. Given that most of the facilities therein are either aging or in severe wear and tear, repairs have become more frequent with long recovery time,

and procurement of parts for repairs has become increasingly difficult. The operational reliability and safety as well as environmental performance of the three RTS will be directly affected if their aged mechanical equipment remains in use without timely replacement.

27. The existing operation contract for the WKTS will expire on 18 December 2022, while the existing combined operation contract for the IWTS and IETS will expire on 31 December 2022. The EPD thus commissioned a consultancy study in September 2019 on service enhancement and environmental improvement works for these RTS, with a view to formulating the contractual arrangements for their next operation contracts. Findings of the consultancy study have revealed that the aging of facilities in the three RTS is serious. The consultant has suggested that large-scale replacement and upgrading of facilities in the three RTS be carried out, including replacement of all aging sealed containers to avoid seepage of odour and wastewater, improvement of the odour control systems, enhancement to the wastewater treatment plant, and upgrading of the sealed container transfer system to minimise the time needed for waste handling, etc., so as to enhance the overall waste transfer service quality and improve the surrounding environment.

28. The scope of **5184DR** and **5185DR** comprises design and construction of the following works –

- (a) replacement and enhancement of waste handling mechanical systems;
- (b) replacement and upgrading of odour control systems (including ventilation and air-scrubbing units);
- (c) replacement and upgrading of existing aged waste container vessels with new energy-saving and low-emission models;
- (d) replacement of aged containers and associated transport vehicles;
- (e) upgrading of RCV washing facilities;
- (f) upgrading of wastewater treatment plant;
- (g) provision of covers over suitable areas for improving visual quality; and

(h) carrying out renewable energy projects, etc.

29. The works related to the WKTS under **5184DR** will also include provision of onshore power supply (OPS) facilities for waste container vessels, replacement of aged lifting facilities, as well as reprovision and enhancement of the grease trap waste treatment facility.

30. Subject to funding approval from the FC, we will proceed with the subsequent work as soon as possible and commence the proposed works from the end of 2022 to the first quarter of 2023. The proposed works are expected to be completed in 2026. During the construction works, the daily waste transfer services at the three RTS will be maintained. We will follow the established DBO contractual arrangements adopted for the existing RTS contracts in taking forward the proposed projects and continuing with the operation of the three RTS.

PUBLIC CONSULTATION

31. We consulted the Building Management, Environmental Hygiene & Works Committee of the Central and Western District Council and the Food, Environment and Hygiene Committee of the Eastern District Council on the proposed project **5185DR** on 12 and 24 November 2020 respectively. Both District Councils expressed support for the proposed project. We submitted a discussion paper on the proposed project **5184DR** to the Environment and Hygiene Committee of the Sham Shui Po District Council on 9 November 2020. No comment was received on the proposed project.

32. In order to address the comments raised by the District Councils at the abovementioned meetings on mitigation measures and improvement to the operation of the RTS, we will proactively respond and undertake / plan various initiatives including the following:

- **Odour control and monitoring** – The ventilation systems and the odour removal units of the RTS will be enhanced to ensure that odourous air is properly treated prior to emission. In addition, regular odour patrol will be conducted by site staff and

independent consultants, with an aim to prevent odour nuisance being caused by operation of the RTS;

- **Prevention of pollution by RCV** – The Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap. 354 sub. leg. L) will be strictly enforced to ensure that all compaction type refuse collection vehicles entering the RTS are equipped with metal tailgate covers and wastewater sump tanks, with a view to abating the environmental hygiene problems that may be caused by the RCV;
- **Pollution control during construction** – We will request the contractor to implement mitigation measures, including implementation of dust suppression measures, use of quiet construction plant and temporary noise barrier, installation of screen and sand trap for wastewater treatment, and proper handling of waste generated from construction works as well as implementation of environmental monitoring on air, noise and water quality;
- **Waste reduction at source** – EPD has been promoting waste reduction at source. Apart from the proposed MSW charging scheme, we have also implemented various community recycling measures to encourage the public to practice waste reduction at source and recycling; and
- **Enhancement of RTS operation and environmental performance** – We will replace the machineries and mobile plant (including waste container handling trucks and vessels) and the waste containers etc. so as to improve the operational efficiency and environmental performance of the RTS. In addition, we also plan to provide covers with greening and landscaping at appropriate locations of the stations.

ENVIRONMENTAL IMPLICATIONS

33. The existing WKTS, which commenced operation before April 1998, is an exempted designated project under the EIA Ordinance, while the grease trap waste treatment facility added inside the WKTS in 2005 is a designated project controlled by the EIA Ordinance. An EP was issued for the construction and operation of the grease trap waste treatment facility. We are conducting an environmental review (ER) to assess the environmental impact of the proposed refurbishment and upgrading works, with a view to ensuring that its construction and operation will comply with the requirements under the EIA Ordinance and the related environmental legislation.

34. The existing IWTS and IETS, which commenced operation before April 1998, are both exempted designated projects under the EIA Ordinance. The ER for the proposed refurbishment and upgrading works has been largely completed. According to all the ER findings, the proposed works will not result in adverse environmental impacts with implementation of appropriate design and mitigation measures.

35. Under the proposed projects, the major facilities of the three RTS will be completely replaced and upgraded to enhance their operational efficiency and environmental performance. The works include installation of rapid-closing plastic gates at appropriate locations to prevent spreading of odour, upgrading of air-scrubbing units, upgrading of RCV washing facilities to ensure the cleanliness of RCV leaving the three RTS, replacement of waste container vessels with new energy-saving and low-emission models, enhancement to the efficiency of wastewater treatment facilities, and conduct of landscaping works within the three RTS to improve their aesthetic appearance. In addition, we will also relocate and optimise the grease trap waste treatment facility at the WKTS and provide on-shore power facilities for waste container vessels.

36. During the construction, a variety of mitigation measures will be implemented to control noise, dust and site run-off to levels within established standards and guidelines. The measures include control of working hours, sea transportation of materials wherever possible, use of quiet construction plant to

reduce noise generation, water-spraying to reduce dust emission as well as proper containment and treatment of site run-off.

37. At the planning and design stages, the contractor is required to implement measures to minimise the generation of construction and demolition materials. In addition, we will require the contractor to reuse inert construction waste (e.g. demolished concrete) on site or in other suitable construction sites as far as possible. The contractor is encouraged to maximise the use of recycled or recyclable inert construction waste and the use of non-timber formwork to further reduce the generation of construction waste.

38. At the construction stage, the contractor is required to submit for approval a waste management plan setting out appropriate mitigation measures to avoid and reduce the generation of inert construction waste, and to reuse and recycle the waste. We will ensure the day-to-day operations on site comply with the approved waste management plan and require the contractor to handle the inert and non-inert construction waste separately on site to facilitate the delivery to appropriate facilities for disposal. We will monitor the disposal of construction waste through a trip-ticket system.

HERITAGE IMPLICATIONS

39. The proposed projects will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological research value and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

40. The proposed projects will only involve government land and no land resumption is required.

WAY FORWARD

41. Members are invited to consider and comment on the proposed projects of part of **5165DR**, **5184DR** and **5185DR**. We plan to submit the three proposals for consideration by the Public Works Subcommittee in due course before seeking funding approval from the FC.

Environment Bureau
Environmental Protection Department
February 2021



Figure 1 West Kowloon Transfer Station



Figure 2 Island West Transfer Station



Figure 3 Island East Transfer Station