

**For discussion
on 24 October 2016**

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

**Implementation of Measures to Reduce and Recycle Food Waste -
Progress and Manpower Arrangements**

PURPOSE

This paper seeks Members' views on a staffing proposal to create a supernumerary directorate post at the rank of Principal Environmental Protection Officer (PEPO) (D1) in the Environmental Protection Department (EPD) with immediate effect upon approval by the Finance Committee up to 31 March 2019, to strengthen the leadership and manpower support for implementing the "A Food Waste and Yard Waste Plan for Hong Kong: 2014-2022" (Food Waste Plan) and to sustain the initial achievements we have made in reducing food waste disposal at landfills.

BACKGROUND AND JUSTIFICATIONS

2. Food waste is a major constituent of the municipal solid waste (MSW) disposed of at landfills. In 2015, of the 10 159 tonnes of MSW landfilled each day, some 3 382 tonnes were food waste (i.e. about 33% of the MSW). This translates to a disposal rate of 0.46 kg/person/day. To address the food waste problem in Hong Kong, the Government promulgated the Food Waste Plan in February 2014 articulating the overall strategy and a plan of actions to meet the target of reducing the amount of food waste disposed of at landfills by 40% by 2022. The plan comprises four strategies to tackle the food waste challenge, namely reduction at source, reuse and donation, recyclable collection and turning food waste to energy.

3. The Government has been implementing various initiatives, programmes and projects in accordance with the above strategies, including the launch of a Food Wise Hong Kong Campaign (FWHKC) to raise the public awareness of food waste reduction, planning and development of a network of Organic Waste Treatment Facilities (OWTFs), as well as various initiatives to promote food waste reduction and recycling, including funding support for non-government organizations (NGOs) to collect surplus food for distribution to the needy.

4. The various initiatives taken, in particular on nurturing a culture to reduce food waste at source and to donate surplus food to the needy, coupled with the efforts made by various sectors of the community, have collectively made some initial achievements in reducing food waste disposal at landfills. According to the latest statistics, food waste disposal at landfills had dropped by 7.1% in 2015 as compared to 2014. In particular, the drop in domestic food waste disposal was more notable (-8.1%) than that in the commercial and industrial (C&I) sectors (-4.6%). The per capita disposal rate of municipal food waste has also dropped by 7.9%, from 0.50 kg/person/day in 2014 to 0.46 kg/person/day in 2015¹. While food waste generation correlates generally to the level of vibrancy of the food and beverage, catering and hotel sectors, etc, such a discrepancy suggests that there should still be room for even harder efforts to be paid to reduce the food waste generation and disposal, particularly in C&I sectors. Graphs showing the overall and per capita municipal food waste disposal including breakdown by domestic and C&I sectors are at Annex A.

LATEST PROGRESS OF THE FOOD WASTE PLAN

5. The latest progress of major initiatives and programmes listed in the Food Waste Plan are summarized below.

Food Wise Hong Kong Campaign (FWHKC)

6. The FWHKC, launched in May 2013, is a territory-wide food waste reduction campaign which aims to promote public awareness of the food waste problem and instill behavioural changes in various sectors of the community, including C&I sectors as well as domestic households.

7. As at August 2016, about 610 organizations/companies have signed the Food Wise (FW) Charter to show their commitment to food waste reduction. The Government will continue to encourage more local businesses and organizations to sign the FW Charter. To further reduce food waste generation and disposal, a “Food Wise Eateries” scheme promoting food waste avoidance and reduction has been launched since November 2015 to encourage the food and beverage (F&B) sector to offer portioned meals so that customers may order the right amount of food according to their appetite. As at August 2016, about 640 eatery outlets have enrolled in the scheme.

¹ The final report “Monitoring Solid Waste in Hong Kong – Waste Statistics for 2015” is still being compiled and will be released by end of 2016. To enable Members to discuss this paper in perspective and on a well-informed basis, we have compiled the statistics in relation to food waste first among the various waste types.

8. In raising awareness of and promoting good practices on food waste reduction in the F&B sectors, some 50 training workshops have been provided for about 3 800 attendants. In addition, we have developed six good practice guides to provide practical tips on food waste avoidance and reduction for the F&B, hotel, retail (including shops and markets), residential and educational sectors. We have developed another set of guidelines to facilitate FW Charter signees to submit proper returns on their achievements on food waste reduction, and organized seminars for them on the methodologies to compile relevant data. We will continue to encourage all stakeholders to follow these guidelines and share their practical experience in food waste avoidance and reduction. Besides, 15 roving exhibitions have been held so far in various districts to convey food wise messages to the general public.

9. The FWHKC has also made some intangible achievements. It was awarded an Excellence Award at the HKMA/TVB Awards for Marketing Excellence 2014 in recognition of its success in promoting a "food wise" culture in Hong Kong. The FWHKC is the first Government promotional campaign ever to receive the award. The "Big Waster" image and associated messages have also firmly taken root in the community and become a widely accepted icon of waste reduction and energy saving/efficiency.

OWTFs

10. Another important backbone strategy under the Food Waste Plan is the development of sufficient food waste recycling facilities for the recovery of energy and nutrients from food waste that cannot be avoided. In light of the fact that Hong Kong generates a very large amount of food waste each day, and that food waste in general decomposes quickly and is not suitable for compaction at refuse transfer stations for long-haul transport, the most efficient and environmentally sound method to recycle food waste is to build a network of dedicated recycling plants. This approach enables food waste to be transported quickly from its source to the facilities that are not too far away thereby reducing potential nuisance and minimizing the carbon footprint so incurred. We have estimated in the Food Waste Plan that Hong Kong needs to build a network of around five to six OWTFs across the territory in the long term, with a total recycling capacity of about 1 300 - 1 500 tonnes per day (tpd), thereby prolonging the life span of the operating landfills.

OWTF Phase 1

11. With funding approval from the Finance Committee (FC) of the Legislative Council (LegCo) in October 2014, the first phase of OWTF (OWTF1) situated at Siu Ho Wan of North Lantau (site plan at [Annex B](#)) is currently under construction, and is scheduled for testing and commissioning in the second quarter of 2017, and full commissioning by end 2017. OWTF1 will primarily treat source-separated

food waste from the commercial and industrial sectors in Lantau Island, Kwai Tsing, Tsuen Wan, Sham Shui Po, West Kowloon, Wong Tai Sin and Hong Kong Island and will adopt a technological process of anaerobic digestion and composting. With a designed capacity of 200 tpd, it is expected to be able to divert about 70 000 tonnes of food waste from landfills each year. To ensure the effective operation of OWTF1, we will amend the Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap. 354L) to specify OWTF1 as a designated waste disposal facility in Schedule 1 to Cap. 354L.

12. We have been liaising proactively with the major C&I stakeholders and potential food waste collectors to work out a viable protocol of rules and practices on separating, collecting and transporting food waste to OWTFs for onward recycling. We have received positive feedback from some major developers. Arrangements are being made to deliver source-separated food waste from about 100 C&I food waste generating establishments, including shopping malls, hotels and wet markets, to OWTF1 upon its commissioning. We will continue to work with more C&I stakeholders on the collection and delivery of their source-separated food waste with a view to gradually achieving the maximum design capacity of OWTF1.

13. In parallel, an inter-departmental working group led by EPD has been set up to explore suitable arrangements to, whenever possible and practically feasible, source separate, collect and deliver for off-site recycling, the food waste generated from the C&I food waste generating establishments under the management of the Food and Environmental Hygiene Department and the Housing Authority /Housing Department including markets, cooked food venues and shopping malls.

14. In the longer run, according to the experience in other cities, there may be a need for introducing mandatory source separation for food waste so as to ensure diversion of food waste from landfills and to maximize the recycling potential of food waste. We will also kick start the preparatory work to study the feasibility, options and legislative proposals for implementing a mandatory food waste source separation scheme in Hong Kong.

OWTF Phase 2

15. A site at Sha Ling of the North District has been earmarked for the development of OWTF Phase 2 (OWTF2) for treating source-separated food waste primarily from the commercial and industrial sectors in Kowloon and the New Territories. The Sha Ling Livestock Waste Composting Plant, which used to occupy the site, has stopped operation since 2010. A plan showing the location of the proposed OWTF2 is at [Annex C](#).

16. An essential environmental infrastructure underpinning the Food Waste Plan, the OWTF2 has a proposed capacity of some 300 tonnes of food waste each day, and is expected to divert some 110 000 tonnes of food waste from landfills each year.

17. Similar to OWTF1, anaerobic digestion and composting will be adopted by OWTF2 to convert food waste into renewable energy (such as electricity or fuel gas) and compost.

18. The Environmental Impact Assessment (EIA) report for the OWTF2 project was approved under the EIA Ordinance and the Environmental Permit was issued in December 2013. The established standards stipulated under the EIA Ordinance will be complied with.

19. To expedite project delivery and to provide more accurate project estimates for seeking funding approval in due course, EPD plans to kick start parallel tendering process for the design-build-operate contract for OWTF2 in line with established procedures. Based on the latest programme, it is estimated that the tendering process would commence by end 2016. After completion of the tender assessment with more detailed information on the actual tender prices, we will seek support from this Panel in 2018 before submission to the LegCo's FC for funding approval with a view to commissioning OWTF2 in 2021.

Further OWTFs

20. Apart from two OWTFs mentioned above, a site in Shek Kong has been earmarked for the development of OWTF Phase 3 (OWTF3). We will take forward the EIA and Engineering Feasibility Study in 2017. We will continue to work with relevant departments on the search for suitable sites for the remaining OWTFs, and will keep an open mind on site selection and development/operational modes.

Other Food Waste Reduction/Recycling Initiatives

21. To better prepare the community for large scale food waste recycling in future, we have implemented a number of schemes to raise public awareness of food waste reduction, and to promote the practice of food waste source separation to facilitate onward collection and recycling -

- (a) Food Donation: Up to September 2016, the Environment and Conservation Fund (ECF) has approved about \$32 million for 20 projects involving recovery of about 2 300 tonnes of surplus food for distribution to some 1.9 million headcounts.

- (b) Food Waste Recycling in Private Housing Estates: Up to September 2016, 36 funding applications, amounting to about \$31 million, have been approved by the ECF to support food waste reduction and on-site recycling projects in private housing estates.
- (c) Food Waste Recycling Partnership Scheme: Since commencement of the programme in June 2010, over 190 C&I establishments and their front-line staff have received training on food waste source-separation and collection, and over 2 000 tonnes of food waste have been collected.

MANPOWER ARRANGEMENTS FOR SUSTAINING THE IMPLEMENTATION OF FOOD WASTE MANAGEMENT STRATEGIES

22. To take forward the Food Waste Plan issued in 2014 and to cope with the huge workload involved in this new initiative, the EPD has set up a Food Waste Management Group (FWMG) in 2014 through temporary redeployment of existing manpower and creation of eight non-directorate posts (five permanent posts and three time-limited posts for three years) between 2014 and 2016 to plan, manage and implement various food waste reduction initiatives and recycling projects as promulgated in the Food Waste Plan. In view of the urgent operational needs, and despite all the competing priorities within the department, we have created a supernumerary PEPO post to head FWMG by internal re-deployment of a PEPO post from the Cross Boundary and International Division (CBD) since September 2015 as a stop-gap measure.

23. While the above temporary arrangement has been made to meet EPD's imminent leadership and manpower need in tackling the food waste problem, this is not a sustainable solution as the PEPO post in CBD is originally designated for supporting the various cross-boundary and international cooperation duties of CBD. The other PEPO posts in EPD are also fully engaged and have no spare capacity to take up additional leadership duties in relation to food waste management. In view of the persistently huge workload and the continued need to closely monitor the complex issues involved as a result of the implementation of the Food Waste Plan, there is an urgent need for creating a new supernumerary PEPO post, to be designated as PEPO (Food Waste Management), up to 31 March 2019, to provide professional input and leadership to FWMG. Such professional input and leadership is crucial to the sustained implementation of various food waste reduction initiatives under the Food Waste Plan including the FWHKC and the development and operation of the network of OWTFs. Without such professional support, it would be very difficult to sustain the progress and initial achievements we have made as reported above towards meeting the target of reducing food waste disposal at landfills by 40% by 2022. The duties for the

proposed supernumerary PEPO post are shown at Annex D. The organisation chart of EPD after the proposed creation of post is at Annex E.

FINANCIAL IMPLICATIONS

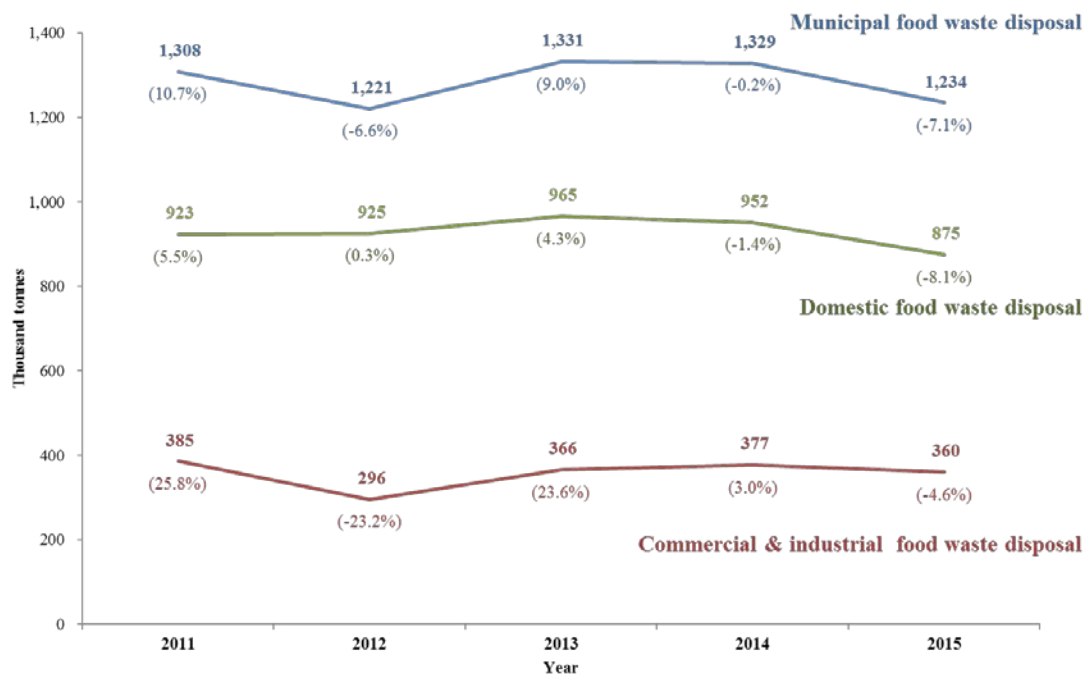
24. The proposed creation of the supernumerary PEPO post will bring about an additional notional annual salary cost at mid-point of \$1,732,800. The additional full annual average staff cost, including salaries and staff on-cost, is \$2,582,000. In addition, the notional annual salary cost at mid-point and the full annual average staff cost, including salaries and staff on-cost, of a total of eight new non-directorate posts are \$5,195,910 and \$7,141,000 respectively. Subject to FC's approval for the above directorate post, we will include sufficient provision in the draft Estimates of the relevant financial years to meet the cost of the proposal.

ADVICE SOUGHT

25. Members are invited to give their views on the proposal to create a new supernumerary PEPO post up to 31 March 2019 to lead the FWMG in EPD. Subject to Members' views, we plan to seek the recommendation of the Establishment Subcommittee in November 2016 and funding approval from the FC in December 2016 for the creation of the post.

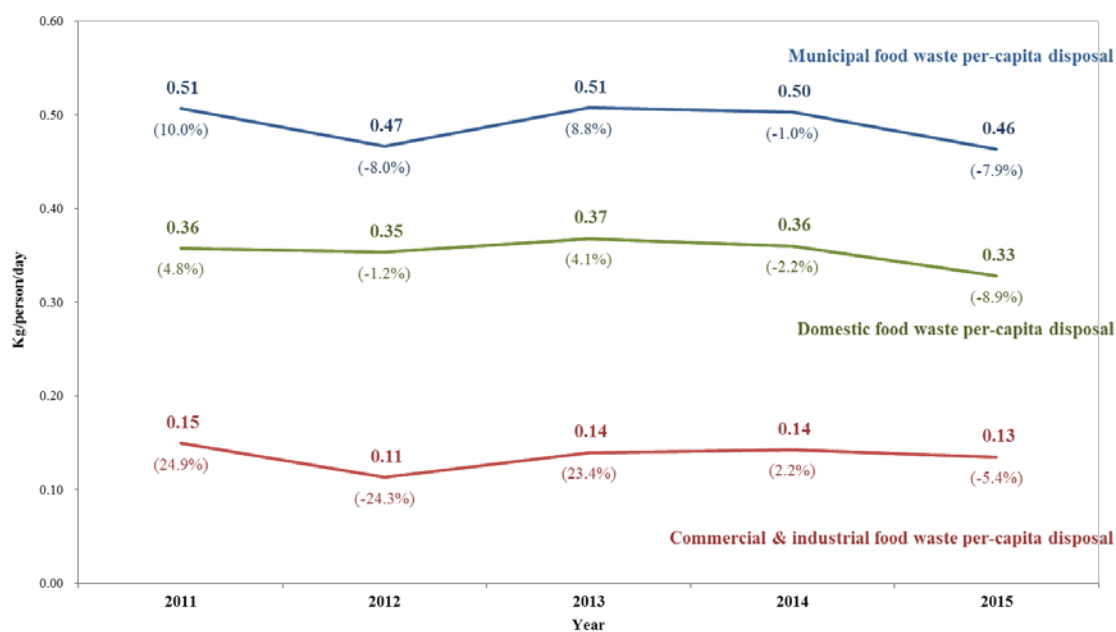
**Environment Bureau/Environmental Protection Department
October 2016**

Disposal of Municipal Food Waste, Domestic Food Waste, and Commercial and Industrial Food Waste: 2011-2015

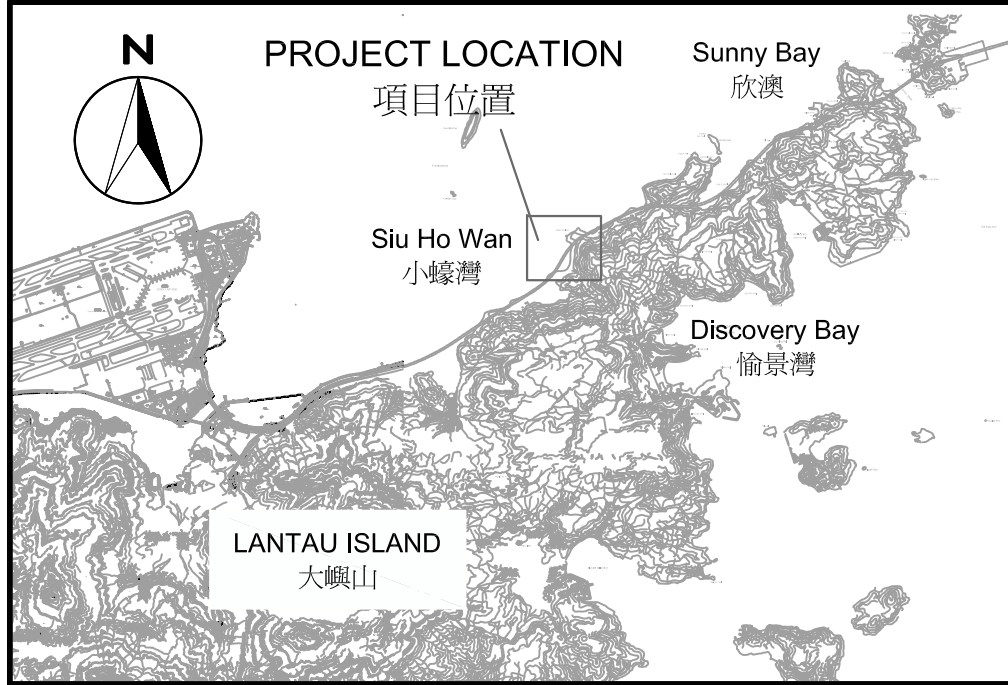


Note: Figures in brackets refer to year-on-year (y-o-y) growth rates.

Per Capita Disposal Rate of Municipal Food Waste, Domestic Food Waste, and Commercial and Industrial Food Waste: 2011-2015



Note: Figures in brackets refer to year-on-year (y-o-y) growth rates.



KEY PLAN
1:1000000

北大嶼山廢物轉運站
NORTH LANTAU
REFUSE TRANSFER
STATION

巴士車廠
BUS DEPOTS

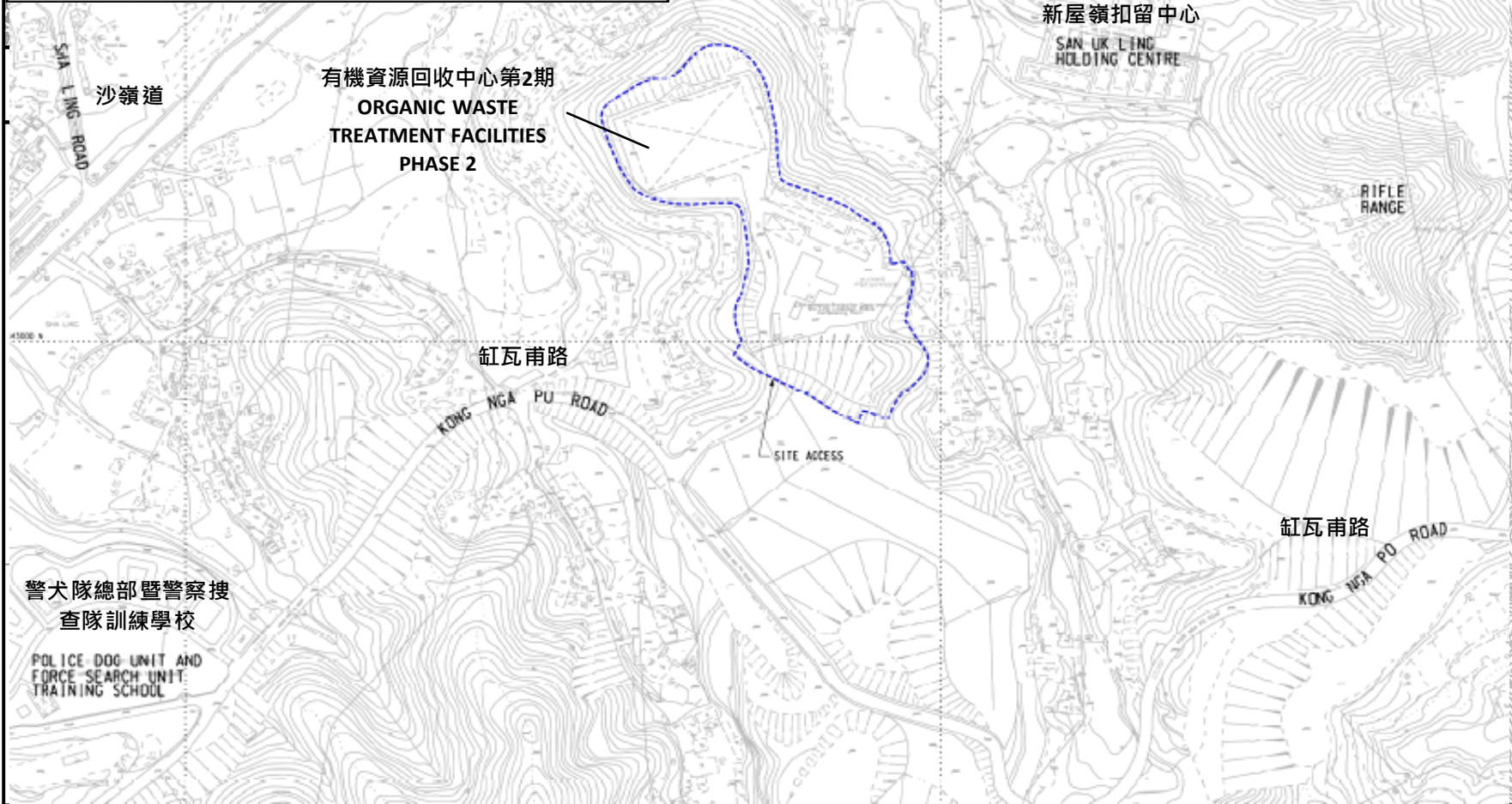
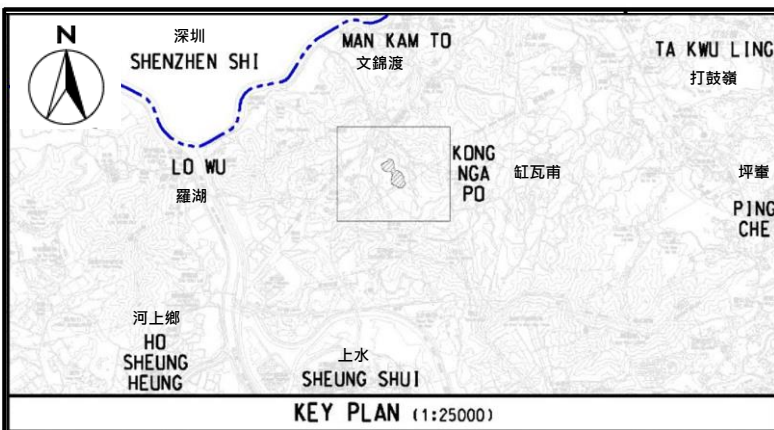
有機資源回收中心第1期
ORGANIC WASTE
TREATMENT FACILITIES
PHASE 1

小蠔灣濾水廠
SIU HO WAN WATER
TREATMENT WORKS

小蠔灣污水處理廠
SIU HO WAN SEWAGE
TREATMENT WORKS

北大嶼山公路
NORTH LANTAU HIGHWAY

819400 N



**Job Description of
Principal Environmental Protection Officer (Food Waste Management)**

Rank : Principal Environmental Protection Officer (D1)

Responsible to : Assistant Director of Environmental Protection (Nature Conservation and Infrastructure Planning)

Main Duties and Responsibilities:

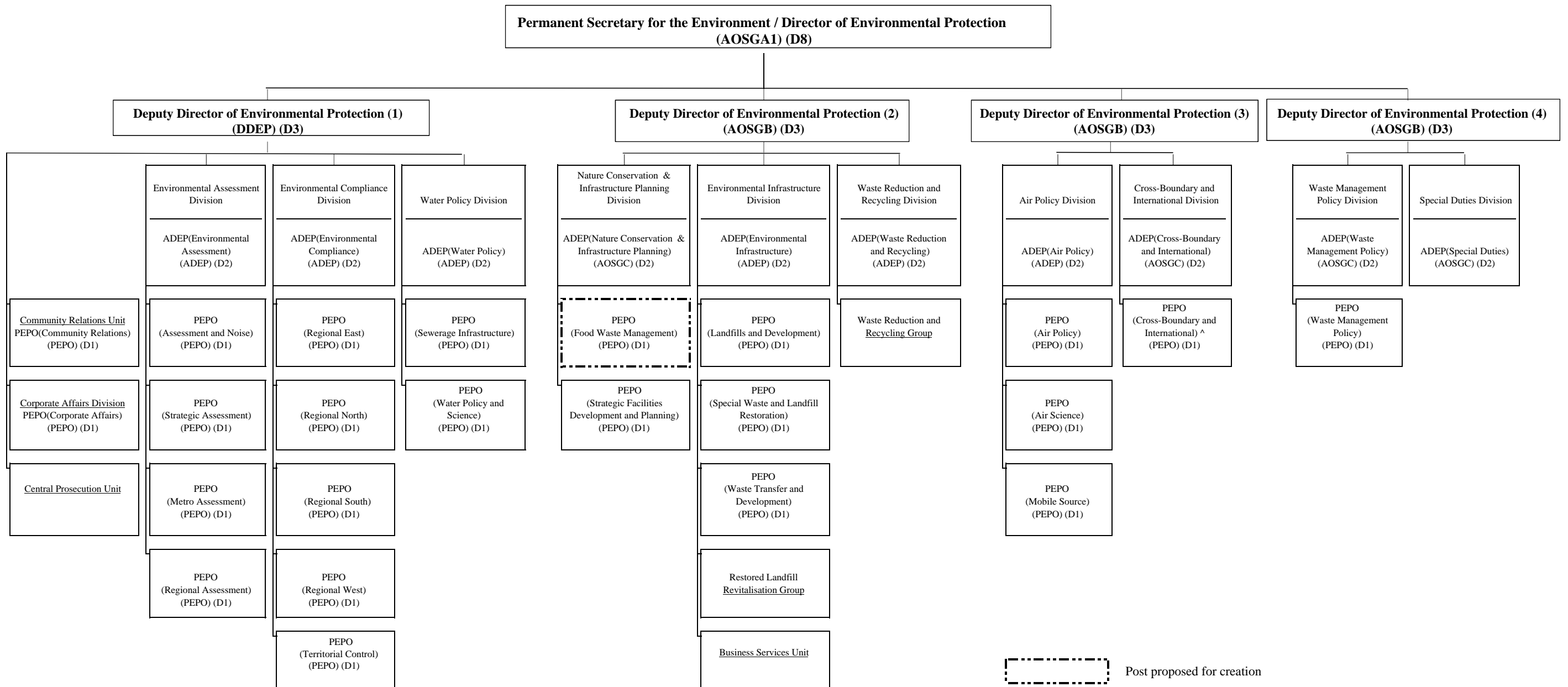
1. To supervise and direct the work of Food Waste Management Group during the interim period.
2. To manage the implementation of the on-going Organic Waste Treatment Facilities (OWTFs) Phase 1 Design Build and Operate Contract; and make preparation including the necessary administrative and logistical arrangement to receive food waste to be delivered from the commercial and industrial sectors.
3. To manage the implementation of OWTF Phase 2 and prepare for the tendering of OWTF Phase 2.
4. To prepare for the initiation of the feasibility study and Environmental Impact Assessment for OWTF Phase 3, including the necessary consultant selection process and to pave the way for the development of the OWTF Phase 3.
5. To provide inputs on future food waste management aspects to on-going long-term, strategic and regional studies and to search for suitable sites for future OWTFs to pave the way for future development of more OWTFs to meet the territorial needs.
6. To kick-start and manage a consultancy study committed in “A Food Waste & Yard Waste Plan for Hong Kong 2014-2022” on the food waste collection and delivery in territorial and regional levels to meet the handling and treatment requirements.
7. To oversee and facilitate various on-going food waste reduction and recycling initiatives and measures in both public and private sectors, in

particular those under the Food Wise Hong Kong Campaign and the launching of “Food Wise Eateries” campaign, food waste survey, etc.

8. To manage and monitor the on-going pilot project and partnership schemes with both public and private sectors to pave the way for longer term initiatives on food waste management for driving behavioral change of the community and preparing the diversion of source separated food waste away from landfill disposal to other food waste recycling and waste-to-energy facilities.

9. To respond to any proposals that may come from the private sector during the interim period on the development of food waste recycling and treatment facilities.

Existing and Proposed Organisation Chart of Environmental Protection Department



Post proposed for creation

^

- AOSGA1: Administrative Officer Staff Grade A1
- AOSGB: Administrative Officer Staff Grade B
- AOSGC: Administrative Officer Staff Grade C
- DDEP: Deputy Director of Environmental Protection
- ADEP: Assistant Director of Environmental Protection
- PEPO: Principal Environmental Protection Officer