

## **Drainage Services Department's works in Islands District**

### **Purpose**

Director of Drainage Services will attend the Islands District Council meeting on 19 October 2020 to brief the Council the functions of the Drainage Services Department (DSD) and the drainage issues relating to Islands District, and to listen to Members' views.

### **Organisation and Agendas**

2. Established on 1 September 1989, the DSD is one of the nine departments under the Development Bureau. To date, DSD has an establishment of about 2 000.

3. The DSD serves to protect the public against flooding and provide effective public sewage treatment services through planning, construction and operation of the stormwater drainage system as well as the sewage collection, treatment and disposal facilities. Organisationally, the DSD consists of the Headquarters and four branches, namely the Sewage Services Branch, Operation and Maintenance Branch, Projects and Development Branch and Electrical and Mechanical Branch. At present, drainage works in Islands District are mainly undertaken by the Projects and Development Branch and the Sewage Services Branch. The daily operation and maintenance of drainage facilities (including 19 sewage treatment works, 31 sewage pumping stations and three stormwater pumping stations) in the District are under the purview of Sewage Treatment Division 2 of the Electrical and Mechanical Branch. Hong Kong and Islands Division of Operation and Maintenance Branch is responsible for the daily operation and maintenance of the remaining drains in the District.

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#### ***Flood Prevention***

4. To meet Hong Kong's future development and rise to the challenges of climate change, the DSD has conducted territory-wide Drainage Master Plan Review

studies and drainage studies in phases. The Review of Drainage Master Plan in Lantau and Outlying Islands commenced in 2016 and is scheduled for completion in 2021.

5. Several recommendations have been made in the abovementioned review, including construction of flood walls, stormwater drains and stormwater pumping stations, installing non-return flap valves, etc., covering places like Mui Wo, Tung Chung, Cheung Chau, Peng Chau, Lamma Island and southern part of Lantau Island. We consulted the Tourism, Agriculture, Fisheries and Environmental Hygiene Committee under the District Council in July 2019 with supports from Members. Some of the minor works, like enhancement projects in Lamma Island, Peng Chau and Cheung Chau are scheduled to commence successively in the end of 2020.

6. To improve the flood prevention capacity of Ngong Ping drainage system to lower flood risks, the DSD has been constructing stormwater drains and box culverts in Ngong Ping in the areas around Po Lin Monastery, Ngong Ping Public Transport Interchange, Ngong Ping Village and Ngong Ping Cable Car Terminal. The works commenced in August 2020 for completion in the end of 2022.

7. Besides the aforementioned projects, we regularly conduct inspections and drain clearance in the District. In 2019-2020, 136km of drains have been inspected and 27km of drains have been cleared.

### ***Sewage Treatment***

8. The DSD completed the enhancement works to Mui Wo Sewage Treatment Works (STW) in 2018, expanding the treatment capacity of the plant to 3 700 cubic metres per day while maintaining its sewage treatment level as secondary, and incorporating associated odour removal devices as well as greening features to beautify the STW's environment.

9. Tendering exercise for Upgrading of Cheung Chau STW has been conducted. The project is expected to commence in the fourth quarter of 2020 for completion in 2026. Its sewage treatment capacity will be increased to 9 800 cubic metres per day, with its sewage treatment level upgraded from primary to secondary. The DSD is also conducting a tendering exercise for the construction of San Shek Wan STW. The project is expected to commence in the first quarter of 2021 for completion in

2026. Its sewage treatment capacity will be 5 800 cubic metres per day and its sewage treatment level will reach secondary level.

10. The existing sewage rising main between Tung Chung and Siu Ho Wan is the only pipe in the area for conveying sewage collected to Siu Ho Wan STW for treatment. It is approaching the end of its design life. To meet the additional demand from the development of Hong Kong International Airport and Tung Chung New Town Extension and to enhance the reliability of the sewerage system, the DSD regularly inspects and rehabilitates the existing sewage rising main, while constructing another sewage rising main in stages. The works commenced in August 2016 by phases and are scheduled for completed in 2025.

11. The DSD has been striving to expand the public sewerage systems to village areas over the years to collect their sewage for proper treatment to improve the sanitary conditions and the water quality of the concerned areas. Between 2017 and 2020, we have laid public sewerage for 14 village areas in Lamma Island and Mui Wo. At present, the DSD is laying sewerage system in Peng Chau and Mui Wo, covering eight village areas. The works are expected to complete in the fourth quarter of 2022 by phases.

12. The next round of sewage treatment and discharge works in the District's village areas has been planned, aiming to extend the sewerage system to about 50 village areas. The works include laying sewers, constructing new sewage treatment facilities and enhancing existing STWs.

13. In 2019-2020, we have inspected 60km of sewers and cleared 38km of sewers respectively.

### ***Pipes Rehabilitation***

14. Apart from regularly conducting inspections to stormwater drains and sewers, the DSD has been implementing a territory-wide rehabilitation programme for the aged pipes under risk-based approach. It is planned to conduct condition survey to about 1.5km of sewers and drains in the District and to rehabilitate approximately 0.5km of sewers and drains. Phase 1 works commenced in January 2019 for completion in 2022. Tourism, Agriculture, Fisheries, Environmental Hygiene and Climate Change Committee had been consulted in August 2020 on the

remaining works and the project is planned to be submitted to Public Works Subcommittee and Finance Committee for approval in the 2020-2021 session of the Legislative Council.

15. In case the pipes are found deteriorated during regular inspections, rehabilitation works will be arranged immediately. In the past three years, approximately 5km of sewers and drains had been rehabilitated in the District to ensure the proper operation of sewerage and drainage networks.

### ***Environmental enhancement***

16. The DSD is dedicated to promote sustainable development. While sewage treatment facilities are being upgraded, environmentally-friendly technologies and green management measures are adopted. The Solar Farm at Siu Ho Wan STW, currently the largest of its kind among all government facilities, can generate up to 1.1 million kilowatt-hours of electricity annually.

17. The DSD attaches great importance to integrate facilities into the community, and thus greening works are carried out where feasible to enhance its appearance and beautify the environment. Both commissioned in 2018, Hong Kong-Zhuhai-Macao Bridge Hong Kong Port STW and Mui Wo STW provide a total of about 3 000 square metres of greening space.

### **Conclusion**

18. The DSD appreciates the Members' valuable opinions on drainage works, and will continue to maintain close liaison and communication with the District Council, listen to views of the public to continuously improve the drainage systems in the District to bring a better living environment for the residents.

**Drainage Services Department**

October 2020