2021-2022
Drainage Services Department in brief

渠務署
Drainage Services Department

CONTENTS

VISION

To provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong

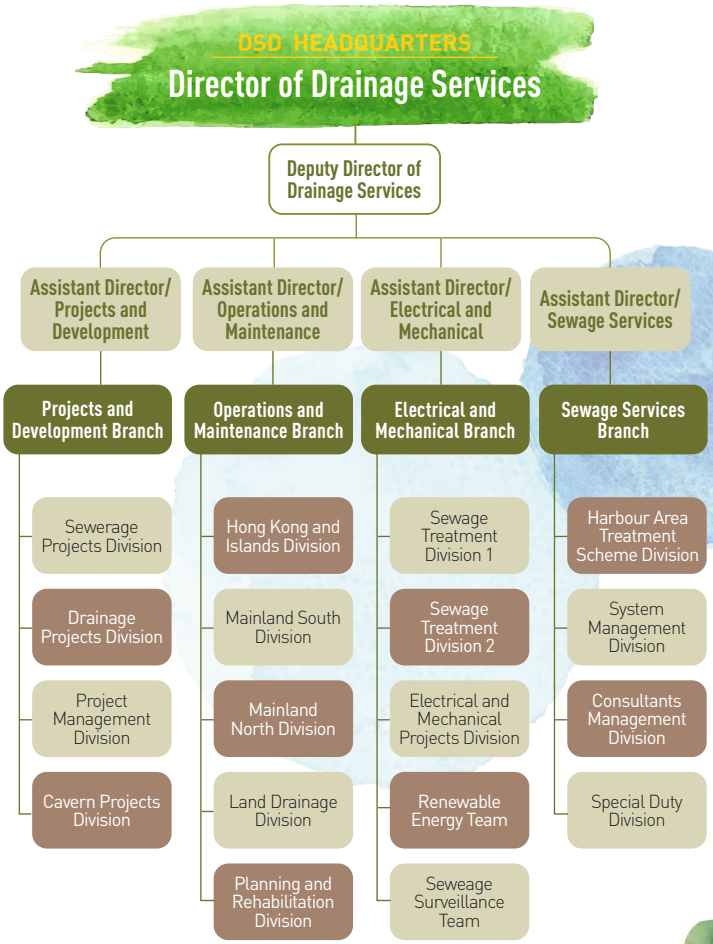
MISSION

- Improving drainage services in a cost-effective and environmentally responsible manner
- Enhancing a caring, harmonious, safe and healthy work environment that fosters staff development and a mindset for change
- Strengthening relationships with community, industry and worldwide counterparts

VALUES

- Customer Satisfaction
- Quality
- Commitment
- Teamwork

2.1 Organisation Chart

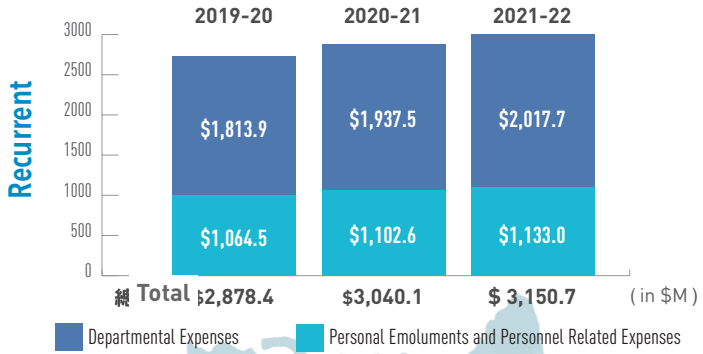


2.2 Staff Establishment (A&E)

Directorate		**19**
Professional		**372**
Engineer	285	
Geotechnical Engineer	2	
Electrical & Mechanical Engineer	56	
Electronics Engineer	3	
Building Services Engineer	1	
Archietect	1	
Shift Charge Engineer	2	
Quantity Surveyor	1	
Land Surveyor	2	
Landscape Architect	3	
Environmental Protection Officer	3	
Forestry Officer	1	
Chemist	12	
Technical & Site Supervisory		**968**
General & Common Grades		**544**
Model Scale I		**153**

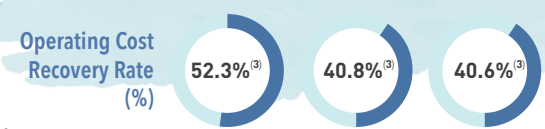
Total 2,056

3.1 Operating Expenditure (STA)



3.2 Sewage Services Operating Cost Recovery Rate

	2019-20	2020-21	2021-22[1]
Revenue of Sewage Charge and Trade Effluent Surcharge ($M)	1,349.9[2]	1,082.8[2]	1,101.9[2]
Expenditure (excluding depreciation) of Sewage Charge and Trade Effluent Surcharge ($M)	2,580.4	2,652.0	2,711.8



Note:

1. The figures for 2021-22 are estimated figures and the actual figures will be finalised by Q4 2022
2. The figures represent the net amounts of revenue after deduction of concessions on the Sewage Charge and the Trade Effluent Surcharge
3. The figures have reflected concessions on the Sewage Charge and Trade Effluent Surcharge in 2019-20, 2020-21 and 2021-22. The Operating Cost Recovery Rates without calculation of the concessions in 2019-20, 2020-21 and 2021-22 are 58.9%, 59.5% and 61.0% respectively

3.3 Sewage Services Charges (SS)

The sewage services charges are composed of Sewage Charge and Trade Effluent Surcharge. There are currently 27 trades required to pay the Trade Effluent Surcharge. Since 1 April 2017, the unit rate of Sewage Charge per cubic metre of water supplied remains at $2.92.

Number of Accounts (in thousand, as at December 31 of each year)	2019	2020	2021
Sewage Charge Account	2846	2,884	2,916
Trade Effluent Surcharge (TES) Account	30	31	33

3.4 Estimated Expenditure for Capital Works Projects (HQ)

Projects in hand	Sewage Treatment		Flood Prevention		Total	
	No.	Cost ($B)	No.	Cost ($B)	No.	Cost ($B)
Cat. A (1)	39	58.0	9	4.6	48	62.5
Cat. B (2)	39	67.8	21	31.2	60	99.0
Total	78	125.7	30	35.8	108	161.5

Note:
1. Money-of-the-Day price
2. September 2021 price level

4.1 Sewage Treatment

Services for sewage treatment include operation and maintenance of sewage treatment facilities, upgrading the existing facilities and building new facilities.

Tai Po Sewage Treatment Works

Sewerage Master Plan Studies

The regional sewerage infrastructures are mainly proposed under the 16 Sewerage Master Plans (SMPs) and the subsequent 8 SMP Reviews.

Improvement of Village Sewerage

As at March 2022, we have laid public sewerage for about 255 villages. At present, the works for around more than 60 villages are underway while the works for about 220 villages are under planning and design.

Relocation of Sha Tin Sewage Treatment Works to Caverns

Project Scope:

Relocating the secondary sewage treatment works at Sha Tin to caverns inside Nui Po Shan with design sewage treatment capacity 340,000 m^3 per day. The existing site will then be vacated and developed for other beneficial uses to meet the public's needs.

Project Progress:

Stage 1 Works including site preparation and access tunnel construction commenced in February 2019 and completed in April 2022. Stage 2 Works including main caverns construction and upstream sewerage works commenced in July 2021. The design for the remaining works, including mainly installation of sewage treatment facilities inside caverns and decommission and demolition of the existing Sha Tin Sewage Treatment Works, is in progress. The whole project is expected to be completed by 2031.

Project Cost of Stage 1 Works: About $2.08 B
Project Cost of Stage 2 Works: About $14.08 B

Shek Wu Hui Effluent Polishing Plant

Project Scope:

- Reconstructing the existing Shek Wu Hui Sewage Treatment Works to increase the treatment capacity from 105,000 m^3 to 190,000 m^3 per day in phases
- Upgrading the sewage treatment level from existing secondary to tertiary in order to enhance the water quality in Ng Tung River
- Improving environmental performance of the existing plant, including odour control and landscaping works

Project Progress:

The Advance Works commenced in Q2 2015 and completed in Q4 2019. The Main Works are implemented in three phases with Phase 1 commenced in Q3 2019 for completion of the final phase by 2034.

Project Cost: About $500 M (for Advance Works, Investigation and Design)
About $13.2 B (for Main Works)

Illustration of the Completed Yuen Long Effluent Polishing Plant

Yuen Long Effluent Polishing Plant

Project Scope:

- Increasing the treatment capacity of existing Yuen Long Sewage Treatment Works from 70,000 m^3 to 150,000 m^3 per day
- Upgrading the sewage treatment level from existing secondary to tertiary to enhance the water quality in Shan Pui River and Deep Bay
- Improving environmental performance of the existing plant, including odour control and landscaping works

Project Progress:

- The upgrading works will be implemented in 2 stages. The construction of Stage 1 Works commenced in November 2020 for completion in 2027.

Project Cost: About $6.9 B

Illustration of the Completed Cheung Chau Sewage Treatment Works

Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities

Project Scope:

- Upgrading of the existing Cheung Chau Sewage Treatment Works to increase its treatment capacity to 9,800 m^3 per day and to upgrade its treatment standard to secondary level to improve the effluent quality
- Upgrading of the existing Pak She Sewage Pumping Station
- Ancillary works including deodourisation facilities, effluent reuse system, architectural and landscaping works

Project Progress:

The works commenced in November 2020 and targeted to complete in 2026.

Project Cost: About $2.61 B

Illustration of the Completed Phase 1 Sha Tau Kok Sewage Treatment Works

Expansion of Sha Tau Kok Sewage Treatment Works, Phase 1

Project Scope:

- Reconstructing the existing secondary sewage treatment works at Sha Tau Kok to increase its capacity to 5,000 m^3 per day
- Constructing approximately 1.7 km of new submarine outfall with diameter 450 mm
- Replacement of existing sewage pumping station and rising mains by new gravity sewers

Project Progress:

The works commenced in November 2018 and targeted to complete in 2025.

Project Cost: About $2.04 B

Illustration of the Completed Kwun Tong Sewage Pumping Station

Enhancement Works for Kwun Tong Sewage Pumping Station

Project Scope:

- Constructing a new balancing facility with a capacity of 16,000 m^3 and its associated facilities
- Constructing a plant house with public landscaped deck at the roof
- Providing deodourisation facilities and ancillary works

Project Progress:

The works commenced in December 2017 and targeted to complete in 2022

Project Cost: About $1 B

4.2 Flood Prevention

Stormwater drainage services include implementation of flood prevention works, operation and maintenance of stormwater drains and associated facilities.

Drainage Master Plan (DMP) 2.0

Since 2008, DSD has commenced a series of DMP 2.0 Studies, which are summarised as follows:

Elimination of Flooding Blackspots

Since 1995, DSD has eliminated 127 flooding blackspots. There are currently 4 flooding blackspots in Hong Kong. The first-stage improvement works of these flooding blackspots have been completed. Further improvement works for Pok Fu Lam Village commenced in August 2020 and further drainage improvement works at Chatham Road South, Tsim Sha Tsui commenced in August 2022, while the next stage improvement works for the remaining 2 blackspots are under planning and design.

Information of the 4 Flooding Blackspots

Location	Situation
Pok Fu Lam Village, Southern	First-stage improvement works have been completed. Further improvement works commenced in August 2020
Chatham Road South (Granville Road to Austin Avenue), Tsim Sha Tsui	First-stage improvement works have been completed. Further drainage works commenced in August 2022.
Lam Tsuen Valley Basin, Tai Po	First-stage improvement works have been completed. Works for the next stage are under planning and design.
Shek Wu Wai, San Tin, Yuen Long	First-stage improvement works have been completed. Works for the next stage are under planning and design.

Location Plan of 26 coastal low-lying or windy residential areas with higher risks

Coastal Low-lying or Windy Residential Areas

In order to comprehensively review the impacts of storm surges and waves on coastal low-lying or windy locations under extreme weather and climate change, the Government completed the Study of Coastal Hazards under Climate Change and Extreme Weather and Formulation of Improvement Measures - Feasibility Study.

It identified 26 coastal low-lying or windy residential areas with higher risks for formulation of the necessary improvement works and management measures to safeguard public safety. These 26 areas have covered the 7 Storm Surge Spots and 3 Overtopping Wave Spots previously identified by DSD. DSD will continue to work closely with the relevant departments to implement the improvement works and management measures.

Stormwater Drainage Works

Our stormwater drainage works are summarised as follows:	COMPLETED	Under planning / design / construction
Stormwater Storage Scheme	4	14
River Training Works[1]	About 108 km	About 18 km
Drainage Improvement Works[1]	About 94 km	About 41 km
Drainage Tunnel	About 21 km	About 5 km
Total Project Cost	About $29.6 B	About $35.8 B[2]

Note:
1. Relevant Village Flood Protection Schemes are included
2. The cost breakdown is listed on Page 7

Drainage Tunnels

	Kai Tak Transfer Scheme	Hong Kong West Drainage Tunnel	Lai Chi Kok Drainage Tunnel	Tsuen Wan Drainage Tunnel
Project Cost	About $380 M	About $3.38 B	About $1.67 B	About $1.49 B
Commissioning Date	2004	2012	2012	2013
Length	1.5 km	10.5 km	3.7 km	5.1 km
Diameter	4.4 m	6.25 m to 7.25 m	4.9 m	6.5 m
Other Features	Transferring stormwater flow from the decked nullah at Waterloo Road to Kai Tak River	· 34 intake structures · Outfall at Cyberport	· 6 intake structures · 1 stilling basin · Outfall at Stonecutters Island	· 3 intake structures · Outfall at Yau Kom Tau

Stormwater Storage Schemes

	Tai Hang Tung Stormwater Storage Scheme	Sheung Wan Stormwater Storage Scheme	Happy Valley Underground Stormwater Storage Scheme	On Sau Road Stormwater Storage Scheme
Project Cost	About $290 M	About $200 M	About $1.07 B	About $60 M
Commissioning Date	2004	2009	2017	2018
Capacity	100,000 m^3	9,380 m^3	60,000 m^3	18,000 m^3
Design Pumping Capacity	1.9 m^3/s	6.0 m^3/s	1.5 m^3/s	By Gravity
Plan Area	17,680 m^2	1,580 m^2	24,000 m^2	4,700 m^2
Average Internal Depth	7.5 m	5.9 m	3 m	4.6 m
Other Features	240 m long overflow weir in total	2 nos. of bypass penstocks	15 nos. of 3 m long movable overflow weir	3 nos. of 5 m long overflow weir

Village Flood Protection Schemes

27 Village Flood Protection Schemes in operation

District	Village
Yuen Long	Kau Hui (Nam Pin Wai)
	Ma Tin Tsuen
	Shui Pin Wai
	Wang Chau Village
	Shui Pin Tsuen
	Tai Kiu
Tin Shui Wai	Lo Uk Tsuen
	Sik Kong Tsuen
	Sik Kong Wai
	Kiu Tau Wai
	Ha Mei San Tsuen
	Sheung Cheung Wai
	Fung Shui Lane

District	Village
Kam Tin	Sha Po Tsuen
Ngau Tam Mei	Pok Wai
	Chuk Yuen Tsuen and Ha San Wai
San Tin	Chau Tau
	Mai Po Lo Wai and Mai Po San Tsuen
	San Tin
Sheung Shui	Sheung Shui Tsuen
	Tai Tau Leng and Tsung Pak Long
Sha Tin	Tsang Tai Uk
	Fo Tan
Tai Po	Shui Wai
Tuen Mun	Tsing Chung Koon
Lantau Island	Tai O Wing On Street
	Tai O Tai Ping Street

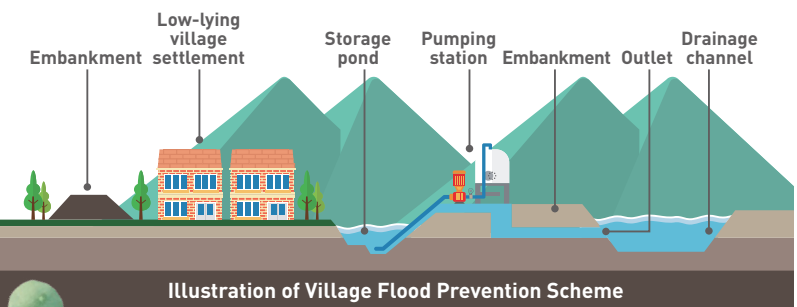
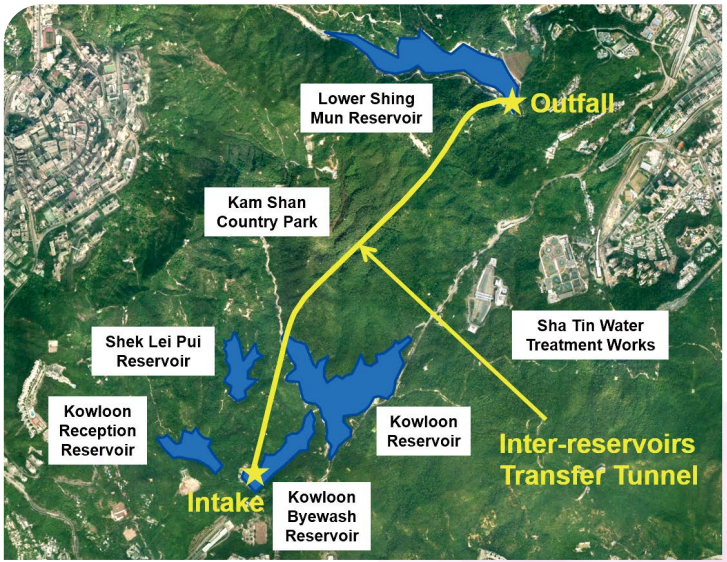


Illustration of Village Flood Prevention Scheme



West Kowloon Drainage Improvement – Inter-reservoirs Transfer Scheme

Project Scope:

Constructing a water tunnel of about 2.8 km in length and 3 m in diameter from Kowloon Byewash Reservoir to the Lower Shing Mun Reservoir with a view to achieving dual purposes in flood protection and water conservation.

Project Progress:

The works commenced in February 2019 for completion in 2022

Project Cost: About $1.22 B

Illustration of in-situ reprovisioned playground after completion of the stormwater storage tank

Drainage improvement works in Kwun Tong (Phase 1)

Project Scope:

Constructing an underground stormwater storage tank of about 64,000 m^3 in volume. During heavy rainfall, the rainwater upstream would be intercepted to the storage tank for temporary storage, and then be discharged downstream after the flood peak, thereby reducing the risk of flooding in the adjacent areas.

Project Progress:

The works commenced in September 2022 for completion in 2028.

Project Cost: About $0.94 B

Illustration of in-situ reprovisioned garden after completion of the stormwater storage tank

Drainage Improvement Works in Tsim Sha Tsui

Project Scope:

- Constructing an underground storage tank of 18,000 m^3 and pumping station with 8m^3/s at Urban Council Centenary Garden (UCCG)
- Construction of approximate 1 km of stormwater drains of diameters ranging from 600mm to 1800mm at Chatham Road South, Kimberley Road, Observatory Road, Granville Road, Granville Square and Cameron Road
- Ancillary works including reinstatement of the UCCG and associated facilities

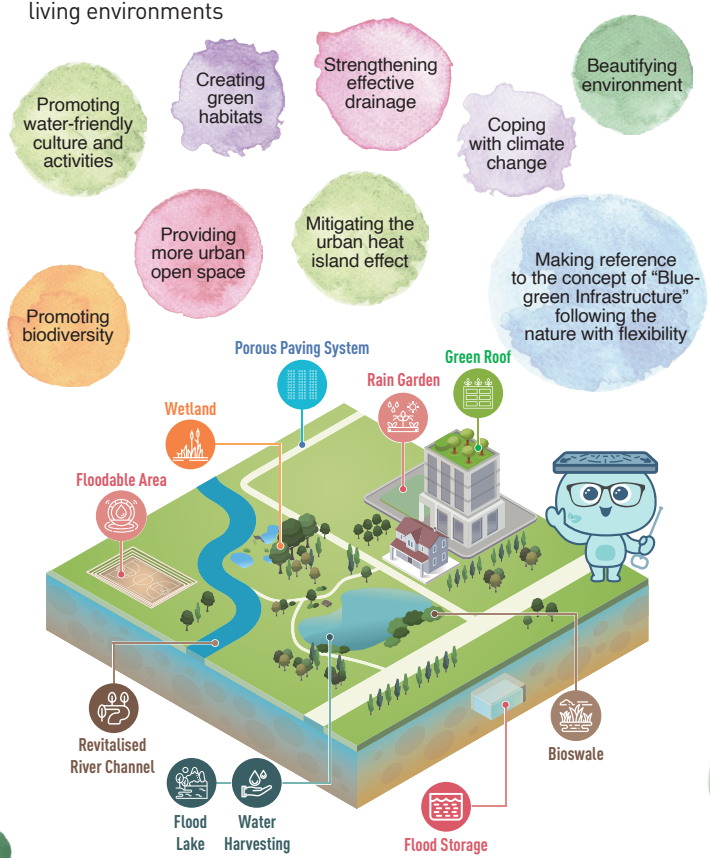
Project Progress:

The works commenced in August 2022 for completion in 2027.

Project Cost: About $734 M

Rivers in the City

The way forward: Promoting multiple river revitalisation projects so the public can enjoy river facilities and benefit from more desirable living environments



RIVERS IN THE CITY 河畔城市

Jordan Valley Channel

Zigzag fish ladder at upstream Ecological Channel

"River Garden" is just right above the channel

Project Scope:

By applying the concept of "Rivers in the City", the revitalisation works of Jordan Valley Nullah commenced in March 2020 and the scope of works comprises,

(a) landscaping works at the downstream section of the channel and its adjoining areas;

(b) construction of a viewing platform above the channel; and

(c) greening at the upstream section of the channel with the provision of shoals and fish ladders

Variety of vines and aquatic plants are grown along the Jordan Valley Channel to help greening the surrounding environment. Simulating the natural stream environment with irregular patterns of water flow and improving the original embankments are beneficial to create different habitats for enhancing biodiversity. A "River Garden" is built right above the Jordan Valley Channel to provide the public a resting area for viewing the beautified channel so as to improving connectivity between the revitalised channel and its surroundings by engaging water-friendly experience.

Commission Date: April 2022

Project Cost: About $30M

Revitalised Kai Tak River

	Upstream Section	Midstream Section
Project Scope	• Reconstructing and rehabilitating a section of Kai Tak River of about 600m long from Po Kong Village Road to Tung Kwong Road • Constructing a box culvert of about 400m long alongside the Kai Tak River from Wong Tai Sin Police Station to Tung Tai Lane • Completing landscaping works	• Reconstructing and rehabilitating a section of Kai Tak River of about 500m long from Tung Kwong Road to Prince Edward Road East • Completing landscaping works
Commencement Date	2011	2013
Completion Date	2018	2017
Project Cost	About $1.6 B	About $1.2 B

Note: The construction and upgrading of the downstream section of Kai Tak River, undertaken by CEDD, commenced in 2013 and were completed in 2018 at a project cost of about $2.5 B

Illustration of the Revitalised Tsui Ping River

Revitalization of Tsui Ping River

Project Scope:

- Revitalising the existing 1 km long King Yip Street Nullah alongside King Yip Street, King Yip Lane and Tsui Ping Road
- Installing a smart water gate that can adjust itself with tides at the downstream near Hung To Road to regulate the water level
- Providing riverside water-friendly features such as engineered wetland, landscaped decks and a floating pontoon
- Beautifying the adjoining walkways, enhancing connectivity and walkability by means of provision of walkways and landscaped decks beside the river to create public leisure spaces centred on the river

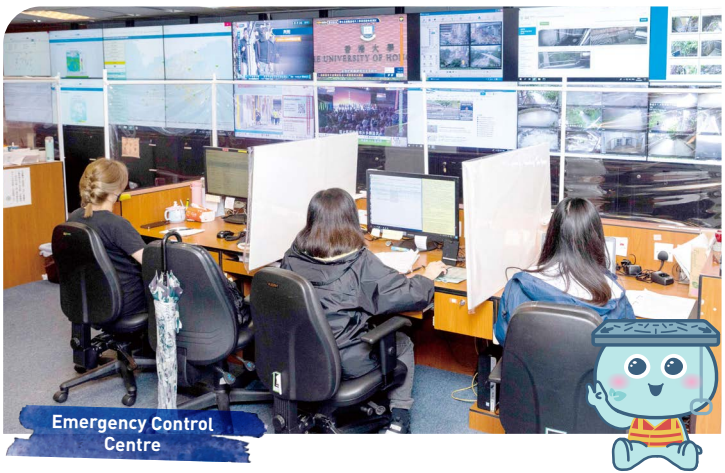
Project Progress:

The works commenced in July 2020 for completion in 2024.

Project Cost: About $1.34 B

4.3 Operations and Maintenance

Apart from conducting regular inspections and repairs of stormwater drains and sewers, DSD promptly cleans up the pipes as necessary to keep them clear. During the period of 2021-22, DSD cleared 798 km of stormwater drains and 736 km of sewers over the territory. Our Drainage Hotline received about 26,000 cases and followed up over 99% within 24 hours after receipt of the case. Over 99% of the public were satisfied with our services.



Emergency Control Centre

Whenever a flooding repo rt is received, whether it involves public or private channels, DSD usually attends the scene as soon as possible for clearing the blockage and take appropriate flood relieving measures in order to reduce the impact of flooding on the public. During severe weather, DSD would activate an Emergency Control Centre to co-ordinate and respond to unexpected incidents.

4.4 Sewage Surveillance on COVID-19

Sewage surveillance is an integral part of the anti-epidemic strategy of the HKSAR Government facilitating the effective monitoring of virus spread in the community. The integration of scientific research in sewage surveillance and execution of anti-epidemic measures in Hong Kong is a unique approach when compared with the other parts of the world. Every day, DSD works with EPD till evening on the sampling schedule for the next day. Once finalised, DSD needs to immediately assign the works to the sampling contractors as well as arrange the proper equipment and apply for the necessary temporary traffic arrangements. The sampling contractors conduct sampling every morning during the period from 7:15 am to 10:15 am. After sampling, all the samples are required to be delivered to the relevant laboratories for testing before 12:30 noon to ensure that test results could be available on the same day.

Frontline sampling staff in full personal protection equipment with marquee setup

As of March 2022, we have set up more than 150 stationary sewage monitoring sites and over 1,500 upstream ad hoc sewage monitoring sites in Hong Kong, covering a population of more than 5 million. In response to the fifth wave of severe outbreaks, we took about 110 sewage samples for testing every day, that is, sewage samples were taken every two days at each stationary monitoring site, and about 30 sewage samples were taken every day at ad hoc sewage monitoring sites.

4.5 Rehabilitation and Replacement of Stormwater Drains and Sewers

Rehabilitation of Underground Stormwater Drains and Sewers (Stage 1 & 2)

Project Scope:

- Conducting condition survey for about 168 km underground stormwater drains and 75 km underground sewers over the territory
- Rehabilitating about 22 km underground stormwater drains and 13 km underground sewers over the territory

Project Progress:

Stage 1 and 2 works commenced in January 2019 and September 2020 for completion in 2022 and 2025 respectively.

Project Cost:

About $515 M (for Stage 1 works)

About $821 M (for Stage 2 works)

Rehabilitation of Underground Stormwater Drains (Stage 3)

Project Scope:

Rehabilitating about 19 km underground stormwater drains in Central & Western, Wan Chai, Eastern, Southern, Islands, Tuen Mun, Yuen Long, North, Tai Po, Sha Tin, Kwun Tong and Sai Kung Districts

Project Progress:

Stage 3 works commenced in June 2021 for completion in 2025

Project Cost: About $703 M

Rehabilitation Works Using Spirally-wound Liner Method

Rehabilitation of Trunk Sewers in Tuen Mun

Project Scope:

- Rehabilitation of sewage box culverts of about 4.2 km long along Tin Hau Road and Lung Mun Road
- Rehabilitation of sewers across Tuen Mun River Channel near Tin Hau Road and Tuen Yee Street
- Construction of sewers along Tin Hau Road and across Tuen Mun River Channel
- Other ancillary works in association with the above proposed works

Project Progress:

The works commenced in December 2018 for completion in 2023

Project Cost: About $806 M

Deploying Robotic Machine for Lining Installation Works in the Existing Box Culvert with Live Sewage Flow

Rehabilitation of Trunk Sewers in Kowloon, Sha Tin and Sai Kung

Project Scope:

- Rehabilitating the existing trunk sewers (about 1.7 km long) in Ngau Chi Wan, To Kwa Wan, Sha Tin and Sai Kung to reduce the risk of sewage leakage and to enhance the reliability of the sewerage system
- Constructing a new submarine trunk sewer across Sai Kung Hoi linking Sai Kung Town and Tui Min Hoi and constructing duplicate trunk sewers along Yuen Wo Road near Sha Tin Sewage Pumping Station

Project Progress:

The works commenced in January 2018 for completion in 2022

Project Cost: About $680 M

5.0 Utilisation of Renewable Energy

Renewable Energy Systems	Generation Capacity (kW) [1]		
	2019-20	2020-21	2021-22
Biogas Combined Heat and Power Generators, Micro-turbine Generators, Boilers and Dual Fuel Engines [2]	11,849	11,434	11,434
Photovoltaic (PV) Systems	1,510	1,578	1,860
Hydro-turbine Generator	47	47	95
TOTAL	13,406	13,059	13,389

Notes: 1. The generating capacities of the boilers refer to their thermal generating capacities, while the generating capacities of other systems refer to their electricity generation capacities

2. In 2020-21, a dual fuel engine was demolished and would be replaced by a biogas combined heat and power generator in 2022-23

	2019-20	2020-21	2021-22
Total Generated Renewable Energy	2,800	2,730	2,900

(in million kWh)

Through deepening the implementation of renewable energy projects, DSD aims to increase the department's renewable energy output by about 61% on an annual basis by 2024-25 as compared to this year, thus achieving some 46.7 million kWh annually.

Generation of Renewable Energy from Biogas

Background:

The biogas produced in the course of sewage sludge treatment is a renewable energy source. It is converted to electricity and heat by generators and boilers for in-house use in the sewage treatment works.

Environmental Benefit:

The renewable energy generated from biogas in 2021-22 was equivalent to 27.4 million kWh and the reduction of carbon dioxide emission exceeded 19,000 tonnes.

Solar Farm at Siu Ho Wan Sewage Treatment Works

Project Details:

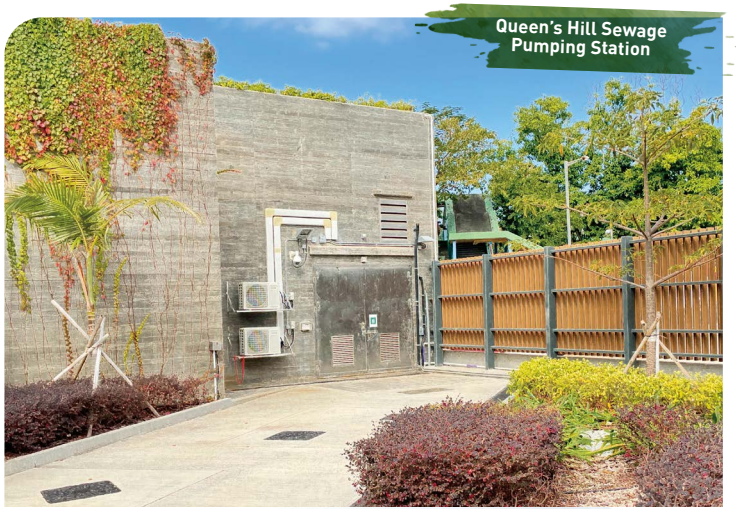
The solar farm, comprising over 4,200 photovoltaic panels, has an installed generation capacity of 1,100 kilowatts

Environmental Benefits:

- Electricity generated by the solar farm, which is supplied to facilities inside the treatment works via the internal power distribution network, can be as much as 1.1 million kWh annually
- Annual reduction of carbon dioxide emission can reach about 770 tonnes

Commissioning Date: 2016

Project Cost: About $27 M



Plants

Sewage Treatment Works		69
Preliminary Treatment Work	17	
Primary Treatment Works	2	
Chemically Enhanced Primary Treatment (CEPT) Works	5	
Secondary Treatment Works	44	
Tertiary Treatment Works	1	
Sewage Pumping Stations		261
Stormwater Pumping Stations		36
	TOTAL	366

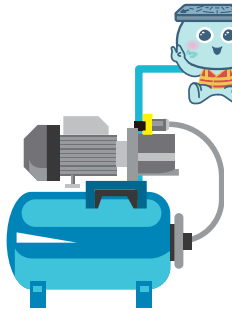
Volume of Sewage Treated

(in million m³)

	2019-20	2020-21	2021-22
By Preliminary Treatment	50	22	0.24
By Primary Treatment	5	4	4
By Chemically Enhanced Primary Treatment	784	821	834
By Secondary Treatment	194	197	198
TOTAL	1,033	1,044	1,036

Notes: 1. Sewerage in Hong Kong is currently serving over 93% of the population (based on the number of domestic water bill accounts with sewage charges levied)
2. The volume of sewage treated by tertiary treatment in 2021-22 is about 0.14 million m³
3. Daily quantity of sewage sludge generated in 2021-22 is about 1,106 tonnes

Design Capacity of Major Pumping Stations



Note:
1. The sewage received by this pumping station is conveyed to North West Kowloon Preliminary Treatment Works

SEWAGE PUMPING STATIONS	STORMWATER PUMPING STATIONS
Stonecutters Island Main Pumping Station 63.3 (m³/s)	San Tin Stormwater Pumping Station 8.0 (m³/s)
Cheung Sha Wan Sewage Pumping Station[1] 14.7 (m³/s)	Yuen Long Chuk Yuen Stormwater Pumping Station 8.0 (m³/s)

Design Treatment Capacity of Major Sewage Treatment Works

MAJOR SEWAGE TREATMENT WORKS	DESIGN TREATMENT CAPACITY (M^3/DAY)
Preliminary Treatment Works	
North West Kowloon Preliminary Treatment Works*	450,800
Kwun Tong Preliminary Treatment Works*	333,000
Primary Treatment Works	
Cheung Chau Sewage Treatment Works	4,000
Tai O Imhoff Tank	1,200
Chemically Enhanced Primary Treatment Works	
Stonecutters Island Sewage Treatment Works	2,450,000
Pillar Point Sewage Treatment Works	241,000
San Wai Sewage Treatment Works	200,000
Siu Ho Wan Sewage Treatment Works	180,000
Sham Tseng Sewage Treatment Works	16,800
Secondary Treatment Works	
Sha Tin Sewage Treatment Works	340,000
Tai Po Sewage Treatment Works	120,000
Shek Wu Hui Sewage Treatment Works	105,000
Yuen Long Sewage Treatment Works	35,000
Stanley Sewage Treatment Works	11,600
Stanley Sewage Treatment Works	8,000
Tertiary Treatment Works	
Ngong Ping Sewage Treatment Works	1,100

*The sewage treated by this preliminary treatment works is further conveyed to Stonecutters Island Sewage Treatment Works for chemically enhanced primary treatment

Rainfall Record in Hong Kong

According to the Climatological Information Services in the website of Hong Kong Observatory:

- **HIGHEST HOURLY RAINFALL** 145.5mm, 7 June 2008
- **HIGHEST DAILY TOTAL RAINFALL** 534.1mm, 19 July 1926
- **HIGHEST ANNUAL TOTAL RAINFALL** 3,343mm, 1997
- **MEAN ANNUAL TOTAL RAINFALL** 2,431.2mm, 1991-2020

Drainage System under DSD

Sewerage System

- **Sewers** 1,893 km
- **Sewage Tunnels** 81 km

Stormwater Drainage System

- **Stormwater Drains** 2,410 km
- **Engineered Channels** 366 km
- **Drainage Tunnels** 36 km

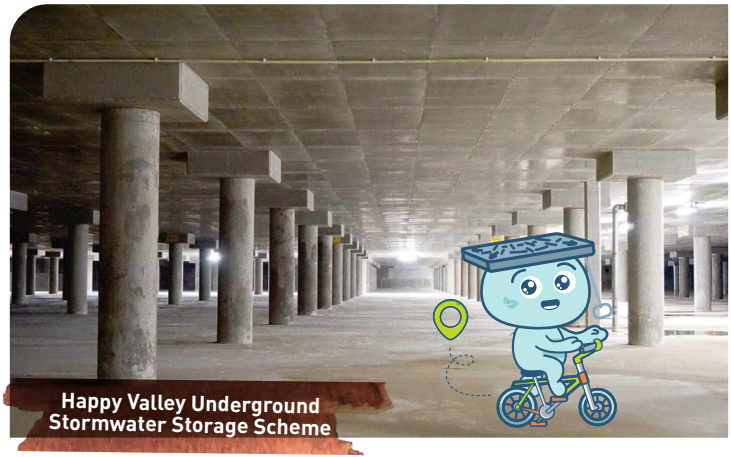
Visit to DSD Facilities

Since 2015, more than 286,000 people have visited DSD facilites[1] and participated in DSD major public events[2]. Schools or organisations are welcome to schedule visits to our sewage treatment facilities and flood prevention facilities through prior application. Please visit the following website for more information:

Please visit the following website or QR code for more information:
http://www.dsd.gov.hk/EN/Education/Visit_to_DSD_Facilities/index.html

Floating Photovoltaic System and Ecological Floating Island at San Tin Polder

Note:
[1] Statistics updated as of September 2022
[2] DSD facilities Open Days, Mid- Autumn Lighting Festival and River Greening Fun Day



Happy Valley Underground Stormwater Storage Scheme

Educational Programme

DSD Outreach Educational Programme

We will visit schools and introduce our work through presentations, videos and Question-and-Answer session. The number of participants since 2015 is over 10,000

For details, please visit the following website or QR code :
https://www.dsd.gov.hk/EN/Education/DSD_Outreach_Educational_Programme/index.html

Online Tour

DSD Facilities Online Tour

Though 360-degree virtual tour and high-definition photo albums, the public can explore facilities of DSD anytime and anywhere.

Just click the link below or scan QR code to explore the virtual experiences:
https://www.dsd.gov.hk/EN/Education/DSD_Facilities_Virtual_Tour/index.html

Self-Guided Tour

DSD Facilities Self-Guided Tour

We provide special visiting routes of designated facilities to tourists and local residents to explore wonderful features of Hong Kong's flood control and sewage treatment.

Just click the link below or scan QR code to explore the virtual experiences:
https://www.dsd.gov.hk/EN/Education/DSD_Facilities_Trail/index.html

Contact Us 8

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(24 hours)
2300 1110

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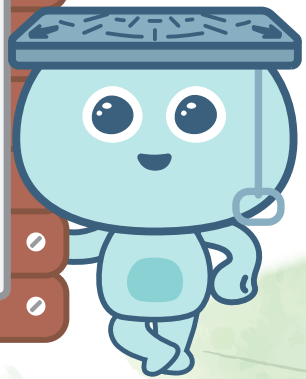
2834 9432

General Enquiries
2877 0660

E-mail
enquiry@dsd.gov.hk

Website
http://www.dsd.gov.hk



下水水 Drainy

2021-2022 Drainage Services Department in brief

Electronic Version