For discussion
on 24 June 2024

PWSC(2024-25)11

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 704 – DRAINAGE
Civil Engineering – Drainage and erosion protection
174CD – Drainage improvement works in Mong Kok
176CD – Drainage improvement works in Wong Tai Sin
177CD – Drainage improvement works in Kwun Tong
179CD – Drainage improvement works in Kowloon City
181CD – Drainage improvement works in Eastern District
182CD – Drainage improvement works in Sha Tin and Sai Kung
183CD – Drainage improvement works in Tai Po

Members are invited to recommend to the Finance Committee –

(a) the upgrading of part of **174CD** as **197CD**, entitled "Drainage improvement works in Mong Kok – phase 1" to Category A at an estimated cost of $1,237.8 million in money-of-the-day (MOD) prices;

(b) the upgrading of **176CD** to Category A at an estimated cost of $1,539.4 million in MOD prices;

/(c) …..

(c) the upgrading of part of **177CD** as **198CD**, entitled "Drainage improvement works in Kwun Tong – phase 2" to Category A at an estimated cost of $1,216.9 million in MOD prices;

(d) the upgrading of **179CD** to Category A at an estimated cost of $1,958.3 million in MOD prices;

(e) the upgrading of part of **181CD** as **199CD**, entitled "Drainage improvement works in Eastern District – phase 1" to Category A at an estimated cost of $268.3 million in MOD prices;

(f) the upgrading of part of **182CD** as **200CD**, entitled "Drainage improvement works in Sha Tin and Sai Kung – phase 1" to Category A at an estimated cost of $706.8 million in MOD prices; and

(g) the upgrading of part of **183CD** as **201CD**, entitled "Drainage improvement works in Tai Po – phase 1" to Category A at an estimated cost of $1,285.8 million in MOD prices.

PROBLEM

The Drainage Services Department (DSD) has been striving to reduce the flood risk of various districts through implementation of flood-control

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infrastructure projects. From 1994 to 2010, the DSD conducted Drainage Master Plan Studies for major catchment areas over Hong Kong to comprehensively examine the flood risk in different districts and recommend a series of major drainage improvement works in various districts across the territory. With the phased completion of these major improvement works since 2003, the flood risk in different districts across Hong Kong has been significantly reduced. To keep pace with the continuous development of the community and economy, there were changes in the land uses and development plans in various districts across Hong Kong, bringing different levels of impact on the existing drainage systems. The DSD initiated a new round of Drainage Master Plan Review Studies (DMP Review Studies) in phases since 2008 and the territory was divided into 12 study areas for the review. The DMP Review Studies for 10 of the study areas have been completed. The remaining ones for Southern Hong Kong Island and Tseung Kwan O are in progress and scheduled for completion this year. These studies have recommended a series of improvement works, including 11 drainage improvement projects under construction and seven drainage improvement projects that are seeking funding approval from the Legislative Council under this proposal. The location plans are at **Enclosure 1**.

2. Dense development in the urban areas causes space limitation and site constraints, making the construction of new large-scale drains and box culverts to enhance the drainage capacity technically difficult. Construction of stormwater storage tank is one of the most suitable flood control strategies for urban areas. With due consideration of the topography and geographical location of the catchment areas, some of these stormwater storage tanks will be equipped with large stormwater pumps, to force discharge the stormwater temporarily stored in the stormwater storage tanks directly into the sea and rivers by pumping.

3. With years of efforts, the overall flooding condition of Hong Kong under heavy rainstorms was improved significantly. Nevertheless, torrential rainstorms still caused severe flooding in some areas of the territory. In September 2023, Hong Kong experienced the challenges from two successive extreme weather events, including super typhoon Saola and a torrential rainstorm, causing severe flooding in various districts. To further cope with the increasingly frequent extreme weather events in recent years, the Government adopts a multi-pronged strategy to enhance the flood control capabilities, including implementation of comprehensive flood management strategies, integration of drainage works, blue-green infrastructure, management and contingency measures. The Government will also consider the cost-effectiveness of various measures to develop a territory-wide flood control strategy to respond to the future challenges in long run. The DSD will continue to take forward flood-control infrastructures and carry out the drainage improvement works under construction in full swing.

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4. In addition to the construction of flood-control infrastructures, the Government stresses on early warning and flood control action plans. In respect of early warning, the DSD will maintain close liaison with the Hong Kong Observatory to make advance arrangements and preparations for the potential flooding caused by rainstorms. The DSD will deploy inspection teams in advance to inspect the flood prone areas in the territory and clear blocked drains. In respect of flood defence actions, the DSD will activate its Emergency Control Centre as needed, handle flooding cases and clear the blocked drainage channels and rivers. After a rainstorm, the DSD will also inspect all major drainage channels and rivers, remove debris such as soil, rock, leaves, and litters etc., and carry out necessary emergency repair works to prepare for the next one.

5. The DSD proactively applies innovative technologies in drainage works, including the development and expansion of a smart drainage and hydrological information system and the use of desilting robots. A few years ago, the DSD enhanced the use of hydrological information system, developed mobile applications, and monitored real-time regional rainfall, water levels of major rivers and drainage channels, as well as tide levels at different locations. We recently have increased the number of remote monitoring devices and planned to carry out trials to monitor water level at manholes, and flood situation of roads. In addition, the DSD introduced the use of river and drainage channel desilting robots and pipeline inspection robots to assist in the maintenance works so as to improve the work efficiency and safety for operation and maintenance of drainage system.

6. The DSD will arrange meetings with relevant stakeholders, including government departments, public organizations, public utility companies and property management organisations to enhance communications and provide technical advice before the rainy season. To assist relevant stakeholders to prepare for appropriate response measures and contingency plans, the DSD promulgated a practice note on flood resilience and emergency response measures to cope with the flooding due to climate change for public reference.

PROPOSAL

7. The Director of Drainage Services proposes to upgrade the following projects to Category A –

/(a) …..

(a) part of **174CD** at an estimated cost of $1,237.8 million in MOD prices for taking forward the construction of an underground stormwater storage tank and the associated above ground structure at Shek Kip Mei Park; re-provision and enhancement of part of Shek Kip Mei Park; as well as drainage improvement works at Cornwall Street, Tai Hang Tung Road and Embankment Road;

(b) **176CD** at an estimated cost of $1,539.4 million in MOD prices for taking forward the construction of an underground stormwater storage tank and the associated above ground structure at Morse Park in Wong Tai Sin; re-provision and enhancement of part of Morse Park; as well as drainage improvement works at Wing Chuk Street, Chuk Yuen Road, Ma Chai Hang Road, Fung Mo Street, Wong Tai Sin Road and Po Kong Village Road;

(c) part of **177CD** at an estimated cost of $1,216.9 million in MOD prices for taking forward the construction of an underground stormwater storage tank and the associated above ground structure at Kwun Tong Hoi Bun Road Park, and an underground stormwater pumping station and the associated above ground structures at Kwun Tong Promenade; re-provision and enhancement of part of Kwun Tong Hoi Bun Road Park and Kwun Tong Promenade; as well as drainage improvement works at and near Kwun Tong Road, Ngau Tau Kok Road, Hang Yip Street, Wai Yip Street and Hoi Bun Road;

(d) **179CD** at an estimated cost of $1,958.3 million in MOD prices for taking forward the construction of an underground stormwater storage tank, a stormwater pumping station and the associated above ground structure at Argyle Street Playground in Kowloon City; re-provision and enhancement of Argyle Street Playground; as well as drainage improvement works at Olympic Avenue, Kowloon City Road and Ma Tau Kok Road in To Kwa Wan, and Baker Street, Lo Lung Hang Street, Bulkeley Street and Dock Street in Hung Hom;

/(e) …..

(e) part of **181CD** at an estimated cost of $268.3 million in MOD prices for taking forward the drainage improvement works at Kam Hong Street and Java Road in North Point, Yee Shun Street and Kam Yuen Lane in Chai Wan, Mount Parker Road in Quarry Bay, and Wang Wa Street, Shau Kei Wan Main Street East and A Kung Ngam Road in Shau Kei Wan;

(f) part of **182CD** at an estimated cost of $706.8 million in MOD prices for taking forward the construction of an underground stormwater storage tank, a stormwater pumping station and the associated above ground structure at Sha Tin Park; re-provision and enhancement of part of Sha Tin Park; drainage improvement works at Pak Hok Ting Street, Sha Tin Centre Street, Yi Ching Lane, Tai Po Road – Sha Tin and Wong Chuk Yeung Village in Sha Tin, and Po Lo Che Road in Sai Kung; as well as construction of flood walls along Shing Mun River and at Kau To Hang in Sha Tin; and

(g) part of **183CD** at an estimated cost of $1,285.8 million in MOD prices for taking forward the construction of an underground stormwater storage tank, a stormwater pumping station and the associated above ground structure at Tai Po Old Market Playground; re-provision and enhancement of part of Tai Po Old Market Playground; drainage improvement works at Ting Kok Road, Tai Po Tai Wo Road, Chui Lok Street, Chui Wo Lane, Kau Hui Chik Street, Mei Sun Lane and Po Nga Road in Tai Po, and San Uk Pai Tsuen and Sha Pa in Lam Tsuen Valley; as well as construction of flood walls along Lam Tsuen River.

8. The proposed seven projects mentioned above mainly involve the construction of six stormwater storage tanks and the associated stormwater drains, including three stormwater storage schemes (forced discharge mode)[1] at the Kwun Tong Promenade and the adjacent harbourfront areas, Sha Tin Park and Tai Po Old Market Playground; and three stormwater storage schemes (non-forced discharge mode)[2] at Shek Kip Mei Park, Morse Park and Argyle Street Playground, to improve the flood control capabilities of the above mentioned areas.

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[1] Please see paragraph 9 below.

[2] Please see paragraph 10 below.

9. The proposed three stormwater storage schemes (forced discharge mode) in the catchment areas of Kuwn Tong, Sha Tin and Tai Po are situated at the downstream locations of the respective catchment areas and near the harbour/rivers. During heavy rainstorms, the stormwater will be intercepted to the underground stormwater storage tanks and further discharged into the harbour/river directly by high-capacity stormwater pumps. Due to the proximity with the coast and the influence of tides, large stormwater pumps and rising mains are required for stormwater discharge. In addition to the large stormwater pumps, the stormwater storage schemes (forced discharge mode) are also equipped with stormwater storage tanks with a certain capacity to complement the operation of the pumps, and to ensure that there is a backup storage capacity in case of emergencies, such as malfunctioning of pumps.

10. Furthermore, the proposed three stormwater storage schemes (non-forced discharge mode) in the catchment areas of Mong Kok, Wong Tai Sin and Kowloon City are situated at the midstream locations of the respective catchment areas. During heavy rainstorms, the stormwater will be intercepted to the underground stormwater storage tanks with relatively larger capacity for temporary storage in order to alleviate the burden on downstream drainage systems and prevent flooding in downstream areas. After the heavy rainstorms, the stormwater collected in the stormwater storage tanks will be discharged into the downstream stormwater drainage systems in an orderly manner, achieving a "peak-shaving" effect to avoid flooding in the downstream areas. Subject to suitable topographical conditions, the stormwater collected can be naturally discharged to the downstream stormwater drainage systems by gravity. Otherwise, a pumping station (such as that for the stormwater storage tank located at Argyle Street Playground) is required to pump the stormwater from the stormwater storage tank to the downstream stormwater drainage systems in an orderly manner.

11. The flood protection standard of Hong Kong[3] is comparable to that of major cities in China and other foreign countries, including Beijing, Shanghai, Shenzhen, London, Copenhagen and Amsterdam. After the torrential rainstorm in September 2023, the DSD reviewed the rainfall data from 1884 to 2023 obtained from the Hong Kong Observatory. After analyses, we made an upward adjustment in the design rainfall parameters and updated the Stormwater Drainage Manual in March this year. The proposed seven drainage improvement projects meet the latest design standard in the manual.

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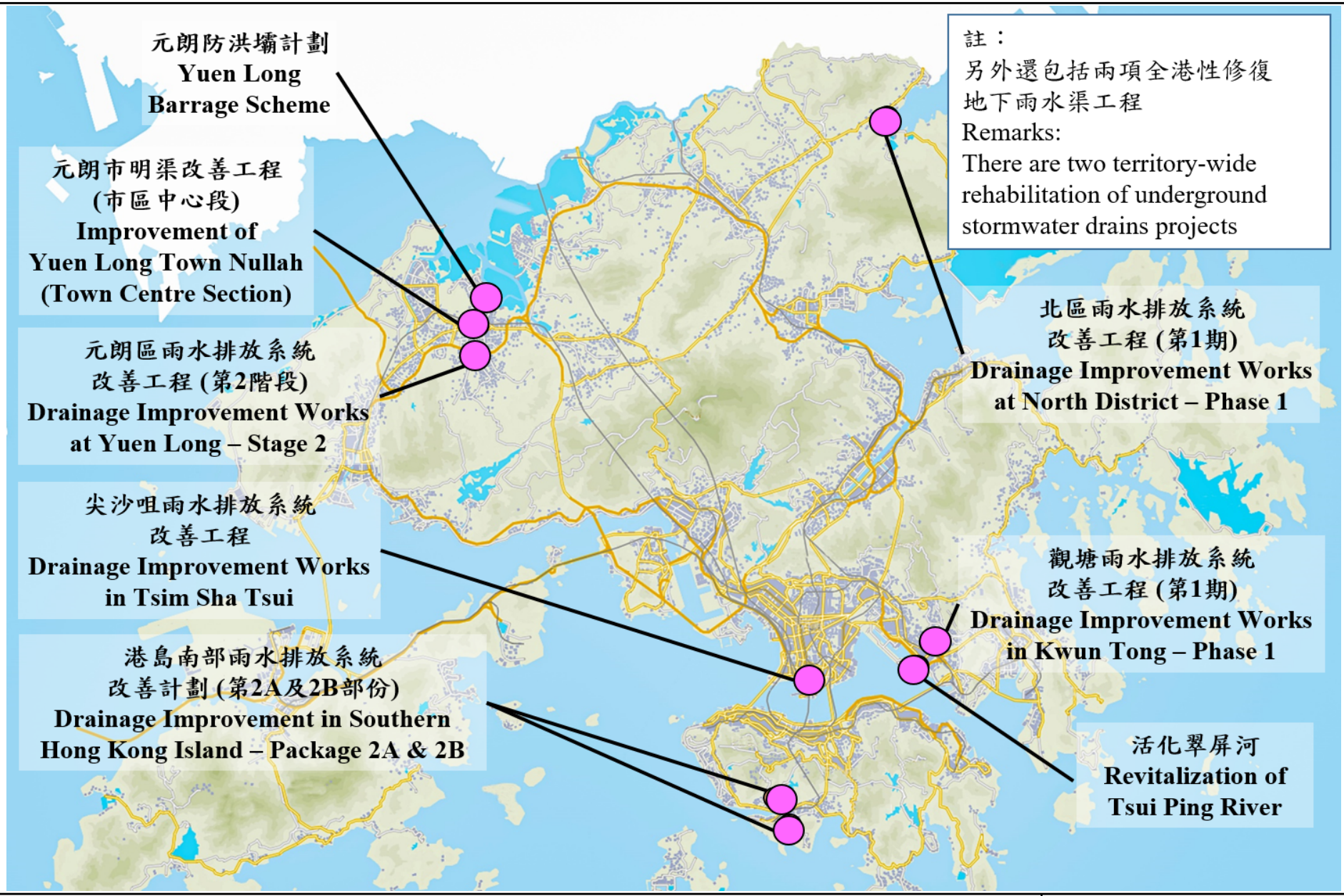
[3] Trunk drains designed for rainstorms of 200-year return period.

12. The Secretary for Development supports the above proposals.

PROJECT SCOPE AND NATURE

13. Details of the above proposals are provided at **Enclosures 2 to 8** respectively.

Development Bureau
June 2024



11項施工中的雨水排放系統改善工程
11 DRAINAGE IMPROVEMENT WORKS UNDER CONSTRUCTION

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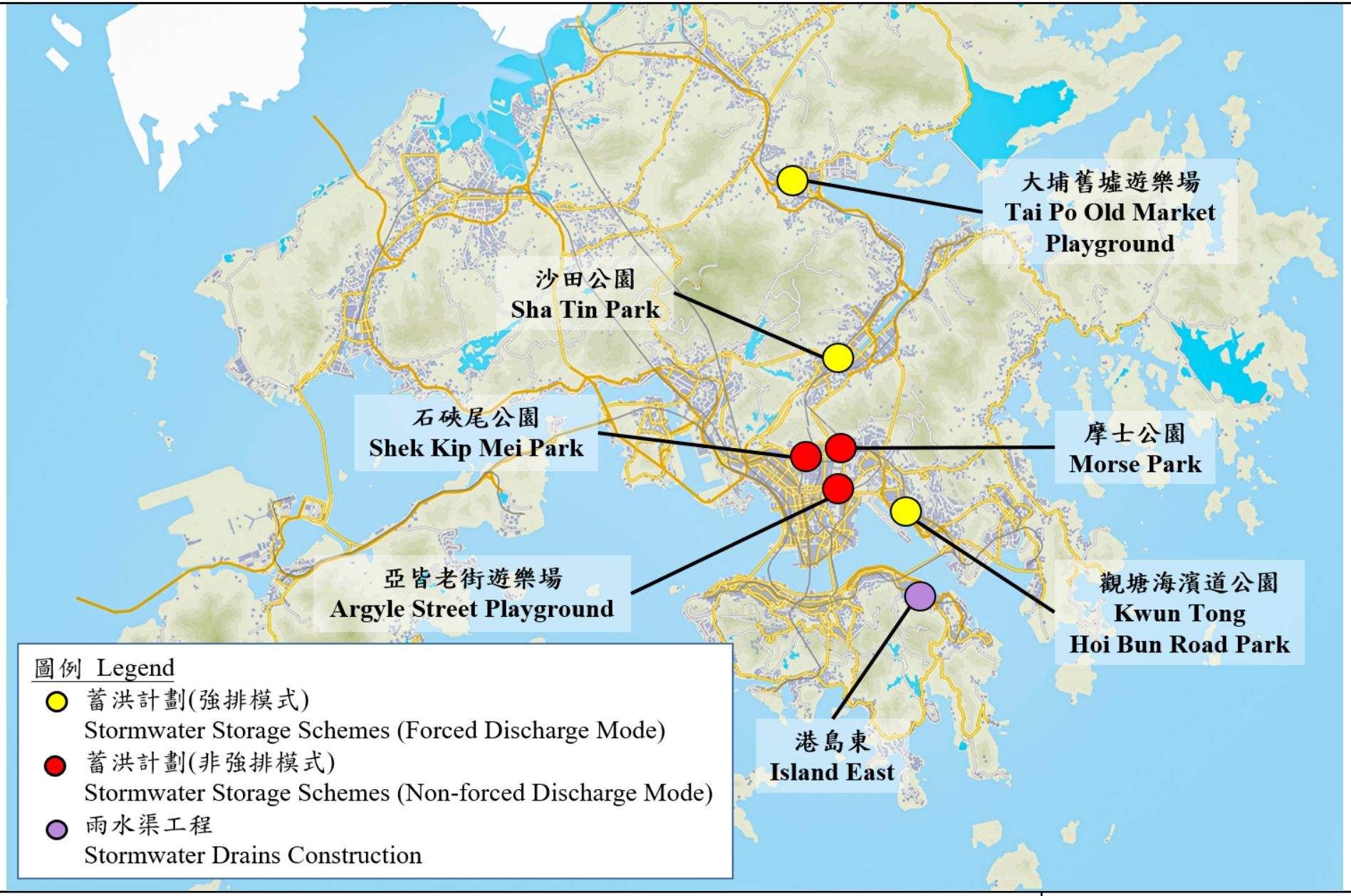
DRAINAGE SERVICES DEPARTMENT



7項擬議的雨水排放系統改善工程
7 PROPOSED DRAINAGE IMPROVEMENT WORKS

渠務署
DRAINAGE SERVICES DEPARTMENT

174CD – Drainage improvement works in Mong Kok

PROJECT SCOPE AND NATURE

The part of **174CD** we propose to upgrade as **197CD** to Category A comprises –

(a) construction of an underground stormwater storage tank with a capacity of about 49 000 cubic metres (m^3) and the associated above ground structure[1] at Shek Kip Mei Park;

(b) re-provision and enhancement of part of Shek Kip Mei Park[2];

(c) construction of stormwater drains of about 530 metres (m) long with diameters ranging from 225 millimetres (mm) to 1.2 m at Cornwall Street, Tai Hang Tung Road and Embankment Road; and

(d) carrying out ancillary works[3].

2. A layout plan, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 3 to Enclosure 2**.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around five years, with the underground stormwater storage tank targeting for completion in around four and a half years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, the children's play facilities, elderly fitness facilities, water feature, amphitheatre and elevated walkway will be temporarily closed. The above facilities will be re-provisioned and enhanced. The enhancements include diversified children's play facilities, smart fitness facilities and water play facilities.

[3] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

4. For the remaining works[4] of **174CD**, we will seek funding for the relevant works only after the completion of the detailed design.

JUSTIFICATION

5. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in Mong Kok near Boundary Street and Nathan Road were increased. The drainage capacity of the long-established existing stormwater drainage system in Mong Kok needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

6. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank and stormwater drains. Specifically, we plan to construct an underground stormwater storage tank and the associated stormwater drains in Shek Kip Mei Park. During heavy rainstorm, stormwater will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to the downstream drainage system in the vicinity of Boundary Street and Nathan Road only after the peak flow. Upon the completion of the drainage improvement works, the capacity of the drainage system concerned will be upgraded and the flood risks in the above-mentioned areas will be alleviated.

7. To facilitate the construction of the proposed underground stormwater storage scheme, part of the facilities in Shek Kip Mei Park will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed underground stormwater storage tank.

/**FINANCIAL** …..

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[4] The remaining works include extension of Tai Hang Tung stormwater storage tank.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be $1,237.8 million in money-of-the-day (MOD) prices, broken down as follows –

			$ million (in MOD prices)
(a)	Construction of an underground stormwater storage tank and the associated above ground structure[5]		786.9
	(i) Structural works[6]	300.0	
	(ii) Excavation works[7]	341.5	
	(iii) Foundation works[8]	88.5	
	(iv) Architectural and building services works	36.9	
	(v) Electrical and mechanical works	20.0	
(b)	Re-provision and enhancement of open spaces		137.9
(c)	Construction of stormwater drains[9]		42.2
(d)	Ancillary works		13.4
(e)	Environmental mitigation measures		12.4

/(f) …..

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5 Include construction of an underground stormwater storage tank of about 110 m in length, about 80 m in width and about 11 m in depth; and the above ground structure of about 30 m in length, about 27 m in width and about 6 m in height. The unit cost of the proposed stormwater storage scheme (non-forced discharge mode) is about $13,400 per m^3 (in September 2023 prices). This is on par with the range of about $8,300 to $17,700 per m^3 (in September 2023 prices) for construction of similar stormwater storage schemes (non-forced discharge mode) over the past few years.

6 Include reinforced concrete structures of the underground stormwater storage tank and associated above ground structure.

7 Include underground excavation and lateral support works of the underground stormwater storage tank and associated above ground structure.

8 Include construction of piled foundation works of the underground stormwater storage tank and associated above ground structure.

9 Include construction of about 530 m long stormwater drains with diameters ranging from 225 mm to 1.2 m. The unit cost of the proposed stormwater drains is about $66,400 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

			$ million (in MOD prices)
(f)	Consultants' fees for		8.8
	(i) contract administration[10]	6.0	
	(ii) management of resident site staff (RSS)	2.8	
(g)	Remuneration of RSS		123.7
(h)	Contingencies		112.5
		Total	1,237.8

9. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 4 to Enclosure 2**.

10. Subject to funding approval, we plan to phase the expenditure as follows –

Year	**$ million (in MOD prices)**
2024 – 25	32.1
2025 – 26	127.6
2026 – 27	253.0
2027 – 28	270.1
2028 – 29	233.0
2029 – 30	207.1
2030 – 31	70.6

/**Year** …..

[10] Include management of works progress, quality and works expenditures, etc.

Year	$ million (in MOD prices)
2031 – 32	30.6
2032 – 33	13.7
	1,237.8

11. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2033. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

12. We estimate the additional annual recurrent expenditure arising from this project to be $13.17 million.

13. In the design phase of the proposed works project, we have not only optimised the design of the Shek Kip Mei underground stormwater storage tank, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using prefabricated steel reinforcing bar products to construct stormwater storage tank structures and using precast units to construct manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

14. We consulted the Environment, Hygiene and Housing Affairs Committee of the Sham Shui Po District Council on 2 February 2023. Members had no objection to the proposed works.

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[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

15. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

16. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in January 2023. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

17. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $12.4 million (in MOD prices) in the project estimate as mentioned in paragraph 8(e) above for implementation of the necessary environmental mitigation measures.

18. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[12]). We will encourage the contractor 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.

19. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to

/separate …..

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[12] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

20. We estimate that the proposed works will generate about 210 500 tonnes of construction waste. Of these, we will reuse about 18 400 tonnes (about 9%) of inert construction waste on site and deliver about 182 100 tonnes (about 86%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 10 000 tonnes (about 5%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $14.9 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

21. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

22. The proposed works project does not require resumption of private land.

TRAFFIC IMPLICATIONS

23. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the

/road …..

road sections as needed during construction[13]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

24. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

25. There are 145 trees within the proposed works boundary, of which 53 will be retained. The proposed works project will involve removal of 39 trees and transplantation of 53 trees. All trees to be removed or transplanted are not trees of particular interest[14]. Compensatory planting of 39 trees will be carried out as part of the project.

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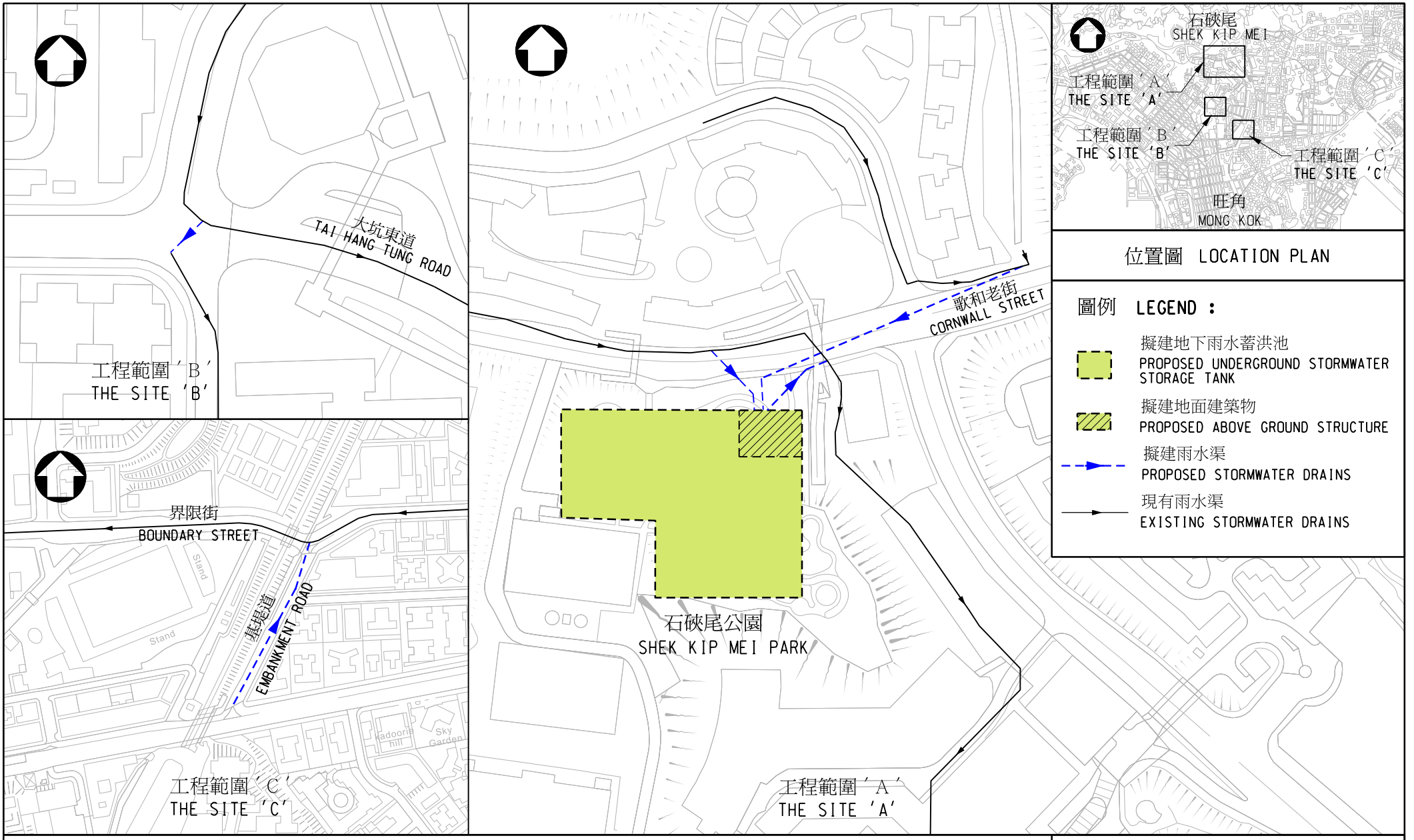
[13] At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 60% of the stormwater drains under this project will be constructed by trenchless method, and about 40% of the stormwater drains will be constructed by open excavation method.

[14] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.

26. We estimate that the proposed works will create about 160 jobs (120 for labourers and 40 for professional/technical staff), providing employment opportunities of a total of 8 200 man-months.

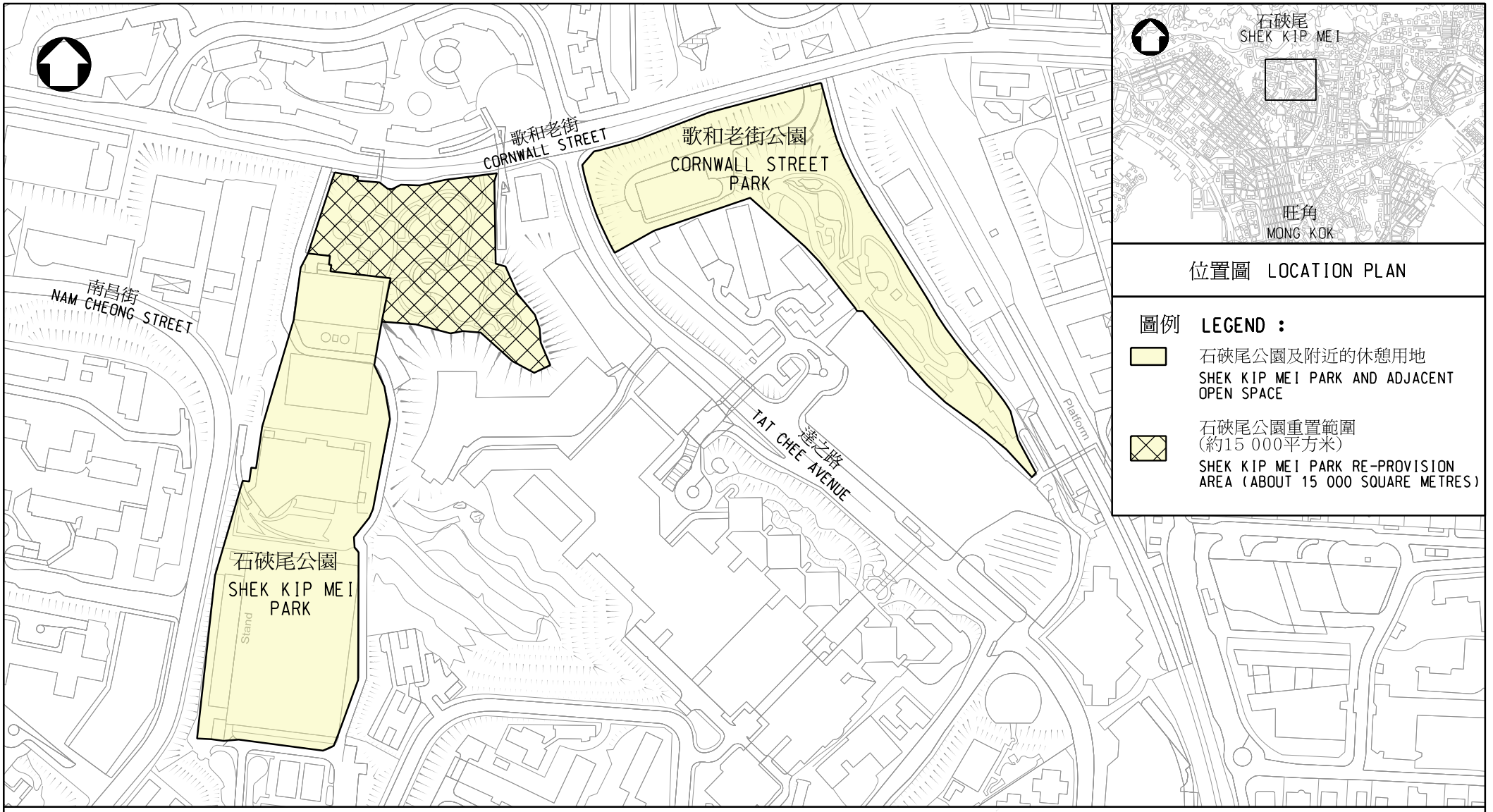


工務計劃項目第174CD號(部份) - 旺角雨水排放系統改善工程 - 第1期

PWP ITEM NO. 174CD (PART) - DRAINAGE IMPROVEMENT WORKS IN MONG KOK - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/174CD/11101



石硤尾公園重置範圍
SHEK KIP MEI PARK RE-PROVISION AREA

工務計劃項目第174CD號(部份) - 旺角雨水排放系統改善工程 - 第1期
PWP ITEM NO. 174CD (PART) - DRAINAGE IMPROVEMENT WORKS IN MONG KOK - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/174CD/11103



重置及優化部分石硤尾公園（構思圖）

RE-PROVISION AND ENHANCEMENT OF PART OF SHEK KIP MEI PARK (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第174CD號（部份）- 旺角雨水排放系統改善工程 - 第1期

PWP ITEM NO. 174CD (PART) - DRAINAGE IMPROVEMENT WORKS IN MONG KOK - PHASE 1

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/174CD/11102

174CD (part) – Drainage improvement works in Mong Kok

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	3.7
		Technical	-	-	-	1.3
					Sub-total	5.0#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	351	38	1.6	50.8
		Technical	1 053	14	1.6	54.6
					Sub-total	105.4
	Comprising –					
	(i) Consultants' fees for management of RSS				2.3#	
	(ii) Remuneration of RSS				103.1#	
					Total	**110.4**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **174CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **174CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of Enclosure 2.

176CD – Drainage improvement works in Wong Tai Sin

PROJECT SCOPE AND NATURE

The proposed scope of works under **176CD** comprises –

(a) construction of an underground stormwater storage tank with a capacity of about 47 000 cubic metres (m^3) and the associated above ground structure[1] at Morse Park in Wong Tai Sin;

(b) re-provision and enhancement of part of Morse Park[2];

(c) construction of stormwater drains of about 1.4 kilometres (km) long with diameters ranging from 1.2 metres (m) to 2.5 m at Wing Chuk Street, Chuk Yuen Road, Ma Chai Hang Road, Fung Mo Street, Wong Tai Sin Road and Po Kong Village Road in Wong Tai Sin;

(d) rehabilitation of stormwater drains of about 560 m long at Po Kong Village Road in Wong Tai Sin; and

(e) carrying out ancillary works[3].

2. A layout plan, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 3 to Enclosure 3**.

/3. …..

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, two seven-a-side hard-surface soccer pitches, an outdoor badminton court, planters and a staircase will be temporarily closed, while part of the open space adjacent to the sports centre will be converted to a temporary soccer pitch. The above facilities will be re-provisioned and enhanced. The enhancements include making use of the roof of the proposed electrical and mechanical plant rooms at the slope of Fung Mo Street to provide additional open space with smart fitness facilities.

[3] Ancillary works include provision of drain holes at the central divider of Lung Cheung Road and construction of transverse drainage channel at the upstream of Shatin Pass Road for alleviation of flood risk, as well as utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around five years, with the underground stormwater storage tank targeting for completion in around four and a half years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

JUSTIFICATION

4. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in the vicinity of Lung Cheung Road near Shatin Pass Road were increased[4]. The drainage capacity of the long-established existing stormwater drainage system in Wong Tai Sin needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

5. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank and stormwater drains. Specifically, we plan to construct an underground stormwater storage tank and the associated stormwater drains in Morse Park. During heavy rainstorm, the stormwater originally conveyed through the section of Lung Cheung Road in Wong Tai Sin will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to Kai Tai River at the downstream only after the peak flow. Upon the completion of the drainage improvement works, the capacity of the drainage system concerned will be upgraded and the flood risks in the above-mentioned areas will be alleviated.

6. To facilitate the construction of the proposed underground stormwater storage scheme, part of the facilities in Morse Park will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed stormwater storage tank.

/**FINANCIAL** …..

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[4] After the torrential rainstorm in September 2023, the Drainage Services Department has completed short term measures for improvement of the intake chamber at the upstream of Shatin Pass Road and the stepped channel adjacent to Wong Tai Sin Temple, and construction of additional drainage channel adjacent to Hsin Kuang Centre in order to alleviate the flood risk.

FINANCIAL IMPLICATIONS

7. We estimate the cost of the proposed works to be $1,539.4 million in money-of-the-day (MOD) prices, broken down as follows –

			$ million (in MOD prices)
(a)	Construction of an underground stormwater storage tank and the associated above ground structures[5]		884.4
	(i) Structural works[6]	298.5	
	(ii) Excavation works[7]	452.7	
	(iii) Foundation works[8]	86.1	
	(iv) Architectural and building services works	17.4	
	(v) Electrical and mechanical works	29.7	
(b)	Re-provision and enhancement of open spaces		112.7
(c)	Construction of stormwater drains[9]		158.1
(d)	Rehabilitation of stormwater drains		47.3

/(e) …..

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[5] Include construction of an underground stormwater storage tank of about 80 m in length, about 80 m in width and about 16 m in depth; and the associated above ground structures of about 46 m in length, about 8 m in width and about 5 m in height. The unit cost of the proposed underground stormwater storage tank for stormwater storage scheme (non-forced discharge mode) is about $15,500 per m^3 (in September 2023 prices). This is on par with the range of about $8,300 to $17,700 per m^3 (in September 2023 prices) for construction of similar stormwater storage schemes (non-forced discharge mode) over the past few years.

[6] Include reinforced concrete structures of the underground stormwater storage tank and associated above ground structure.

[7] Include underground excavation and lateral support works of the underground stormwater storage tank and associated above ground structure.

[8] Include construction of raft foundation works of the underground stormwater storage tank and associated above ground structure.

[9] Include construction of about 1.4 km long stormwater drains with diameters ranging from 1.2 m to 2.5 m. The unit cost of the proposed stormwater drains is about $93,000 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

			$ million (in MOD prices)
(e)	Ancillary works		22.0
(f)	Environmental mitigation measures		16.1
(g)	Consultants' fees for		5.0
	(i) contract administration[10]	2.2	
	(ii) management of resident site staff (RSS)	2.8	
(h)	Remuneration of RSS		153.9
(i)	Contingencies		139.9
	Total		1,539.4

8. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 4 to Enclosure 3**.

9. Subject to funding approval, we plan to phase the expenditure as follows –

Year	**$ million (in MOD prices)**
2024 – 25	35.3
2025 – 26	123.9
2026 – 27	255.9
2027 – 28	299.4

/ **Year** …..

[10] Include management of works progress, quality and works expenditures, etc.

Year	$ million (in MOD prices)
2028 – 29	337.3
2029 – 30	340.4
2030 – 31	54.1
2031 – 32	47.1
2032 – 33	46.0
	1,539.4

10. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2033. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

11. We estimate the additional annual recurrent expenditure arising from this project to be $7.05 million.

12. In the design phase of the proposed works project, we have not only optimised the design of the Wong Tai Sin underground stormwater storage tank, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using prefabricated steel reinforcing bar products to construct stormwater storage tank structures and using precast units to construct manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

/**PUBLIC** …..

[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

PUBLIC CONSULTATION

13. We consulted the Wong Tai Sin District Council (DC) and the District Facilities and Works Committee of the Wong Tai Sin DC in August 2022 and on 19 March 2024 respectively. Members had no objection to the proposed works.

14. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

15. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in March 2024. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

16. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $16.1 million (in MOD prices) in the project estimate as mentioned in paragraph 7(f) above for implementation of the necessary environmental mitigation measures.

17. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[12]). We will encourage the contractor 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.

/18. …..

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[12] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

18. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

19. We estimate that the proposed works will generate about 270 300 tonnes of construction waste. Of these, we will reuse about 28 500 tonnes (about 10%) of inert construction waste on site and deliver about 240 100 tonnes (about 89%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 1 700 tonnes (about 1%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $17.4 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

20. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

21. The proposed works project does not require resumption of private land.

TRAFFIC IMPLICATIONS

22. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the

/road …..

road sections as needed during construction[13]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

23. We have completed the detailed design of the proposed works mentioned in paragraph 1 above.

24. There are 178 trees within the proposed works boundary, of which 89 will be retained. The proposed works project will involve removal of 75 trees and transplantation of 14 trees. All trees to be removed or transplanted are not trees of particular interest[14]. Compensatory planting of 75 trees will be carried out as part of the project.

/25. …..

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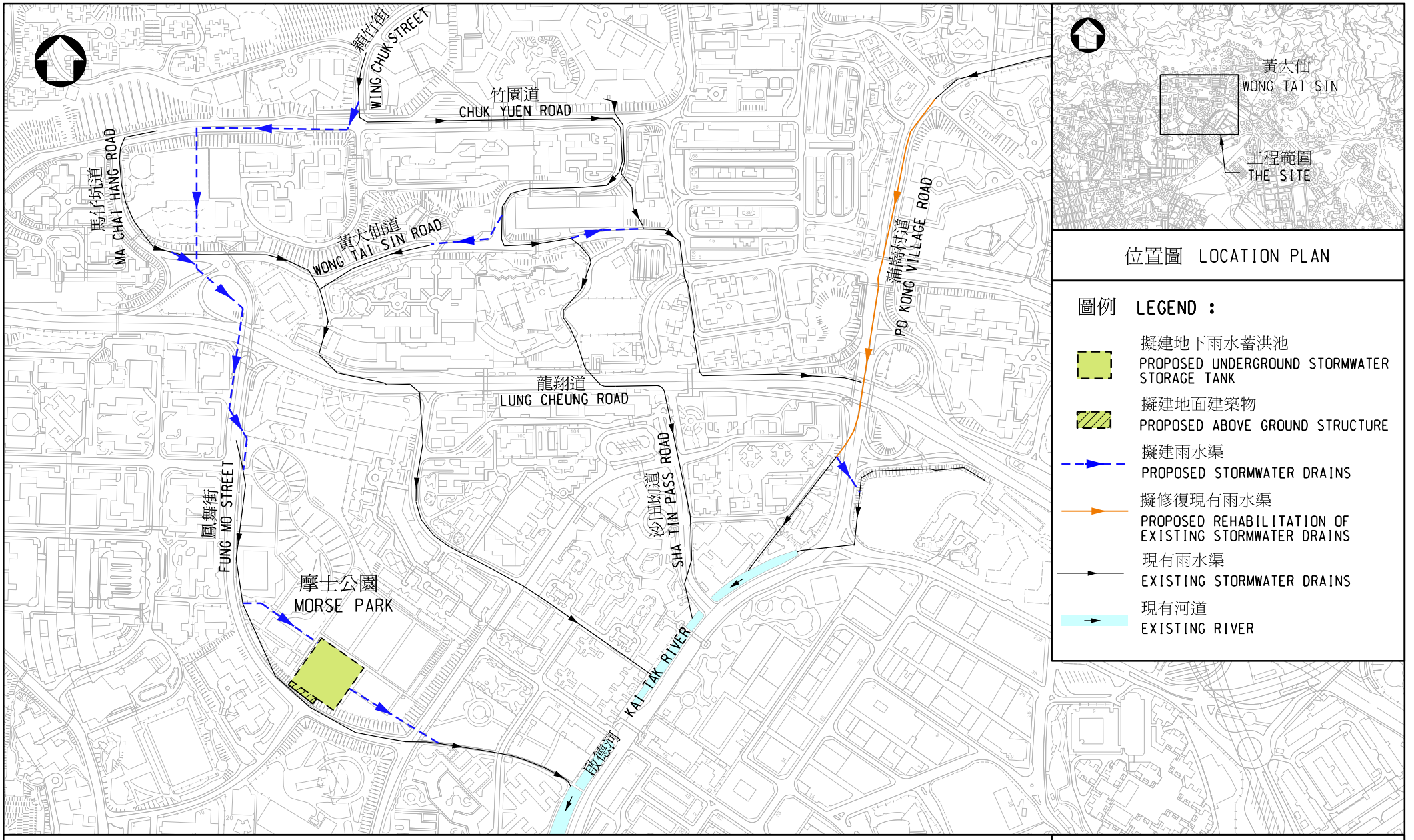
[13] At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 95% of the stormwater drains under this project will be constructed or repaired by trenchless method, and about 5% of the stormwater drains will be constructed by open excavation method.

[14] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.

25. We estimate that the proposed works will create about 190 jobs (150 for labourers and 40 for professional/technical staff), providing employment opportunities of a total of 10 100 man-months.

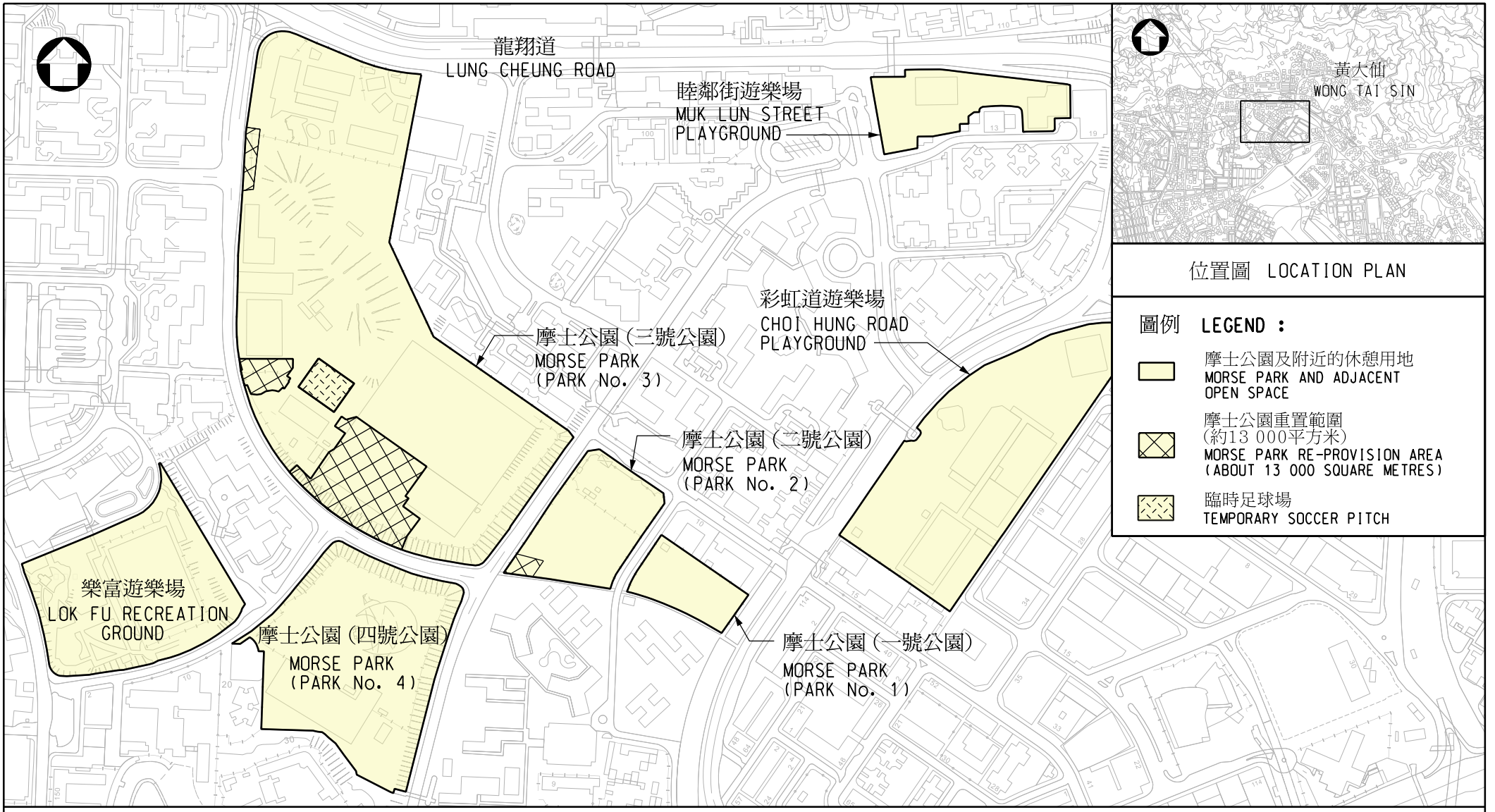


工務計劃項目第176CD號 - 黃大仙雨水排放系統改善工程

PWP ITEM NO. 176CD - DRAINAGE IMPROVEMENT WORKS IN WONG TAI SIN

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/176CD/11037



摩士公園重置範圍
MORSE PARK RE-PROVISION AREA

工務計劃項目第 176CD號 - 黃大仙雨水排放系統改善工程
PWP ITEM NO. 176CD - DRAINAGE IMPROVEMENT WORKS IN WONG TAI SIN

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/176CD/11039



重置及優化部分摩士公園 (構思圖)

RE-PROVISION AND ENHANCEMENT OF PART OF MORSE PARK (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第176CD號 - 黃大仙雨水排放系統改善工程

PWP ITEM NO. 176CD - DRAINAGE IMPROVEMENT WORKS IN WONG TAI SIN

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/176CD/11038

176CD – Drainage improvement works in Wong Tai Sin

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	1.2
		Technical	-	-	-	0.6
					Sub-total	1.8#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	429	38	1.6	62.1
		Technical	1 290	14	1.6	66.9
					Sub-total	129.0
	Comprising –					
	(i) Consultants' fees for management of RSS				2.3#	
	(ii) Remuneration of RSS				126.7#	
					Total	**130.8**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **176CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **176CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 7 of Enclosure 3.

177CD – Drainage improvement works in Kwun Tong

PROJECT SCOPE AND NATURE

The part of **177CD** we propose to upgrade as **198CD** to Category A comprises –

(a) construction of an underground stormwater storage tank with a capacity of about 25 000 cubic metres (m^3) and the associated above ground structure[1] at Kwun Tong Hoi Bun Road Park, and an underground stormwater pumping station and the associated above ground structure[1] at Kwun Tong Promenade;

(b) re-provision and enhancement of part of Kwun Tong Hoi Bun Road Park and Kwun Tong Promenade[2];

(c) construction of stormwater drains of about 3.4 kilometres long with diameters ranging from 225 millimetres (mm) to 2.4 metres (m) in the vicinity of Kwun Tong Road, Ngau Tau Kok Road, Hang Yip Street, Wai Yip Street and Hoi Bun Road; and

(d) carrying out ancillary works[3].

2. A layout plan, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 4 to Enclosure 4**.

/3. …..

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, a five-a-side soccer pitch, part of the promenade and Leisure and Cultural Services Department's store room will be temporarily closed. The above facilities will be re-provisioned and enhanced. The enhancements include provision of a sheltered spectator stand in the re-provisioned soccer pitch and provision of additional seats and amenity lawn in Kwun Tong Promenade

[3] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around five years, with the underground stormwater storage tank and the stormwater pumping station targeting for completion in around four and a half years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

4. For the remaining works[4] of **177CD**, we will seek funding for the relevant works only after the completion of the detailed design.

JUSTIFICATION

5. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in the vicinity of Kwun Tong near Ngau Tau Kok Station were increased. The drainage capacity of the long-established existing stormwater drainage system in Kwun Tong needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

6. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank, a stormwater pumping station, and stormwater drains. Specifically, we plan to construct an underground stormwater storage tank in Kwun Tong Hoi Bun Road Park, a stormwater pumping station and the associated stormwater drains in Kwun Tong Promenade. During heavy rainstorm, stormwater will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to Kwun Tong Typhoon Shelter via the proposed stormwater pumping station. Upon the completion of the drainage improvement works, the capacity of the drainage system concerned will be upgraded and the flood risks in the above-mentioned areas will be alleviated.

/7. …..

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[4] The remaining works include Kwun Tong Action Area stormwater storage scheme and the associated drainage improvement works.

7. To facilitate the construction of the proposed underground stormwater storage tank scheme, part of the facilities in Kwun Tong Hoi Bun Road Park and Kwun Tong Promenade will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed underground stormwater storage tank and stormwater pumping station.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be $1,216.9 million in money-of-the-day (MOD) prices, broken down as follows –

			$ million (in MOD prices)
(a)	Construction of underground stormwater storage tank, stormwater pumping station and the associated above ground structures[5]		717.6
	(i) Structural works[6]	273.4	
	(ii) Excavation works[7]	263.7	
	(iii) Foundation works[8]	77.9	
	(iv) Architectural and building services works	13.6	
	(v) Electrical and mechanical works	89.0	

/(b) …..

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[5] Include construction of an underground stormwater storage tank of about 51 m in length, about 45 m in width and about 18 m in depth; an underground stormwater pumping station of about 32 m in length, about 27 m in width and about 21 m in depth; and the associated above ground structures of about 41 m in length, about 12 m in width and about 5 m in height. The unit cost of the proposed stormwater storage scheme (forced discharge mode) is about $23,700 per m^3 (in September 2023 prices). This is slightly lower than the range of about $30,000 to $41,700 per m^3 (in September 2023 prices) for construction of similar stormwater storage schemes (forced discharge mode) over the past few years due to the relatively larger design capacity of this stormwater storage tank. Based on the economies of scale factor, unit cost of stormwater storage tank is relatively lower for stormwater water storage tank of relatively larger capacity.

[6] Include reinforced concrete structures of the underground stormwater storage tank, stormwater pumping station and associated above ground structures.

[7] Include underground excavation and lateral support works of the underground stormwater storage tank, stormwater pumping station and associated above ground structures.

[8] Include construction of piled foundation works of the underground stormwater storage tank, stormwater pumping station and associated above ground structures.

			$ million (in MOD prices)
(b)	Re-provision and enhancement of open spaces		57.2
(c)	Construction of stormwater drains[9]		178.8
(d)	Ancillary works		14.6
(e)	Environmental mitigation measures		8.5
(f)	Consultants' fees for		8.0
	(i) contract administration[10]	4.9	
	(ii) management of resident site staff (RSS)	3.1	
(g)	Remuneration of RSS		121.6
(h)	Contingencies		110.6
	Total		1,216.9

9. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 5 to Enclosure 4**.

/10. …..

[9] Include construction of about 3.4 km long stormwater drains with diameters ranging from 225 mm to 2.4 m. The unit cost of the proposed stormwater drains is about $43,400 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

[10] Include management of works progress, quality and works expenditures, etc.

10. Subject to funding approval, we plan to phase the expenditure as follows –

Year	$ million (in MOD prices)
2024 – 25	20.7
2025 – 26	92.9
2026 – 27	228.6
2027 – 28	257.8
2028 – 29	254.3
2029 – 30	246.6
2030 – 31	52.2
2031 – 32	34.4
2032 – 33	29.4
	1,216.9

11. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2033. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

12. We estimate the additional annual recurrent expenditure arising from this project to be $5.19 million.

13. In the design phase of the proposed works project, we have not only optimised the design of the Kwun Tong Hoi Bun Road Park underground /stormwater …..

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[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

stormwater storage tank and the Kwun Tong Promenade underground stormwater pumping station, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using prefabricated steel reinforcing bar products to construct stormwater storage tank structures and using precast units to construct manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

14. We consulted the Food, Environmental Hygiene and District Facilities Management Committee of the Kwun Tong District Council on 10 November 2022. Members had no objection to the proposed works.

15. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

16. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in December 2023. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

17. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $8.5 million (in MOD prices) in the project estimate as mentioned in paragraph 8(e) above for implementation of the necessary environmental mitigation measures.

18. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will

/require …..

require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[12]). We will encourage the contractor 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.

19. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

20. We estimate that the proposed works will generate about 168 500 tonnes of construction waste. Of these, we will reuse about 18 500 tonnes (about 11%) of inert construction waste on site and deliver about 146 700 tonnes (about 87%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 3 300 tonnes (about 2%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $11.1 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

21. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office.

/LAND …..

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[12] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

LAND ACQUISITION

22. The proposed works project does not require resumption of private land.

TRAFFIC IMPLICATIONS

23. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the road sections as needed during construction[13]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

24. In July 2022, we upgraded part of **177CD** to Category A as **192CD**, entitled "Drainage improvement works in Kwun Tong – Phase 1" at an Approved Project Estimate of $938.3 million in MOD prices. The construction works commenced in September 2022 and targeted for completion in 2028.

25. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

/26. …..

[13] At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 30% of the stormwater drains under this project will be constructed by trenchless method, and about 70% of the stormwater drains will be constructed by open excavation method.

26. There are 217 trees within the proposed works boundary, of which 132 will be retained. The proposed works project will involve removal of 45 trees and transplantation of 40 trees. All trees to be removed or transplanted are not trees of particular interest[14]. Compensatory planting of 45 trees will be carried out as part of the project.

27. We estimate that the proposed works will create about 140 jobs (110 for labourers and 30 for professional/technical staff), providing employment opportunities of a total of 7 700 man-months.

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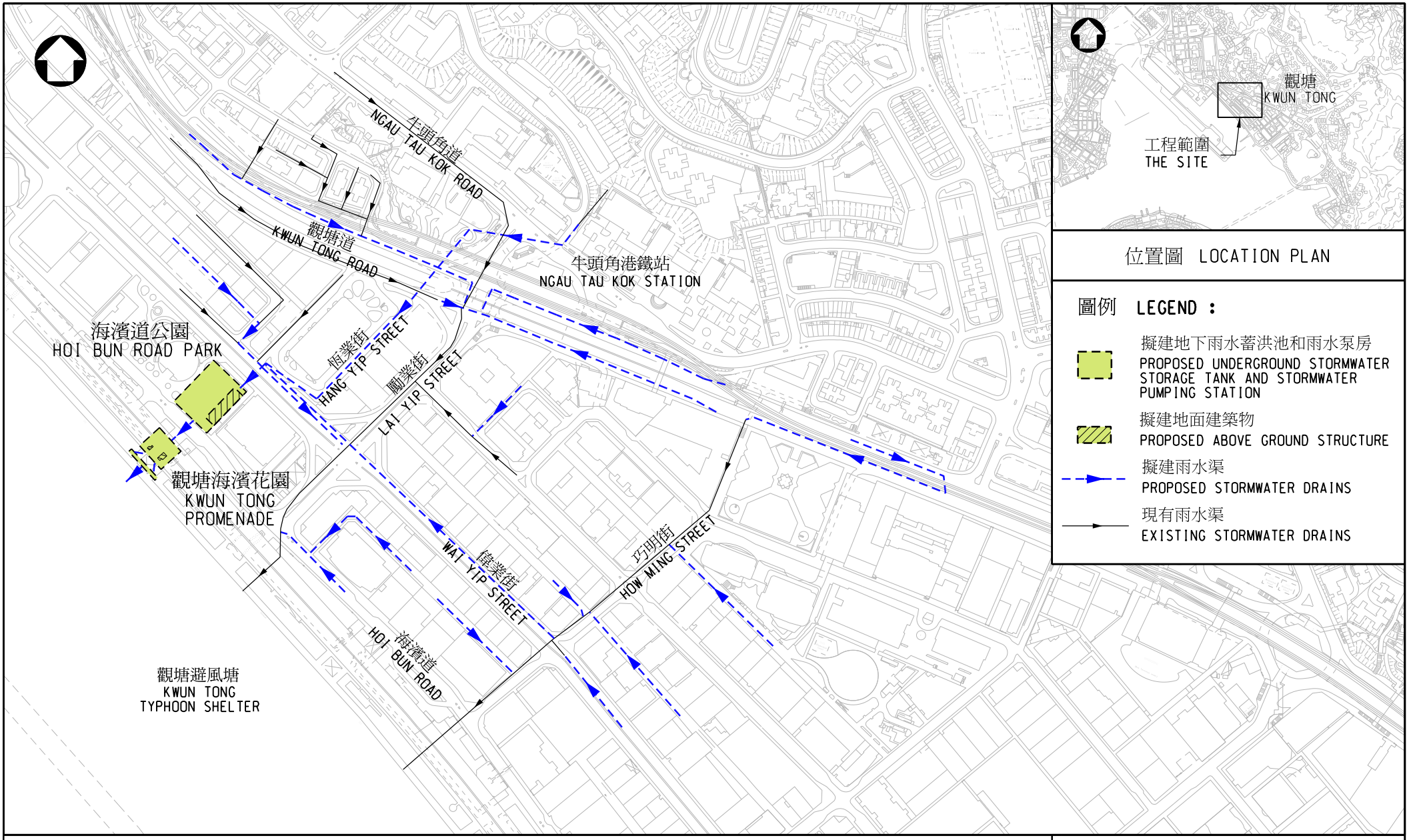
[14] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.

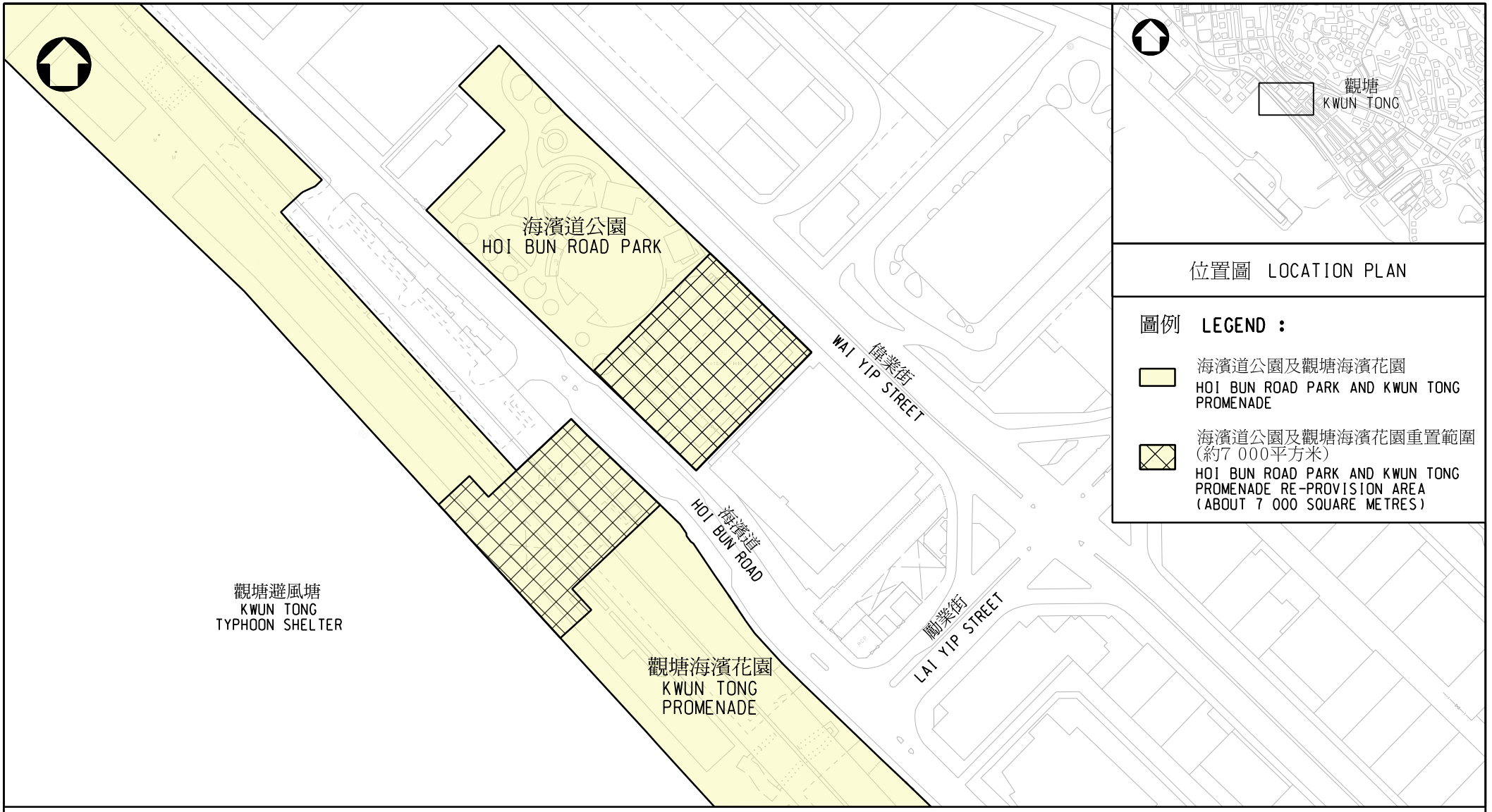


工務計劃項目第177CD號(部份) - 觀塘雨水排放系統改善工程 - 第2期

PWP ITEM NO. 177CD (PART) - DRAINAGE IMPROVEMENT WORKS IN KWUN TONG - PHASE 2

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/177CD/11024



海濱道公園及觀塘海濱花園重置範圍
HOI BUN ROAD PARK AND KWUN TONG PROMENADE RE-PROVISION AREA

工務計劃項目第177CD號(部份) - 觀塘雨水排放系統改善工程 - 第2期
PWP ITEM NO. 177CD (PART) - DRAINAGE IMPROVEMENT WORKS IN KWUN TONG - PHASE 2

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/177CD/11027



重置及優化部分海濱道公園（構思圖）

RE-PROVISION AND ENHANCEMENT OF PART OF HOI BUN ROAD PARK (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第177CD號（部份）- 觀塘雨水排放系統改善工程 - 第2期

PWP ITEM NO. 177CD (PART) - DRAINAGE IMPROVEMENT WORKS IN KWUN TONG - PHASE 2

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/177CD/11025



重置及優化部分觀塘海濱花園 (構思圖)

RE-PROVISION AND ENHANCEMENT OF PART OF KWUN TONG PROMENADE (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第177CD號 (部份) - 觀塘雨水排放系統改善工程 - 第2期

PWP ITEM NO. 177CD (PART) - DRAINAGE IMPROVEMENT WORKS IN KWUN TONG - PHASE 2

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/177CD/11028

177CD (part) – Drainage improvement works in Kwun Tong

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	2.6
		Technical	-	-	-	1.4
					Sub-total	4.0#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	334	38	1.6	48.4
		Technical	1 052	14	1.6	54.6
					Sub-total	103.0
	Comprising –					
	(i) Consultants' fees for management of RSS				2.6#	
	(ii) Remuneration of RSS				100.4#	
					Total	**107.0**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **177CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **177CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of Enclosure 4.

179CD – Drainage improvement works in Kowloon City

PROJECT SCOPE AND NATURE

The proposed scope of works under **179CD** comprises -

(a) construction of an underground stormwater storage tank with a capacity of about 75 000 cubic metres, a stormwater pumping station and the associated above ground structure [1] at Argyle Street Playground in Kowloon City;

(b) re-provision and enhancement of Argyle Street Playground[2];

(c) construction of stormwater drains of about 1.1 kilometres (km) long with diameters ranging from 600 millimetres (mm) to 2.1 metres (m) and single cell stormwater box culverts of about 500 m long with inner widths ranging from 3 m to 3.6 m and heights ranging from 1.3 m to 1.6 m at Olympic Avenue, Kowloon City Road, Ma Tau Kok Road in To Kwa Wan, and Baker Street, Lo Lung Hang Street, Bulkeley Street and Dock Street in Hung Hom; and

(d) carrying out ancillary works[3].

2. A layout plan, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 3 to Enclosure 5**.

/3. …..

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, a seven-a-side soccer pitch, elderly fitness facilities, children's play facilities, toilets and Leisure and Cultural Services Department's store room will be temporarily closed. The above facilities will be re-provisioned and enhanced. The enhancements include provision of diversified children's play facilities and smart fitness facilities.

[3] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around six years, with the re-provision of the soccer pitch targeting for completion in around five years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

JUSTIFICATION

4. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in the vicinity of To Kwa Wan near Sung Wong Toi Road, Mok Cheong Street, Kowloon City Road, Ma Tau Kok Road, Hung Hom near Baker Street, Lo Lung Hang Street, Bulkeley Street and Dock Street were increased. The drainage capacity of the long-established existing stormwater drainage system in To Kwa Wan and Hung Hom needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

5. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank, a stormwater pumping station and stormwater drains. Specifically, we plan to construct an underground stormwater storage tank, a stormwater pumping station and the associated stormwater drains in Argyle Street Playground. During heavy rainstorm, stormwater will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to the downstream drainage system in the vicinity of Sung Wong Toi Road and Mok Cheong Street via the proposed stormwater pumping station only after the peak flow. Upon the completion of the improvement works, the capacity of the stormwater drainage system concerned will be enhanced and the flood risks in the above-mentioned areas will be alleviated.

6. To facilitate the construction of the proposed underground stormwater storage scheme, whole Argyle Street Playground will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed underground stormwater storage tank and stormwater pumping station.

/FINANCIAL …..

FINANCIAL IMPLICATIONS

7. We estimate the cost of the proposed works to be $1,958.3 million in money-of-the-day (MOD) prices, broken down as follows –

			$ million (in MOD prices)
(a)	Construction of underground stormwater storage tank, stormwater pumping station, and the associated ground structures[4]		1,367.2
	(i) Structural works[5]	571.5	
	(ii) Excavation works[6]	650.1	
	(iii) Foundation works[7]	102.3	
	(iv) Architectural and building services works	18.9	
	(v) Electrical and mechanical works	24.4	
(b)	Re-provision and enhancement of open spaces		49.5

/(c) …..

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4 Include construction of underground stormwater storage tank of about 80 m in length, about 75 m in width and about 24 m in depth; and the associated above ground structures of about 44 m in length, about 18 m in width and about 13.5 m in height. The unit cost of the proposed underground stormwater storage tank for stormwater storage scheme (non-forced discharge mode) is about $14,800 per m^3 (in September 2023 prices). This is on par with the range of about $8,300 to $17,700 per m^3 (in September 2023 prices) for construction of similar stormwater storage schemes (non-forced discharge mode) over the past few years.

5 Include reinforced concrete structures of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

6 Include underground excavation and lateral support works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

7 Include construction of raft foundation works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

			$ million (in MOD prices)
(c)	Construction of stormwater drains[8] and box culvert[9]		118.2
(d)	Ancillary works		14.1
(e)	Environmental mitigation measures		26.3
(f)	Consultants' fees for		9.2
	(i) contract administration[10]	3.7	
	(ii) management of resident site staff (RSS)	5.5	
(g)	Remuneration of RSS		195.8
(h)	Contingencies		178.0
	Total		1,958.3

8. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 4 to Enclosure 5**.

/9. …..

[8] Include construction of about 1.1 km long stormwater drains with diameters ranging from 600 mm to 2.1 m. The unit cost of the proposed stormwater drains is about $56,200 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

[9] Include construction of single cell stormwater box culverts of about 500 m long with widths ranging from 3 m to 3.6 m and heights ranging from 1.3 m to 1.6 m. The unit cost of the proposed single cell stormwater box culverts is about $22,700 per m^2 (in September 2023 prices). This is on par with the range of about $22,300 to $26,900 per m^2 (in September 2023 prices) for construction of stormwater box culvert over the past years.

[10] Include management of works progress, quality and works expenditures, etc.

9. Subject to funding approval, we plan to phase the expenditure as follows –

Year	$ million (in MOD prices)
2024 – 25	41.2
2025 – 26	156.5
2026 – 27	258.9
2027 – 28	333.8
2028 – 29	415.3
2029 – 30	402.2
2030 – 31	162.9
2031 – 32	68.6
2032 – 33	61.1
2033 – 34	57.8
	1,958.3

10. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2034. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

11. We estimate the additional annual recurrent expenditure arising from this project to be $9.42 million.

12. In design phase of the proposed works project, we have not only optimised the design of the Argyle Street Playground underground stormwater

/storage …..

[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

storage tank and stormwater pumping station, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using prefabricated steel reinforcing bar products to construct stormwater storage tank structures, adopting Modular Integrated Construction method to construct toilets and using precast units to construct manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

13. We consulted the District Facilities and Works Committee of the Kowloon City District Council on 5 March 2024. Members had no objection to the proposed works.

14. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

15. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in April 2024. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

16. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $26.3 million (in MOD prices) in the project estimate as mentioned in paragraph 7(e) above for implementation of the necessary environmental mitigation measures.

17. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will

/require …..

require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[12]). We will encourage the contractor 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.

18. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

19. We estimate that the proposed works will generate about 336 300 tonnes of construction waste. Of these, we will reuse about 31 200 tonnes (about 9%) of inert construction waste on site and deliver about 299 200 tonnes (about 89%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 5 900 tonnes (about 2%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfill sites is estimated to be about $22.4 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

20. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office (AMO). However, due to the construction of stormwater drains at Olympic Avenue is located near the site of Sacred Hill, which has archaeological potential according to past record, we will implement the mitigation measures as

/recommended …..

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[12] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

recommended in the Detailed Heritage Review Report approved by AMO during the course of works. In case of discovery of any archaeological finds or supposed heritage, we will inform AMO immediately.

LAND ACQUISITION

21. The proposed works project does not require resumption of private land.

TRAFFIC IMPLICATIONS

22. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the road sections as needed during construction[13]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

23. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

/24. …..

[13] At critical locations, such as narrow sections of roads with heavy taffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 60% of the stormwater drains under this project will be constructed by trenchless method, and about 40% of the stormwater drains will be constructed by open excavation method.

24. There are 30 trees within the proposed works boundary, of which 6 will be retained. The proposed works project will involve removal of 14 trees and transplantation of 10 trees. All trees to be removed or transplanted are not trees of particular interest[14]. Compensatory planting of 14 trees will be carried out as part of the project.

25. We estimate that the proposed works will create about 200 jobs (160 for labourers and 40 for professional/technical staff), providing employment opportunities of a total of 12 600 man-months.

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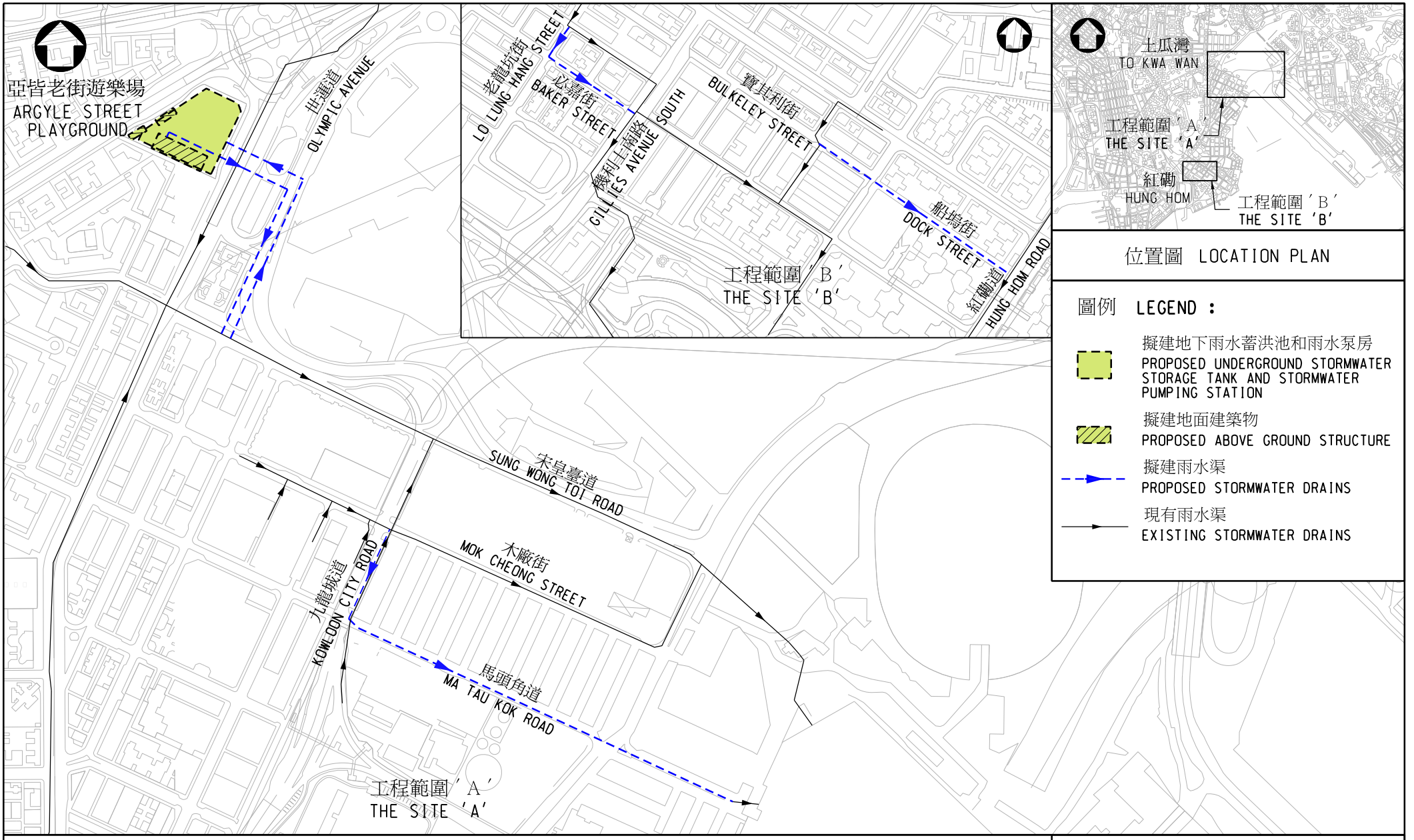
[14] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.



位置圖 LOCATION PLAN

圖例 LEGEND :

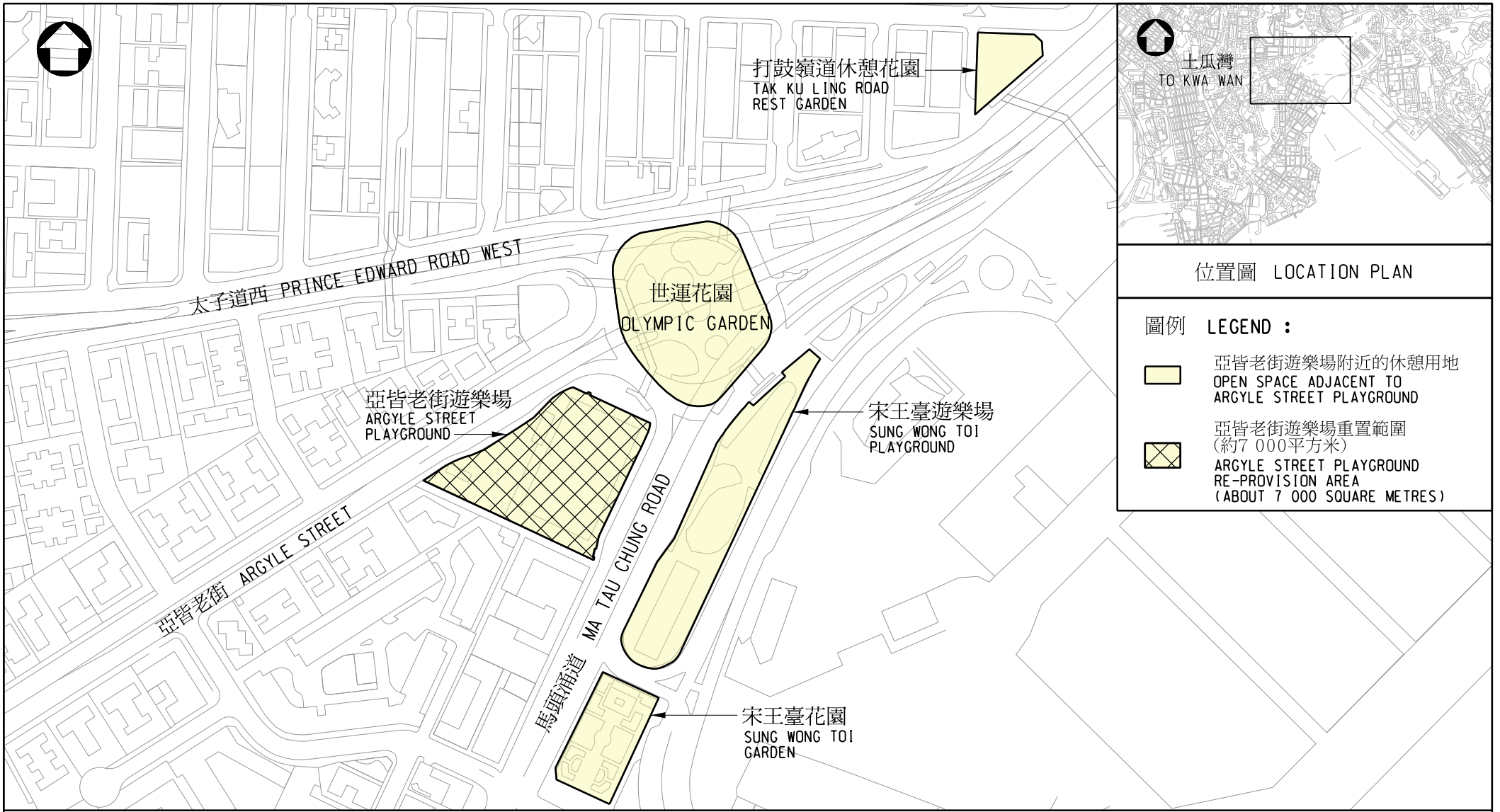
- 擬建地下雨水蓄洪池和雨水泵房 PROPOSED UNDERGROUND STORMWATER STORAGE TANK AND STORMWATER PUMPING STATION
- 擬建地面建築物 PROPOSED ABOVE GROUND STRUCTURE
- 擬建雨水渠 PROPOSED STORMWATER DRAINS
- 現有雨水渠 EXISTING STORMWATER DRAINS

工務計劃項目第179CD號 - 九龍城雨水排放系統改善工程

PWP ITEM NO. 179CD - DRAINAGE IMPROVEMENT WORKS IN KOWLOON CITY

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/179CD/11054



亞皆老街遊樂場重置範圍
ARGYLE STREET PLAYGROUND RE-PROVISION AREA

工務計劃項目第179CD號 - 九龍城雨水排放系統改善工程
PWP ITEM NO. 179CD - DRAINAGE IMPROVEMENT WORKS IN KOWLOON CITY

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/179CD/11057



重置及優化亞皆老街遊樂場（構思圖）

RE-PROVISION AND ENHANCEMENT OF ARGYLE STREET PLAYGROUND (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第179CD號 - 九龍城雨水排放系統改善工程

PWP ITEM NO. 179CD - DRAINAGE IMPROVEMENT WORKS IN KOWLOON CITY

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DPM/179CD/11056

179CD – Drainage improvement works in Kowloon City

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	2.2
		Technical	-	-	-	0.8
					Sub-total	3.0#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	544	38	1.6	78.8
		Technical	1 631	14	1.6	84.6
					Sub-total	163.4
	Comprising –					
	(i) Consultants' fees for management of RSS				4.5#	
	(ii) Remuneration of RSS				158.9#	
					Total	**166.4**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **179CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **179CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 7 of Enclosure 5.

181CD – Drainage improvement works in Eastern District

PROJECT SCOPE AND NATURE

The part of **181CD** we propose to upgrade as **199CD** to Category A comprises –

(a) construction of stormwater drains of about 1.8 kilometres long with diameters ranging from 300 millimetres (mm) to 1.6 metres (m) at Kam Hong Street and Java Road in North Point, Yee Shun Street and Kam Yuen Lane in Chai Wan, Mount Parker Road in Quarry Bay, Wang Wa Street, Shau Kei Wan Main Street East and A Kung Ngam Road in Shau Kei Wan; and

(b) carrying out ancillary works[1].

2. A layout plan of the proposed works is at **Annex 1 to Enclosure 6**.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around two years to three and a half years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

4. For the remaining works of **181CD**, which include construction of a stormwater drainage tunnel in Eastern District, we will seek funding for the relevant works only after the completion of the detailed design.

/**JUSTIFICATION** …..

[1] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

JUSTIFICATION

5. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks at Kam Hong Street and Java Road in North Point, Yee Shun Street and Kam Yuen Lane in Chai Wan, Mount Parker Road in Quarry Bay, Wang Wa Street, Shau Kei Wan Main Street East and A Kung Ngam Road in Shau Kei Wan were increased[2]. The drainage capacity of the long-established existing stormwater drainage system in Eastern District needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

6. We propose carrying out the proposed works mentioned in paragraph 1 above. Upon completion of the drainage improvement works, the capacity of the drainage system concerned will be upgraded and the flood risk in the above-mentioned areas will be alleviated.

FINANCIAL IMPLICATIONS

7. We estimate the cost of the proposed works to be $268.3 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)
(a)	Construction of stormwater drains[3]	178.7
(b)	Ancillary works	15.6
(c)	Environmental mitigation measures	20.0
(d)	Consultants' fees for	2.9

/(i) …..

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[2] After the torrential rainstorm in September 2023, the Drainage Services Department had completed the construction of additional gullies and inlets at Chai Wan Road roundabout to alleviate the flood risk. In addition, the construction of underground packaged pumps at Chai Wan Road roundabout and the construction of stormwater drains at Fei Tsui Road, which is located at the upstream of Chai Wan Road roundabout, are in progress.

[3] Include construction of about 1.8 km long stormwater drains with diameters ranging from 300 mm to 1.6 m. The unit cost of the proposed stormwater drains is about $85,200 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

			$ million (in MOD prices)
	(i) contract administration[4]	2.3	
	(ii) management of resident site staff (RSS)	0.6	
(e)	Remuneration of RSS		26.8
(f)	Contingencies		24.3
		Total	268.3

8. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 2 to Enclosure 6**.

9. Subject to funding approval, we plan to phase the expenditure as follows –

Year	**$ million (in MOD prices)**
2024 – 25	7.2
2025 – 26	35.1
2026 – 27	52.0
2027 – 28	147.3
2028 – 29	10.0
2029 – 30	9.0
2030 – 31	7.7
	268.3

/10. …..

[4] Include management of works progress, quality and works expenditures, etc.

10. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2031. We will deliver the proposed works under New Engineering Contract (NEC)[5] form. The contract will provide for price adjustments.

11. We estimate the additional annual recurrent expenditure arising from this project to be $0.37 million.

12. In the design phase of the proposed works project, we optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using precast units to construct manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

13. We consulted the Planning, Works and Housing Committee of the Eastern District Council on 18 October 2022. Members had no objection to the proposed works.

14. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

15. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in March 2022. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

16. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using

/quieter …..

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[5] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $20.0 million (in MOD prices) in the project estimate as mentioned in paragraph 7(c) above for implementation of the necessary environmental mitigation measures.

17. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[6]). We will encourage the contractor 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.

18. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

19. We estimate that the proposed works will generate about 25 300 tonnes of construction waste. Of these, we will reuse about 10 200 tonnes (about 40%) of inert construction waste on site and deliver about 14 600 tonnes (about 58%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 500 tonnes (about 2%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $1.1 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

/**HERITAGE** …..

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[6] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

HERITAGE IMPLICATIONS

20. The Antiquities and Monuments Office mentioned that there are two historic buildings in the vicinity of the proposed works areas at A Kung Ngam Road[7], Shau Kei Wan Main Street East and Wang Wa Street[8]. Nevertheless, the proposed locations of works are at certain distances from the historic buildings and the scale of the proposed works is relatively small. We anticipate that the proposed works will not constitute unacceptable impacts on the historic buildings. We will implement appropriate mitigation measures[9] recommended in the Project Profile and the approved preliminary environmental review report.

LAND ACQUISITION

21. The proposed works do not require resumption of private land.

TRAFFIC IMPLICATIONS

22. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the road sections as needed during construction[10]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

/**BACKGROUND** …..

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7 Tsung Tsin Mission of Hong Kong Shaukiwan Church (N50 historic building) at A Kung Ngam Road is located within 50 m from the proposed works area at A Kung Ngam Road.

8 Shing Wong Temple (Grade 3 historic building) at Kam Wa Street, Shau Kei Wan is located within 50 m from the proposed works areas at Shau Kei Wan Main Street East and Kam Wa Street.

9 For example, setting up checkpoints for monitoring vibration, tilting and settlement, and selecting construction method and machinery with a goal to minimise the impact on the works.

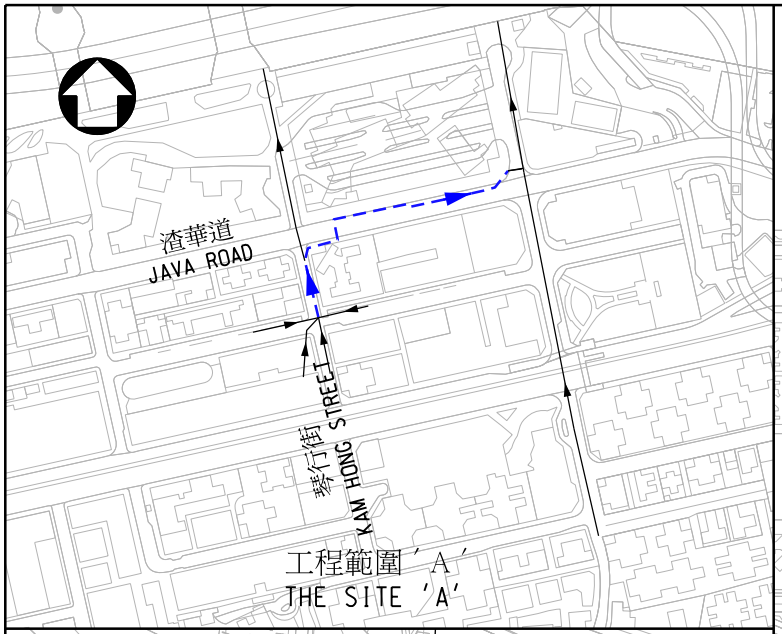
10 At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 60% of the stormwater drains under this project will be constructed by trenchless method, and about 40% of the stormwater drains will be constructed by open excavation method.

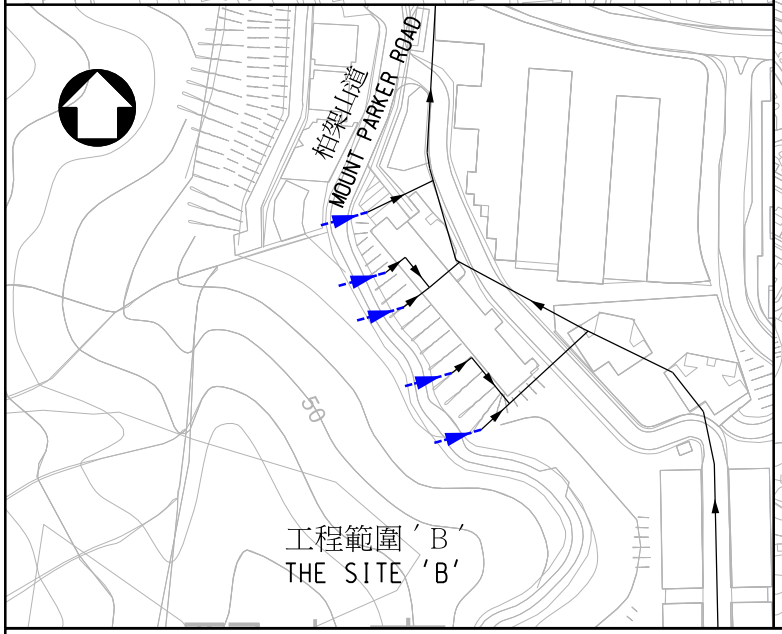
BACKGROUND INFORMATION

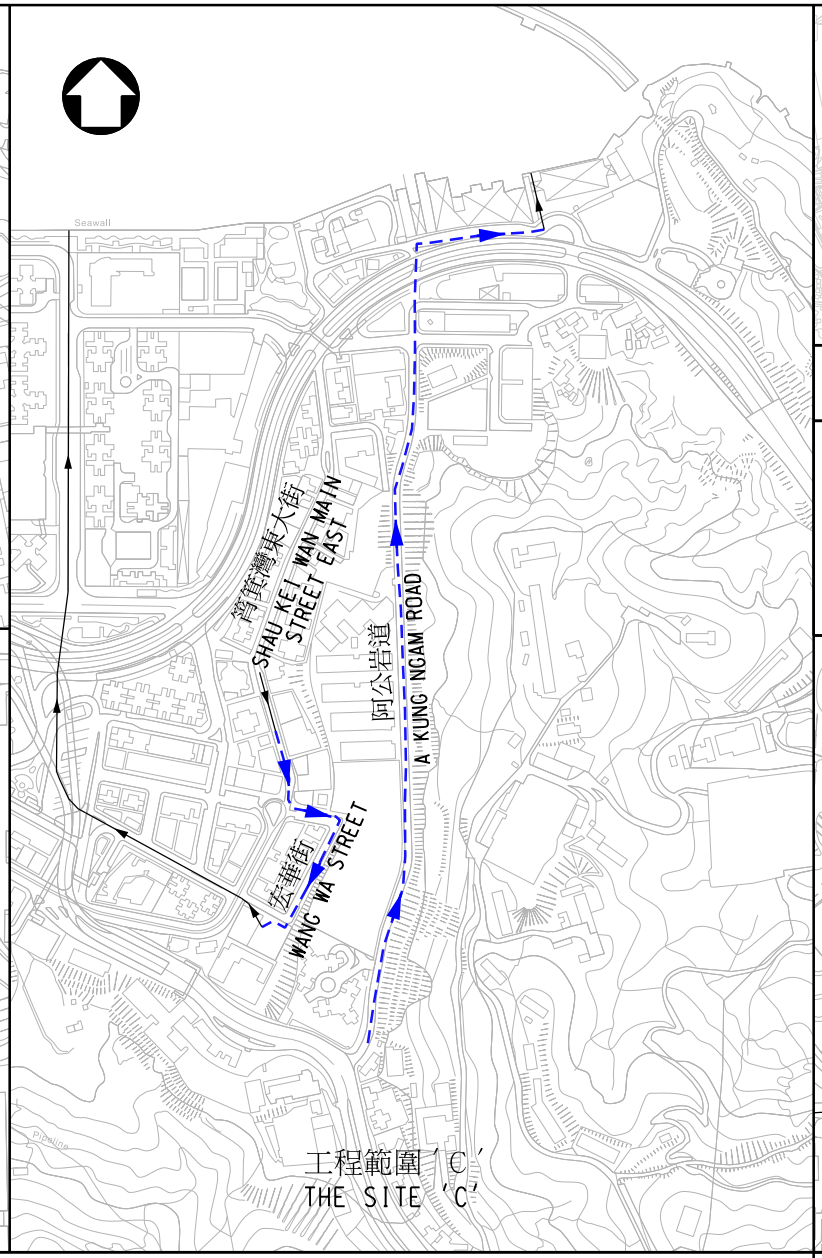
23. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

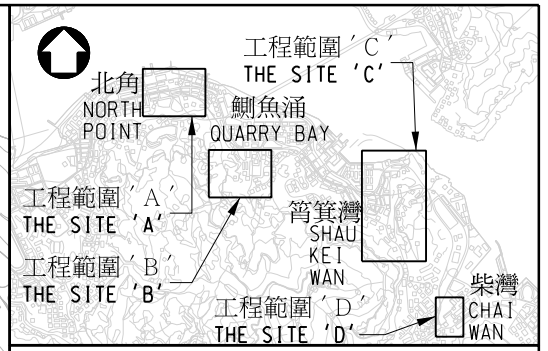
24. The proposed works project will not involve any tree removal or transplantation proposal.

25. We estimate that the proposed works will create about 50 jobs (40 for labourers and 10 for professional/technical staff), providing employment opportunities of a total of 1 900 man-months.







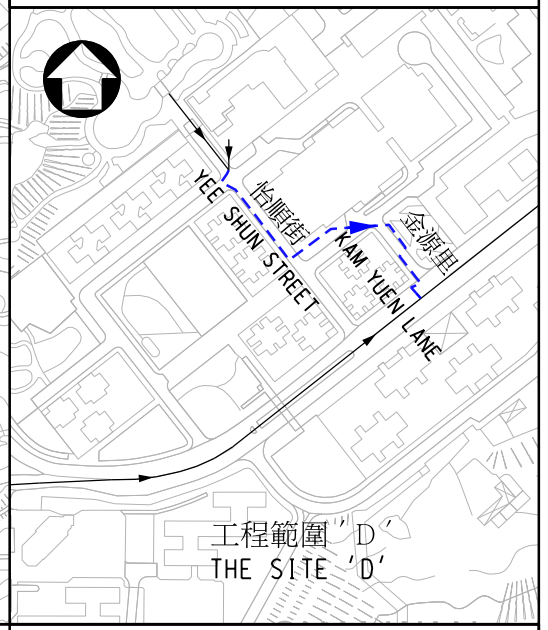


位置圖 LOCATION PLAN

圖例 LEGEND :

擬建雨水渠
PROPOSED STORMWATER DRAINS

現有雨水渠
EXISTING STORMWATER DRAINS



工務計劃項目第181CD號(部份) - 東區雨水排放系統改善工程 - 第1期

PWP ITEM NO. 181CD (PART) - DRAINAGE IMPROVEMENT WORKS IN EASTERN DISTRICT - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/181CD/11101

181CD (part) – Drainage improvement works in Eastern District

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	1.5
		Technical	-	-	-	0.5
					Sub-total	2.0#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	78	38	1.6	11.3
		Technical	235	14	1.6	12.2
					Sub-total	23.5
	Comprising –					
	(i) Consultants' fees for management of RSS				0.5#	
	(ii) Remuneration of RSS				23.0#	
					Total	**25.5**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **181CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **181CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 7 of Enclosure 6.

182CD – Drainage improvement works in Sha Tin and Sai Kung

PROJECT SCOPE AND NATURE

The part of **182CD** we propose to upgrade as **200CD** to Category A comprises –

(a) construction of an underground stormwater storage tank with a capacity of about 8 600 cubic metres, a stormwater pumping station and the associated above ground structure[1] at Sha Tin Park;

(b) re-provision and enhancement of part of Sha Tin Park[2];

(c) construction of stormwater drains of about 1.6 kilometres (km) long with diameters ranging from 375 millimetres (mm) to 2.2 metres (m) at Pak Hok Ting Street, Sha Tin Centre Street, Yi Ching Lane and Tai Po Road – Sha Tin in Sha Tin, and Po Lo Che Road in Sai Kung;

(d) improvement of existing drainage channels of about 90 m long by increasing the height by 1 m at Wong Chuk Yeung Village in Sha Tin;

(e) construction of flood walls of about 1.8 km long and about 1 m tall along Shing Mun River and at Kau To Hang in Sha Tin; and

(f) carrying out ancillary works[3].

2. The layout plans, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 4 to Enclosure 7**.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target

/completion ….

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, the elderly fitness facilities, sheltered seats and pebble walking trail will be temporarily closed. The above facilities will be re-provisioned and enhanced. The enhancements include smart fitness facilities.

[3] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

completion in stages in around five years, with the underground stormwater storage tank and the stormwater pumping station targeting for completion in around three years and nine months. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

4. For the remaining works[4] of **182CD**, we will seek funding for the relevant works only after the completion of the detailed design.

JUSTIFICATION

5. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in Sha Tin and in the vicinity of Po Lo Che in Sai Kung were increased. The drainage capacity of the long-established existing stormwater drainage system in Sha Tin and Sai Kung needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

6. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank, a stormwater pumping station, stormwater drains, flood walls and improvement of existing drainage channels. Specifically, we plan to construct an underground stormwater storage tank, a stormwater pumping station and the associated stormwater drains in Sha Tin Park. During heavy rainstorm, the majority of the stormwater will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to Shing Mun River via the proposed stormwater pumping station. Upon the completion of the drainage improvement works, the capacity of the drainage system concerned will be upgraded and the flood risks in the above-mentioned areas will be alleviated.

7. To facilitate the construction of the proposed underground stormwater storage scheme, part of the facilities in Sha Tin

/Park …..

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[4] The remaining works include the construction of Chui Tin Street stormwater storage scheme and carrying out drainage improvement works at Pok Hong Estate, Fui Yiu Ha, Tai Po Road – Ma Liu Shui, Ma Ling Path, Hang Hong Street and Hang Kwong Street in Sha Tin and Ho Chung and Wong Chuk Wan in Sai Kung.

Park will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed underground stormwater storage tank and stormwater pumping station.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be $706.8 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)
(a)	Construction of underground stormwater storage tank, stormwater pumping station, and the associated above ground structure[5]	332.3
	(i) Structural works[6]	142.6
	(ii) Excavation works[7]	104.9
	(iii) Foundation works[8]	39.3
	(iv) Architectural and building services works	11.6
	(v) Electrical and mechanical works	33.9
(b)	Re-provision and enhancement of open spaces	19.8

/(c) …..

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[5] Includes the construction of an underground stormwater storage tank and stormwater pumping station of about 49 m in length, about 43 m in width and about 10 m in height; and the above ground structure of about 45 m in length, about 24 m in width and about 10 m in height. The unit cost of the proposed stormwater storage scheme (forced discharge mode) is about $32,300 per m^3 (in September 2023 prices). This is on par with the range of about $30,000 to $41,700 per m^3 (in September 2023 prices) for construction of similar stormwater storage schemes (forced discharge mode) over the past few years.

[6] Include reinforced concrete structures of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

[7] Include underground excavation and lateral support works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

[8] Include construction of piled foundation works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

			$ million (in MOD prices)
(c)	Construction of stormwater drains[9]		141.4
(d)	Improvement of existing drainage channels		8.5
(e)	Construction of flood walls		37.5
(f)	Ancillary works		14.8
(g)	Environmental mitigation measures		13.4
(h)	Consultants' fees for		4.3
	(i) contract administration[10]	3.1	
	(ii) management of resident site staff (RSS)	1.2	
(i)	Remuneration of RSS		70.6
(j)	Contingencies		64.2
	Total		706.8

9. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 5 to Enclosure 7**.

10. Subject to funding approval, we plan to phase the expenditure as follows –

/**Year** …..

[9] Include construction of about 1.6 km long stormwater drains with diameters ranging from 375 mm to 2.2 m. The unit cost of the proposed stormwater drains is about $73,800 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

[10] Include management of works progress, quality and works expenditures, etc.

Year	$ million (in MOD prices)
2024 – 25	10.5
2025 – 26	77.9
2026 – 27	148.8
2027 – 28	179.3
2028 – 29	122.3
2029 – 30	100.7
2030 – 31	36.7
2031 – 32	20.1
2032 – 33	10.5
	706.8

11. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2033. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

12. We estimate the additional annual recurrent expenditure arising from this project to be $5.23 million.

13. In design phase of the proposed works project, we have not only optimised the design of the Sha Tin Park underground stormwater storage tank and stormwater pumping station, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using

/prefabricated …..

[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

prefabricated steel reinforcing bar products to construct stormwater storage tank structures and using precast units to construct floodwalls and manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

14. We consulted the Health and Environment Committee, and Development, Housing and Environment and Health Committee of the Sha Tin District Council on 6 July 2021 and 19 July 2022 respectively, and the Food, Environment and Hygiene Committee Meeting of the Sai Kung District on 16 February 2024. Members had no objection to the proposed works.

15. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

16. The proposed works at Po Lo Che Road is an exempted designated project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) [12]. The remaining proposed works project is not DP under the EIAO. A Preliminary Environmental Review was conducted in December 2023. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

17. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $13.4 million (in MOD prices) in the project estimate

/as …..

[12] The network of drainage channels proposed to be upgraded at Po Lo Che Road, which falls within the Conservation Area, is built before 1 April 1998. According to Section 9(2)(g) of the Environmental Impact Assessment Ordinance, the proposed works are exempted from the provisions of this Ordinance.

as mentioned in paragraph 8(g) above for implementation of the necessary environmental mitigation measures.

18. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of trenchless construction to minimise the extent of excavation. In addition, we will require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[13]). We will encourage the contractor 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.

19. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

20. We estimate that the proposed works will generate about 95 800 tonnes of construction waste. Of these, we will reuse about 14 400 tonnes (about 15%) of inert construction waste on site and deliver about 79 500 tonnes (about 83%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 1 900 tonnes (about 2%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $6.0 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

/**HERITAGE** …..

[13] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

HERITAGE IMPLICATIONS

21. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

22. The proposed works project does not require resumption of private land.

TRAFFIC IMPLICATIONS

23. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the road sections as needed during construction[14]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

24. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

/25. …..

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[14] At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 60% of the stormwater drains under this project will be constructed by trenchless method, and about 40% of the stormwater drains will be constructed by open excavation method.

25. There are 266 trees within the proposed works boundary, of which 180 will be retained. The proposed works project will involve removal of 86 trees. All trees to be removed are not trees of particular interest[15]. Compensatory planting of 86 trees will be carried out as part of the project.

26. We estimate that the proposed works will create about 90 jobs (70 for labourers and 20 for professional/technical staff), providing employment opportunities of a total of 4 600 man-months.

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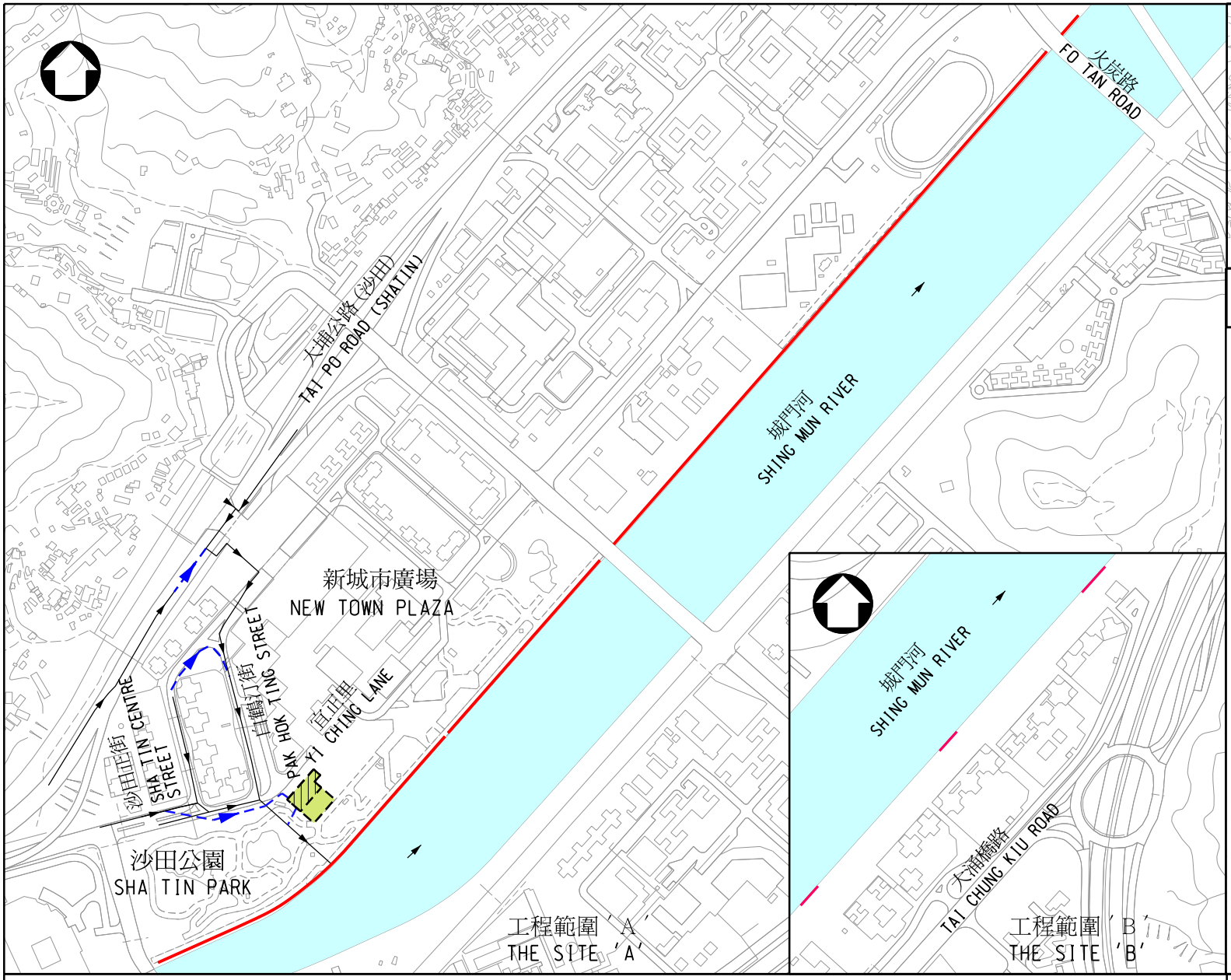
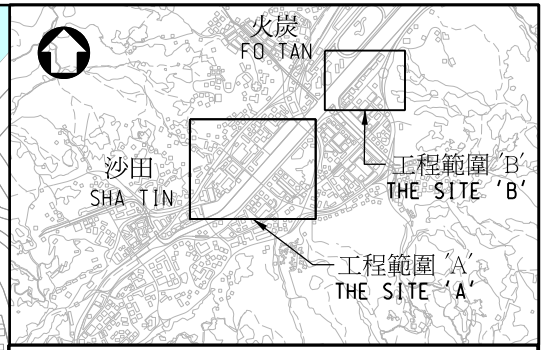
[15] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.





位置圖 LOCATION PLAN

圖例 LEGEND :

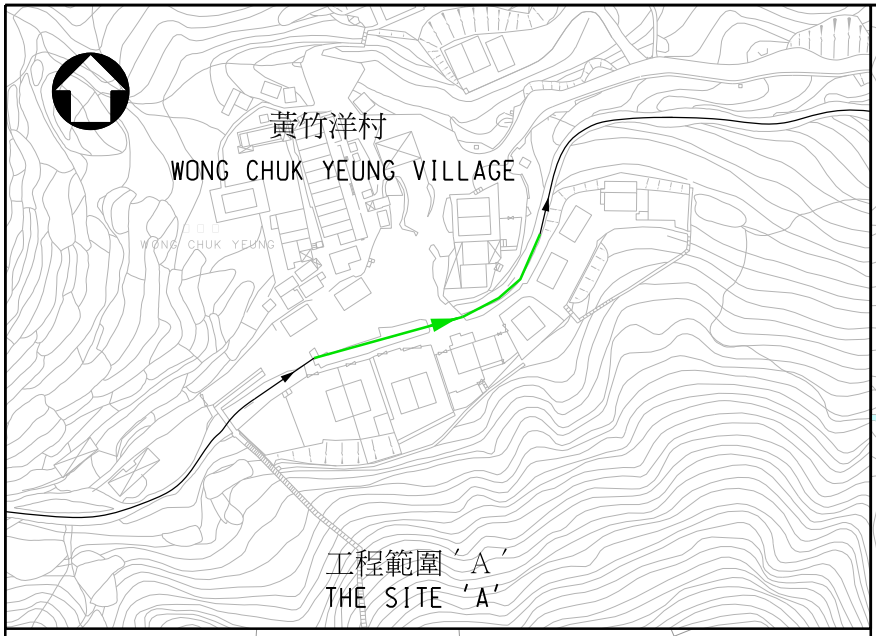
- 擬建地下雨水蓄洪池和雨水泵房 PROPOSED UNDERGROUND STORMWATER STORAGE TANK AND STORMWATER PUMPING STATION
- 擬建地面建築物 PROPOSED ABOVE GROUND STRUCTURE
- 擬建雨水渠 PROPOSED STORMWATER DRAINS
- 擬建防洪牆 PROPOSED FLOODWALL
- 現有雨水渠 EXISTING STORMWATER DRAINS
- 現有河道 EXISTING RIVER

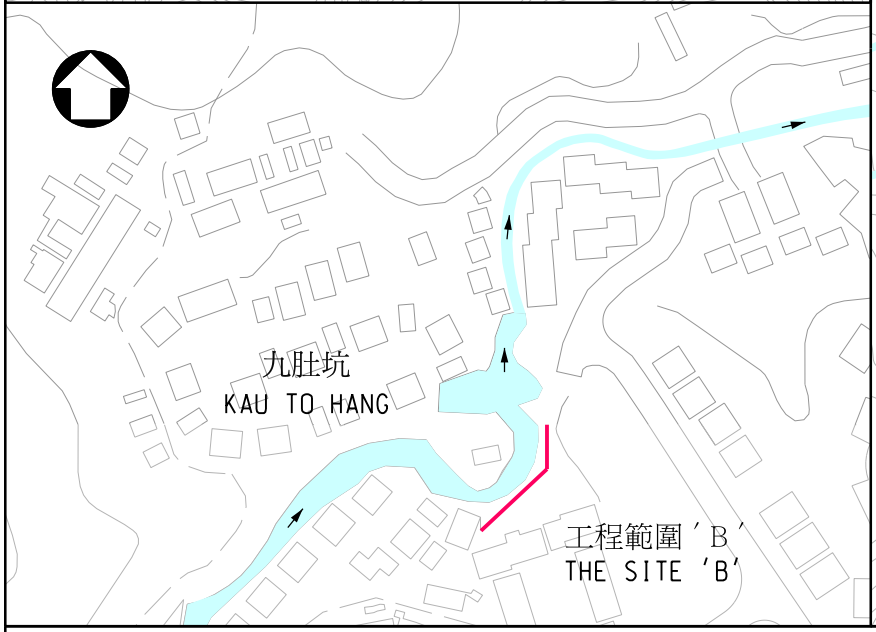
工務計劃項目第182CD號(部份) - 沙田及西貢雨水排放系統改善工程 - 第1期

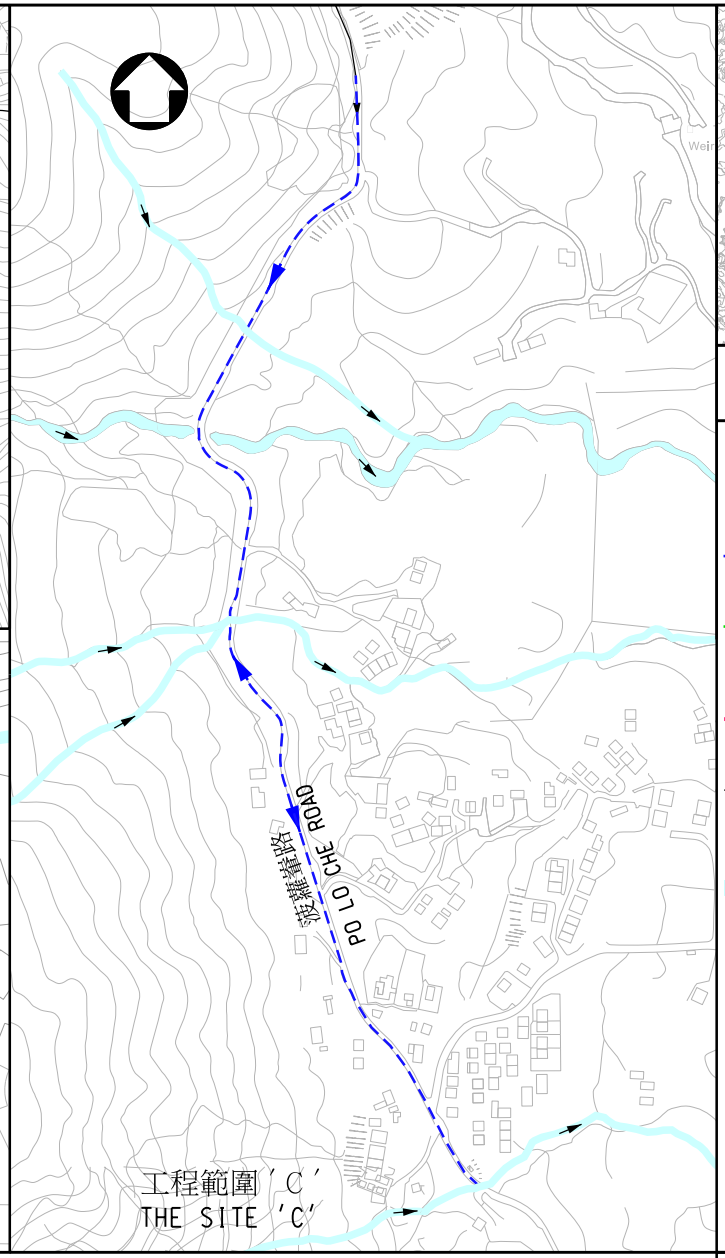
PWP ITEM NO. 182CD (PART) - DRAINAGE IMPROVEMENT WORKS IN SHA TIN AND SAI KUNG - PHASE 1

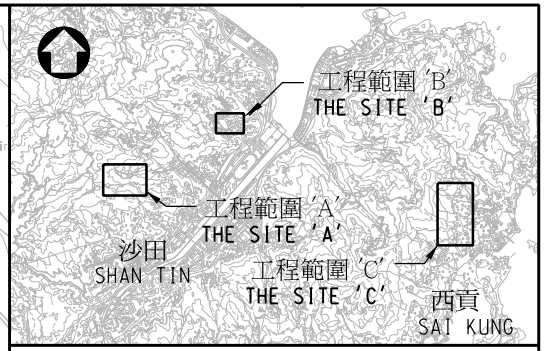
渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/182CD/11101









位置圖 LOCATION PLAN

圖例 LEGEND :

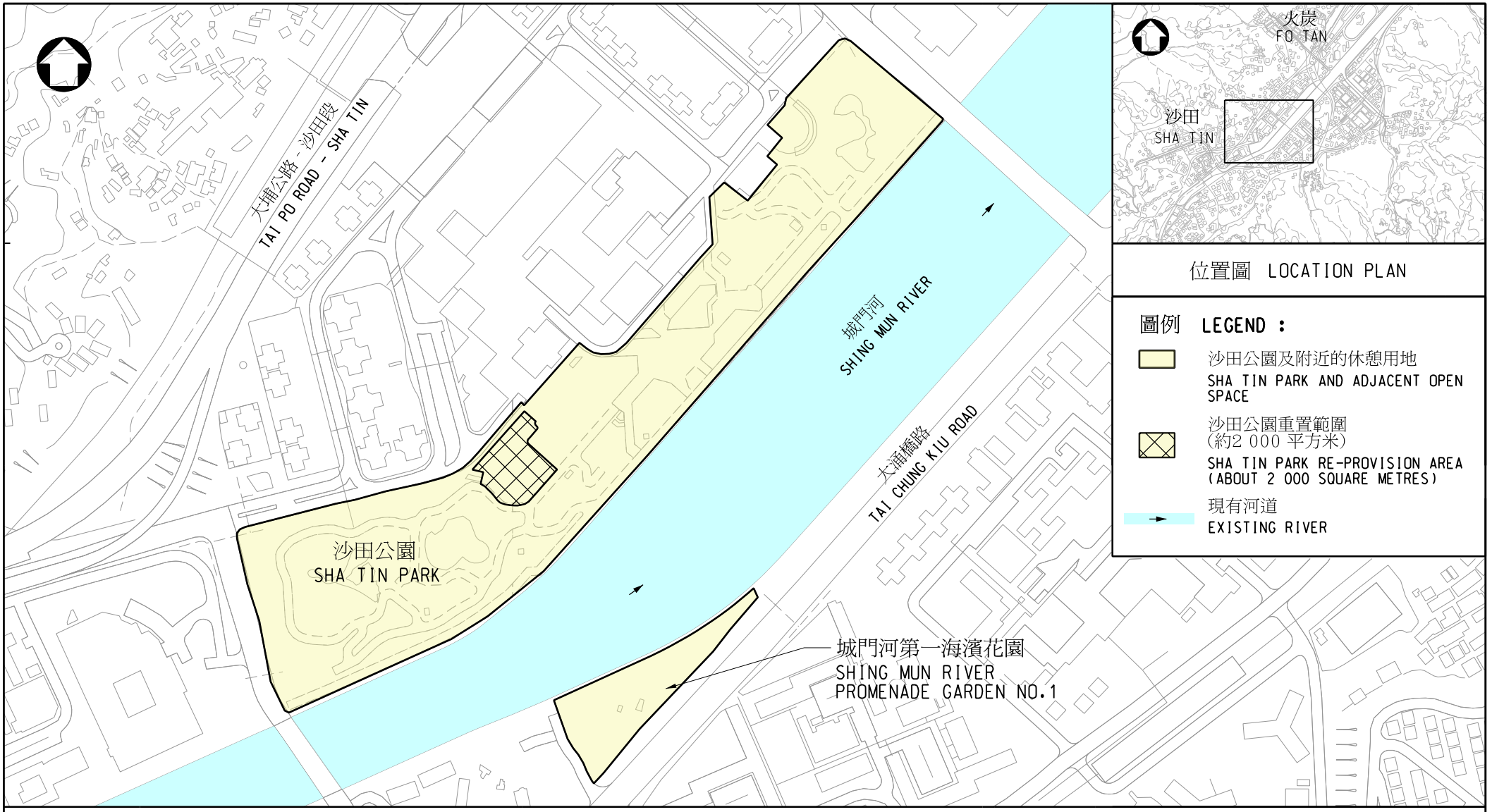
- 擬建雨水渠 PROPOSED STORMWATER DRAINS
- 改善現有排水道 IMPROVEMENT OF EXISTING DRAINAGE CHANNELS
- 擬建防洪牆 PROPOSED FLOODWALL
- 現有雨水渠/排水道 EXISTING STORMWATER DRAINS/ DRAINAGE CHANNELS
- 現有河道 EXISTING RIVERS

工務計劃項目第182CD號 (部份) - 沙田及西貢雨水排放系統改善工程 - 第1期

PWP ITEM NO. 182CD (PART) - DRAINAGE IMPROVEMENT WORKS IN SHA TIN AND SAI KUNG - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/182CD/11102



沙田公園重置範圍
SHA TIN PARK RE-PROVISION AREA

工務計劃項目第182CD號 (部份) - 沙田及西貢雨水排放系統改善工程 - 第1期
PWP ITEM NO. 182CD (PART) - DRAINAGE IMPROVEMENT WORKS IN SHA TIN AND SAI KUNG - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/182CD/11103



重置及優化部分沙田公園（構思圖）

RE-PROVISION AND ENHANCEMENT OF PART OF SHA TIN PARK (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第182CD號（部份）- 沙田及西貢雨水排放系統改善工程 - 第1期

PWP ITEM NO. 182CD (PART) - DRAINAGE IMPROVEMENT WORKS IN SHA TIN AND SAI KUNG - PHASE 1

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/182CD/16101

182CD (part) – Drainage improvement works in Sha Tin and Sai Kung

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	1.9
		Technical	-	-	-	0.7
					Sub-total	2.6#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	200	38	1.6	29.0
		Technical	595	14	1.6	30.9
					Sub-total	59.9
	Comprising –					
	(i) Consultants' fees for management of RSS				1.0#	
	(ii) Remuneration of RSS				58.9#	
					Total	**62.5**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **182CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **182CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of Enclosure 7.

183CD – Drainage improvement works in Tai Po

PROJECT SCOPE AND NATURE

The part of **183CD** we propose to upgrade as **201CD** to Category A comprises –

(a) construction of an underground stormwater storage tank with a capacity of 25 000 cubic metres, a stormwater pumping station and the associated above ground structure[1] at Tai Po Old Market Playground;

(b) re-provision and enhancement of part of Tai Po Old Market Playground[2];

(c) construction of stormwater drains of about 1.9 kilometres (km) long with diameters ranging from 300 millimetres to 3.2 metres (m) at Ting Kok Road, Tai Po Tai Wo Road, Chui Lok Street, Chui Wo Lane, Kau Hui Chik Street, Mei Sun Lane and Po Nga Road in Tai Po, and San Uk Pai Tsuen in Lam Tsuen Valley;

(d) improvement of existing drainage channels of about 200 m long by increasing the width from 4 m to 6 m at Sha Pa in Lam Tsuen Valley;

(e) construction of flood walls of about 1.2 km long and about 1 m tall along Lam Tsuen River in Tai Po; and

(f) carrying out ancillary works[3].

/2. …..

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[1] Above ground structure includes electrical and mechanical plant rooms and associated facilities.

[2] During the construction period, a basketball court, children's play facilities, elderly fitness facilities and the sundial will be temporarily closed. The above facilities will be re-provisioned and enhanced. The enhancements include diversified children's play facilities and smart fitness facilities.

[3] Ancillary works include utilities diversion, temporary closure and reinstatement of carriageways/footpaths/open space, landscaping works and other related works that are required for completion of the proposed works.

2. The layout plans, the affected area of open space to be re-provisioned and the associated artistic impression of the proposed works are at **Annexes 1 to 4 to Enclosure 8**.

3. We plan to commence the proposed works as soon as possible upon obtaining funding approval from the Finance Committee (FC) for target completion in stages in around five years, with the underground stormwater storage tank and the stormwater pumping station targeting for completion in around four and a half years. To meet the works programme, we have invited tenders in parallel to enable early commencement of the proposed works and the returned tender prices have been reflected in the estimated cost of the proposed project. The relevant contract will be awarded only after obtaining funding approval from the FC.

4. For the remaining works[4] of **183CD**, we will seek funding for the relevant works only after the completion of the detailed design.

JUSTIFICATION

5. Owing to the increase in surface runoff caused by continuous land development and torrential rainstorms caused by climate change, the flood risks in the vicinity of Tai Po Old Market and Lam Tsuen Valley were increased. The drainage capacity of the long-established existing stormwater drainage system in Tai Po needs to be enhanced. According to the records, flooding incidents occurred at the above-mentioned areas, causing impacts to the nearby traffic and the public.

6. We propose carrying out the proposed works mentioned in paragraph 1 above, including the construction of an underground stormwater storage tank, a stormwater pumping station, stormwater drains, flood walls and improvement of existing drainage channels. Specifically, we plan to construct an underground stormwater storage tank, a stormwater pumping station and the associated stormwater drains in Tai Po Old Market Playground. During heavy rainstorm, stormwater will be intercepted to the proposed underground stormwater storage tank for temporary storage. The stored stormwater will be discharged to Lam Tsuen River via the proposed stormwater pumping station. Upon the completion of the drainage

/improvement …..

[4] The remaining works include expansion of Tai Po Market floodwater pumping station; and carrying out drainage improvement works at Lam Tsuen Valley and Ting Kok in Tai Po and Sai Sha Road in Sai Kung.

improvement works, the drainage capacity of the drainage system concerned will be upgraded and the flood risks in the above-mentioned areas will be alleviated.

7. To facilitate the construction of the proposed underground stormwater storage scheme, part of the facilities in Tai Po Old Market Playground will need to be temporarily closed. The affected open space will be re-provisioned and enhanced above the newly constructed underground stormwater storage tank and stormwater pumping station.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be $1,285.8 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)	
(a)	Construction of underground stormwater storage tank, stormwater pumping station, and the associated above ground structure[5]		779.0
	(i) Structural works[6]	281.9	
	(ii) Excavation works[7]	277.9	
	(iii) Foundation works[8]	66.4	

/(iv) …..

[5] Include construction of an underground stormwater storage tank and stormwater pumping station of about 80 m in length, about 52 m in width and about 17 m in depth; and the above ground structure of about 65 m in length, about 18 m in width and about 11 m in height. The unit cost of the proposed stormwater storage scheme (forced discharge mode) is about $25,500 per m^3 (in September 2023 prices). This is slightly lower than the range from about $30,000 to $41,700 per m^3 of the construction of similar stormwater storage schemes (forced discharge mode) over the past few years due to the relatively larger design capacity of this stormwater storage tank. Based on the economies of scale factor, unit cost of stormwater storage tank is relatively lower for stormwater water storage tank of relatively larger capacity.

[6] Include reinforced concrete structures of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

[7] Include underground excavation and lateral support works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

[8] Include construction of piled foundation works of the underground stormwater storage tank, stormwater pumping station and associated above ground structure.

			$ million (in MOD prices)
	(iv) Architectural and building services works	14.8	
	(v) Electrical and mechanical works	138.0	
(b)	Re-provision and enhancement of open spaces		59.0
(c)	Construction of stormwater drains[9]		110.4
(d)	Improvement of existing drainage channels		23.1
(e)	Construction of flood walls		28.2
(f)	Ancillary works		19.3
(g)	Environmental mitigation measures		12.8
(h)	Consultants' fees for		8.7
	(i) contract administration[10]	6.3	
	(ii) management of resident site staff (RSS)	2.4	
(i)	Remuneration of RSS		128.5
(j)	Contingencies		116.8
	Total		1,285.8

9. We propose engaging consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for the consultants' fees and RSS costs by man-months is at **Annex 5 to Enclosure 8**.

/10. …..

[9] Include construction of about 1.9 km long of stormwater drains with diameters ranging from 300 mm to 3.2 m. The unit cost of the proposed stormwater drains is about $47,600 per m (in September 2023 prices). This is on par with the range of about $41,200 to $94,100 per m (in September 2023 prices) for construction of stormwater drains over the past few years.

[10] Include management of works progress, quality and works expenditures, etc.

10. Subject to funding approval, we plan to phase the expenditure as follows –

Year	$ million (in MOD prices)
2024 – 25	21.5
2025 – 26	56.2
2026 – 27	121.0
2027 – 28	389.4
2028 – 29	335.2
2029 – 30	236.2
2030 – 31	62.6
2031 – 32	42.0
2032 – 33	21.7
	1,285.8

11. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2024 to 2033. We will deliver the proposed works under New Engineering Contract (NEC)[11] form. The contract will provide for price adjustments.

12. We estimate the additional annual recurrent expenditure arising from this project to be $7.9 million.

13. In the design phase of the proposed works project, we have not only optimised the design of the Tai Po Old Market Playground underground

/stormwater …..

[11] New Engineering Contract is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasises cooperation, mutual trust and collaborative risk management between contracting parties.

stormwater storage tank and stormwater pumping station, but also optimised the alignment and invert level of the stormwater drains to reduce excavation volume. Furthermore, we will adopt off-site construction method for part of the works, such as using prefabricated steel reinforcing bar products to construct stormwater storage tank structures and using precast units to construct floodwalls and manholes, to enhance productivity in construction site. These measures can not only reduce the construction cost, but also shorten the construction period and advance the completion of the works.

PUBLIC CONSULTATION

14. We consulted the Planning, Housing and Works Committee of the Tai Po District Council on 19 July 2022. Members had no objection to the proposed works.

15. We consulted the Legislative Council Panel on Development (the Panel) on 28 May 2024 and Members supported the project. We provided supplementary information to the Panel on 12 June 2024.

ENVIRONMENTAL IMPLICATIONS

16. The proposed works project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review was conducted in March 2024. It was concluded that the proposed works would not cause long-term adverse environmental impacts. The Director of Environmental Protection agreed to the above conclusion.

17. During the construction, we will also put in place various precautionary and mitigation measures in environmental aspects, such as using quieter equipment and movable noise enclosure or noise barriers for noise control; water-spraying the construction site regularly and provision of wheel washing facilities for dust control; and collecting and treating site runoff by temporary drains before discharge for avoidance of polluting the surrounding environment. We have reserved a sum of $12.8 million (in MOD prices) in the project estimate as mentioned in paragraph 8(g) above for implementation of the necessary environmental mitigation measures.

18. At the planning and design stages, we have considered measures to reduce generation of construction waste where possible including the use of

/trenchless …..

trenchless construction to minimise the extent of excavation. In addition, we will require the contractor to reuse inert construction waste generated under this project (e.g. excavated materials) on site or in other suitable construction sites as far as possible, in order to minimise disposal amount at the public fill reception facilities (PFRF[12]). We will encourage the contractor 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.

19. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the measures stipulated on the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

20. We estimate that the proposed works will generate about 202 000 tonnes of construction waste. Of these, we will reuse about 22 500 tonnes (about 11%) of inert construction waste on site and deliver about 175 600 tonnes (about 87%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 3 900 tonnes (about 2%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $13.3 million for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

21. The proposed works project will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites/buildings/structures, sites of archaeological interest, all sites/buildings/structures on the new list of proposed grading items; and government historic sites identified by the Antiquities and Monuments Office.

/**LAND** …..

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[12] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

LAND ACQUISITION

22. The proposed works project does not require resumption of private land, but require to clear about 2 300 square metres of government land. The cost of land clearance, estimated at $60,000, will be charged to **Head 701 – Land Acquisition**. A breakdown of the estimated cost of land clearance is at **Annex 6 to Enclosure 8**.

TRAFFIC IMPLICATIONS

23. We have conducted a traffic impact assessment (TIA) for the proposed works and the TIA indicates that the construction and operation of the proposed works will not cause any significant traffic impact on the surrounding road networks, with the implementation of appropriate temporary traffic arrangements (TTAs) and the use of trenchless construction method on the road sections as needed during construction[13]. We will also establish a traffic management liaison group to discuss, scrutinise and review the TTAs proposed by the contractor with a view to minimising traffic impact arising from the proposed works. In addition, we will set up a community liaison group and telephone hotline to respond to public enquiries or complaints.

BACKGROUND INFORMATION

24. We have completed the detailed design for the proposed works as mentioned in paragraph 1 above.

/25. …..

[13] At critical locations, such as narrow sections of roads with heavy traffic, and works areas across multiple lanes of busy roads, we will adopt trenchless method for construction of stormwater drains depending on the circumstances. About 30% of the stormwater drains under this project will be constructed by trenchless method, and about 70% of the stormwater drains will be constructed by open excavation method.

25. There are 565 trees within the proposed works boundary, of which 371 will be retained. The proposed works project will involve removal of 193 trees within the project site including three trees that are confirmed to be undesirable species among the invasive species which compensatory plant will not be carried out[14]. All trees to be removed are not trees of particular interest[15]. Compensatory planting of 190 trees will be carried out as part of the project. In addition, we will transplant one trees as part of the project.

26. We estimate that the proposed works will create about 150 jobs (120 for labourers and 30 for professional/technical staff), providing employment opportunities of a total of 7 800 man-months.

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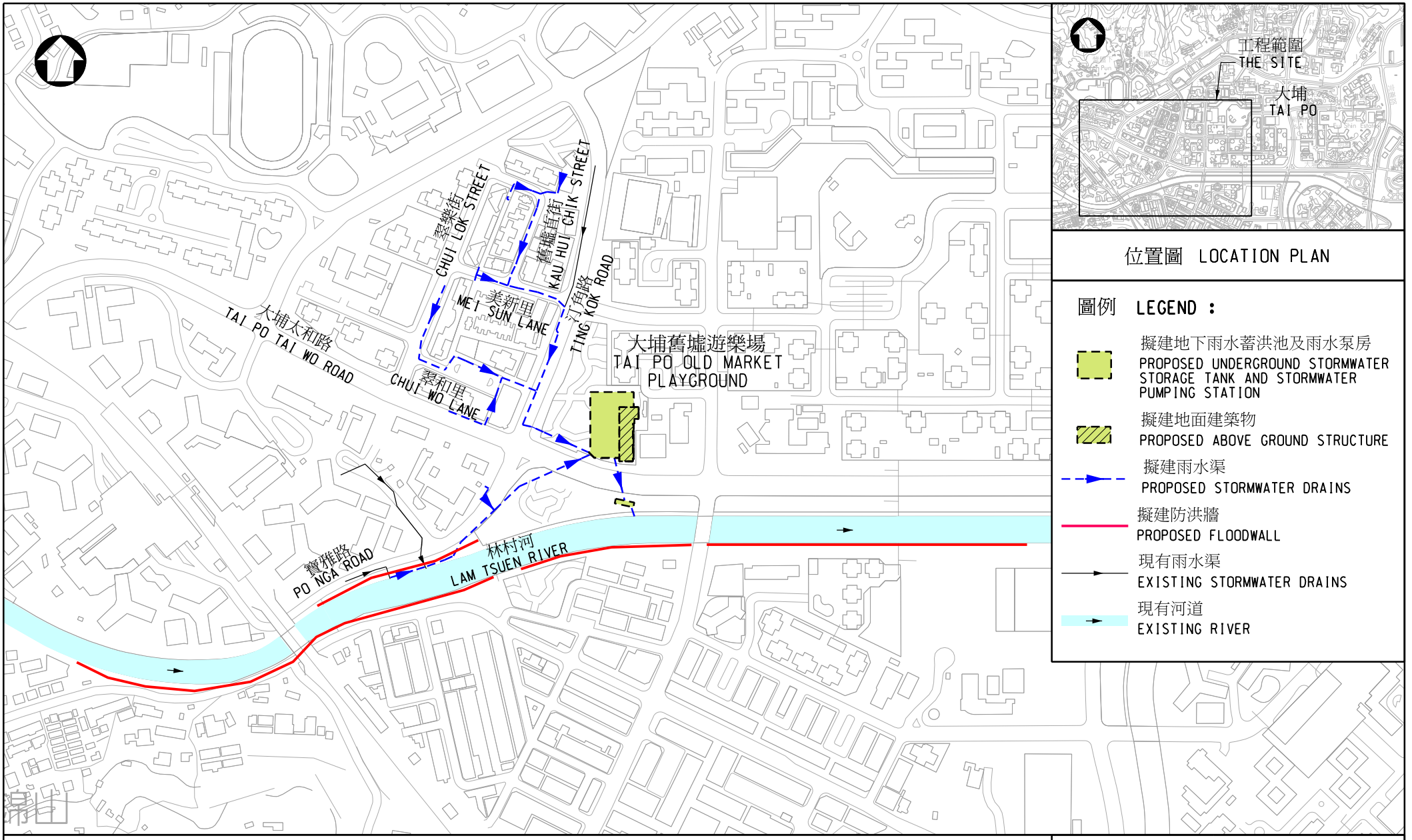
[14] Pursuant to Development Bureau Technical Circular (Works) No. 4/2020, no compensatory planting is required for removal of trees of undesirable species.

[15] Trees of particular interest are defined in paragraph 3.3 of the "Guidelines for Tree Risk Assessment and Management Arrangement" promulgated by the Development Bureau. Examples of trees of particular interest are listed as follows -

(a) Old and Valuable Trees (OVTs) and trees that are potentially registerable in the Register of OVTs;
(b) Trees of 100 years old or above;
(c) Trees with trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m;
(d) Stonewall trees or trees of outstanding form (taking account of overall tree sizes, shape and any special features);
(e) Rare tree species listed in "Rare and Precious Plants of Hong Kong" (https://www.herbarium.gov.hk/en/publications/books/book2/index.html) published by the Agriculture, Fisheries and Conservation Department;
(f) Endangered plant species protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap 586);
(g) Tree species listed in the Forestry Regulations (Cap. 96A) under the Forests and Countryside Ordinance (Cap. 96);
(h) Well-known Fung Shui trees;
(i) Landmark trees with evidential records to support the historical or cultural significance of the trees;
(j) Trees which may arouse widespread public concerns; and
(k) Trees which may be subject to strong local objections on removal.

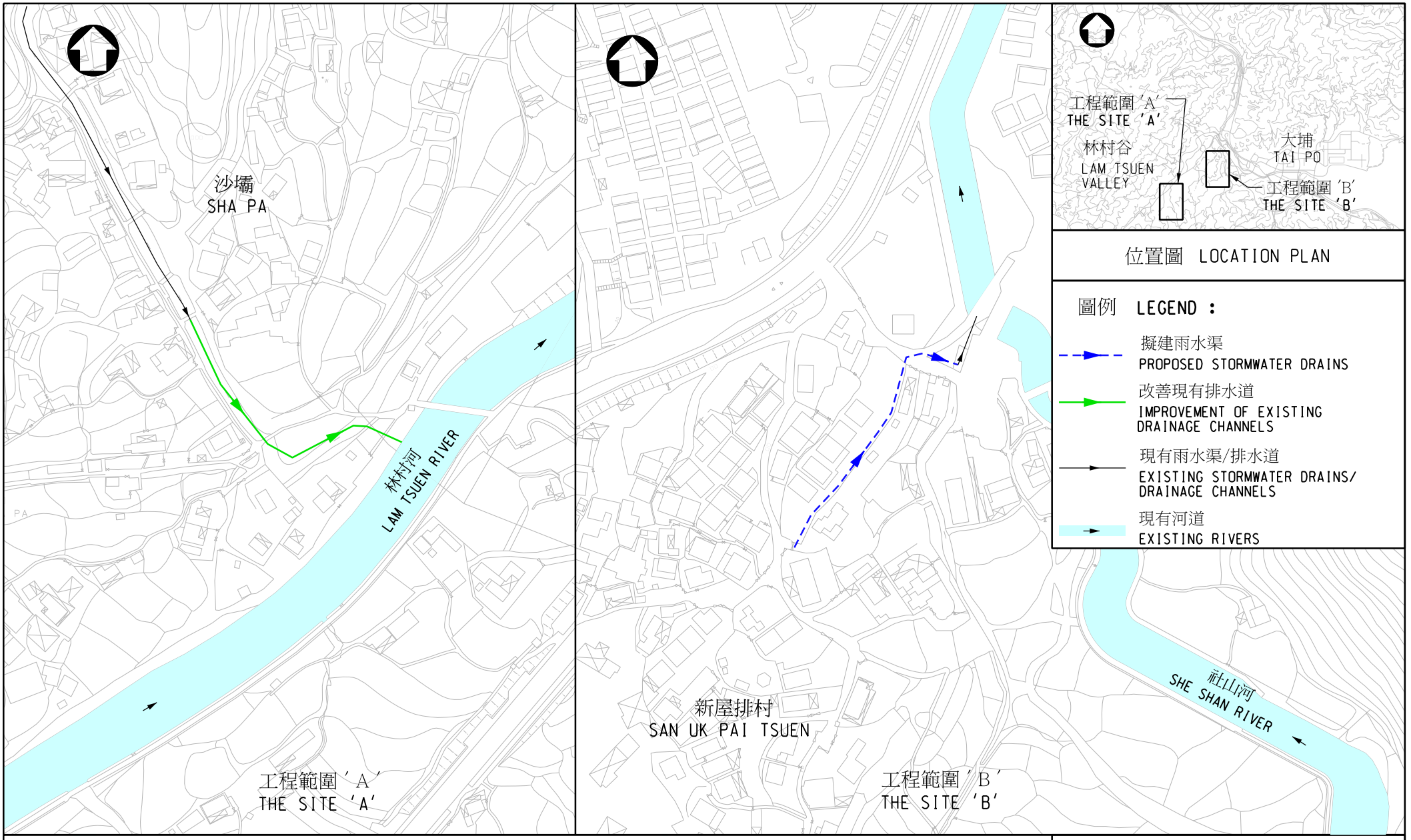


工務計劃項目第183CD號(部份) - 大埔雨水排放系統改善工程 - 第1期

PWP ITEM NO. 183CD (PART) - DRAINAGE IMPROVEMENT WORKS IN TAI PO - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/183CD/11101



位置圖 LOCATION PLAN

圖例 LEGEND :

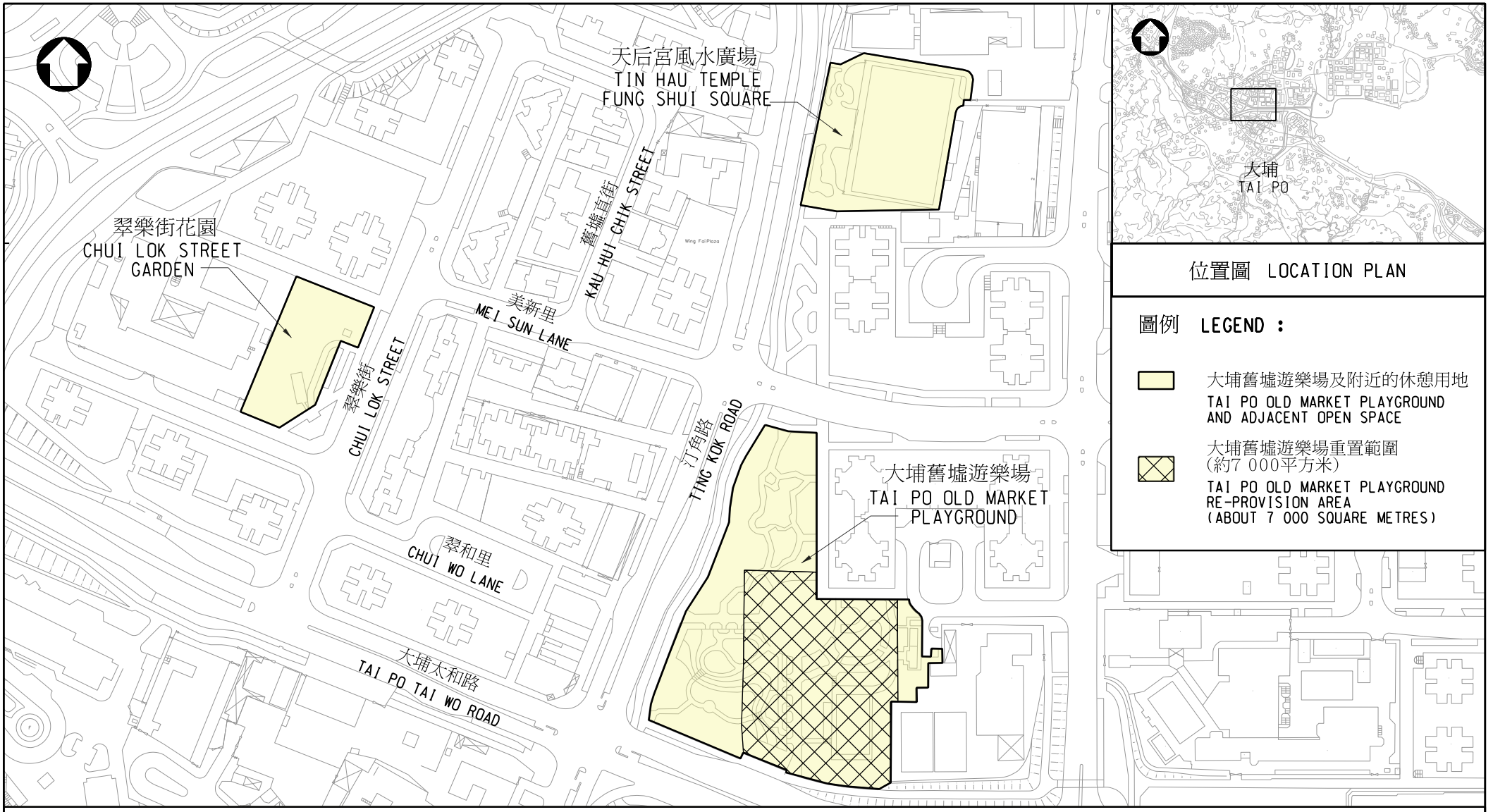
- 擬建雨水渠 PROPOSED STORMWATER DRAINS
- 改善現有排水道 IMPROVEMENT OF EXISTING DRAINAGE CHANNELS
- 現有雨水渠/排水道 EXISTING STORMWATER DRAINS/ DRAINAGE CHANNELS
- 現有河道 EXISTING RIVERS

工務計劃項目第183CD號(部份) - 大埔雨水排放系統改善工程 - 第1期

PWP ITEM NO. 183CD (PART) - DRAINAGE IMPROVEMENT WORKS IN TAI PO - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/183CD/11102



大埔舊墟遊樂場重置範圍
TAI PO OLD MARKET PLAYGROUND RE-PROVISION AREA

工務計劃項目第183CD號工程計劃(部份) - 大埔雨水排放系統改善工程 - 第1期
PWP ITEM NO. 183CD (PART) - DRAINAGE IMPROVEMENT WORKS IN TAI PO - PHASE 1

渠務署
DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/183CD/11103



重置及優化部分大埔舊墟遊樂場（構思圖）

RE-PROVISION AND ENHANCEMENT OF PART OF TAI PO OLD MARKET PLAYGROUND (ARTIST'S IMPRESSION)

註釋 ：構思圖只作展述一般佈局之用，設計因實質需要或須作出修改

NOTES : ARTIST'S IMPRESSION IS FOR GENERAL ILLUSTRATION PURPOSE ONLY AND DESIGN IS SUBJECT TO CHANGE

工務計劃項目第183CD號（部份）- 大埔雨水排放系統改善工程 - 第1期

PWP ITEM NO. 183CD (PART) - DRAINAGE IMPROVEMENT WORKS IN TAI PO - PHASE 1

渠務署

DRAINAGE SERVICES DEPARTMENT

圖則編號 drawing no. DDP/183CD/16103

183CD (part) – Drainage improvement works in Tai Po

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2023 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	3.9
		Technical	-	-	-	1.3
					Sub-total	5.2#
(b)	Resident site staff (RSS) costs (Note 3)	Professional	360	38	1.6	52.2
		Technical	1 060	14	1.6	55.0
					Sub-total	107.2
	Comprising –					
	(i) Consultants' fees for management of RSS				2.0#	
	(ii) Remuneration of RSS				105.2#	
					Total	**112.4**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $90,540 per month and MPS salary point 14 = $32,430 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **183CD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **183CD** to Category A.

3. The actual man-months and actual costs will only be known after the completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 8 of Enclosure 8.

183CD (part) – Drainage improvement works in Tai Po

Breakdown of land acquisition cost

			$ million
(I)	**Estimated cost for land compensation**		**-**
(II)	**Estimated cost for land clearance**		**0.05**
	Other ex-gratia allowances (EGAs) (e.g. crop compensation, disturbance allowance for cultivators, EGA for miscellaneous permanent improvements to farms, EGA for shops, workshops, godowns, slipways, schools, churches and ornamental fish breeding undertakings, EGA for open-air / outdoor business undertakings, EGA for clearance of graves, urns ("Kam Taps") and shines and EGA for "Tun Fu" ceremonial fees, etc.)		
(III)	**Interest and contingency payment**		**0.01**
		Total	**0.06**