

本署檔案  
OUR REF : EP 20/08/111/A9  
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**Environmental Protection Department  
Headquarters**

15/F & 16/F, East Wing,  
Central Government Offices,  
2 Tim Mei Avenue,  
Tamar, Hong Kong.



環境保護署總部

香港添馬  
添美道二號  
政府總部東翼  
十五及十六樓

10 January 2020

Clerk to Public Works Subcommittee  
Legislative Council Secretariat  
Legislative Council Complex  
1 Legislative Council Road, Central  
Hong Kong  
(Attn.: Ms Doris LO)

Dear Ms Lo,

**Public Works Subcommittee  
Meeting on 13 November 2019**

**Supplementary information for PWSC(2019-20)15  
on food waste treatment technology**

The Public Works Subcommittee has at its meeting on 13 November 2019 requested the Government to provide supplementary information on food waste treatment technology. The Government's responses are as follows:

2. In the 2016 Policy Address and Policy Agenda, the Chief Executive highlighted that a Food Waste/Sewage Sludge Anaerobic Co-digestion Pilot Trial would be carried out to confirm the feasibility of food waste/sewage sludge anaerobic co-digestion and determine the technical requirements for using such technology to convert food waste to energy. With a view to enhancing the overall food waste recycling capacity in Hong Kong, the Environmental Protection Department (EPD) is collaborating with the Drainage Services Department (DSD) to examine the use of "food waste/sewage sludge anaerobic co-digestion" technology in existing and planned sewage treatment works (STW). The first co-digestion trial scheme (the Trial Scheme) has been conducted at Tai Po STW since May 2019 with a daily capacity of up to 50 tonnes of food waste. The Government will extend the Trial Scheme to cover the Sha Tin STW, scheduled for completion in 2022. The combined treatment capacity of the two trials will be up to 100 tonnes of food waste per day.

Through the Trial Scheme, experience and operation data will be gathered for the application of the technology in future. We will also examine jointly with DSD the feasibility of upgrading the anaerobic digestion system of the Tai Po STW during its expansion project for processing more food waste, and extend the application of the technology to other STWs where anaerobic sewage sludge digestion facilities are or will be available (such as the STWs in Yuen Long and Hung Shui Kiu) to raise Hong Kong's food waste treatment capacity further and divert more food waste from landfills.

3. Furthermore, the Environment and Conservation Fund (ECF) has approved five trial projects, covering about 500 target households in 9 residential buildings, to install food waste treatment device under the kitchen sinks for grinding the domestic food waste generated everyday into particulates which will be discharged via foul sewer system to sewage treatment works for treatment. The trial projects will commence progressively in 2020 and span over 12 months. EPD and DSD will analyze the trial results of these projects, and assess in the planning of new development areas the feasibility of introducing the device for treatment of domestic food waste.

Yours sincerely,

(C K CHEN)  
for Director of Environmental Protection

c.c.

FSTB (Attn: Ms Terri KWONG)

(Fax: 2147 5240)

DSD (Attn: Ms C Y PANG)

(Fax: 3104 6483)

EPD (Attn: Mr T K CHENG)

(Fax: 3121 5798)

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1 Legislative Council Road, Central  
Hong Kong  
(Attn.: Ms Doris LO)

Dear Ms Lo,

**Public Works Subcommittee  
Meeting on 13 November 2019**

**Supplementary information for Enclosure 1 to PWSC(2019-20)15  
PWP item 408DS (Yuen Long Effluent Polishing Plant)**

The Public Works Subcommittee has at its meeting on 13 November 2019 requested the Government to provide supplementary information on the cost of PWP item 408DS (Yuen Long Effluent Polishing Plant). The Government's responses are as follows:-

**Project Cost Comparison**

2. Comparison of costs of Yuen Long Effluent Polishing Plant and Shek Wu Hui Effluent Polishing Plant :-

<b>Project</b>	<b>Total Cost (\$ million) (in money-of-the-day (MOD) prices)</b>	<b>Sewage Treatment Capacity (m<sup>3</sup>/day)</b>
Yuen Long Effluent Polishing Plant	6,800 approx.	100,000
Shek Wu Hui Effluent Polishing Plant	13,650 approx.	190,000

### Demolition and reconstruction cost of PWP item 408DS

3. The table below summarized the estimated demolition and reconstruction costs under paragraphs 8(a), 8(b) and 8(c) of PWP item 408DS :-

		<b>\$ million (in MOD prices)</b>	
(a)	Demolition and reconstruction of sewage treatment facilities		2,918.6
	(i) Civil works (Demolition)	23.2	
	(ii) Civil works (Reconstruction)	1,336.0	
	•Preliminary & primary treatment facilities	483.8	
	•Biological & tertiary treatment facilities	852.2	
	(iii)E&M works (Reconstruction)	1,559.4	
	• Preliminary & primary treatment facilities	621.9	
	• Biological & tertiary treatment facilities	937.5	
(b)	Demolition and reconstruction of sludge treatment facilities		2,021.3
	(i) Civil works (Demolition)	7.6	
	(ii) Civil works (Reconstruction)	1,049.3	
	•Digester and biogas facilities	548.7	
	•Dewatering facilities	500.6	
	(iii)E&M works (Reconstruction)	964.4	
	•Digester and biogas facilities	565.4	
	•Dewatering facilities	399.0	
(c)	Demolition and reconstruction of administration building, storage building, switchgear house and transformer house		251.0
	(i) Demolition	2.0	
	(ii) Reconstruction	249.0	

## Reasons for PWP item 408DS exceeding HK\$ 6,800M

4. (a) On site reconstruction
- The need to demolish the aging facilities and reconstruct a 100,000 m<sup>3</sup>/day effluent polishing plant within the existing congested site;
  - Demolition and reconstruction works must be carried out in stages as the operation of the existing sewage treatment works must be maintained; and
  - The need to adopt more advanced design and equipment to achieve the tertiary treatment standard.
- (b) Technical constraint
- The need to adopt complex foundation works due to difficult ground condition.
- (c) Implementation of environmental mitigation measures
- The need to adopt partial sunken building design to limit the building height to avoid visual intrusion and impact to nearby ecologically sensitive area;
  - The need to adopt fully enclosed design to reduce odour and noise nuisance;
  - Restriction of noisy construction works during the peak migration seasons of birds; and
  - Restriction of construction hours (to cease works 1 hour before sunset (around 5:30pm to 6:00pm)) to avoid disturbance to bird roosting activities.

Yours sincerely,

(C K CHEN)  
for Director of Environmental Protection

c.c.  
FSTB (Attn: Ms Terri KWONG)  
DSD (Attn: Ms C Y PANG)

(Fax: 2147 5240)  
(Fax: 3104 6483)

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(Attn.: Ms Doris LO)

Dear Ms Lo,

**Public Works Subcommittee  
Meeting on 13 November 2019**

**Supplementary information for Enclosure 3 to PWSC(2019-20)15  
PWP item 273DS (Port Shelter sewerage, stage 3)**

The Public Works Subcommittee has at its meeting on 13 November 2019 requested the Government to provide supplementary information on the alignment of proposed gravity sewers under PWP item 273DS (Port Shelter sewerage, stage 3).

2. We enclose herewith one set of the drawings.

Yours sincerely,

(C K CHEN)  
for Director of Environmental Protection

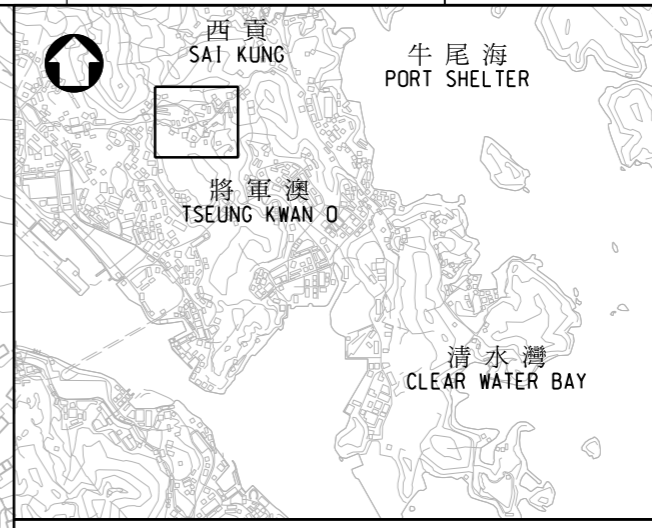
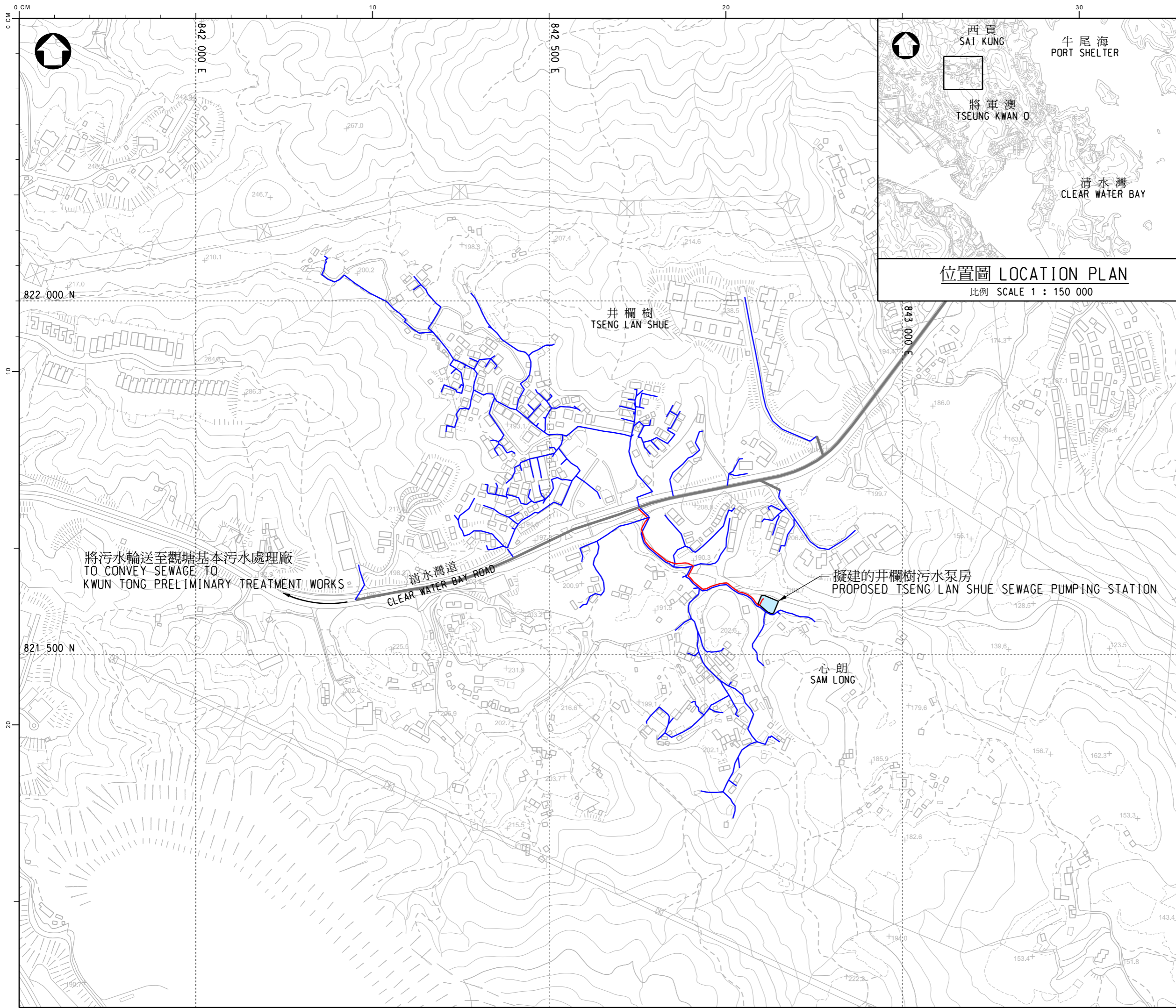
Enclosure: PWP item no. 273DS (Port Shelter sewerage, stage 3) – Drawing no. DCM/2019/008, DCM/2019/009, DCM/2019/010.

c.c.

FSTB (Attn: Ms Terri KWONG)  
DSD (Attn: Ms C Y PANG)

(Fax: 2147 5240)  
(Fax: 3104 6483)





位置圖 LOCATION PLAN  
比例 SCALE 1 : 150 000

- 圖例  
LEGEND :
- 擬建的無壓污水渠  
PROPOSED GRAVITY SEWERS
  - 擬建的污水泵喉  
PROPOSED SEWAGE RISING MAINS
  - 現有的污水渠  
EXISTING SEWERS

版 no.	日期 date	修改項目 description	簡簽 initial
<b>修訂 REVISION</b>			
		姓名 name	日期 date
繪畫 drawn		SIGNED K. S. LEUNG	19 NOV 2019
核對 checked		SIGNED Ir T. K. WONG	19 NOV 2019
批核 approved		SIGNED Ir C. K. CHAN	19 NOV 2019

圖則名稱 drawing title

工務工程計劃編號273DS  
- 牛尾海污水收集系統第3階段  
PWP ITEM NO. 273DS  
- PORT SHELTER SEWERAGE, STAGE 3

全三張其一 (SHEET 1 OF 3)

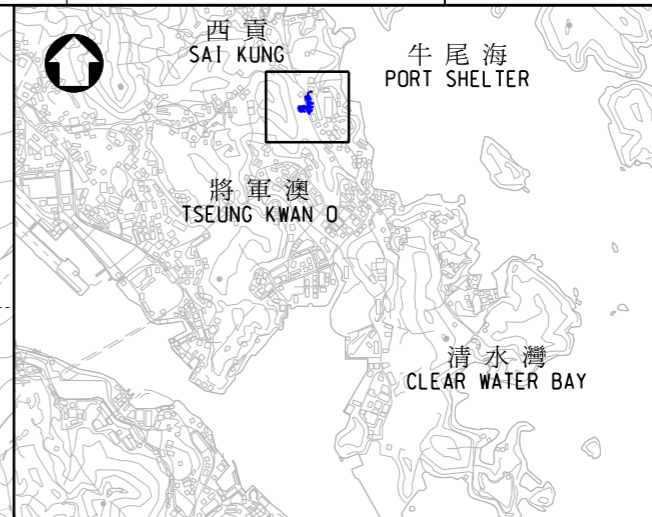
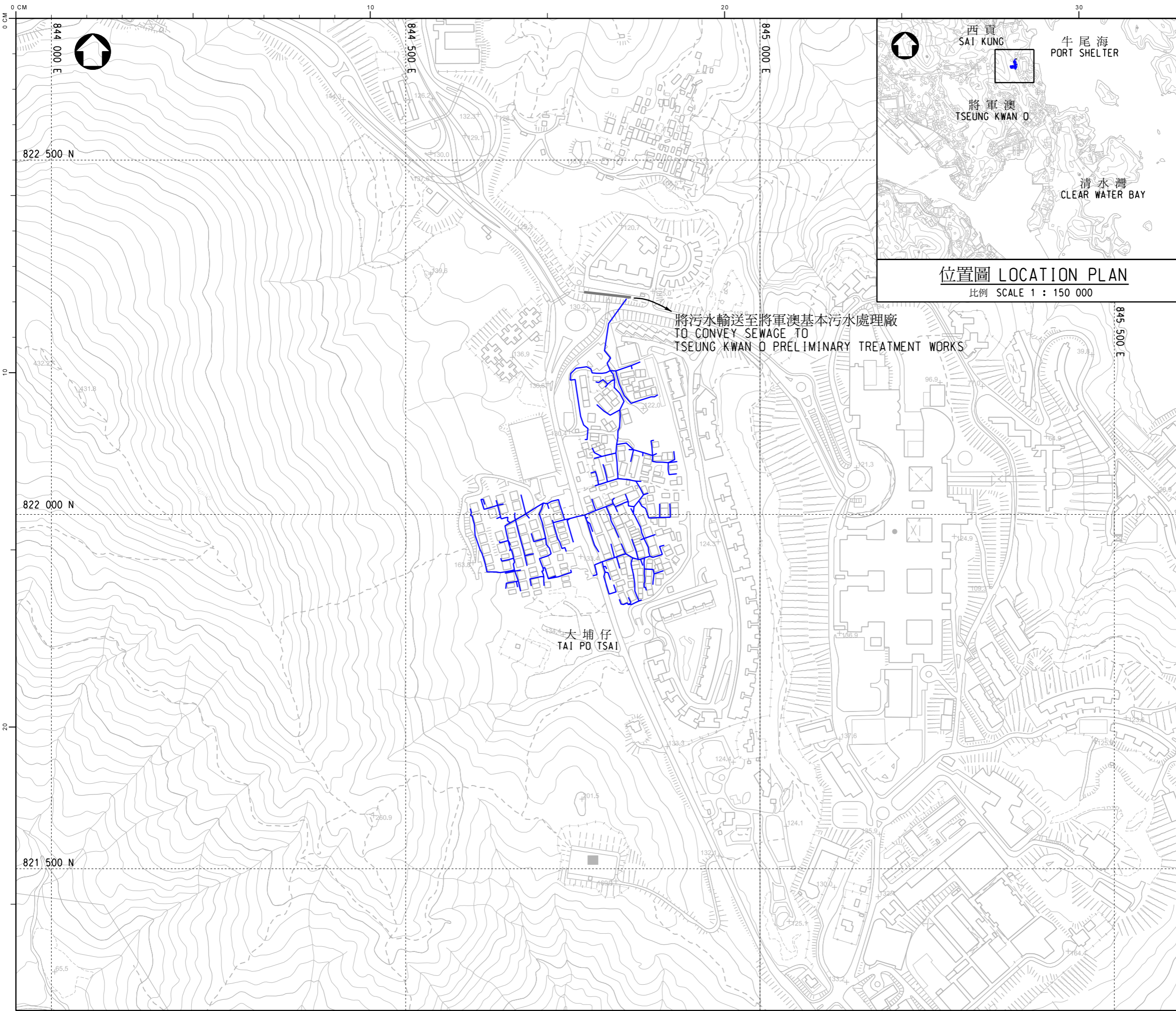
圖則編號 drawing no.	比例 scale
DCM/2019/008	1 : 5 000

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 香港特別行政區政府渠務署  
DRAINAGE SERVICES DEPARTMENT  
GOVERNMENT OF THE  
HONG KONG  
SPECIAL ADMINISTRATIVE REGION





位置圖 LOCATION PLAN  
比例 SCALE 1 : 150 000

將污水輸送至將軍澳基本污水處理廠  
TO CONVEY SEWAGE TO  
TSEUNG KWAN O PRELIMINARY TREATMENT WORKS

圖例  
LEGEND :

- 擬建的無壓污水渠  
PROPOSED GRAVITY SEWERS
- 現有的污水渠  
EXISTING SEWERS

版 no.	日期 date	修改項目 description	簡簽 initial
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修訂 REVISION

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繪畫 drawn	SIGNED K. S. LEUNG	19 NOV 2019
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批核 approved	SIGNED Ir C. K. CHAN	19 NOV 2019

圖則名稱 drawing title

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- 牛尾海污水收集系統第3階段  
PWP ITEM NO. 273DS  
- PORT SHELTER SEWERAGE, STAGE 3

全三張其二 (SHEET 2 OF 3)

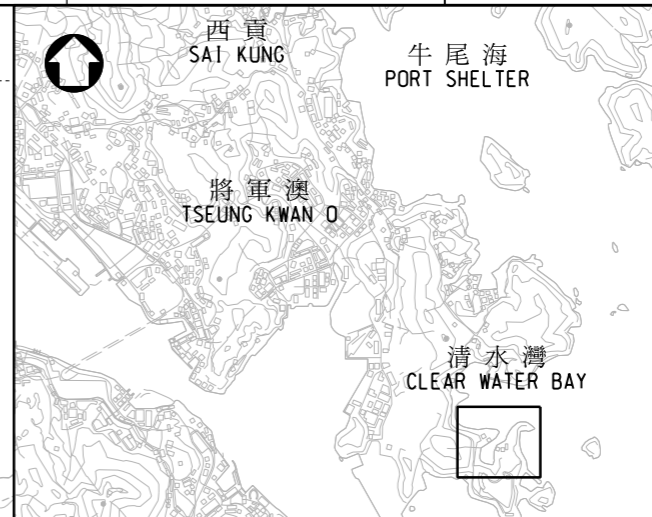
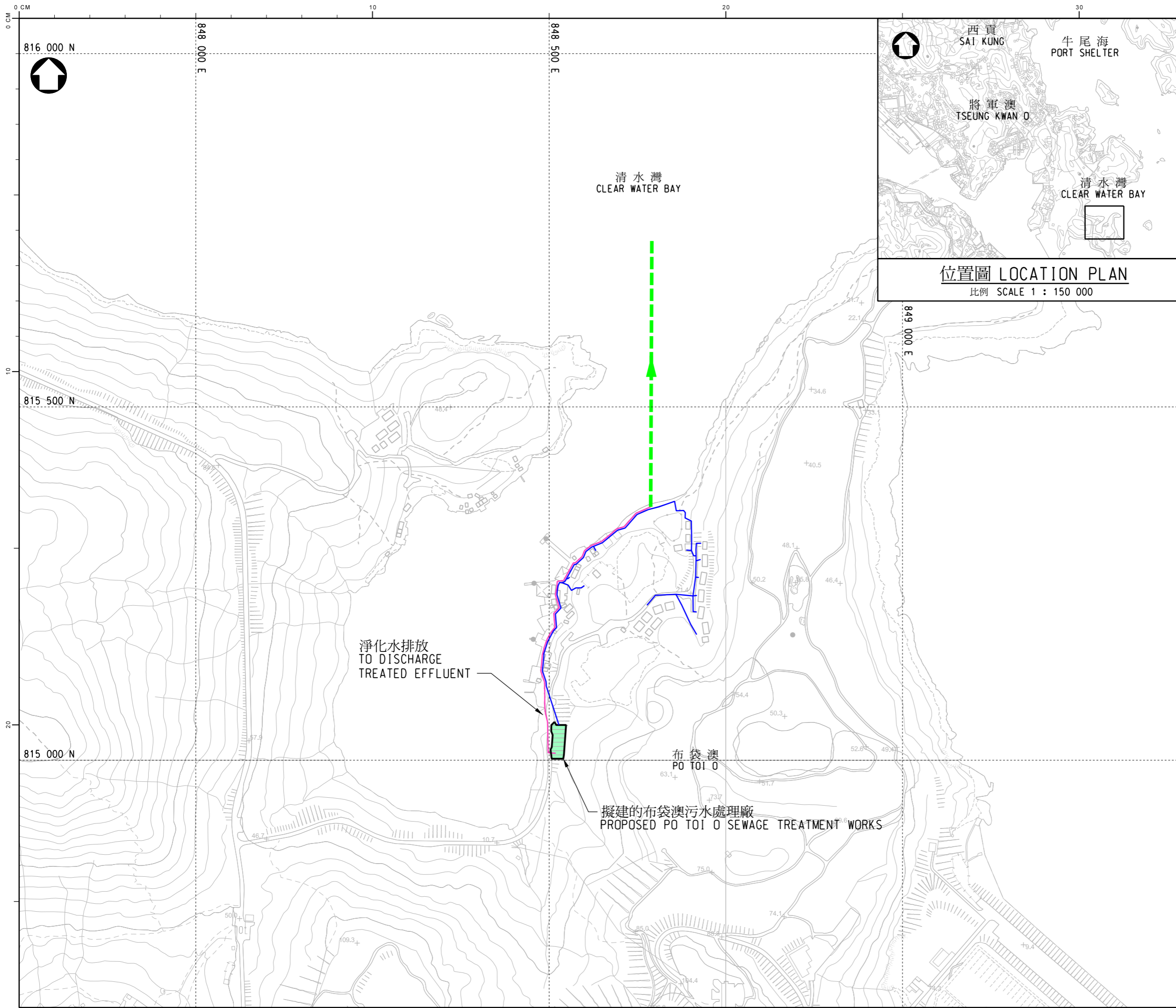
圖則編號 drawing no.	比例 scale
DCM/2019/009	1 : 5 000

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GOVERNMENT OF THE  
HONG KONG  
SPECIAL ADMINISTRATIVE REGION





位置圖 LOCATION PLAN  
比例 SCALE 1 : 150 000

- 圖例  
LEGEND :
- 擬建的無壓污水渠  
PROPOSED GRAVITY SEWERS
  - 擬建的泵喉  
PROPOSED RISING MAINS
  - - - 擬建的海底排放管  
PROPOSED SUBMARINE OUTFALL

版 no.	日期 date	修改項目 description	簡簽 initial
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- 牛尾海污水收集系統第3階段  
PWP ITEM NO. 273DS  
- PORT SHELTER SEWERAGE, STAGE 3

全三張其三 (SHEET 3 OF 3)

圖則編號 drawing no.	比例 scale
DCM/2019/010	1 : 5 000

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