

Proposed Temporary Open Storage and Warehouse for Storage of Construction Machinery and Construction Materials for a Period of 3 Years

at

Lots 1319, 1320 S.A, 1320 RP, 1321 S.A, 1321 S.B & 1322 (Part) in D.D.119, Yuen Long, N.T.

Annex 1 Estimated Traffic Generation

- 1.1 The application site is accessible via a vehicular access leading from Kung Um Road. Having mentioned that the site is intended for open storage with ancillary workshop only, traffic generated by the proposed development is not significant.
- 1.2 The estimated average traffic generation and traffic generation rate at peak hours are as follow:

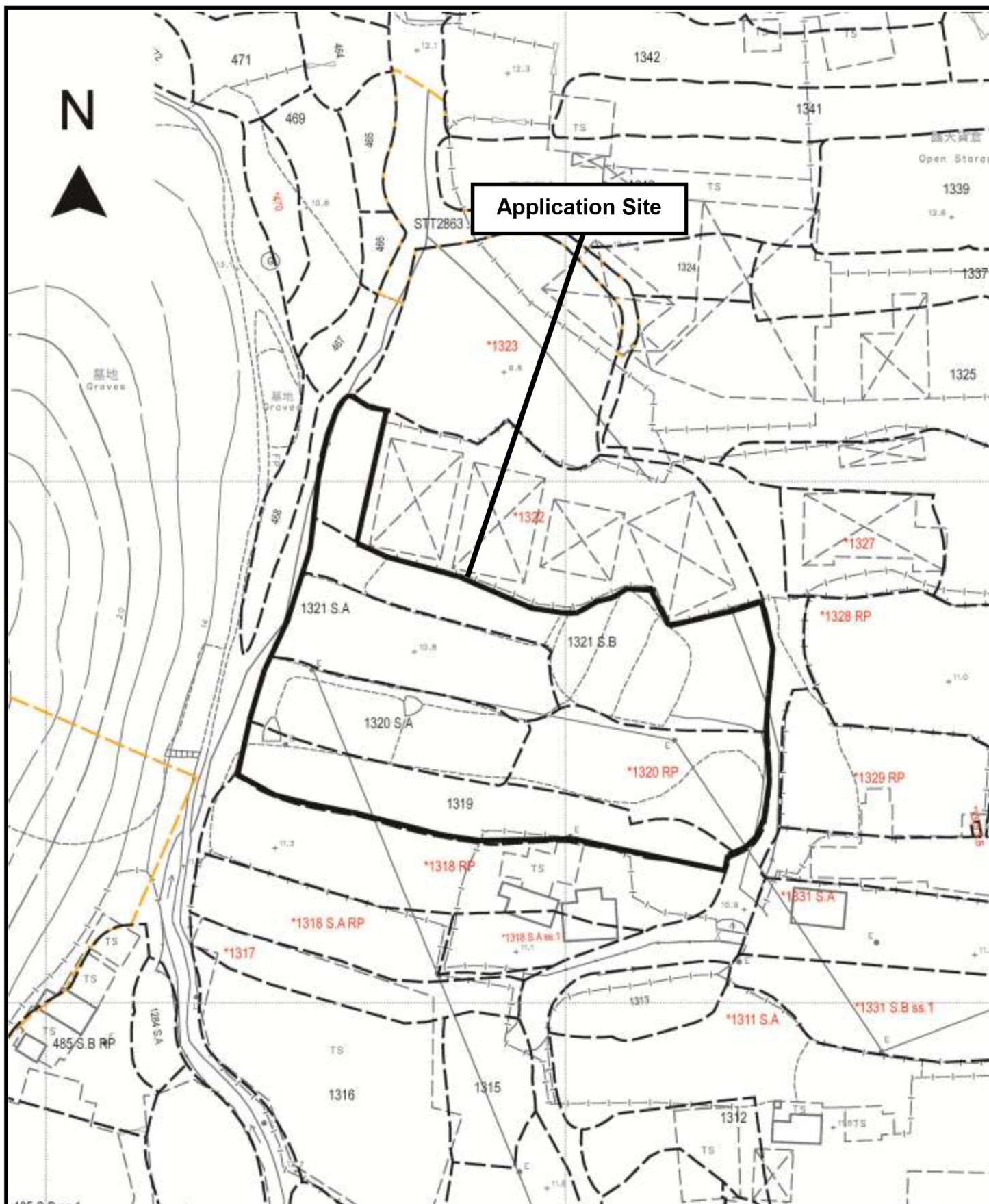
Type of Vehicle	<u>Average</u> Traffic Generation Rate (pcu/hr)	<u>Average</u> Traffic Attraction Rate (pcu/hr)	Traffic Generation Rate at <u>Peak Hours</u> (pcu/hr)	Traffic Attraction Rate at <u>Peak Hours</u> (pcu/hr)
Medium/heavy goods vehicle	0.5	0.5	0	0

Note 1: The opening hour of the proposed development is restricted to 9:00 a.m. to 5:00 p.m. from Mon days to Saturdays. No operation will be held on Sundays and public holidays.

Note 2: The pcu of medium goods vehicle is taken as 2.

Note 3: Morning peak is defined as 7:00a.m. to 9:00a.m. whereas afternoon peak is defined as 5:00p.m. to 7:00p.m.

- 1.3 As shown in the above estimation, it is estimated that the proposed development would not generate significant amount of traffic. It would not affect the traffic condition of Kung Um Road especially that the application site is not a green site development. It is subject to a previous planning permission since 2024 approved for similar open storage use.
- 1.4 In association with the intended purpose, adequate space for manoeuvring of vehicle would be provided within the warehouse and queueing up of traffic would not be the result especially that the traffic generated is insignificant. The negligible increase in traffic would not aggravate the traffic condition of Kung Um Road and nearby road networks.



Project 項目名稱:

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Drawing Title 圖目:

Site Plan

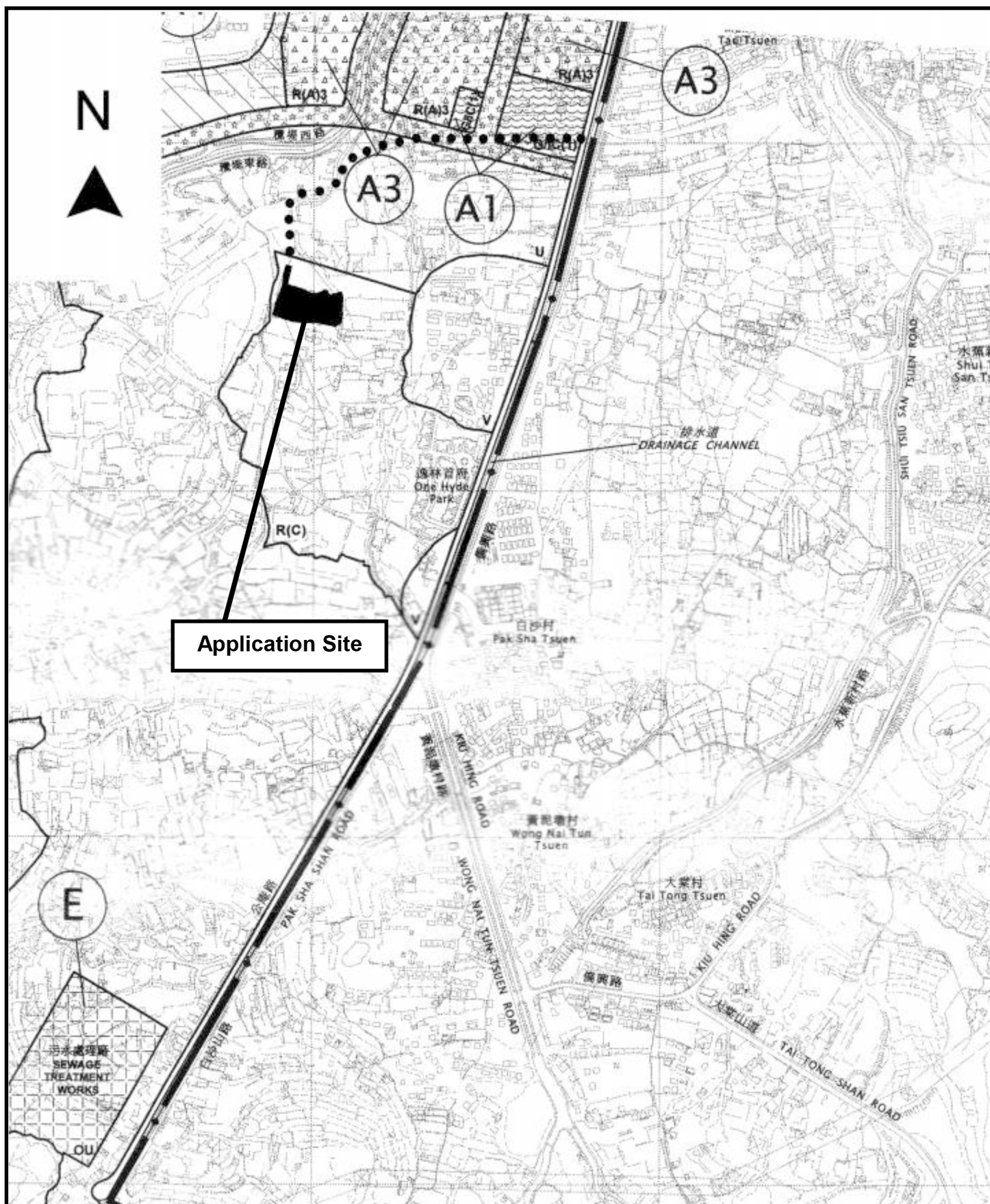
Drawing No. 圖號:

Figure 1

Remarks 備註:

Scale 比例:

1:1000



Project 項目名稱:

Proposed Temporary Open Storage & Warehouse for Storage of Construction Machinery and Construction Materials for a Period of 3 Years at Lots 1319, 1320 S.A, 1320 RP, 1321 S.A, 1321 S.B & 1322 (Part) in D.D.119, Yuen Long, N.T.

Drawing Title 圖目:

Vehicular Access Plan

Drawing No. 圖號:

Figure 2

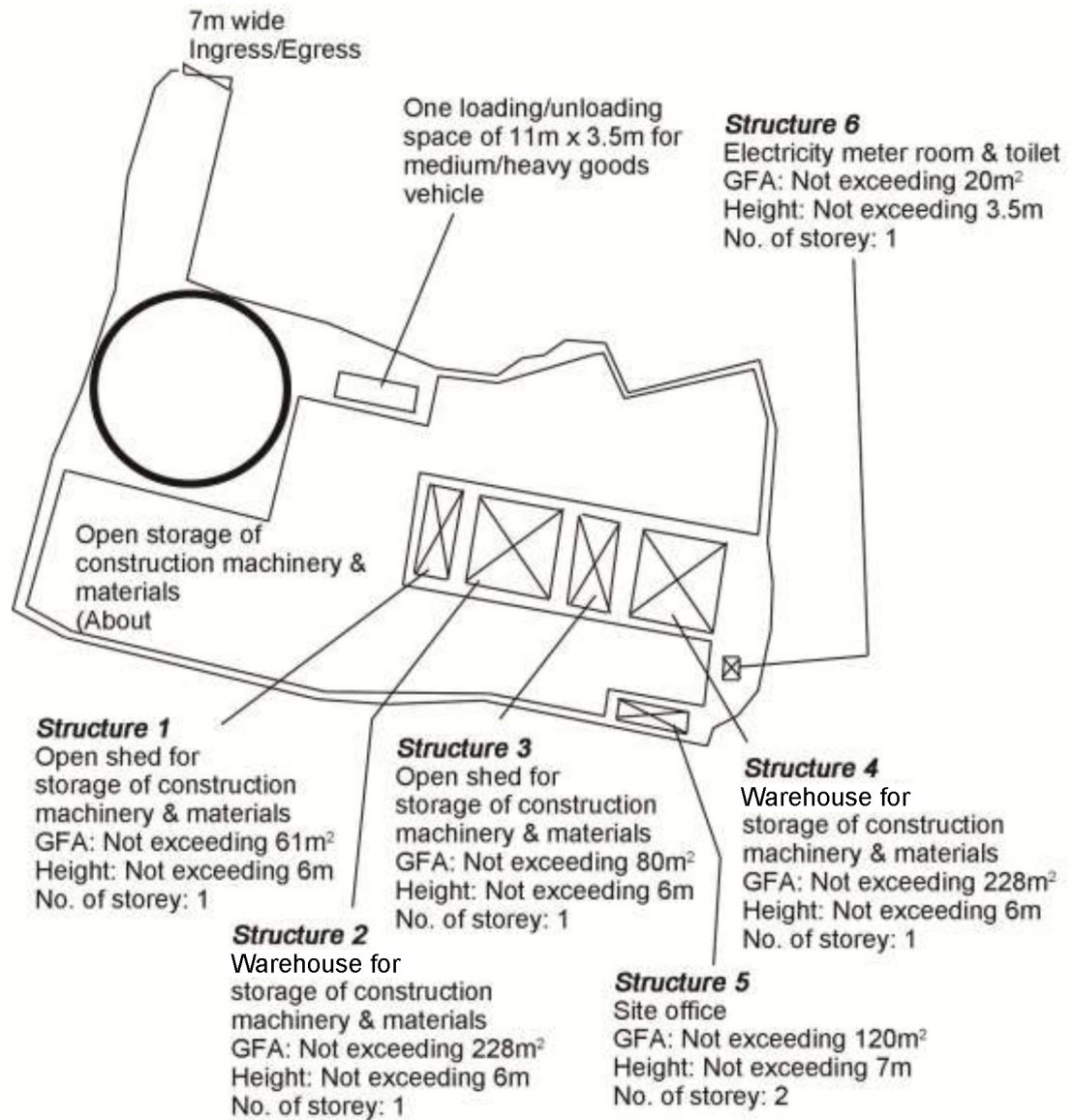
Remarks 備註:

●●● Vehicular access leading from Kung Um Road

Scale 比例:

1:7500

N



Project 項目名稱:

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Drawing Title 圖目:

Proposed Layout Plan

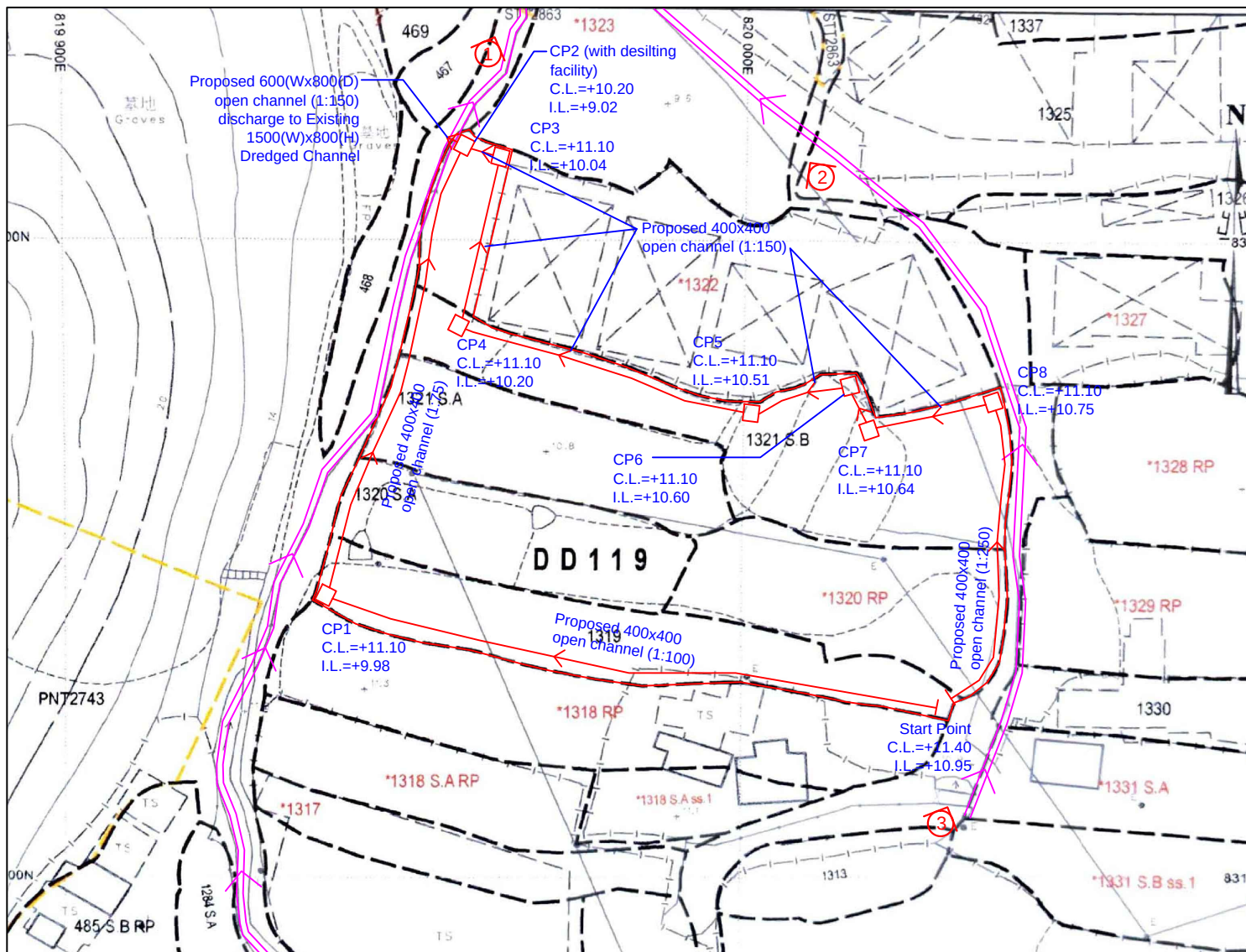
Drawing No. 圖號:

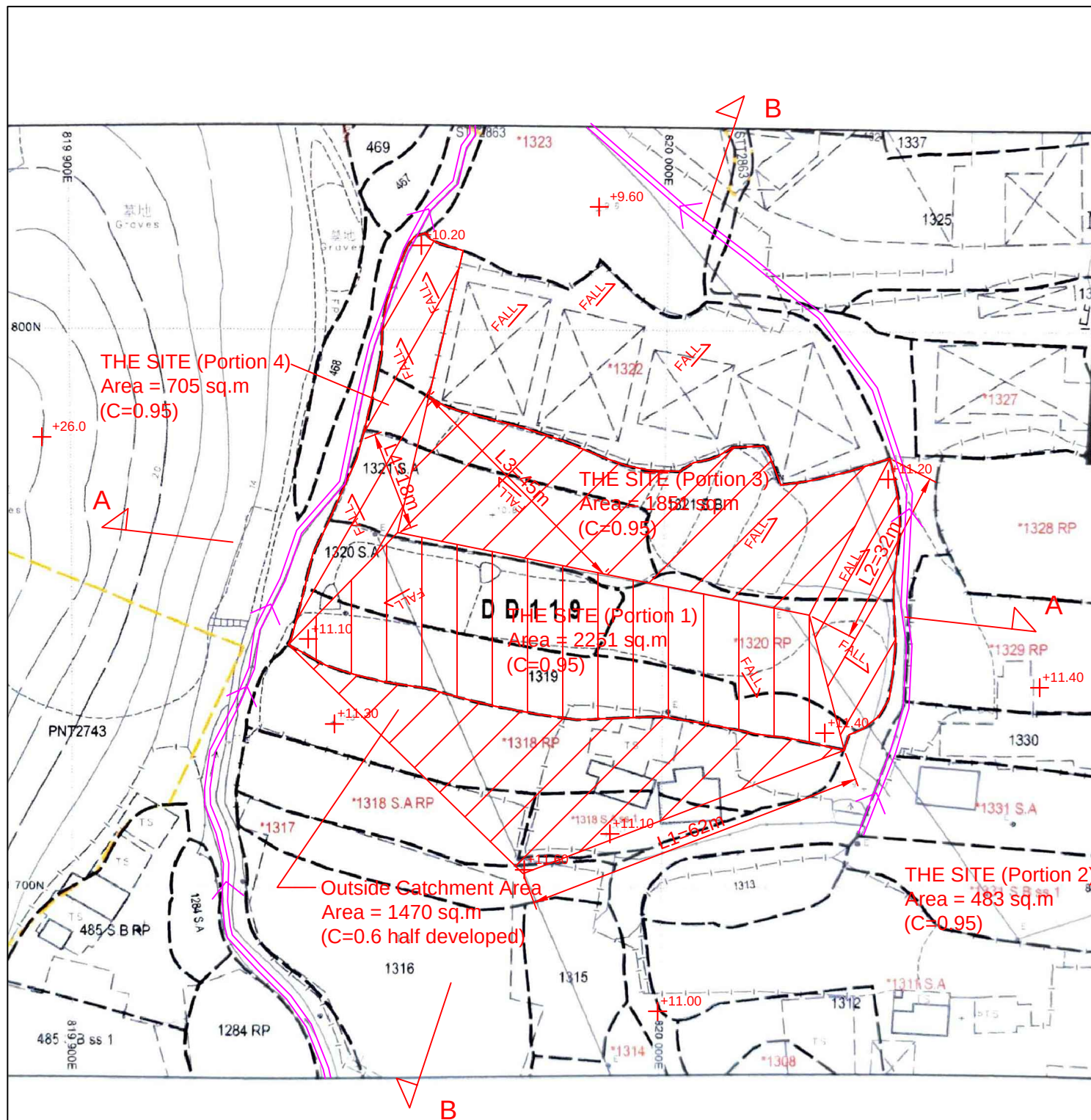
Figure 3

Remarks 備註:

Scale 比例:

1:1000





正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:
Proposed Temporary Warehouse and Open Storage of Recyclable Materials, Mobile Toilets and Construction Materials for a Period of 3 Years at Lots 1319, 1320 S.A, 1320 RP, 1321 S.A, 1321 S.B and 1322 (Part) in D.D. 119, Tong Yan San Tsuen, Yuen Long, New Territories
(Application No.:A/YL-TYST/)

Title:

Drainage Proposal
Catchment Area Plan

D02

Drawn by:

DM

Date:

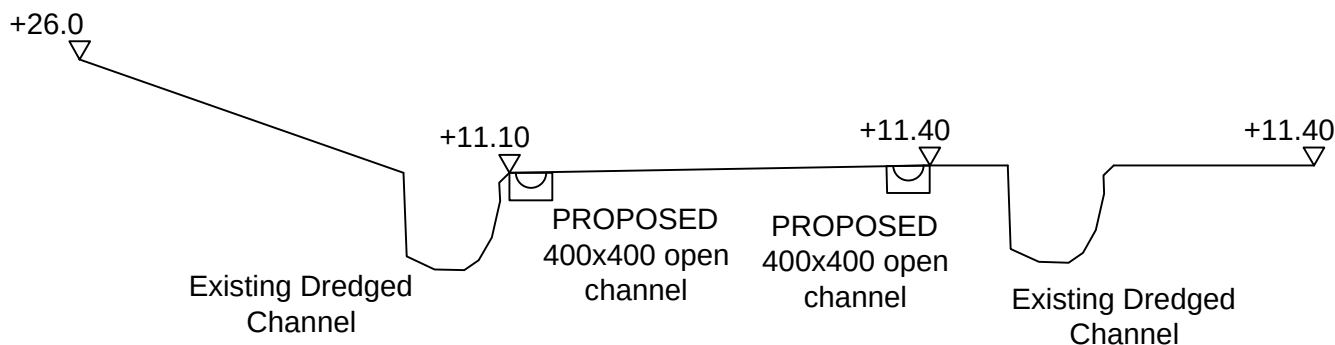
29-7-2025

Check by:

DM

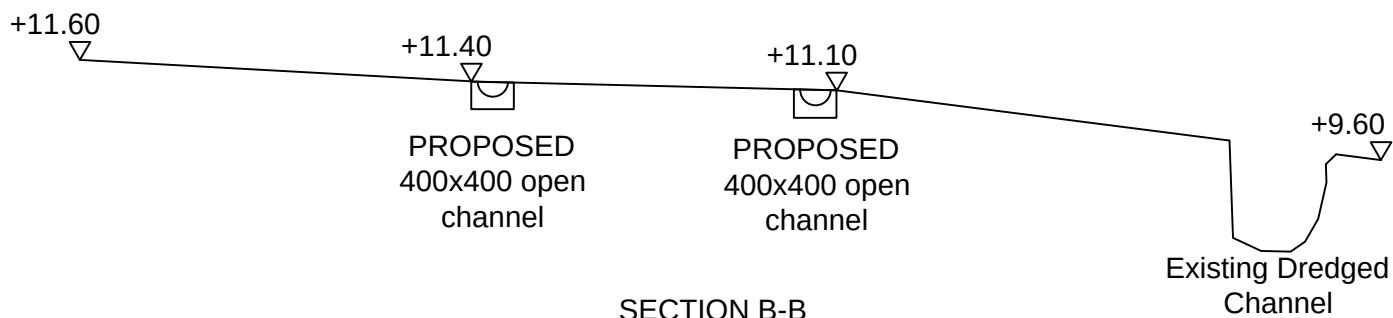
Scale:

| THE SITE |



SECTION A-A

| THE SITE |



SECTION B-B

*The sections above show the existing formation of the site after completion of leveling works.

正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANTS CO.	Title: Drainage Proposal-SECTIONS		D03
	Drawn by: DM	Date: 29-7-2025	
	Check by: DM	Scale: ----	

Project:
Proposed Temporary Warehouse and Open Storage of Recyclable Materials, Mobile Toilets and Construction Materials for a Period of 3 Years at Lots 1319, 1320 S.A, 1320 RP, 1321 S.A, 1321 S.B and 1322 (Part) in D.D. 119, Tong Yan San Tsuen, Yuen Long, New Territories
 (Application No.:A/YL-TYST/)

Photo 1



Photo 2



Photo 2a



Photo 2b



Photo 3



Photo 3a



THE SITE (Portion 1), Area	=	2251	m ²	(C= 0.95)
THE SITE (Portion 2), Area	=	483	m ²	(C= 0.95)
THE SITE (Portion 3), Area	=	1851	m ²	(C= 0.95)
THE SITE (Portion 4), Area	=	705	m ²	(C= 0.95)
Outside Catchment Area, Area	=	1470	m ²	(C= 0.6)

Calculation of Design Runoff of the Proposed Development,

For the design of drains **from Start Point to CPI**, Outside Catchment Area + The Site (Portion 1)

$$\Sigma Q = \Sigma 0.278 C i A$$

$$\begin{aligned} A &= 1470+2251 \quad \text{m}^2 \\ &= 3721 \\ &= 0.003721 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L1/ H^{0.2} A^{0.1} \\ &= 0.14465*62/1^{0.2}*3721^{0.1} \\ &= 3.941 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111*a/(t+b)^c && (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111*505.5/(3.941+3.29)^{0.355} && \text{SDM) and (11.1\% increase due to climate change)} \\ &= 278.2 \quad \text{mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q &= 0.278*0.95*278.2*0.00147+0.278*0.95*278.2*0.002251 \\ &= 0.2336 \quad \text{m}^3/\text{sec} \\ &= \mathbf{14018} \quad \text{lit/min} \end{aligned}$$

Calculation Maximum Capacity of Proposed 400x400 open channel (1:100)

$$\text{Manning Equation } V = R^{2/3} * S_f^{0.5} / n$$

$$\begin{aligned} \text{where } R &= (WD)/(2D+W) && W= 0.4 \text{ m} \\ &= 0.1333 && D= 0.4 \text{ m} \\ &&& \text{Area}= 0.16 \text{ m} \end{aligned}$$

$$n = 0.012 \quad \text{s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

$$S_f = 0.01 \quad (1: 100)$$

$$\begin{aligned} \text{Therefore, } V &= 0.1333^{2/3} * 0.01^{0.5} / 0.012 \\ &= 2.175 \quad \text{m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Q}_{\text{max}}) &= 0.8 * V * A && (0.8 \text{ factor for sedimentation)} \\ &= 0.2784 \\ &= 16703 \quad \text{lit/min} \\ &> 14018 \quad \text{lit/min} \quad \text{OK} \end{aligned}$$

Calculation of Design Runoff of the Proposed Development.

For the design of drains **from CP1 to CP2**, Outside Catchment Area + The Site (Portion 1 + Portion 4)

$$\Sigma Q = \Sigma 0.278 C i A$$

$$\begin{aligned} A &= 705 \text{ m}^2 \\ &= 705 \\ &= 0.000705 \text{ km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L^4 / H^{0.2} A^{0.1} \\ &= 0.14465 * 18 / 1^{0.2} * 705^{0.1} \\ &= 1.351 \text{ min} \end{aligned}$$

$$\begin{aligned} i &= 1.111 * a / (t + b)^c && (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111 * 505.5 / (1.351 + 3.29)^{0.355} && \text{SDM) and (11.1\% increase due to climate change)} \\ &= 325.7 \text{ mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 95 * 325.7 * 0.000705 + 0.2336 \\ &= 0.2943 \text{ m}^3/\text{sec} \\ &= \underline{17656} \text{ lit/min} \end{aligned}$$

Calculation Maximum Capacity of Proposed 400x400 open channel (1:75)

Manning Equation $V = R^{2/3} * S_f^{0.5} / n$

$$\begin{aligned} \text{where } R &= (WD) / (2D + W) && W = 0.4 \text{ m} \\ &= 0.1333 && D = 0.4 \text{ m} \\ &&& \text{Area} = 0.16 \text{ m} \end{aligned}$$

$$n = 0.012 \text{ s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

$$S_f = 0.0133 \quad (1: 75)$$

$$\begin{aligned} \text{Therefore, } V &= 0.1333^{2/3} * 0.0133^{0.5} / 0.012 \\ &= 2.511 \text{ m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Q}_{\max}) &= 0.8 * V * A && (0.8 \text{ factor for sedimentation}) \\ &= 0.3215 \\ &= 19287 \text{ lit/min} \\ &> 17656 \text{ lit/min} && \text{OK} \end{aligned}$$

Calculation of Design Runoff of the Proposed Development,

For the design of drains from Start Point to CP8, The Site (Portion 2)

$$\Sigma Q = \Sigma 0.278 C i A$$

$$\begin{aligned} A &= 483 && \text{m}^2 \\ &= 483 \\ &= 0.000483 && \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L^2 / H^{0.2} A^{0.1} \\ &= 0.14465 * 32 / 1^{0.2} * 483^{0.1} \\ &= 2.495 && \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111 * a / (t + b)^c && (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111 * 505.5 / (2.495 + 3.29)^{0.355} && \text{SDM) and (11.1\% increase due to climate change)} \\ &= 301.2 && \text{mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 0.95 * 301.2 * 0.000483 \\ &= 0.0384 && \text{m}^3/\text{sec} \\ &= \underline{2305} && \text{lit/min} \end{aligned}$$

Calculation Maximum Capacity of Proposed 400x400 open channel (1:250)

Manning Equation $V = R^{2/3} * S_f^{0.5} / n$

$$\begin{aligned} \text{where } R &= (WD) / (2D + W) && W = 0.4 \text{ m} \\ &= 0.1333 && D = 0.4 \text{ m} \\ &&& \text{Area} = 0.16 \text{ m} \end{aligned}$$

$$n = 0.012 \quad \text{s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

$$S_f = 0.004 \quad (1: 250)$$

$$\begin{aligned} \text{Therefore, } V &= 0.1333^{2/3} * 0.004^{0.5} / 0.012 \\ &= 1.3755 && \text{m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Q}_{\text{max}}) &= 0.8 * V * A && (0.8 \text{ factor for sedimentation)} \\ &= 0.1761 \\ &= 10564 && \text{lit/min} \\ &> 2305 && \text{lit/min OK} \end{aligned}$$

Calculation of Design Runoff of the Proposed Development,

For the design of drains from CP8 to CP2, The Site (Portion 2+3)

$$\Sigma Q = \Sigma 0.278 C i A$$

$$\begin{aligned} A &= 1851 \quad \text{m}^2 \\ &= 1851 \\ &= 0.001851 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L^3 / H^{0.2} A^{0.1} \\ &= 0.14465 * 45 / 1^{0.2} * 1851^{0.1} \\ &= 3.068 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111 * a / (t + b)^c && (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111 * 505.5 / (3.068 + 3.29)^{0.355} && \text{SDM) and (11.1\% increase due to climate change)} \\ &= 291.3 \quad \text{mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 0.95 * 291.3 * 0.001851 + 0.0384 \\ &= 0.1808 \quad \text{m}^3/\text{sec} \\ &= \underline{10848} \quad \text{lit/min} \end{aligned}$$

Calculation Maximum Capacity of Proposed 400x400 open channel (1:150)

Manning Equation $V = R^{2/3} * S_f^{0.5} / n$

$$\begin{aligned} \text{where } R &= (WD) / (2D + W) && W = 0.4 \text{ m} \\ &= 0.133 && D = 0.4 \text{ m} \\ &&& \text{Area} = 0.16 \text{ m} \end{aligned}$$

$$n = 0.012 \quad \text{s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

$$S_f = 0.0067 \quad (1: 150)$$

$$\begin{aligned} \text{Therefore, } V &= 0.133^{2/3} * 0.0067^{0.5} / 0.012 \\ &= 1.776 \quad \text{m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Q}_{\text{max}}) &= 0.8 * V * A && (0.8 \text{ factor for sedimentation)} \\ &= 0.2273 \\ &= 13638 \quad \text{lit/min} \\ &> 10848 \quad \text{lit/min} \quad \text{OK} \end{aligned}$$

Calculation of Design Runoff of the Proposed Development,
For the Final Outfall, All Catchment Area

$$\begin{aligned} \text{Therefore, } Q &= 17656 + 10848 \\ &= 28504 \text{ lit/min} \end{aligned}$$

Calculation Maximum Capacity of Proposed 600x800 open channel (1:150)

Manning Equation $V = R^{2/3} S_f^{0.5} / n$

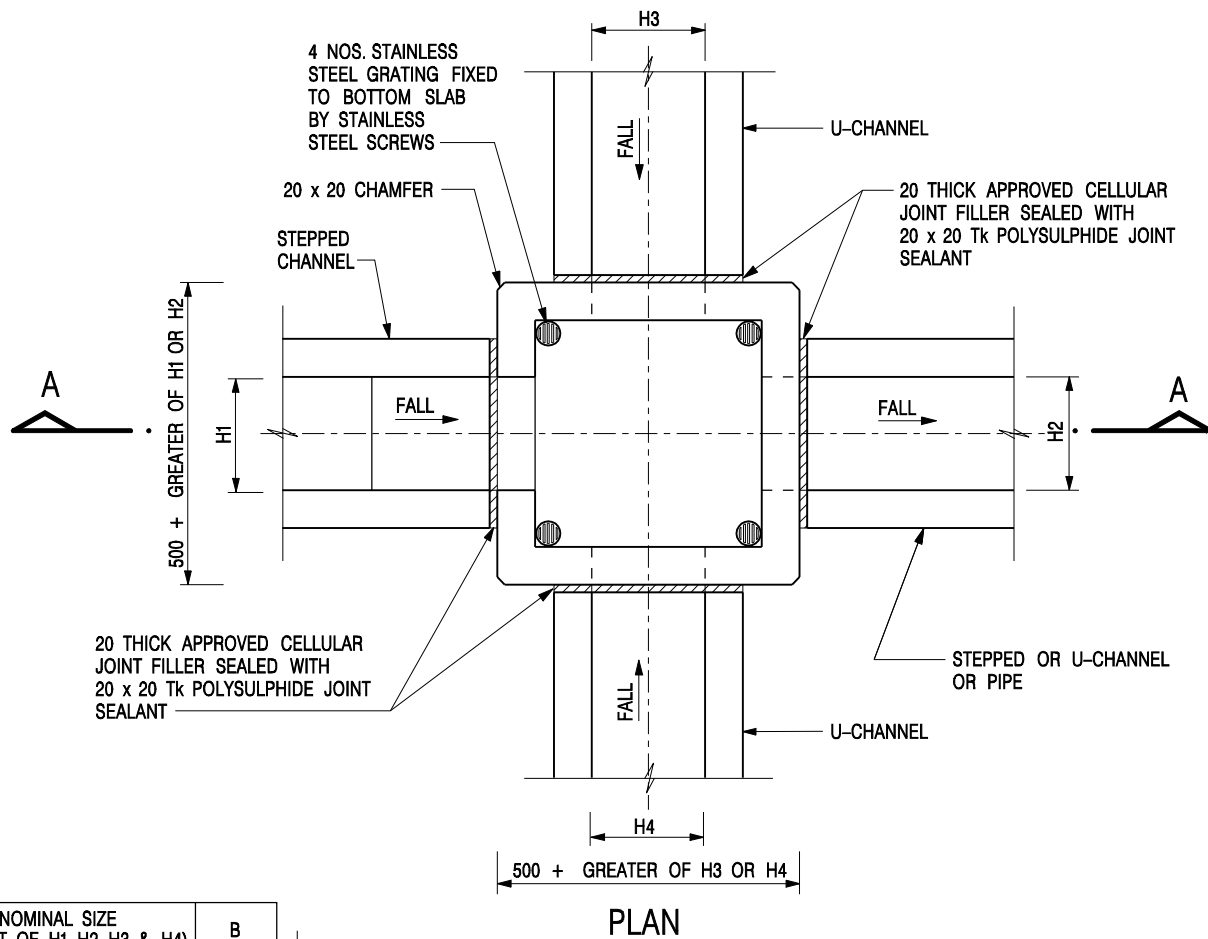
$$\begin{aligned} \text{where } R &= (WD)/(2D+W) & W &= 0.6 \text{ m} \\ &= 0.2182 & D &= 0.8 \text{ m} \\ & & \text{Area} &= 0.48 \text{ m}^2 \end{aligned}$$

$$n = 0.012 \text{ s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

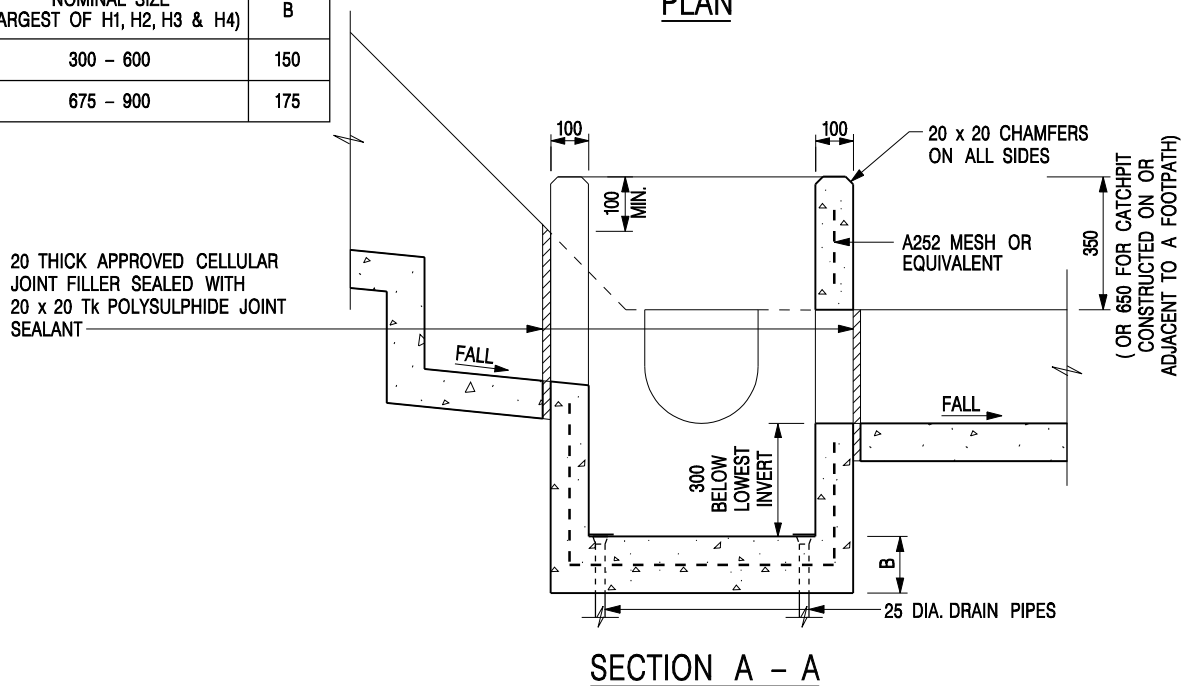
$$S_f = 0.01 \quad (1: 150)$$

$$\begin{aligned} \text{Therefore, } V &= 0.1667^{2/3} * 0.01^{0.5} / 0.012 \\ &= 2.466 \text{ m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Q}_{\max}) &= 0.8 * V * A & & (0.8 \text{ factor for sedimentation}) \\ &= 0.9469 \\ &= 56816 \text{ lit/min} \\ &> 28504 \text{ lit/min} & \text{OK} \end{aligned}$$



NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175

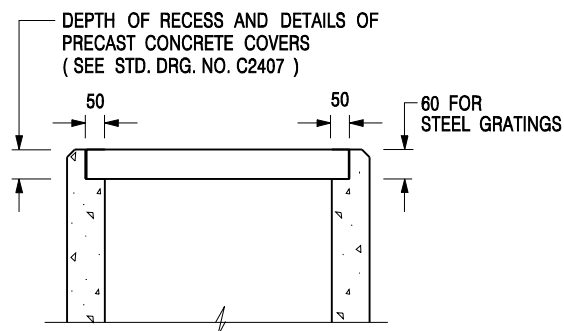


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE 1 : 20	
		DATE JAN 1991	
		DRAWING NO. C2406 /1	



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

A	MINOR AMENDMENT.	Original Signed	04.2016
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**



**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /2A

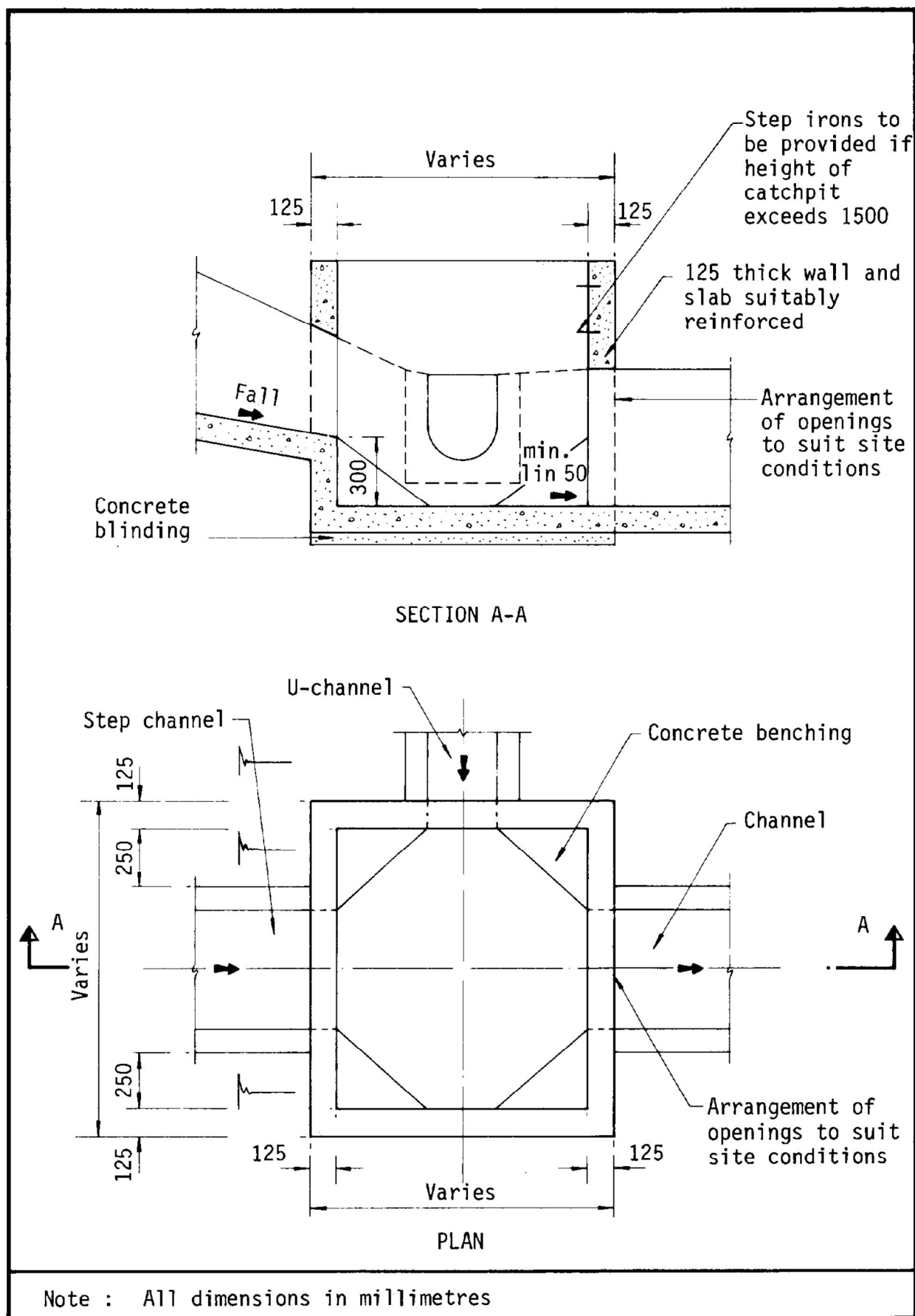


Figure 8.10 - Typical Details of Catchpits