

Our Ref.: DD117 Lot 1483 & VL
Your Ref.: TPB/A/YL-TT/805

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By Email

14 August 2026

Dear Sir,

Supplementary Information

**Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities
for a Period of 3 Years in "Open Storage" and "Recreation" Zones,
Various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories**

(S.16 Planning Application No. A/YL-TT/805)

We are writing to submit supplementary information in support of the subject application, details are as follows:

- (a) Revised supplementary statement and drainage impact assessment are provided **(Annexes I & II)**.

Should you require more information regarding the application, please contact our Mr. Danny NG at [REDACTED] or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Planning Limited



Louis TSE
Town Planner



Annex I

Revised Supplementary Statement

- 2.4 When compared with the previous application (No. A/YL-TT/683), all major development parameters remain unchanged. The applicant has made effort to comply with approval conditions of the previous application, details are shown at **Table 1** below:

Table 1 – Details of Compliance with Approval Conditions of the Previous Application

Approval Conditions of Application No. A/YL-TT/683		Date of Compliance
(a)	The submission of a revised drainage impact assessment (DIA)	Not complied with
(b)	The implementation of the proposed drainage facilities	Not complied with
(d)	The submission of a revised fire service installations (FSIs) proposal	Not complied with
(e)	The implementation of the revised FSIs proposal	Not complied with

- 2.5 During the approval period of the previous application, the applicant has made effort in complying with approval conditions in regard to drainage and fire safety aspects. Details are as follow:

Drainage aspect

For condition (a), the applicant made several submissions of a revised DIA to comply with this condition on 10.09.2025, 02.12.2025, 08.04.2026, 07.05.2026 and 06.07.2026 respectively. The latest submission was considered not acceptable by the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) on 24.07.2026. Due to the limitation of time, the applicant is therefore failed to comply with this condition within the specified period of time.

Fire safety aspect

For condition (d), the applicant made several submissions of a revised FSIs proposal to comply with condition (c) on 19.11.2025, 30.03.2026 and 02.07.2026. The latest submission was considered not acceptable by the Director of Fire Services (D of FS) on 24.07.2026. Therefore, the applicant failed to comply with this approval condition within the specified period.

- 2.6 In support of the application, the applicant has submitted an updated FSIs proposal and a revised DIA to minimise potential impact(s) to the surrounding areas, as well as for the consideration of relevant government bureaux/departments and members of the Board (**Appendices I to II**).

3) Development Proposal

3.1 The Site occupies an area of 10,313 m² (about), including 1,794m² (about) of GL (**Plan 3**). The operation hours of the proposed development are Monday to Saturday from 09:00 to 19:00. There will be no operation on Sunday and public holidays. A total of 8 structures are proposed at the Site for warehouse (excluding D.G.G.), covered loading/unloading (L/UL) area, meter room, guardroom, covered parking spaces, site offices washroom and store room with total GFA of 15,211 m² (about) (**Plan 4**). The site office is intended to provide indoor workspace for administrative staff to support the daily operation of the proposed development. The remaining open area will be reserved for vehicle circulation, parking, and loading/unloading (L/UL) spaces. It is estimated that the proposed development would accommodate about 15 nos. of staff. As the Site is solely for 'warehouse' use without any shopfront, no visitor is anticipated at the Site. Details of the development parameters are shown at **Table 1** below.

Table 1 – Development parameters

Site area	10,313 m ² (about), including 1,794m ² (about) of GL
Covered area	7,730 m ² (about)
Uncovered area	2,583 m ² (about)
Plot ratio	1.47 (about)
Site coverage	75% (about)
No. of structure	8
Total GFA	15,211 m ² (about)
- Domestic GFA	Not applicable
- Non-Domestic GFA	15,211 m ² (about)
Building height	3 m – 13 m (about)
No. of storey	1 - 2

3.2 The Site has already been hard-paved for site formation of structures and circulation area. The proposed warehouse is intended for storage of miscellaneous goods (including but not limited to packaged food, apparel, footwear, electronic goods, furniture etc.). No dangerous goods and workshop activities will be stored/conducted at the Site at any time during the planning approval period.

3.3 The Site is accessible from Tai Tong Shan Road via a local access (**Plan 1**). A total of 11 parking

Annex II

Revised Drainage Impact Assessment

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years

At Various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

Drainage Assessment Report



Ir MAK Chun Kwong

MHKIE : MW0636870

Registered Professional Engineer (Civil)

RP 0636870

App. Date:

By: Mak Chun Kwong (Professional Engineer)

Consultant:

C&H Consulting Engineering Co., Ltd

Aug 2026

Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

DRAINAGE IMPACT ASSESSMENT

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Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

1. Introduction

~~Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with~~ Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/683), is applied for planning permission. This report is a Drainage Assessment Report to support the submission.

2. Site Description

~~The site is located~~ on the left on the western side of Tai Tong Shan Road. The site has a higher level on the northern side and lower level on the southern side. The site has partly developed, and the open storage has been constructed at the site. The topography level of the site is lower than the eastern side of site and higher than the western side of the site. Site Area is about 10,313 sq. m (Includes Government Land of about 1,794 sq. m) (Appendix A shows the Location Plan) The ground profile in the further west is sloping downward towards the west direction.

There are some existing drainage facilities that existing Stream (3m width x 2 m depth) along northern side of the site connected to existing open channel with critical size 13m width x 6m depth along western side of the site. Existing Stream is natural-stream channels (conservatively take Manning Coefficient $n=0.04$). and the open channel is made of concrete (conservatively take Manning Coefficient $n=0.018$). The final discharge is managed by DSD.

3. Drainage Assessment

~~Peripheral channel is designed~~ to collect the runoff generated from and passed through the site (Appendix B shows the Outside Catchment Area Plan). The final discharge point is the existing 13m width x 6m depth open channel in the western side of the site. The runoff intensity is 280mm/hr. The runoff coefficient of the site to be 0.95, while that of the part of outside catchment area is 0.95 and part of area is 0.40. (Appendix C shows the Drainage Layout Plan of the site).

Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

The overall catchment area for the existing 1.8m(W)x1.5m(D) open channel is presented in Appendix D. The total area including the site is 516,735sq.m The runoff intensity is 280mm/hr. Based on the actual site condition, the ratio of hard – paved to soil-paved is 1:2.5.

For the site itself, the runoff including the site and the outside catchment area is collected by proposed channel and finally discharge to the existing 5m(W)x5m(D) open channel via the proposed 1000mm box culvert. For checking the existing 1.8m(W)x1.5m(D) open channel, since the site is currently full of vegetation, in drainage point of view, the runoff coefficient is changed from 0.35 to 0.95. It is found that the 3m(W)x2m(D) open channel is adequate to cater for the extra runoff due to the proposed development. Finally, collected surface runoff would be discharged to existing stream via 830mm underground pipe.

Detailed calculation is presented in Appendix E. Due to uncertainties of underground drain, some assumptions are made and utilization of the existing drainage facilities should be maintained as below 75% or 0.8 reduction factor has been applied for calculation.

4. Conclusion

Mitigation Measures and Recommendation for adverse drainage (See next page) would be carried out by applicant and no adverse drainage impacts would be caused to adjacent areas in drainage impact assessment.

Mitigation Measures and Recommendation for adverse drainage impact
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Issue / Potential Impact	Proposed Mitigation Measure	Expected Outcome
Increased Surface Runoff	Installation of On-site Stormwater Detention (OSD) tanks.	Regulated discharge rate to match pre-development levels.
Flood Risk to Neighbors	Strategic site grading and perimeter swales.	Directs water away from adjacent boundaries to the main drainage network.
Soil Saturation / Infiltration	Use of permeable paving and rain gardens.	Reduces peak flow by increasing natural ground absorption.
Existing Pipe Capacity	Upgrading site-specific drainage connections.	Prevents system surcharge and potential backflow during heavy rain.
Debris & Sedimentation	Installation of gross pollutant traps (GPTs).	Ensures clean water discharge and prevents downstream blockage.

Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

Appendix A: Site Location Plan



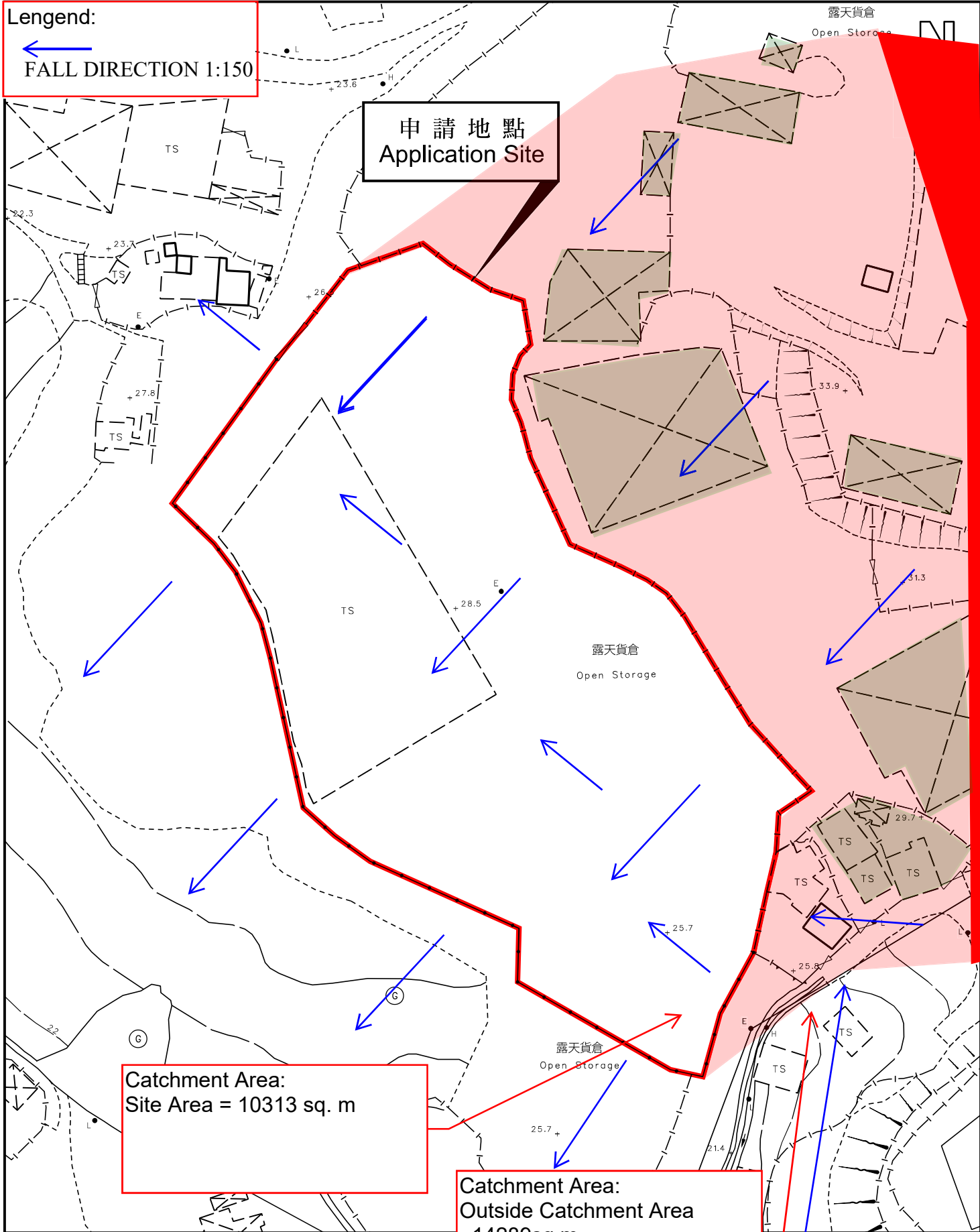


Site Area

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix B: Outside Catchment Plan

Lengend:
← FALL DIRECTION 1:150



Catchment Area:
Site Area = 10313 sq. m

Catchment Area:
Outside Catchment Area
=14289sq.m
Hard-paved area=4083sqm
Soil-paved area=10206sqm

本摘要圖於2024年2月6日擬備，
所根據的資料為測量圖編號
6-NW-24D
EXTRACT PLAN PREPARED ON 6.2.2024
BASED ON SURVEY SHEET No.
6-NW-24D

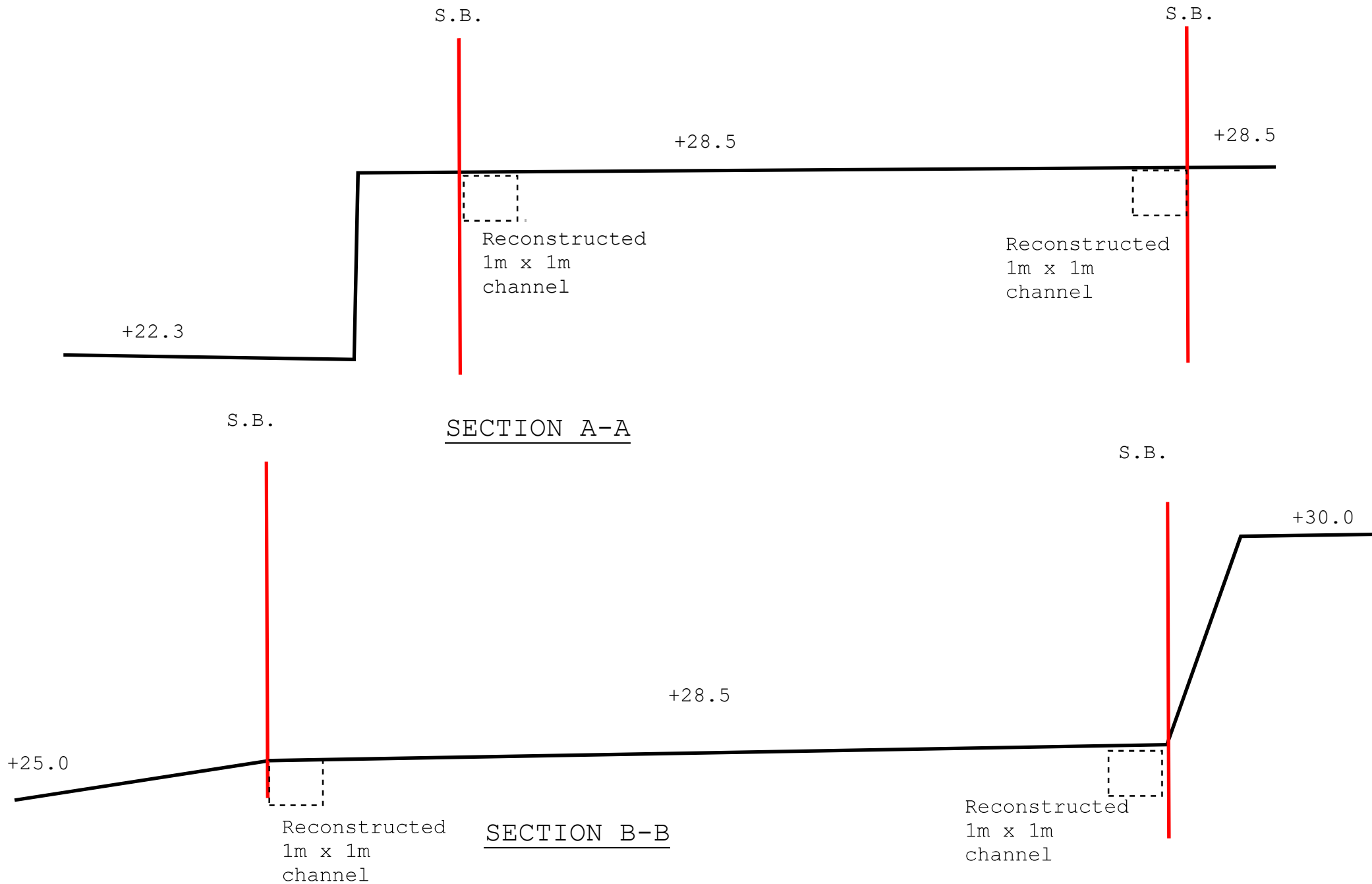
平面圖 SITE PLAN

Coefficient of surface
runoff = 0.52

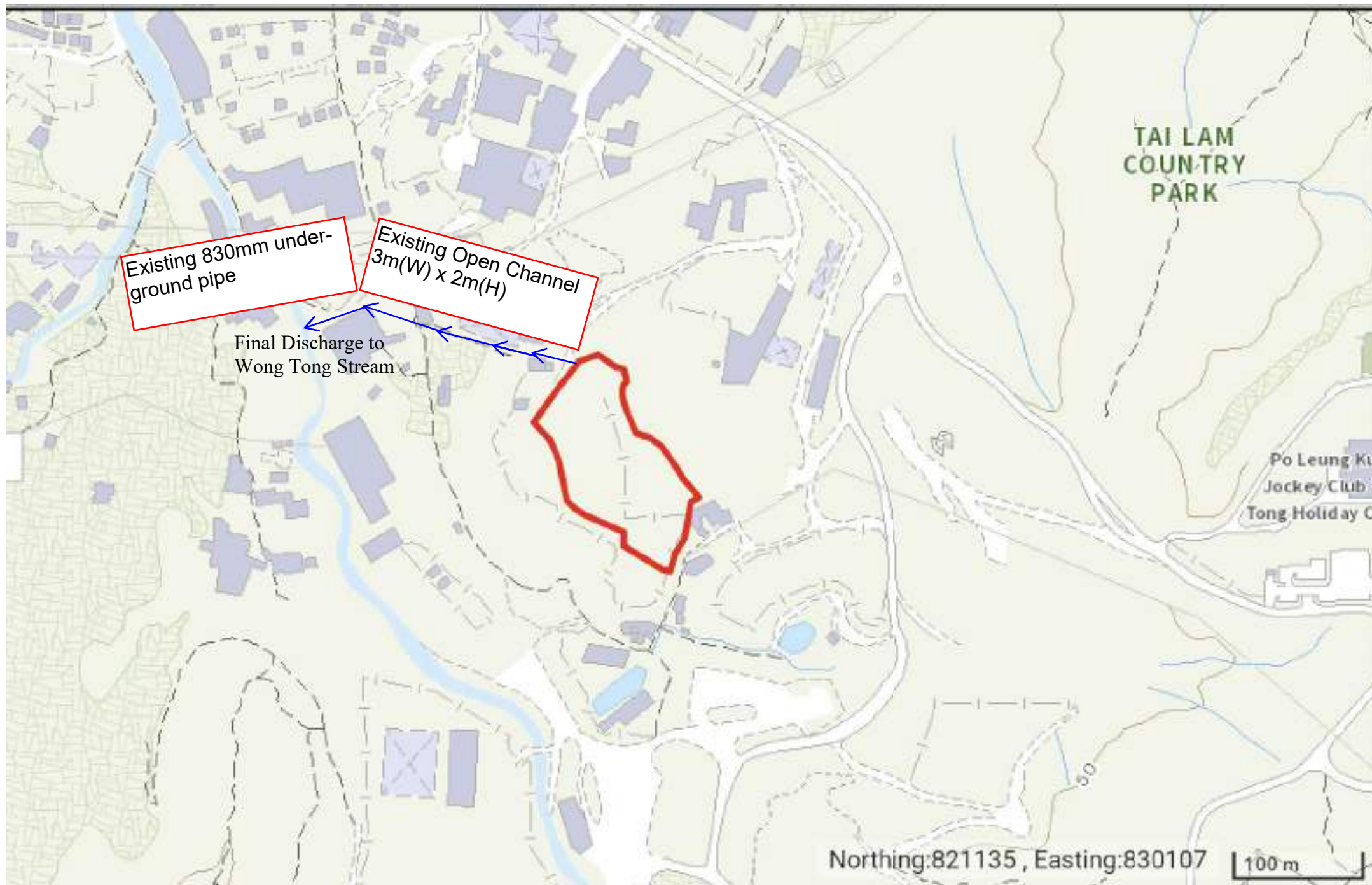
參考編號
REFERENCE No.
L-TT/635

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

APPENDIX C: DRAINAGE LAYOUT PLAN



Remark: All Ground Levels are existing level and final level marked on cross-section

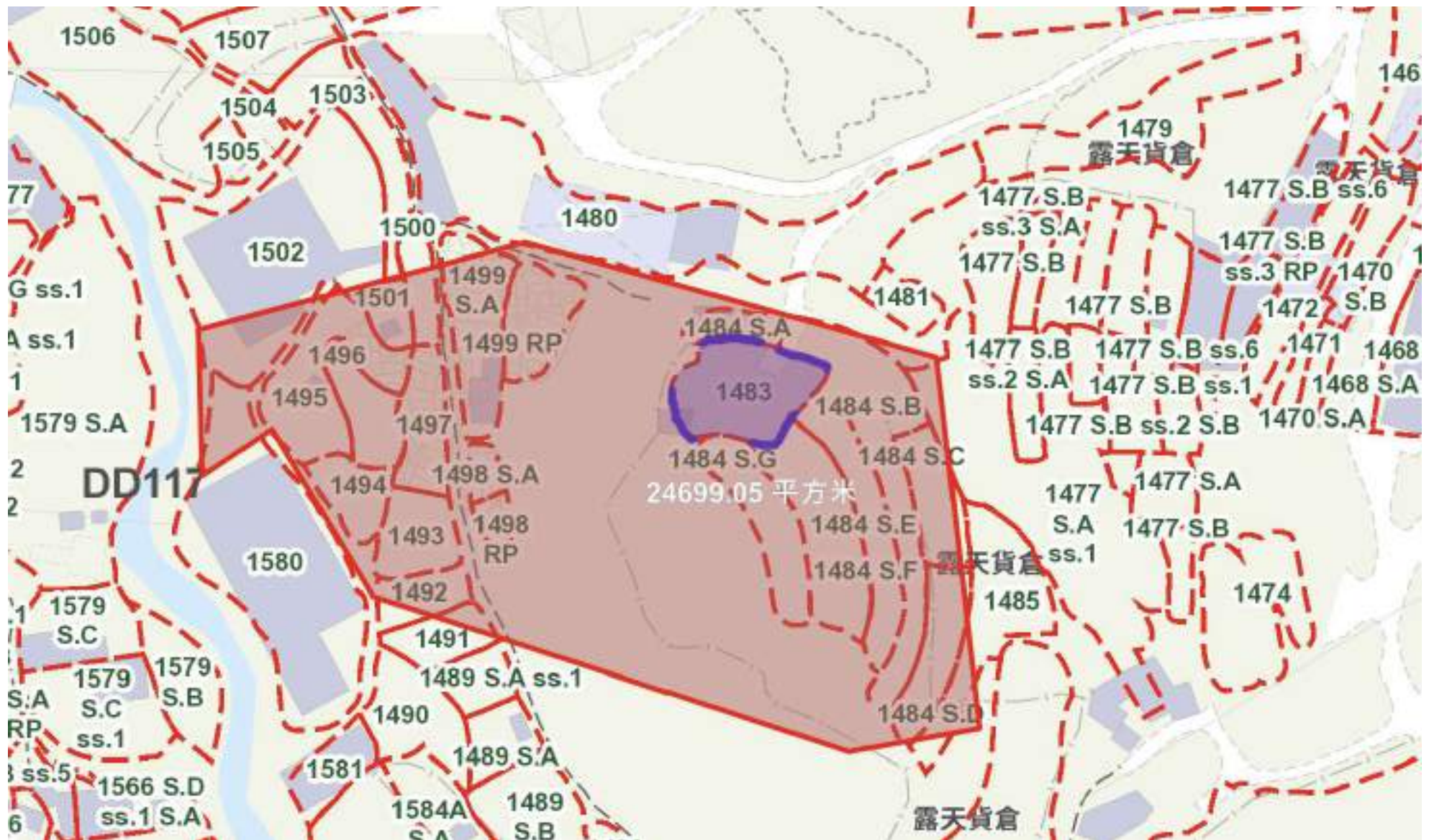


Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix D: Overall Catchment Area for Existing Channel

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

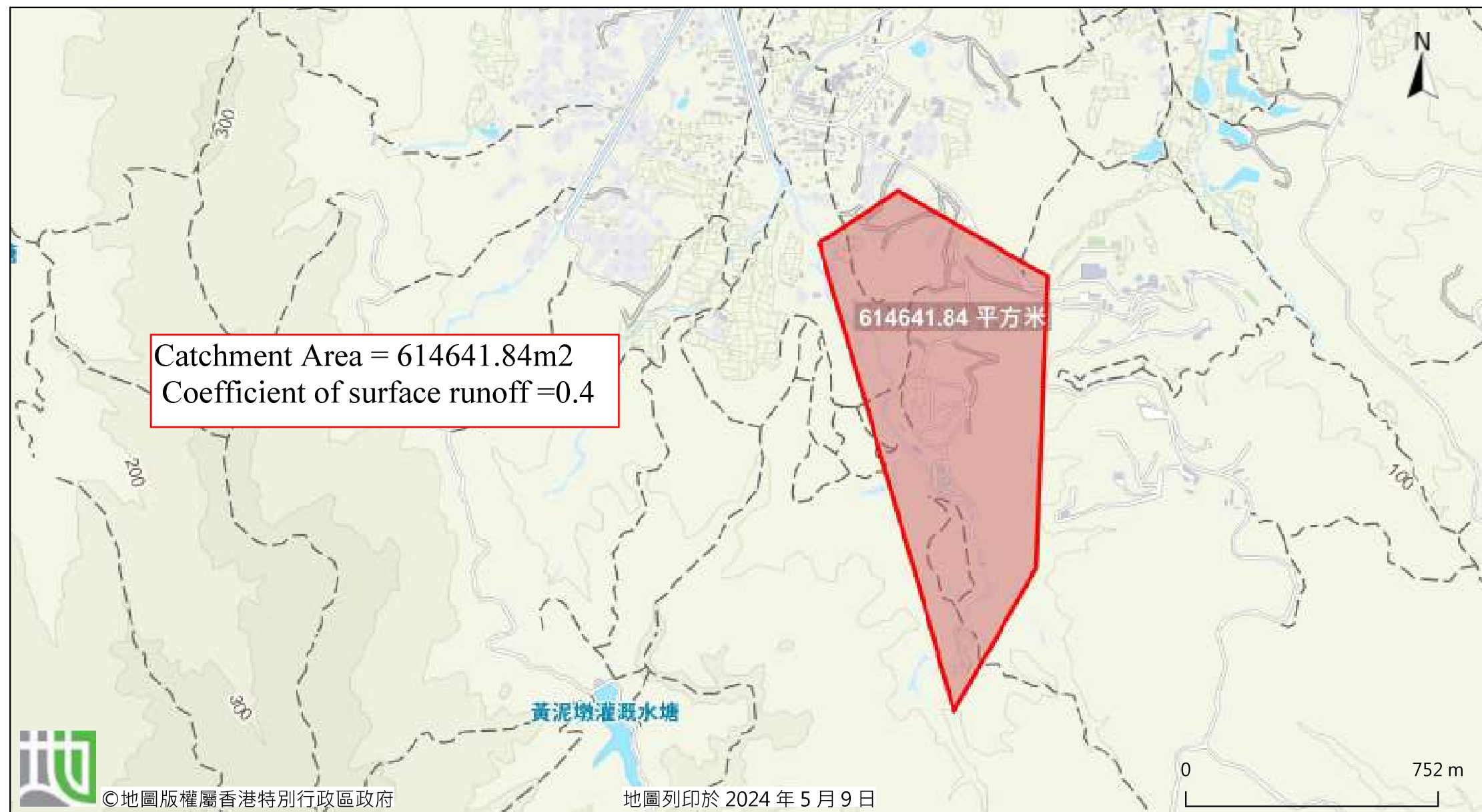
Appendix D1: Overall Catchment Area for Existing 3m (W) x 2m (H) Channel



Catchment Area = 24699.05m²
Coefficient of surface runoff = 0.25

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix D2: Overall Catchment Area for Existing 13m (W) x 6m (H) Channel

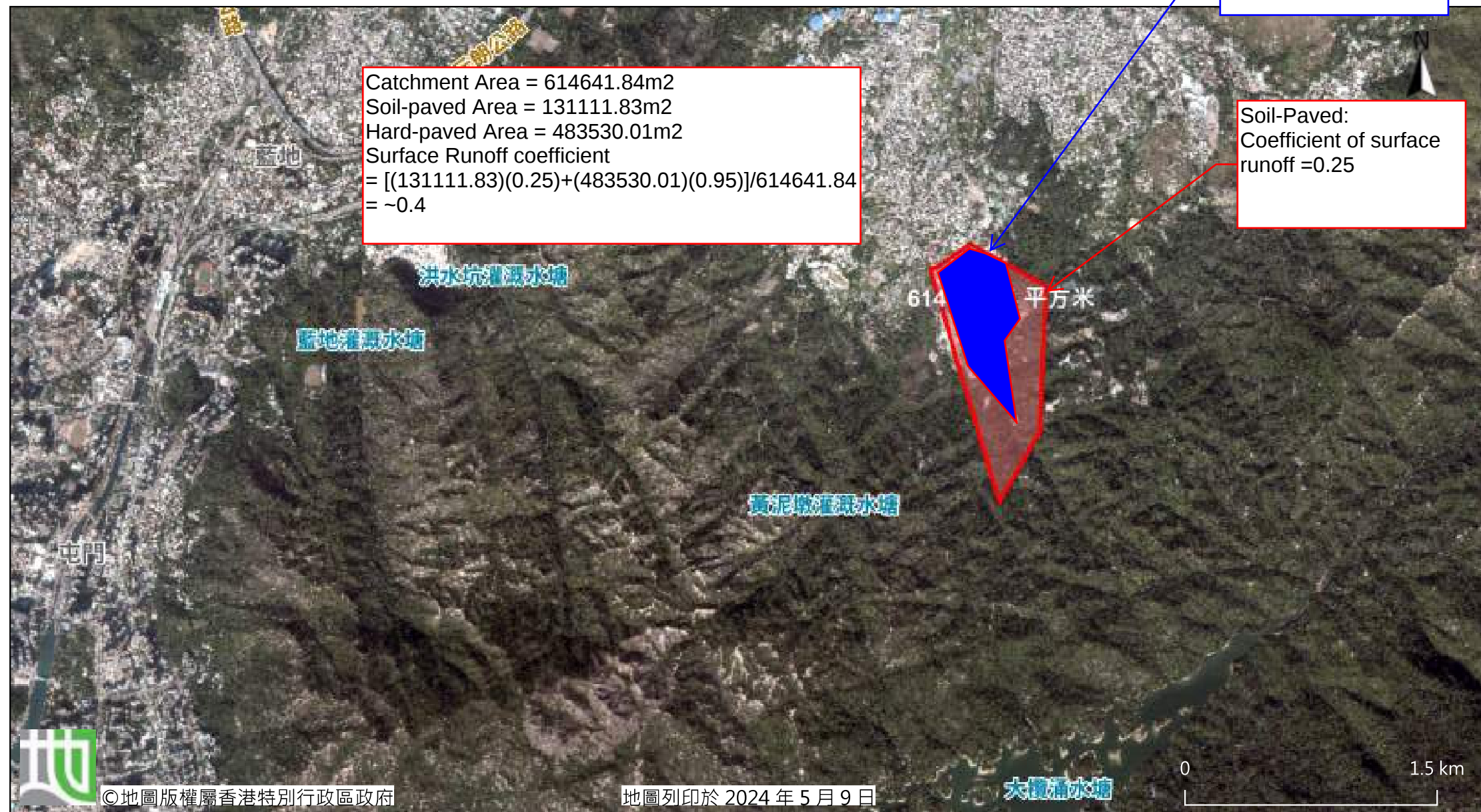


Hard-Paved:
Coefficient of surface
runoff =0.95

Soil-Paved:
Coefficient of surface
runoff =0.25

Catchment Area = 614641.84m²
Soil-paved Area = 131111.83m²
Hard-paved Area = 483530.01m²
Surface Runoff coefficient
= [(131111.83)(0.25)+(483530.01)(0.95)]/614641.84
= ~0.4

614 平方米



Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E: Calculation

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E1: Calculation of 1m x 1m channel and 1000mm box culvert and 900mm width stepped channel

Company:
Project :

Date: 1/7/2026

Site Area = 10313 m² (C =0.95, hard-paved)
Outside Catchment Area = 14289 m²
Total Catchment Area= 24602 m²

(Ratio of concrete paved: ratio of soil paved = 1:2.5)

$$t_o = \frac{0.1446SL}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)
 $t = 0.14475 \times 100 / 1.5^{0.2} / 24602^{0.1}$
 $= 4.856$ min

$$i = \frac{a}{(t_d + b)^c}$$

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in [Tables 3a, 3b, 3c and 3d](#).

Assume 50 yrs return period

$a = 505.5$
 $b = 3.29$
 $c = 0.355$

$i = 240.066018$ mm/hr

According to SDM Corrigendum No.1 /2022 $i = 240.066 \times (1 + 16\%) = 278.4765814$ mm/hr
Therefore, take $i = 280$ mm/hr

Company:
Project :

Date: 7/8/2026

Calculation for channels:

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 180 mm/hr x 0.010313 km^2
= 0.490259 m^3/s
= 29416 liter/min

Outside Area = 24699 m^2
= 0.024699 km^2

Peak runoff in m^3/s = 0.278 x 0.4 x 180 mm/hr x 0.024699 km^2
= 0.494375 m^3/s
= 29663 liter/min

Total Peak Runoff for Site = 0.984635 m^3/s = 59078.07468 liter/min

Check 830mm dia. Pipe by Colebrook-White Equation

$$V = -\sqrt{(8gDs)} \log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

where :

V	=			mean velocity (m/s)	
g	=	9.81	m/s ²	gravitational acceleration (m/s ²)	
D	=	0.83	m	internal pipe diameter (m)	
ks	=	0.000003	m	hydraulic pipeline roughness (m)	(Table 5, from DSD Sewerage Manual, uPVC)
v	=	1.14E-06	m ² /s	kinematic viscosity of fluid (m ² /s)	
s	=	0.01		hydraulic gradient	

Therefore, = 4.0527 m/s > Design velocity = 0.9286 m³/s / 0.83² * pi/4
 design V of from catchment area = 1.7162582 m/s ==>O.K.

According to Section 9.3 of SDM, the capacity of proposed pipe is reduced 10% so the design velocity is 4.05 x (1-10%) = 3.68 m/s > 1.89 m/s, which can also cater the surface runoff from development area. Also, 1000mm x 1000mm box culvert has more capacity than 830mm. dia. pipe. The calculation is more conservative

Utilization = 1.89/3.68 = 52%

Table 15 - Head Losses Coefficient K

Source: DSD (1992)

Entry Losses		K	Intermediate Losses (cont'd)		K
Sharp-edged entrance		0.50	Line to branch or branch to line :		
Re-entrant entrance		0.80	30° angle		0.40
Slightly rounded entrance		0.25	45° angle		0.60
Bellmouthed entrance		0.05	90° angle		0.80
Footvalve and strainer		2.50			
Intermediate Losses		K			
(i) Elbows	22.5°	0.20	(viii) Sudden Enlargements*		
(R/D = 1 approx.)	45°	0.40	Inlet dia : Outlet dia.		
	90°	1.00	4:5		0.15
			3:4		0.20
			2:3		0.35
			1:2		0.60
			1:3		0.80
			1:5 and over		1.00
(ii) Close Radius Bends	22.5°	0.15	(ix) Sudden Contractions*		
(R/D = 1 approx.)	45°	0.30	Inlet dia : Outlet dia.		
	90°	0.50**	5:4		0.15
			4:3		0.20
(iii) Long Radius Bends	22.5°	0.10	3:2		0.30
(R/D = 2 to 7)	45°	0.20	2:1		0.35
	90°	0.40	3:1		0.45
			5:1 and over		0.50
(iv) Sweeps	22.5°	0.05	(x) B.S. Tapers*		
(R/D = 8 to 50)	45°	0.10	Flow to small end		negligible
	90°	0.20	Flow to large end		
			Inlet dia : Outer dia.		
			4:5		0.02
			3:4		0.04
			1:2		0.12
(v) Mitre Elbows			(xi) Valves		
2 piece	22.5°	0.15	Gate Valve - fully open		0.12
2 piece	30°	0.20	1/4 closed		1.00
2 or 3 piece	45°	0.30	1/2 closed		6.00
2 piece	60°	0.65	3/4 closed		24.00
3 piece	60°	0.25	Globe valve		10.00
2 piece	90°	1.25	Right angle valve		5.00
3 piece	90°	0.50	Reflux valve		1.00
4 piece	90°	0.30	Butterfly valve		0.30
(vi) Tees			Exit Losses		K
Flow in line		0.35			
Line to branch or branch to line:			Sudden Enlargement		1.00
Sharp-edged		1.20			
Radiused		0.80			

To consider local head loss,

$$h_L = \frac{K\bar{V}^2}{2g}$$

$$g = 9.81 \text{ m/s}^2$$

$$K=0.2$$

$$V = 4.5221 \text{ m/s}$$

$$\text{Local Head Loss} = 0.05 \text{ m, near to zero}$$

It is not significant to pipe design

For 1m x 1m channel in the site,

By Manning's equation, (1m x 1m (depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where

Manning Coefficient $n = 0.01$

$$S_0 = 0.0015$$

$$A = 1 \times 1 = 1 \text{ m}^2$$

$$P = 3 \text{ m}$$

$$= \frac{1}{0.01} \frac{(1)^{\frac{5}{3}}}{(3)^{\frac{2}{3}}} (0.0015)^{\frac{1}{2}}$$

$$= 1.86 \text{ m}^3/\text{s}$$

$$> 1.48 \text{ m}^3/\text{s}$$

OK!

Proposed 1.0m (W) x 1.0m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM, the capacity of proposed channel is reduced 10% so the design velocity is $1.86 \times (1-10\%) = 1.674 \text{ m}^3/\text{s} > 1.48 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Company:

Project :

Date:

7/8/2026

Calculation for Stepped channels:

Q_{req}	required channel capacity	=	95000	l/min	=	1.600	m ³ /s	(85% utilization)
α	channel gradient	=	23.58	degrees				
L	channel length	=	5	m				
D	design channel depth	=	0.85	m				
W	design channel width	=	1	m				
h	design channel step height	=	0.2	m				
l	design channel step length	=	0.2	m				

Determining the Average Air Concentration, C_e

$$C_e = 0.9 \sin \alpha = 0.38$$

Determining the Darcy's Friction Factor of Aerated Flow, f_e

$$f_e = 0.5 f \left\{ 1 + \tanh \left[0.628 \frac{0.51 - C_e}{C_e (1 - C_e)} \right] \right\} = 0.6666$$

Determining the Characteristic Aerated Flow Depth, Y_{90}

$$Y_{90} = D \cos \alpha = 0.779038 \text{ m}$$

Determining the Equivalent Non-aerated Flow Depth, d_o

$$d_o = Y_{90} (1 - C_e) = 0.483003 \text{ m}$$

Determining the Hydraulic Diameter of Equivalent Non-aerated Flow, D_H

$$D_H = 4 A_w / P_w = 4 \times \left(\frac{d_o \times W}{2 d_o + W} \right) = 0.98271 \text{ m}$$

$$\begin{aligned} A_w &= 0.483003 \text{ m}^2 \\ P_w &= 1.966007 \text{ m} \end{aligned}$$

Determining the Equivalent Non-aerated Flow Velocity, V_o

$$V_o = \sqrt{\frac{8 g \sin \alpha}{f_c} \times \frac{D_H}{4}} = 3.401304812 \text{ m/s}$$

Determining the Channel Capacity, Q

$$Q = V_o \times d_o \times W = 1.642842 \text{ m}^3/\text{s} > 1.600 \text{ m}^3/\text{s} \quad \text{OK!}$$

\

Determining the Discharge per Unit Channel Width, q_w

$$q_w = Q / W = 1.642842 \text{ m/s}$$

There is no catchpit at downstream and connected to existing stream directly so no overshoot occur when $q_w > 2 \text{ m/s}$

Determining the Critical Flow Depth for the Given Discharge per Unit Width

$$d_c = (q_w^2 / g)^{1/3} = 0.653194 \text{ m}$$

Determining the Critical Flow Depth for Onset of Skimming Flow, $(d_c)_{\text{onset}}$

$$(d_c)_{\text{onset}} = (1.057 - 0.465 h / l) h = 0.1184 \text{ m} < 0.6532 \text{ m}$$

The skimming flow assumption is valid and the calculated channel capacity Q can be adopted

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E2: Calculation of 3m(W) x 2m (H) Existing channel

Company:

Project :

Date: 10/9/2025

Site Area = 10313 m² (C=0.95, hard-paved)
Outside Catchment Area = 24699 m² (C=0.6, Grassland)
Total Catchment Area= 35012 m²

$$t_c = \frac{0.1446SL}{H^{0.2}A^{0.1}}$$

where t_c = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

$$t_c = 0.14475 \times 100 / 1.5^{0.2} / 24699^{0.1}$$
$$= 4.854 \text{ min}$$

$$i = \frac{a}{(t_d + b)^c}$$

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d,

Assume 50 yrs return period

$$a = 505.5$$
$$b = 3.29$$
$$c = 0.355$$

$$i = 240.086009 \text{ mm/hr}$$

According to SDM Corrigendum No.1 /2022
Therefore, take $i = 240.086 \times (1 + 16\%) = 278.4997709 \text{ mm/hr}$
 $i = 280 \text{ mm/hr}$

Company:
Project :

Date: 10/9/2025

Calculation for channels:

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 280 mm/hr x 0.010313 km^2
= 0.762626 m^3/s
= 45758 liter/min

Outside Area = 24699 m^2
= 0.024699 km^2

Peak runoff in m^3/s = 0.278 x 0.6 x 280 mm/hr x 0.024699 km^2
= 1.153542 m^3/s
= 69213 liter/min

Total Peak Runoff for Site = 1.916168 m^3/s = 114970.0692 liter/min

By Manning's equation, (3m x 2m (depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where

Manning Coefficient $n = 0.04$

$$S_0 = 1/150$$

$$A = 3 \times 2 = 6 \text{ m}^2$$

$$P = 3 + 3 + 2 = 8 \text{ m}$$

$$= \frac{1}{0.04} \frac{(6)^{\frac{5}{3}}}{(8)^{\frac{2}{3}}} (1/150)^{\frac{1}{2}}$$

$$= 10.1 \text{ m}^3/\text{s}$$

$$> 1.92 \text{ m}^3/\text{s}$$

OK!

Existing 3m (W) x 2m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM and full of debris, the capacity of existing channel is reduced 80% so the design velocity is $10.1 \times (1-80\%) = 2.02 \text{ m}^3/\text{s} > 1.92 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E3: Calculation of 13m(W) x 6m (H) Existing channel

Company:

Project :

Date: 7/8/2026

Site Area = 10313 m² (C =0.95, hard-paved)
Outside Catchment Area = 614642 m² (C=0.6, Grassland)
Total Catchment Area= 624955 m²

$$t_o = \frac{0.14465L}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

$$t = 0.14475 \times 100 / 1.5^{0.2} / 624955^{0.1} \\ = 3.514 \text{ min}$$

$$i = \frac{a}{(t_d + b)^c}$$

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in [Tables 3a, 3b, 3c and 3d](#).

Assume 200 yrs return period

$$a = 508.8 \\ b = 3.46 \\ c = 0.322$$

$$i = 272.234835 \text{ mm/hr}$$

According to SDM Corrigendum No.1 /2022 $i = 272.235 \times (1 + 16\%) = 315.7924083 \text{ mm/hr}$
Therefore, take $i = 320 \text{ mm/hr}$

Company:
Project :

Date: 7/8/2026

Calculation for channels:

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 320 mm/hr x 0.010313 km^2
= 0.871572 m^3/s
= 52294 liter/min

Outside Area = 624955 m^2
= 0.624955 km^2

Peak runoff in m^3/s = 0.278 x 0.6 x 320 mm/hr x 0.624955 km^2
= 33.3576 m^3/s
= 2001456 liter/min

Total Peak Runoff for Site = 34.22917 m^3/s = 2053750.22 liter/min

By Manning's equation (13m x 6m depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where Manning Coefficient $n = 0.018$

$$S_0 = 0.001$$

$$A = 13 \times 6 = 78 \text{ m}^2$$

$$P = 13 + 6 + 6 = 25 \text{ m}$$

$$= \frac{1}{0.018} \frac{(78)^{\frac{5}{3}}}{(25)^{\frac{2}{3}}} (0.001)^{\frac{1}{2}}$$

$$= 336 \text{ m}^3/\text{s}$$

$$> 34.23 \text{ m}^3/\text{s}$$

OK!

Existing 13m (W) x 6m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM, the capacity of existing channel is reduced 10% so the design velocity is $336 \times (1-10\%) = 302.4 \text{ m}^3/\text{s} > 34.23 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Utilization of the existing channel = $34.23/302.4 = 11.32\%$

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix F: Site Photo

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 10,313 m ²	(ABOUT)
COVERED AREA	: 7,730 m ²	(ABOUT)
UNCOVERED AREA	: 2,583 m ²	(ABOUT)
PLOT RATIO	: 1.47	(ABOUT)
SITE COVERAGE	: 75 %	(ABOUT)
NO. OF STRUCTURE	: 8	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 15,211 m ²	(ABOUT)
TOTAL GFA	: 15,211 m ²	(ABOUT)
BUILDING HEIGHT	: 3 m - 13 m	(ABOUT)
NO. OF STOREY	: 1 - 2	

STRUCTURE

USE

COVERED
AREA

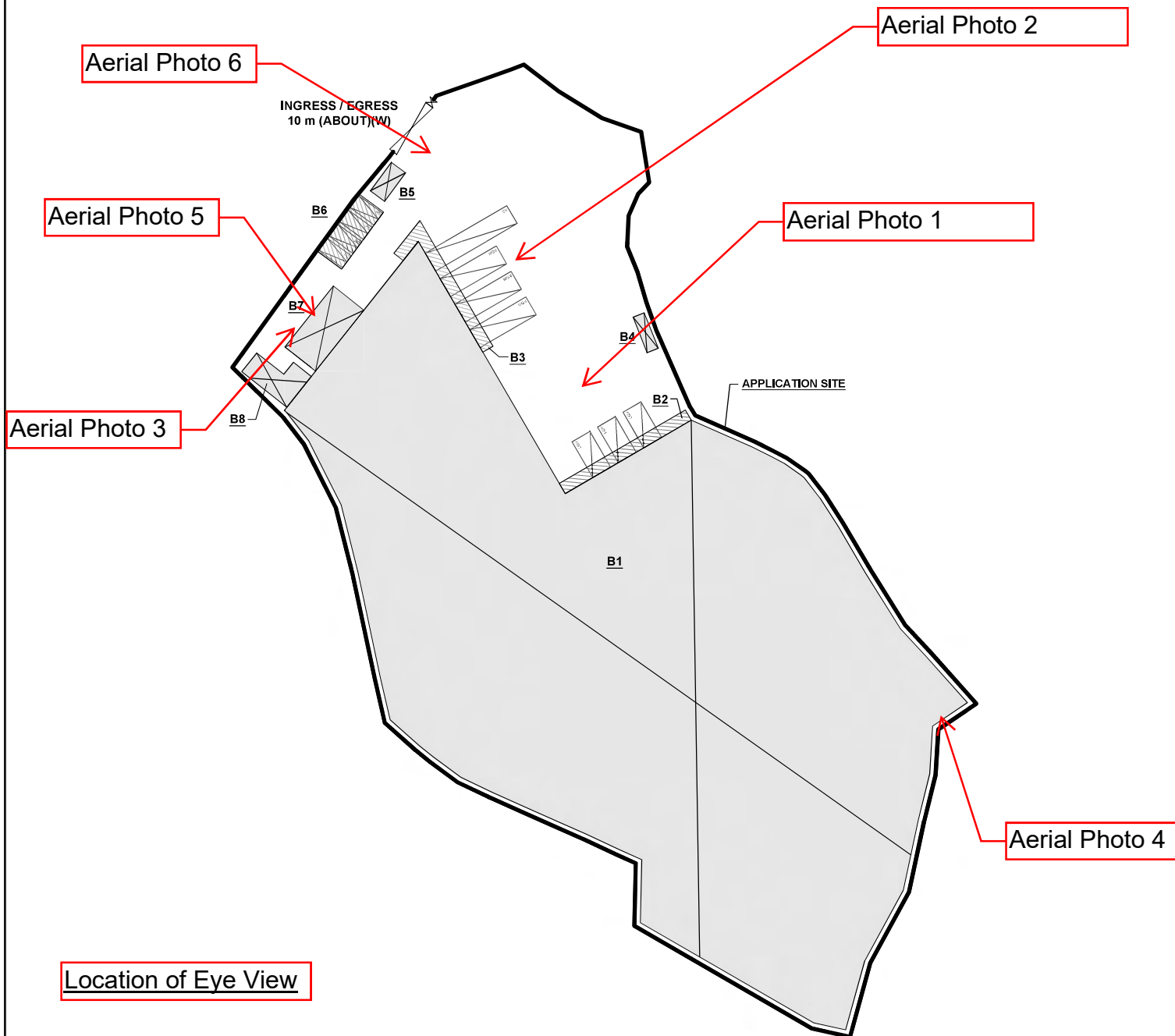
GFA

BUILDING
HEIGHT

B1	WAREHOUSE (EXCL D.G.G.)*	7,393 m ² (ABOUT)	14,786 m ² (ABOUT)	13 m (ABOUT)(2-STOREY)
B2	COVERED L/UL AREA	50 m ² (ABOUT)	50 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B3	COVERED L/UL AREA	58 m ² (ABOUT)	58 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B4	METER ROOM	13 m ² (ABOUT)	13 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B5	GUARDROOM	18 m ² (ABOUT)	18 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B6	COVERED PARKING SPACES	60 m ² (ABOUT)	60 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)
B7	SITE OFFICE AND WASHROOM	88 m ² (ABOUT)	176 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B8	SITE OFFICE AND STORE ROOM	50 m ² (ABOUT)	50 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)

TOTAL 7,730 m² (ABOUT) 15,211 m² (ABOUT)

*WAREHOUSE (EXCL. D.G.G.) - WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)



PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 4
DIMENSION OF L/UL SPACE	: 5 m (L) x 2.5 m (W)
NO. OF L/UL SPACE FOR LIGHT GOODS VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 7 m (L) x 3.5 m (W)
NO. OF L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 11 m (L) x 3.5 m (W)
NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 1
DIMENSION OF L/UL SPACE	: 16 m (L) x 3.5 m (W)

LEGEND

	APPLICATION SITE
	STRUCTURE (ENCLOSED)
	STRUCTURE (CANOPY)
	PRIVATE CAR PARKING SPACE
	LOADING / UNLOADING SPACE FOR LGV
	LOADING / UNLOADING SPACE FOR MGW
	LOADING / UNLOADING SPACE FOR CV
	INGRESS / EGRESS

PLANNING CONSULTANT

R-Riches
Property Consultants Ltd.

PROJECT

PROPOSED TEMPORARY WAREHOUSE
(EXCLUDING DANGEROUS GOODS GODOWN)
WITH ANCILLARY FACILITIES FOR A PERIOD
OF 3 YEARS

ADDRESS

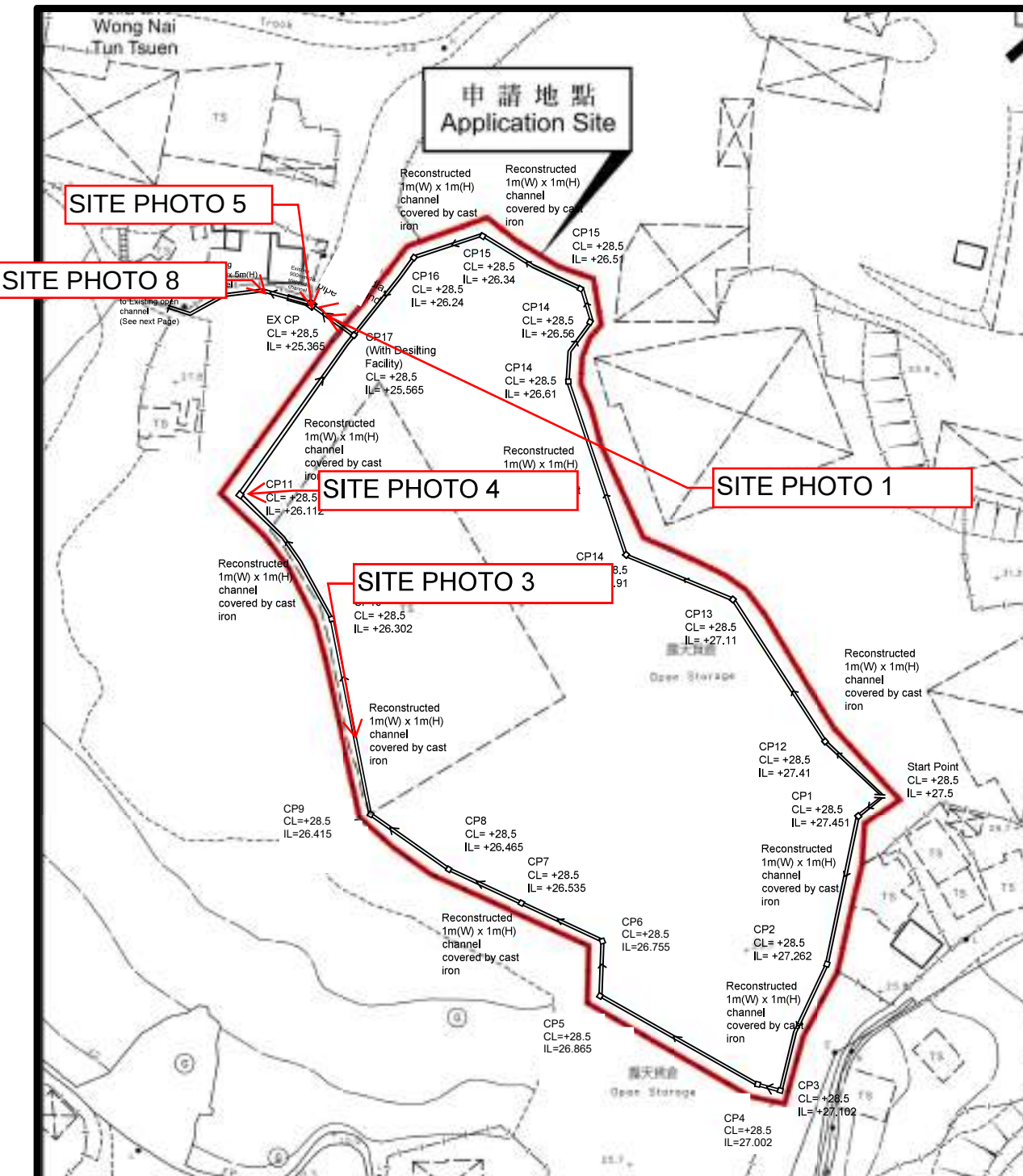
VARIOUS LOTS IN D.D. 117 AND ADJOINING
GOVERNMENT LAND, TAI TONG, YUEN LONG,
NEW TERRITORIES

SCALE
1 : 1000 @ A4DRAWN BY
MNDATE
21.11.2023

REVISED BY

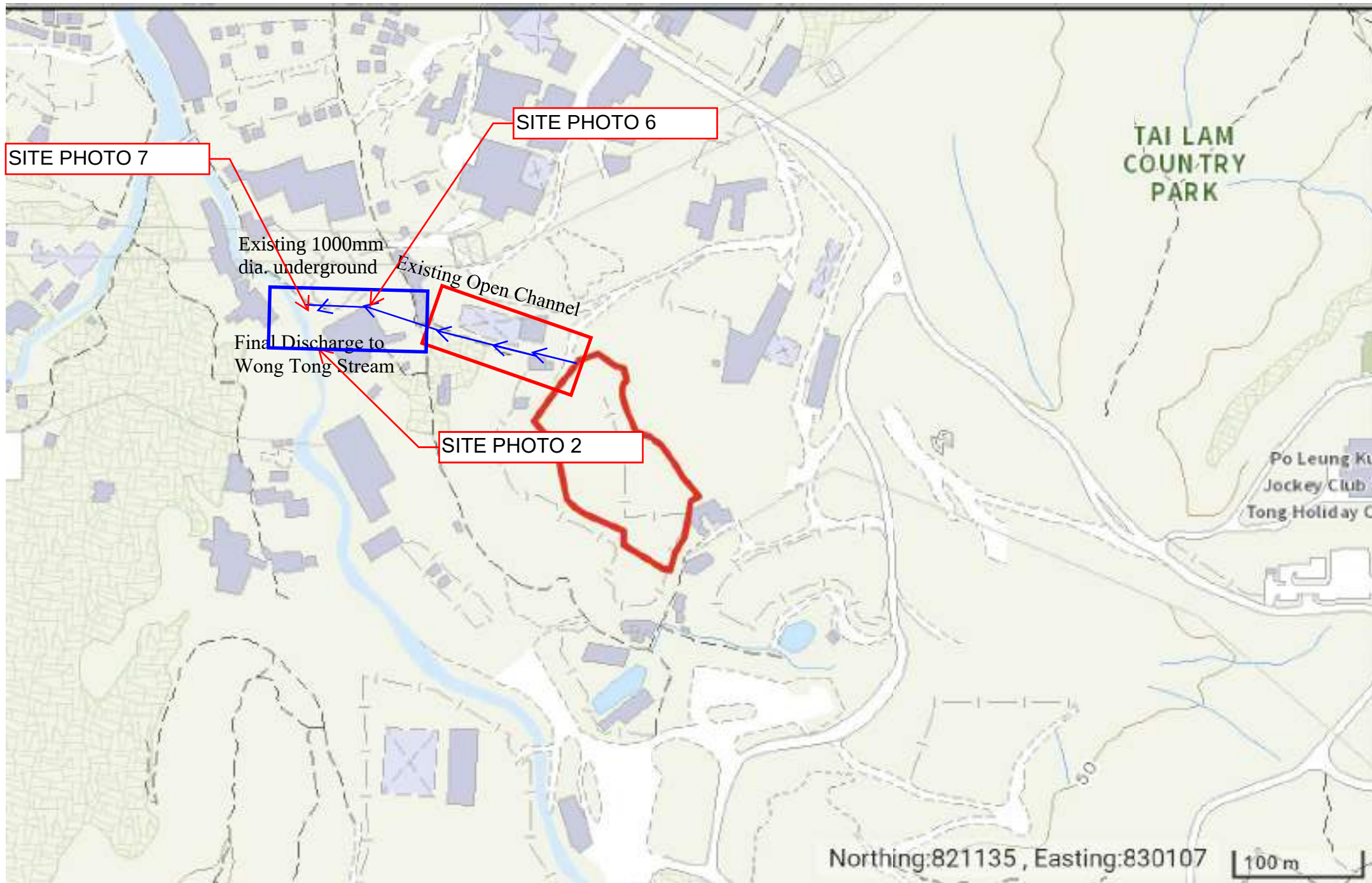
DATE

TITLE
LAYOUT PLANDWG NO.
PLAN 4VER.
001



Note:

Legend:





Aerial Photo: Overview of the Site



Aerial Photo 1: Shortage



Aerial Photo 2: Shortage



Aerial Photo 3: Site View



Aerial Photo 4: Site View



Aerial Photo 5: Site View



Aerial Photo 6: Site Entrance



Fig 1a: Stepped Channel and Existing Stream (3m (W) x2m(H))



Fig Photo 1b: Stepped Channel and Existing Stream (3m (W) x2m(H))



Fig Photo 1c: Stepped Channel and Existing Stream (3m (W) x2m(H))



Fig 2a: Final Discharge to Wong Tong Stream (Maintained by DSD)

Figure.1



Fig 2b: Final Discharge to Wong Tong Stream (Maintained by DSD)



Fig 3: Existing 1m (W) x 1m (H) in the site



Fig 4: Existing 1m (W) x 1m (H) in the site



Fig 5 Existing Underground 1000mm box culvet



SITE PHOTO 6 EXISTING UNDERGROUND 1000mm dia. PIPE

Existing Underground
830mm dia. pipe



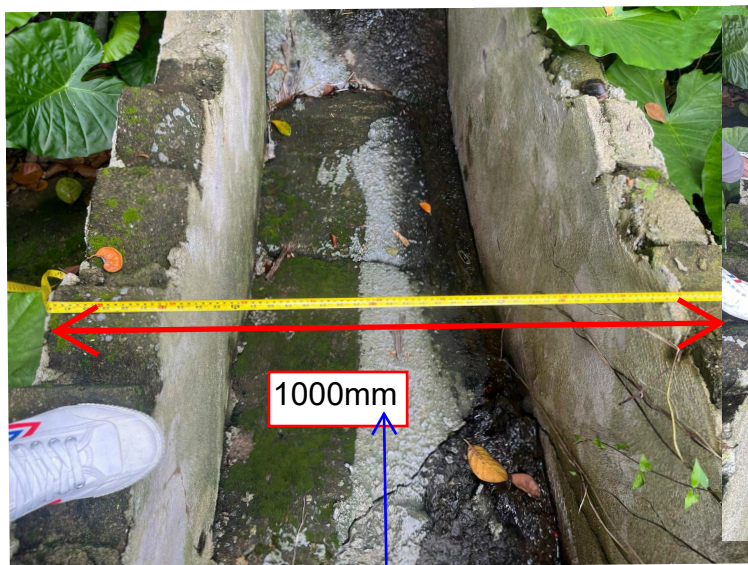
SITE PHOTO 7 EXISTING UNDERGROUND 830mm dia. PIPE and Existing Stream



SITE PHOTO 8 EXISTING 3m x 2m existing channel



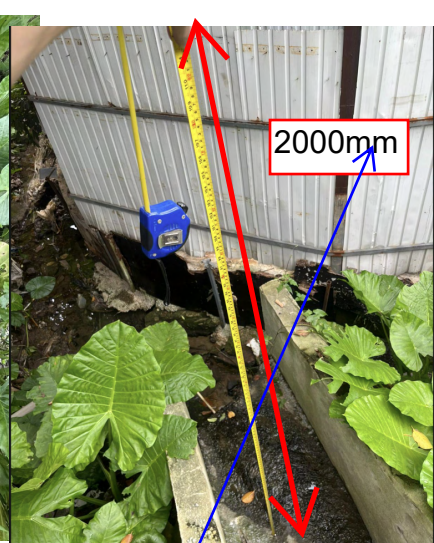
Slope Gradient
= 25 degrees



Width of stepped
channel



Dimension of Stepped Channel



Height of stepped
channel

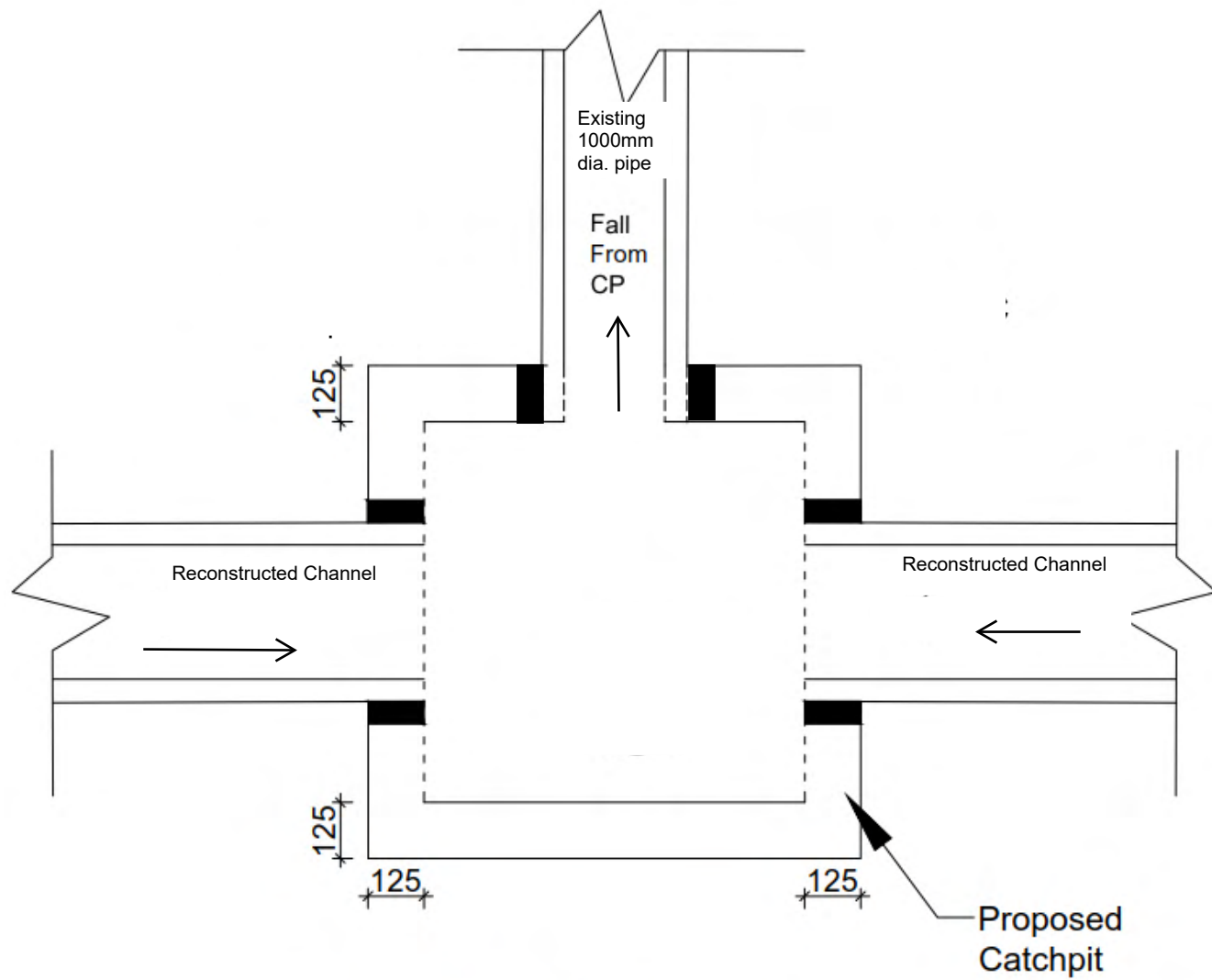
Length of stepped
channel



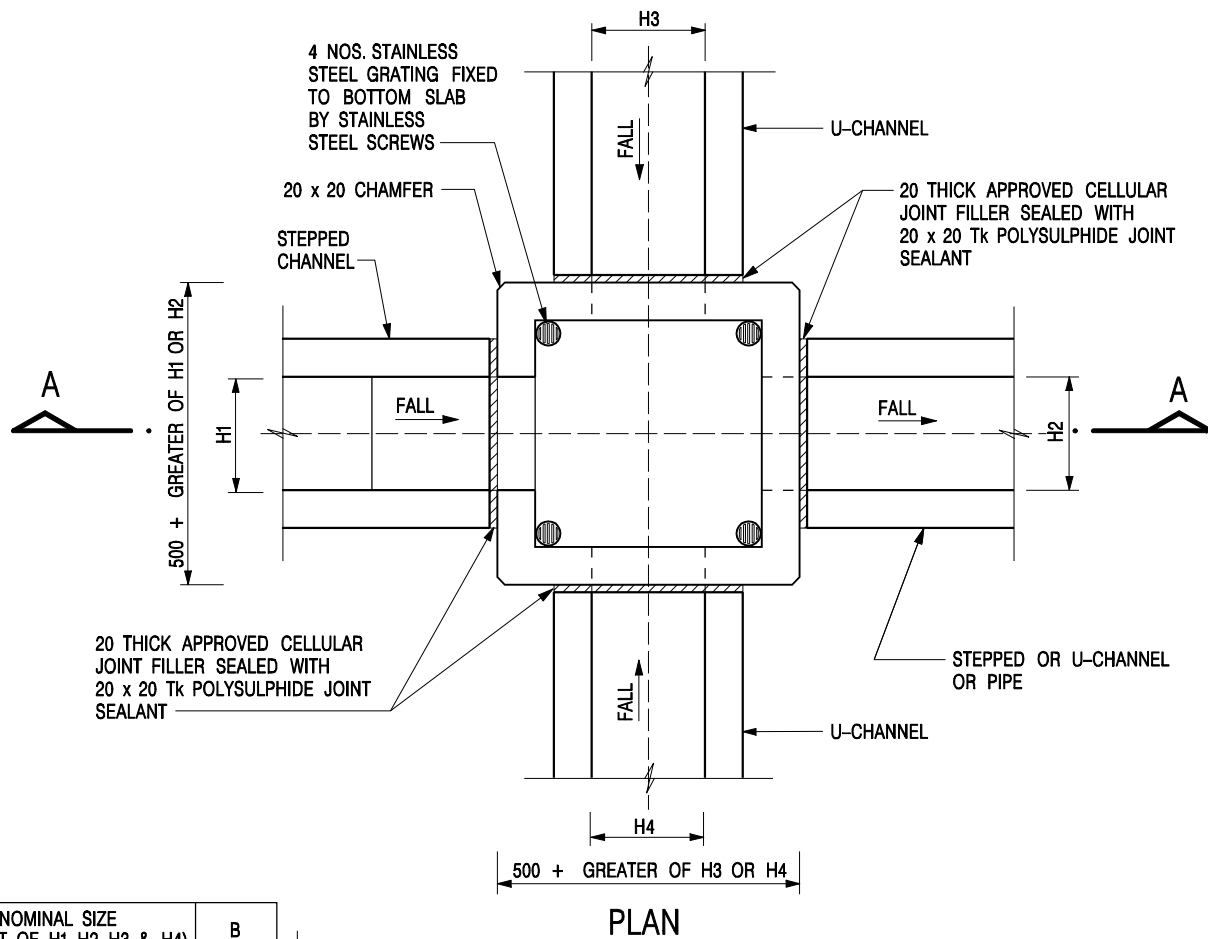
Dimension of 1000mm Box Culvert

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix G: Standard Drawing

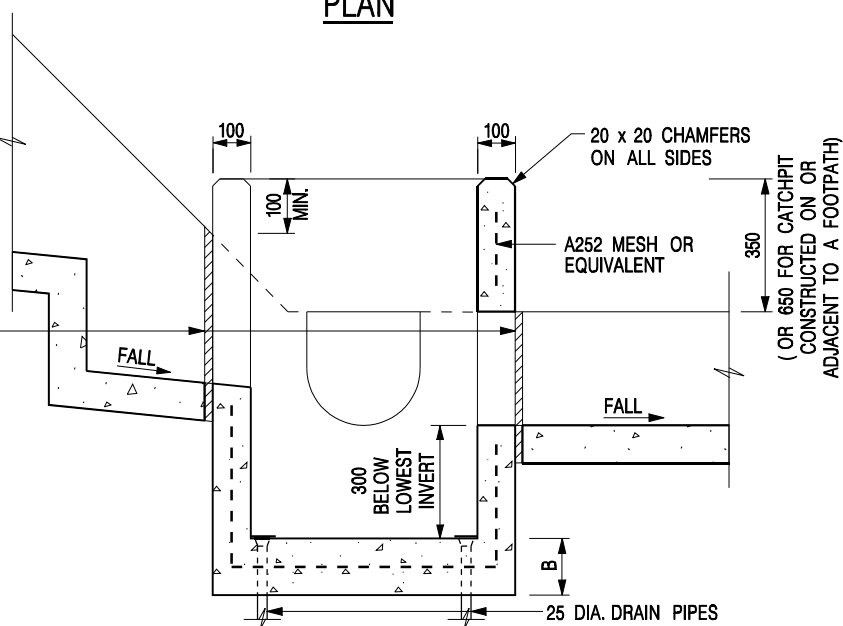


Connection Details
OF CP 20



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

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT



SECTION A - A

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



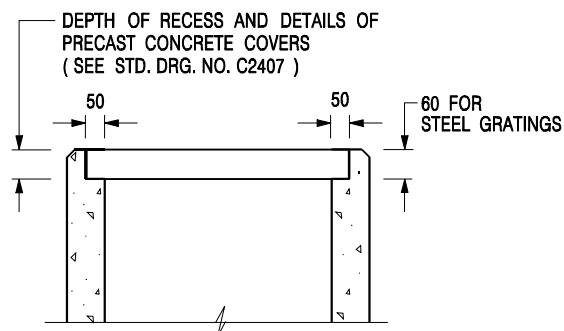
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

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) 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 'G' ON STD. DRG. NO. C2405; 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 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 'F' ON STD. DRG. NO. C2405.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

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



**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

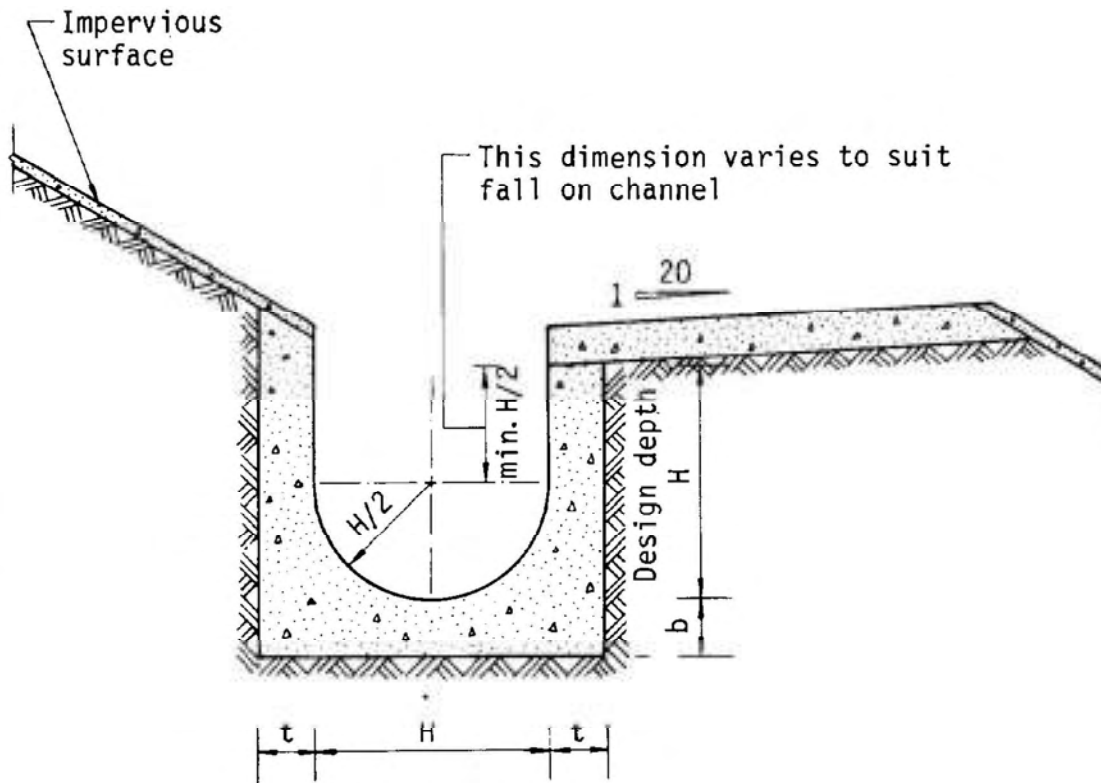
SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /2

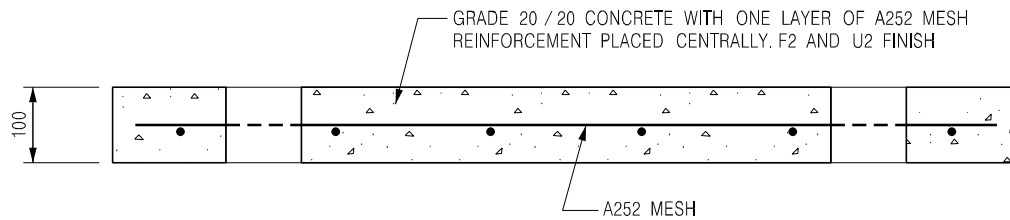
Figure 8.10 - Typical Details of Catchpits



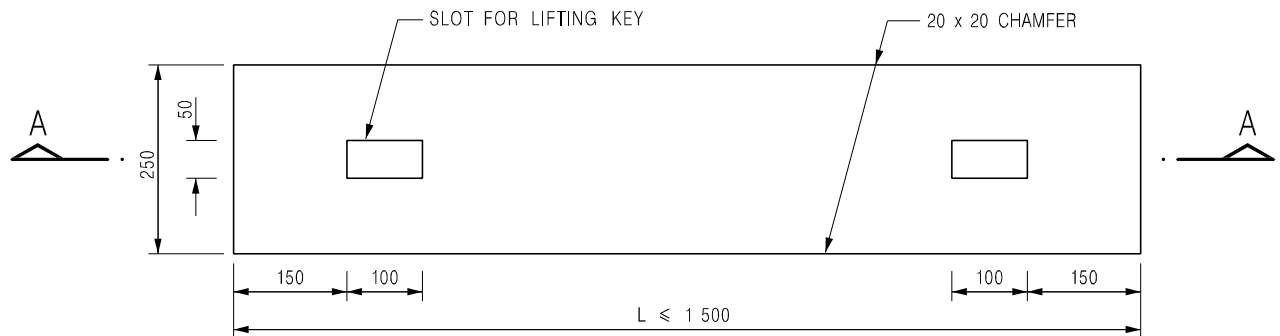
Dimensions of U - channel

Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
225 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

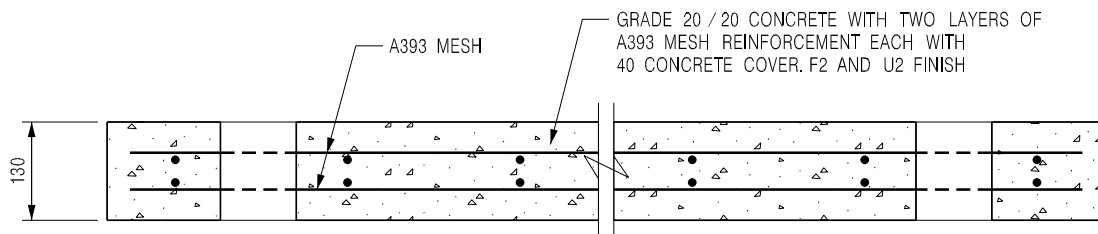


SECTION A - A

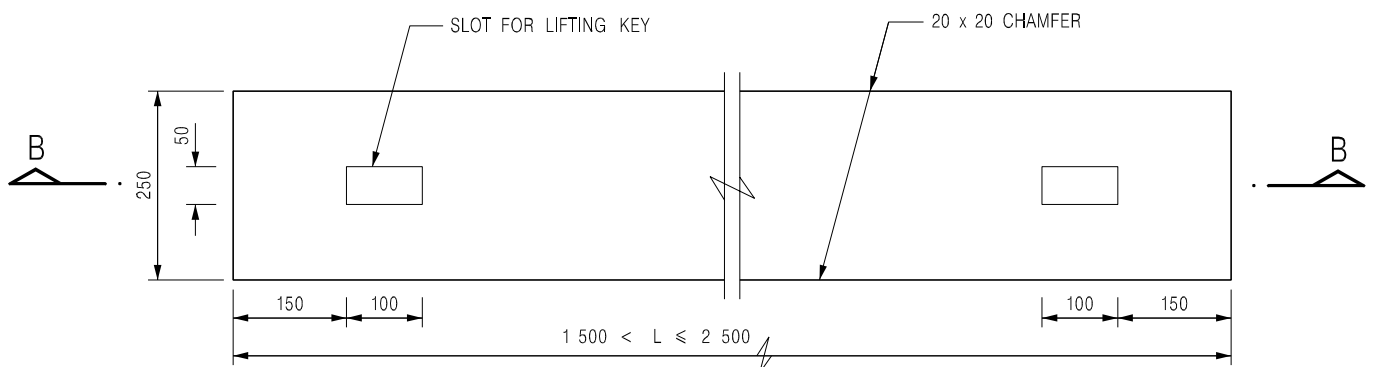


PLAN

TYPE 1 - FOR SPAN UP TO 1.5 m



SECTION B - B



PLAN

TYPE 2 - FOR SPANS 1.5 m TO 2.5 m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL EXTERNAL EDGES OF THE COVERS SHALL BE 20mm CHAMFERED.

B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

**PRECAST CONCRETE COVERS
FOR CATCHPIT AND SAND TRAP**

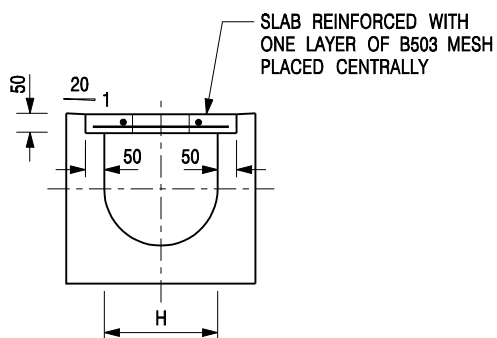


**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

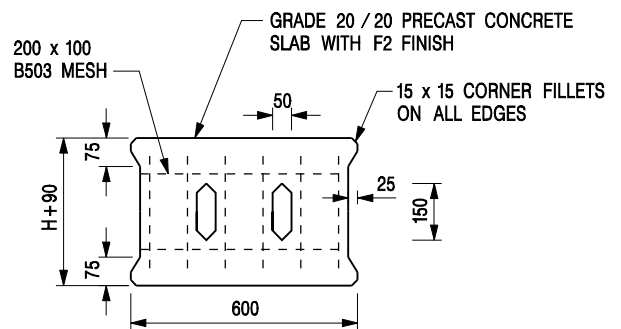
SCALE 1 : 10

DATE JAN 1991

DRAWING NO.
C2407B



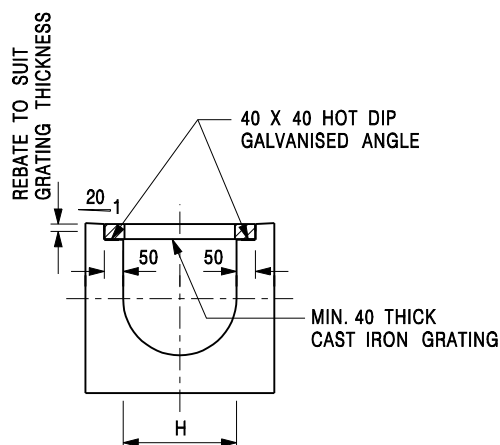
TYPICAL SECTION



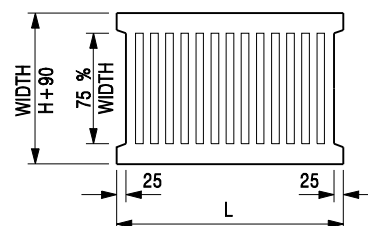
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- H=NOMINAL CHANNEL SIZE.
- ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
- FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

E	NOTES 3 & 4 AMENDED.	Original Signed	12.2014
D	NOTE 4 ADDED.	Original Signed	06.2008
C	MINOR AMENDMENT. NOTE 3 ADDED.	Original Signed	12.2005
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	CAST IRON GRATING AMENDED.	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

**COVER SLAB AND CAST IRON
GRATING FOR CHANNELS**



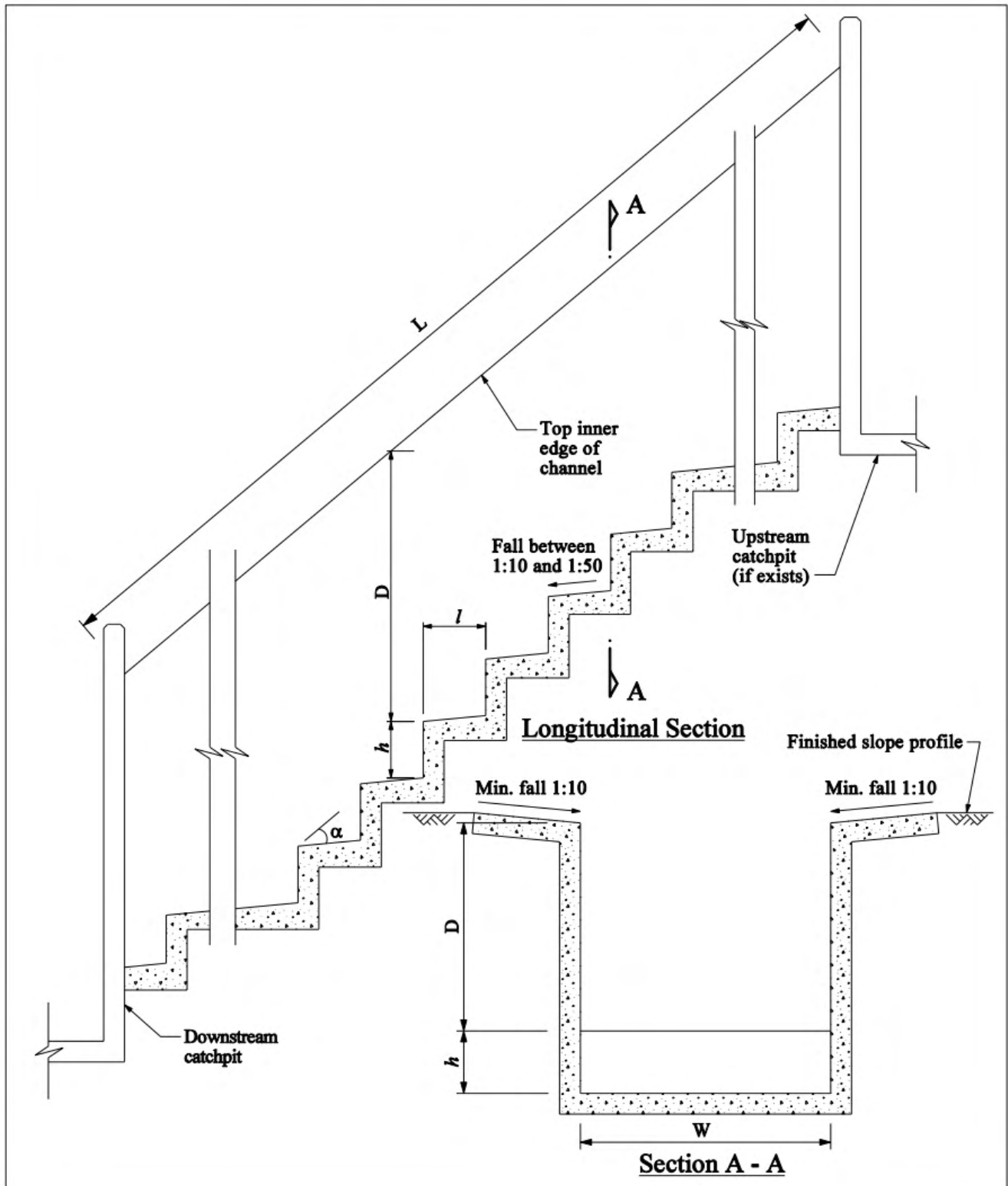
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.
C2412E

Figure 4 – Denotation of Channel Dimensions



h= 0.2m
l = 0.2m
D= 0.85m

Nominal size W (mm)	T (mm)	B (mm)	D (mm)
300	80	100	350
375	100	150	540
450	100	150	575
525	100	150	615
600	100	150	650
675	125	175	740
750	125	175	775
900	125	175	850