From: Chong Hermose <[redacted]>
Sent: 25 November 2025 08:25
To: tpbpd/PLAND
Cc: [redacted]
Subject: A/YL-SK/431：回覆部門意見（Drainage Proposal ）
Attachments: Temporary Drainage Proposal for_SK431_20251125.pdf

Categories: Internet Email

城規會 / 規劃處 ：

現附上規劃申請：A/YL-SK/431 的回覆部門意見，請查收。

這電郵將取代 2025 年 11 月 20 日的電郵。

如有什麼問題，請隨時聯絡我，謝謝。

Ms Chong
([redacted])

ISSUE 4

TEMPORARY DRAINAGE PROPOSAL (Final)

APPLICATION SITE OF THE Proposed Temporary Shop and Service and Associated Filling of Land for a Period of 3 Years at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D.112, Shek Kong, Yuen Long,New Territories

PROJECT NO. AGLA/TDM/021

PREPARED FOR

APPLICATION NO. A/YL-SK/431

11 NOV 2025

Table of Contents

LIST OF APPENDICES

LIST OF TABLES

1 Introduction

1.1 Background

1.1.1 This report presents the Drainage Proposal for supporting the application site of the Proposed Temporary Shop and Service and Associated Filling of Land for a Period of 3 Years at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D. 112, Shek Kong, Yuen Long, New Territories. For the site location plan, please refer to the **Appendix A.**

1.2 Objectives of the Report

1.2.1 This report shall be prepared to include the following:

- Identify the potential drainage impact assessment from the proposed Application Site
- recommend and implement all necessary measures to mitigate adverse drainage impacts arising from the application site

1.3 Report Structure

1.3.1 The report contains the following sections:

- Section 1 on Introduction;
- Section 2 on Development Proposal;
- Section 3 on Assessment Criteria;
- Section 4 on Potential Drainage Impact; and
- Section 5 on Conclusion.

2 Development Proposal

2.1 Location of the Application Site

2.1.1 The application Site is located within the Shek Kong, Yuen Long with an area of around 780m^2 and ground level varying between + 23.8mPD and + 23.0mPD. The layout plan is provided in **Appendix B.**

2.1.2 This application site is "Agriculture" zoning, the type of application is the Temporary Use/Development in Rural Areas for a Period of 3 Years.

3 Assessment Criteria

3.1 Design Return Periods

3.1.1 The drainage system in the Application site is to collect surface flows and convey to downstream village drain. The recommended design return periods based on the flood levels for the various drainage systems depend on the drainage system, land use, hazard to public safety and community expectations. The recommended design return period is reproduced in Table 3-1 below:

Table 3-1 Recommended Design Return Periods based on Flood Levels

DESCRIPTION	DESIGN RETURN PERIODS
Intensively Used Agricultural Land	2 – 5 Years
Village Drainage including internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

3.1.2 As per Storm Drainage Manuel (SDM) Section 6.6.2 Urban Drainage Branch and Urban Drainage Trunk Systems *"An 'Urban Drainage Branch System' is defined as a group or network of connecting drains collecting runoff from the urban area and conveying stormwater to a trunk drain, river or sea. For a simple definition, the largest pipe size or the equivalent diameter in case of a box culvert in a branch system will normally be less than 1.8m.*

3.1.3 *An 'Urban Drainage Trunk System' collects stormwater from branch drains and/or river inlets, and conveys the flow to outfalls in river or sea. Pipes with size or diameter equal to or larger than 1.8m are normally considered as trunk drains."*

3.1.4 As per SDM, since the proposed U-channels are sized smaller than 1.8m, the drainage system would be defined as an urban drainage branch with recommended design return period of 50 years.

3.1.5 The 50 years design return period will be considered to ensure adequacy of the stormwater drainage system.

3.2 Calculation Methodology for Runoff

3.2.1 Peak instantaneous runoff values before and after the development were calculated based on the Rational Method and with recommended physical parameters including runoff coefficient I and storm constants for different return periods referred to the SDM, based on the following equation:

$$\mathbf{Q_p = 0.278\ C\ i\ A}$$

where

Q_p	=	Peak Runoff, m^3/s
C	=	Runoff Coefficient
i	=	Rainfall Intensity, mm/hr
A	=	Catchment Area, km^2

3.2.2 The paved area and grassland of the site will account for 300m^2 and 480m^2 respectively. For conservative, the runoff coefficient for paved area and grassland of 1.0 and 0.4 is assumed. All the run-off for the paved area would be collected from the catchment area without any infiltration as the critical scenario. For the runoff for the grassland would experience infiltration effect.

3.2.3 Based on the storm constants for 50-year return period recommended in the SDM, the appropriate rainfall intensities (i) are calculated as detailed in **Appendix D**

3.3 Calculation Methodology for Pipe Capacity Checking

3.3.1 Because the catchment areas are less than 1ha, U-channels are recommended to be constructed to collect the stormwater runoff within the site. The collected stormwater should finally be diverted to the downstream via the proposed U-channel system.

3.3.2 For the worst-case scenario, bad condition of concrete pipe is assumed for the Manning's roughness coefficient (coefficient value is 0.016) for calculating capacities of concrete U-channel using Manning's Equation.

3.3.3 Manning's Equation for calculating the channel and pipe capacities is adopted.

4 Potential Drainage Impact

4.1 Existing Site Condition

4.1.1 Only the application site with a projected area of 780 m^2 is considered as part of the catchment. There is no external catchment were identified as the application site is generally higher than the adjacent land.

4.2 Changes in Drainage Characteristics

4.2.1 The characteristics of the sub-catchment areas are changed due to the temporary development for the application site, which are paved area. the change in sub-catchment is summarized in Table 4-2.

Table 4-1 Change in sub-catchment within the site

	BEFORE	AFTER
Grassland (m^2)	780	480
Paved Area (m^2)	0	300

4.3 Potential Drainage Impact

4.3.1 The details of the proposed drainage works are illustrated in **Appendix C**.

4.3.2 To effectively convey stormwater away from the application site and minimize the potential impact to the drainage infrastructure of the village area, drainage works consists of U-channels, are proposed to convey the flow to the terminate catchpit with trap (TCP).

4.3.3 The runoff from the Application site is collected by 300mm U-channels along the boundary and discharged to the catchpit with trap (TCP), which is connected to the further downstream leading to the discharge point of existing village drainage via 300mm U-Channel at the eastern direction of the application site.

4.3.4 The 300mm U-channel receives stormwater from the surface and the upstream catchment. For Conservative, the critical scenario is considered for collecting all the flow leading to the village drainage. The design calculation of the proposed drainage is provided in **Appendix D**. The design calculation is summarized in Table 4-2.

Table 4-2 Design calculation of the proposed drainage work

DRAINAGE SYSTEM	ESTIMATED FLOW (M^3/S)	CAPACITY (M^3/S)	RESERVE CAPACITY
300mm UC	0.046	0.079	42%

Note:

[1] Rainfall increase due to climate change at the end of 21st century is considered according to stormwater drainage manual Table 28.

[2] The reserve capacity is calculated by assuming that the 300mm U-channel reach its full capacity for conservative.

4.3.5 The design runoff arise from the proposed Application Site is to be discharged into the proposed 300mm UC with the runoff anticipated to be 0.046m^3/s, which is within the drainage capacity of the proposed 300mm u-channel of 0.079m^3/s with gradient 1:100.

4.3.6 Since there are no changes in Drainage Characteristics, it is considered that the drainage discharge from the Application Site will not cause adverse impact to the entire downstream drainage system.

4.3.7 All u-channels & catch pits will be constructed according to the CEDD's standard drawings, please refer to the **Appendix E.**

5 Construction Stage

5.1 Temporary Drainage Arrangements

5.1.1 Proper measures shall be taken to maintain the existing drainage characteristics of the catchment areas and to minimize drainage impacts associated with the construction works. The principal drainage impacts which are associated with construction of the works have been identified as follows:
(a) Erosion of ground materials;
(b) Sediment transportation to existing downstream drainage system; and
(c) Obstruction to drainage systems.

5.1.2 Regular inspections shall be carried out to ensure integrity of the works. These inspections shall cover works under construction as well as recently completed areas.

5.1.3 To ensure proper operation of the site drainage channels and desilting facilities, inspection of the perimeter drains shall be carried out on a weekly basis and the desilting facilities shall be cleaned on a daily basis.

5.1.4 If excavated materials are not possible to transport away the excavated material within the same day, the material should be covered by tarpaulin/impervious sheets. Stockpiles of construction materials (for examples aggregate, fill materials) of more than 50 m^3 in an open area shall also be covered with tarpaulin or similar fabric during rainstorms.

5.1.5 All runoff discharged into the existing drainage system will be settled in a silt trap to ensure no sediment will be discharged into the channel. Silt traps will normally be provided along the site drainage immediately upstream of the proposed discharge point to the existing Site. The silt traps will be inspected daily and immediately after each rainstorm.

5.1.6 Liaison will be carried out with relevant parties regarding temporary drainage arrangements to ensure that the drainage system is functioning adequately.

6 Conclusions

6.1 Conclusion

6.1.1 The analysed catchment area of 780 m^2 consists of the site area of the proposed Application Site, with no external attachment area. The paved area and grassland of the site will account for 300m^2 and 480m^2 respectively.

6.1.2 U-channels are proposed to convey runoff from the application site for collection. The proposed U-channels are located along the site boundary which is subject to change to suit the building layout.

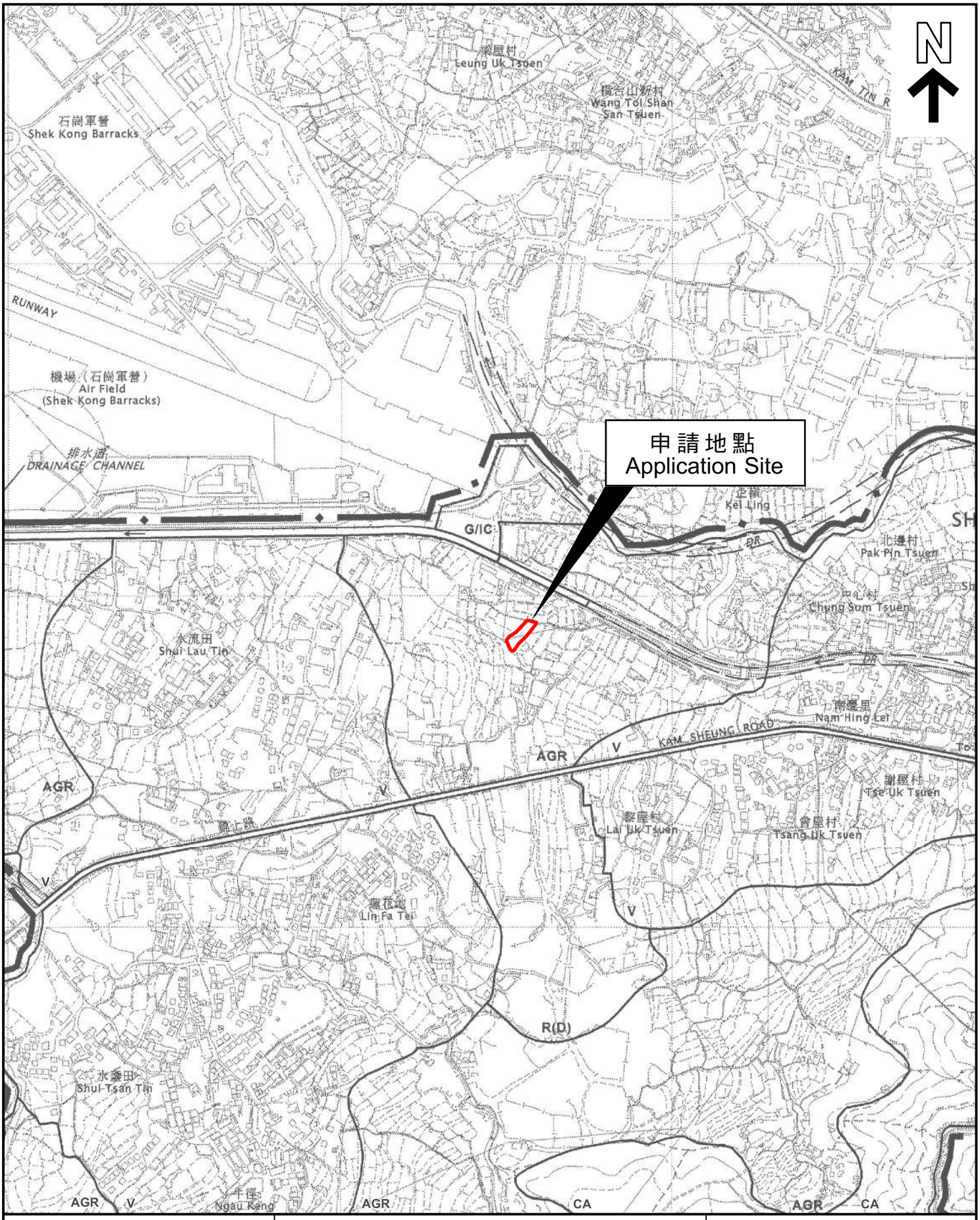
6.1.3 The assessment reviews the drainage pipe have the sufficient capacity to cater for the drainage flow from the Application Site.

6.1.4 Mitigation measures are proposed during the application site proposed Application Site and to ensure that the existing drainage system within the site will not be affected during the construction stage.

END OF TEXT

APPENDIX A

SITE LAYOUT PLAN



本摘要圖於2025年7月24日擬備，
所根據的資料為於2006年10月17日
核准的分區計劃大綱圖編號S/YL-SK/9

EXTRACT PLAN PREPARED ON
24.7.2025 BASED ON OUTLINE ZONING
PLAN No. S/YL-SK/9 APPROVED ON
17.10.2006

位置圖 LOCATION PLAN

SCALE 1 : 7 500 比例尺

米 METRES 100 0 100 200 300 米 METRES

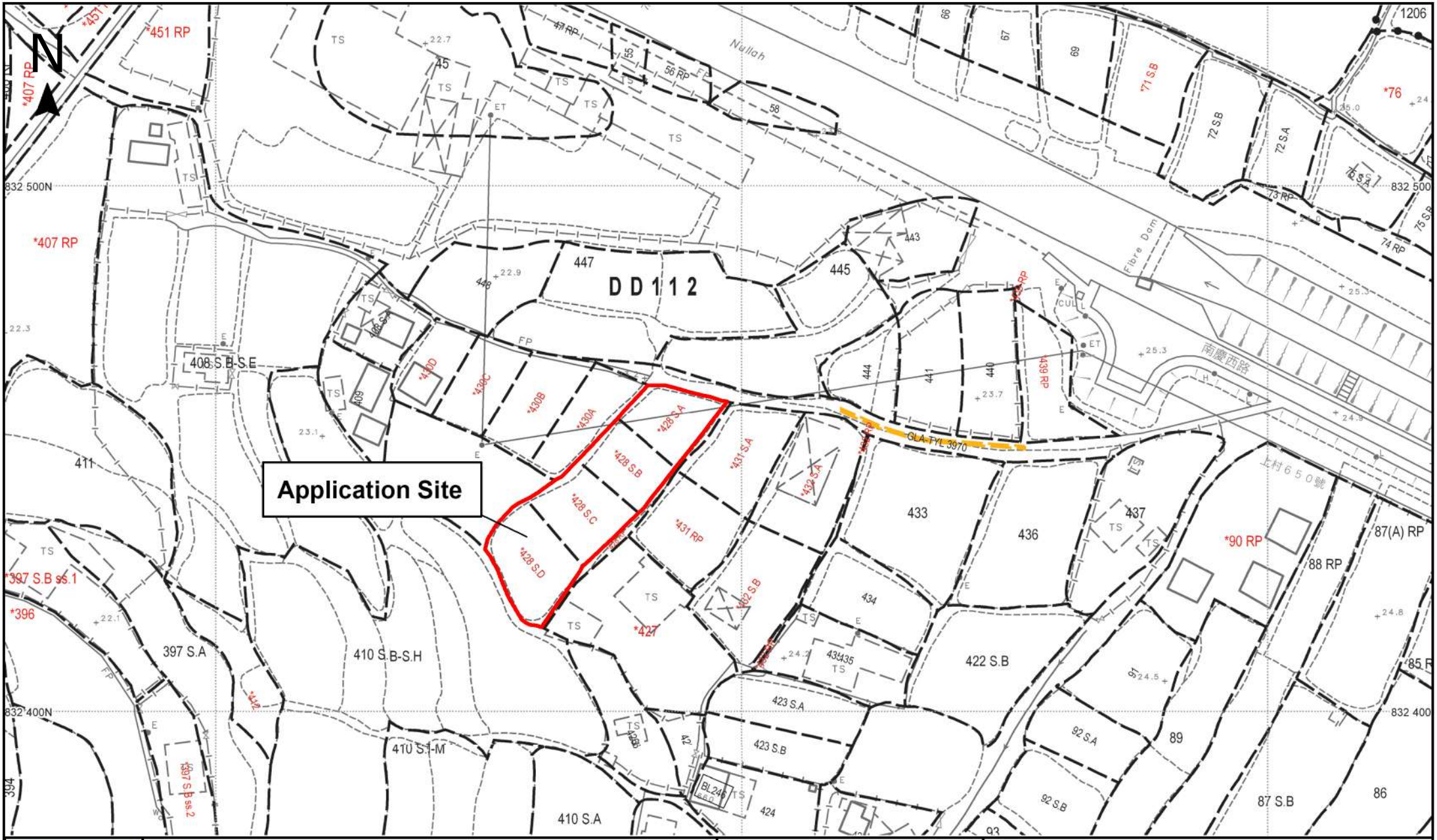
申請地點界線只作識別用
APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY

參考編號
REFERENCE No.

A/YL-SK/431

APPENDIX B

LAYOUT PLAN



Allgain Land Planning
全堅土地規劃

Project 項目名稱:

Proposed Temporary Shop and Service and Associated Filling of Land for a Period of 3 Years at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D.112, Shek Kong, Yuen Long,New Territories

Drawing Title 圖紙標題:

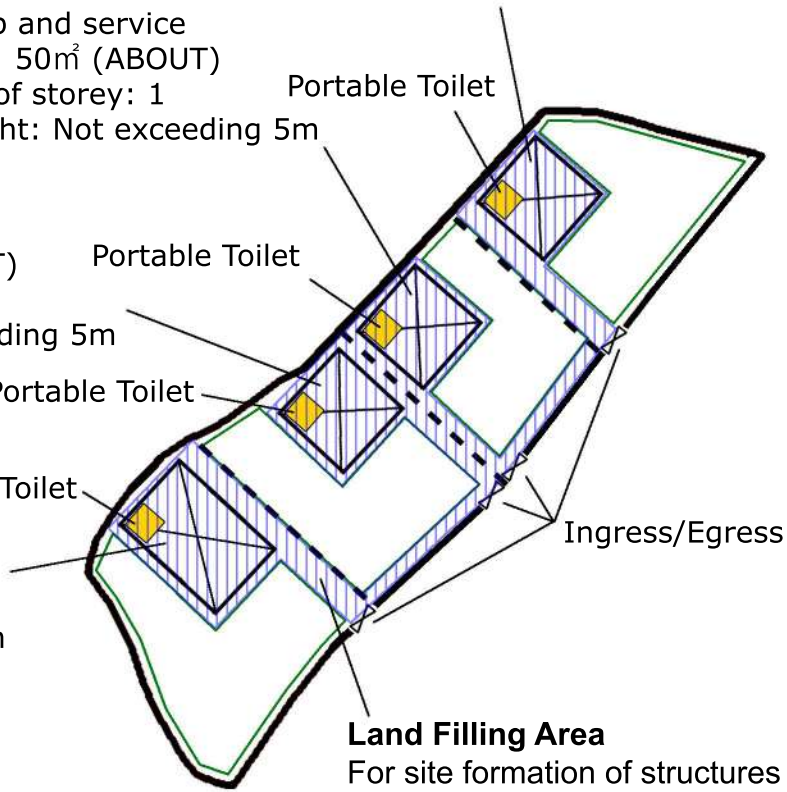
Site Plan

Drawing No. 圖號:

20250711

Remarks 備註:

N



Structure 1
Shop and service
GFA: 50㎡ (ABOUT)
No. of storey: 1
Height: Not exceeding 5m

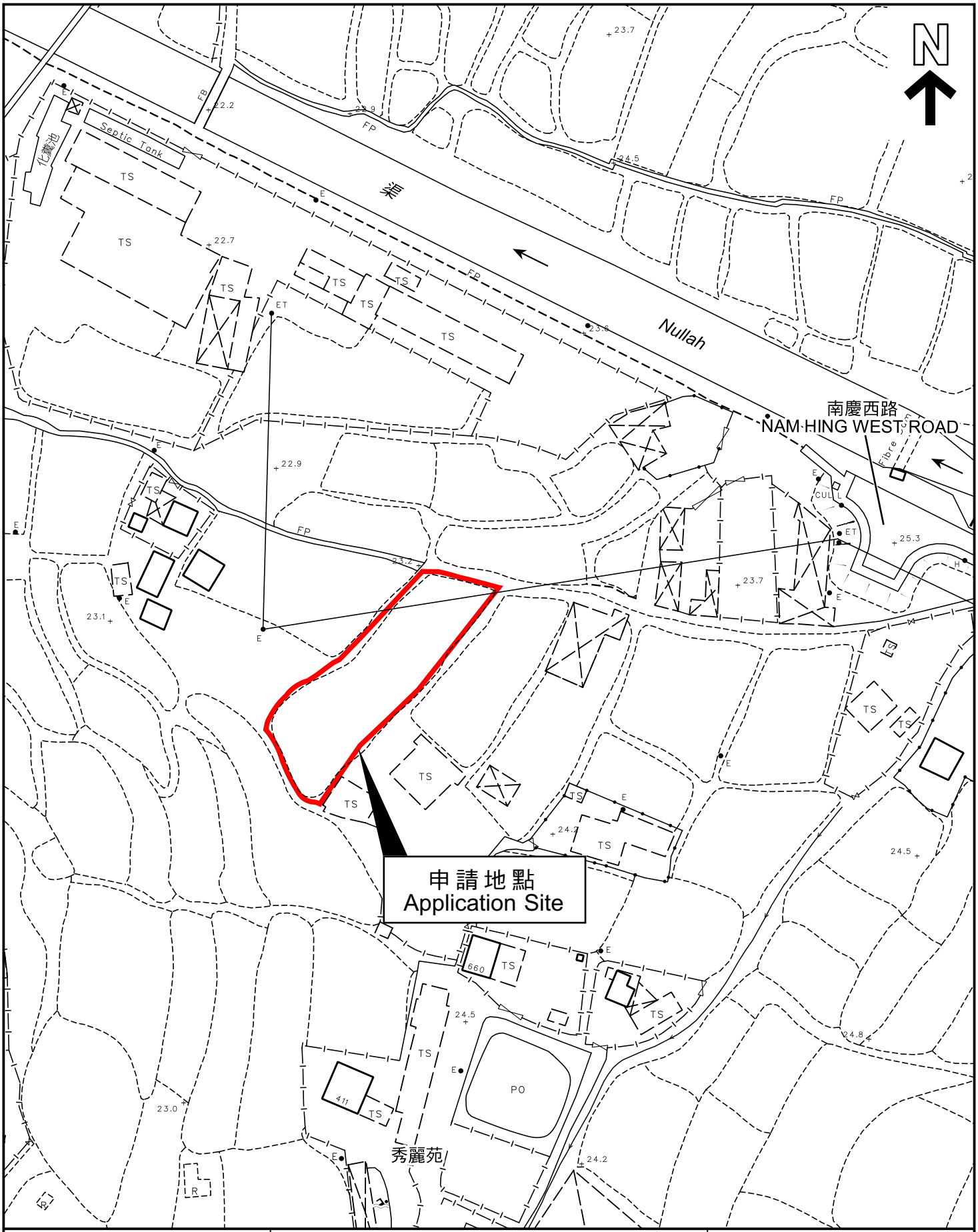
Structure 2
Shop and service
GFA: 50㎡ (ABOUT)
No. of storey: 1
Height: Not exceeding 5m

Structure 3
Shop and service
GFA: 50㎡ (ABOUT)
No. of storey: 1
Height: Not exceeding 5m

Structure 4
Shop and service
GFA: 70㎡ (ABOUT)
No. of storey: 1
Height: Not exceeding 5m

Land Filling Area
For site formation of structures and circulation path
Area: 300m² (ABOUT)
Existing site level: +23.5mPD (ABOUT)
Proposed site level: +23.7mPD (ABOUT)
Depth of land filling : No more than 0.2m

Allgain Land Planning 全堅土地規劃	Project 項目名稱: Proposed Temporary Shop and Service and Associated Filling of Land for a Period of 3 Years at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D.112, Shek Kong, Yuen Long,New Territories	Drawing Title 圖紙標題: Layout Plan Drawing No. 圖號: 20250711b	Remarks 備註: Structure; Land Filling Area



本摘要圖於2025年7月25日擬備，
所根據的資料為測量圖編號6-NE-14C及19A

EXTRACT PLAN PREPARED ON
25.7.2025 BASED ON SURVEY SHEETS
No. 6-NE-14C & 19A

平面圖 SITE PLAN

申請地點界線只作識別用
APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY

參考編號
REFERENCE No.
A/YL-SK/431

APPENDIX C

PROPOSED DRAINAGE PLAN

Existing Village Discharge Point

600mm Open Channel

B

17 m

D D 1 12

No External Catchment with were identified

A

C.L.= +23.2 mPD
I.L.= +22.9mPD

TCP
C.L.= +23.0 mPD
I.L.= +22.7mPD

Cross-fall 1:100

+23.4 MPD

300mm U/C

Existing village drain

GLA-TY/L 3970

Proposed Terminate Catchpit with Sand Trap (Refer Drawing No.C2406/1)

Site Area of the application Site = 780 sq m

External Catchment Area = 100 sq m

59 m

Gradient =1:100

C.L.= +23.8 mPD
I.L.= +23.3 mPD

+23.7 MPD

C.L.= +23.7 mPD
I.L.= +23.2mPD
CP1

Proposed 300mm Surface U-channel with cover (Refer CEDD Standard drawing No. C2412)

Proposed Catchpit with Sand Trap (Refer Drawing No.C2406/1)

Legend

- Proposed 300mm U-channel with Gradient =1:100
- Proposed Catchpit with sandtrap (Refer Drawing No.C2406/1)
- Existing Village drain
- Existing Nullah
- External Catchment Area

Project 項目名稱:

Proposed Temporary Shop and Service for a Period of 3 Years and Associated Filling of Land at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D.112, Shek Kong, Yuen Long, New Territories

Drawing Title 圖紙標題:

Appendix C - Drainage Layout

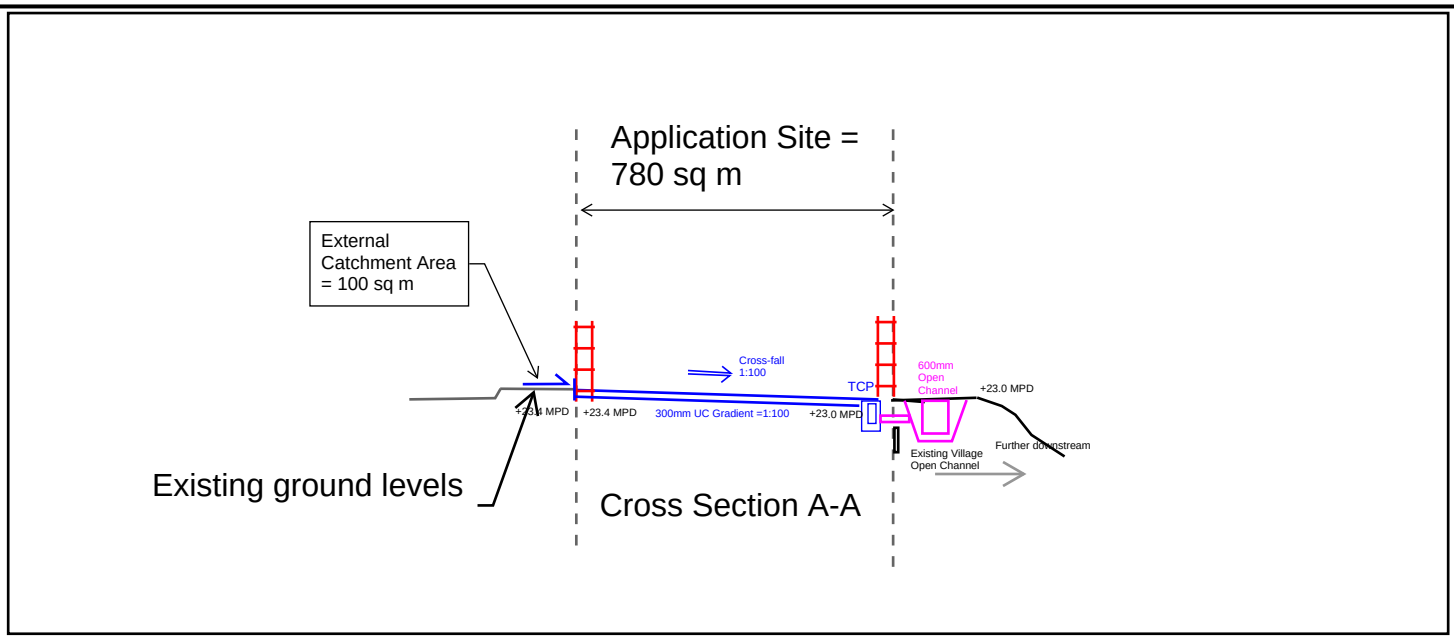
全堅土地規劃

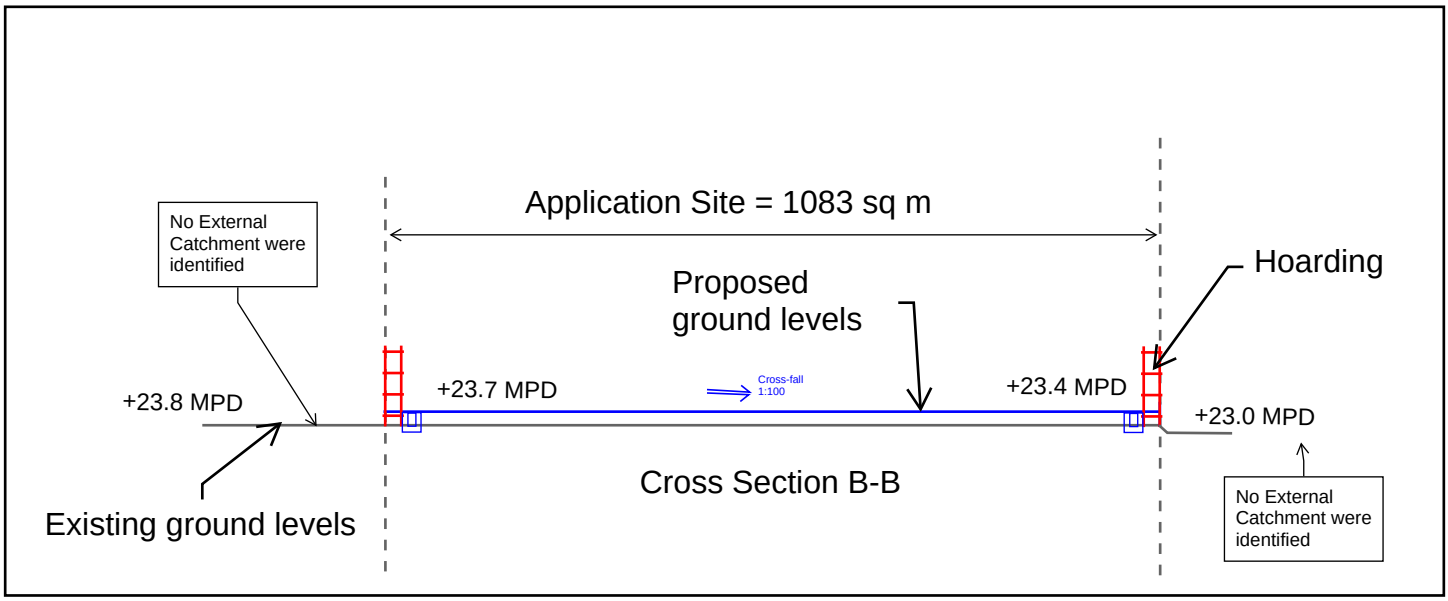
Drawing No. 圖號:

20250711

Remarks 備註:

Scale 比例:





Project 項目名稱:

Proposed Temporary Shop and Service for a Period of 3 Years and Associated Filling of Land at Lots 428 S.A, 428 S.B, 428 S.C & 428 S.D in D.D.112, Shek Kong, Yuen Long, New Territories

Drawing Title 圖紙標題:

Appendix C - Drainage Layout

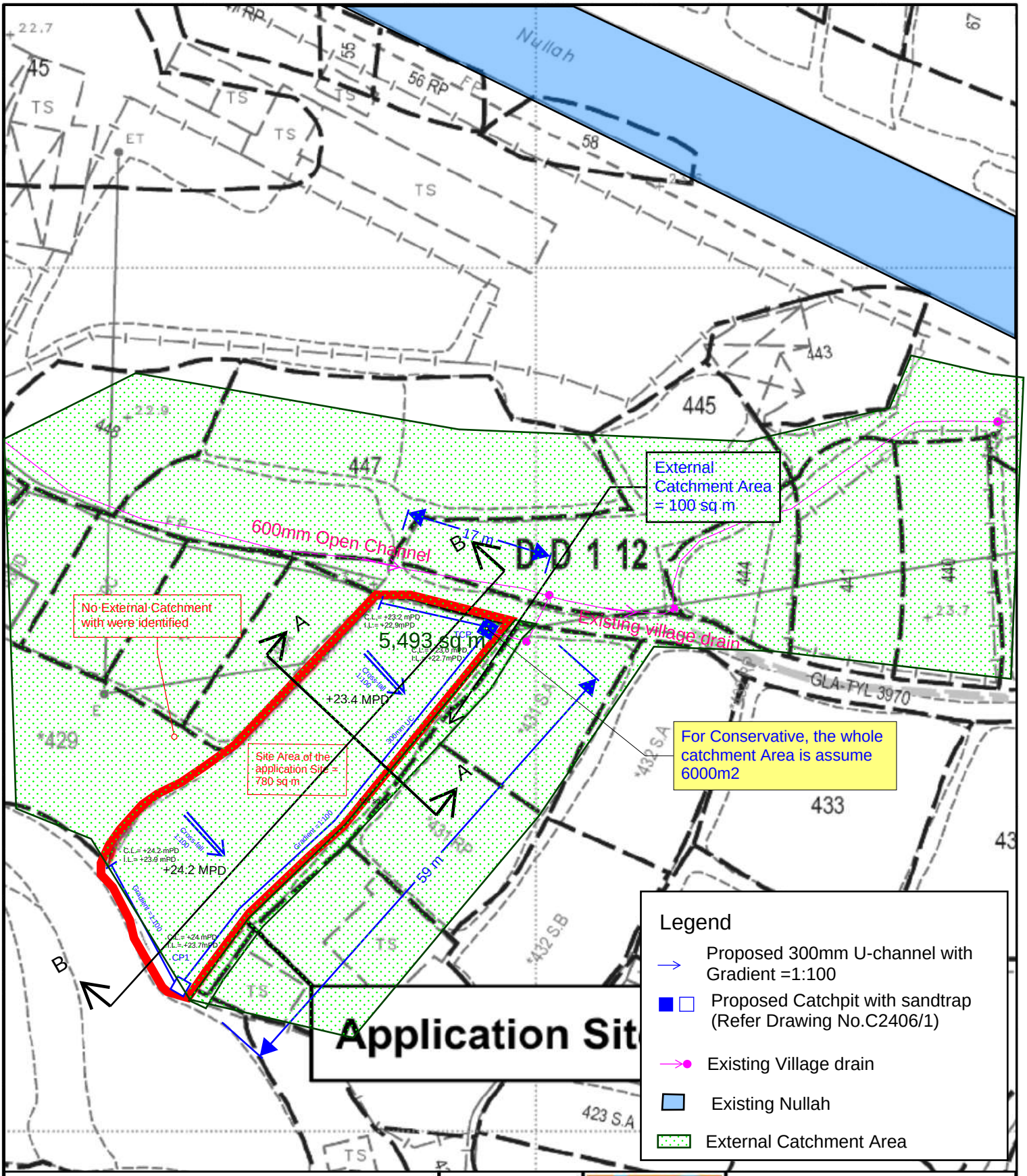
全堅土地規劃

Drawing No. 圖號:

20250711

Remarks 備註:

Scale 比例:



Project 項目名稱:

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Drawing Title 圖紙標題:

Appendix C - Drainage Layout

全堅土地規劃

Drawing No. 圖號:

20250711

Remarks 備註:

Scale 比例:

APPENDIX D

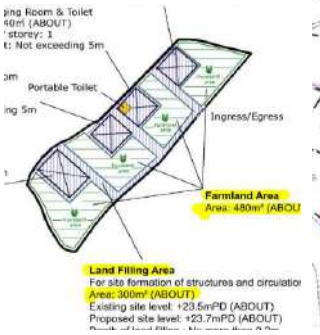
DESIGN CALCULATION OF THE PROPOSED DRAINAGE

Project

Subject Application Site

Design Data

1. Design follows the Rational Method in accordance with Stormwater Drainage Manual 2018 (DSD)
2. For conservative, Runoff coefficient for paved / unpaved land is 1.
3. Design return period is 50 years.
4. For manning's equation coeffient n is 0.016.



Check for Hydraulic Capacity:

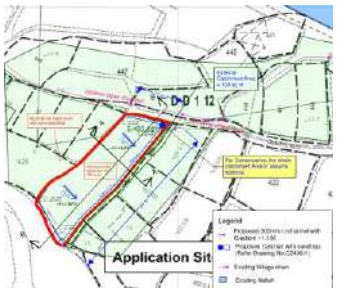
Catchment	K	Area (A)
Hard Paved Area	1.00	300.0 m^2
Farmland Area	0.40	480.0 m^2
External Catchment Area	1.00	100.0 m^2
Total Effective Catchment Area	NA	592.0 m^2

Runoff estimation

	Average slope, H			=	1 /100m	
	Catchment area, A			=	592 m^2	
	Distance between summit and point under consideration, L			=	11 m	
SDM 7.5.2	Time of concentration of natural catchment, t_o			=	0.14465 x L / ($H^{0.2}$ x $A^{0.1}$)	
				=	0.84 min.	
	Length of drain, L_j			=	22 m	
	Velocity, V_j			=	0.978 m/s	
SDM 7.5.2	Flow time, t_f			=	Σ (L_j / V_j)	
				=	0.37474337 min.	
	Time of concentration, t_c			=	t_o + t_f	
				=	1.22 min.	
SDM Table 3	Storm constants for 50-year return period:		a	=	505.5	
			b	=	3.29	
			c	=	0.355	
SDM 4.3.2	Extreme mean intensity, $i50_{yr}$			=	a / (t_d + b)^c	
				=	278.794911 mm/hr	
GMS Fig 8.2				<	405.000 mm/hr	
SDM 7.5.2	Design flow, Q			=	0.278 i Σ K A	
				=	0.046 m^3/s	
	300mm u-channel capacity					
	Diameter			=	300 mm	
	Cross-sectional area of 300mm U-channel	= (PI x R ^2 /2) + R x R/2 =		=	0.0803 m^2	
	Gradient			=	0.01	
Manning's Eq.	flow velocity			=	0.978 m/s	
	Design Capacity			=	0.079 m^3/s	
				>	0.046 m^3/s	OK
	Reserve capacity			=	42%	

For conservative, all the U-channel along the site boundary shall be 300mm.

Catchment	K	Area (A)
Catchment Area by others	0.40	6000.0 m^2



				=	0.270 m^3/s	
	600mm open-channel capacity by others					
	Diameter			=	600 mm	
	Cross-sectional area			=	0.1800	
	Gradient			=	0.010	
Manning's Eq.	Restricted flow velocity under sedimentation			=	1.871 m/s	
	Design Capacity			=	0.337 m^3/s	
	Design flow, Q			>	0.270 m^3/s	OK
	Reserve Capacity				20%	

APPENDIX E

TYPICAL STANDARD DRAWINGS OF U-CHANNEL AND CATCHPIT

(EXTRACTED FROM CEDD, FOR REFERNCE ONLY)

Response to Comments on draft Temporary Drainage Proposal (Issue 3)

1. Comments from DSD/YL

No.	Comments	Response
A.	Please refer to the Stormwater Drainage Manual Corrigendum No. 1/2024 (26 March 2024) for the design calculations.	Noted with thanks. The design calculations are revised accordingly. The Stormwater Drainage Manual Corrigendum No. 1/2024 (26 March 2024) are adopted.
B.	The application site is in the vicinity of an existing streamcourse. The applicant shall be required to place all the proposed works 3m away from the top of the bank of the streamcourse. All the proposed works in the vicinity of the streamcourse should not create any adverse drainage impacts, both during and after construction.	Noted. As per checking in Appendix B, the assessment reviews the drainage pipe have sufficient capacity to cater for the drainage flow from the Application Site. In addition, Mitigation measures are proposed during the application site proposed Application Site and to ensure that the existing drainage system within the site will not be affected during the construction stage.
C.	The ground level at the eastern side of the application site is higher. The applicant should review the existing site condition, take into account any overflow and review the total catchment area adopted in the drainage design and calculation.	The additional catchment area is incorporated in the drainage design calculation.
D.	Land filling is proposed under the application. In view of (b) above, please take into account in the proposed drainage arrangement and ensure that the existing drain path / overland flow from adjacent land would not be affect.	Noted. The assessment reviews the drainage pipe have sufficient capacity to cater for the drainage flow from the Application Site.
E.	Peripheral surface channels shall be provided along the site boundary to collect the surface runoff accrued on the application site and to intercept the overland flow from the adjacent land	Noted and surface channels are provided.
F.	The proposed site level showed in drawing no. 202571 IB is not tally with the site levels showed in drawing no. 20231021	Noted and revised.
G.	Please show the cross section at the longitudinal direction of the site in the Drawing.	Noted and the cross section is provided.
H.	Please indicate C.L., I.L and B.L details of the terminal manhole, proposed channel and existing channel at discharge point in the drawing.	Noted and provided in Appendix C – Drainage layout.
I.	Calculation to demonstrate the downstream drainage system receiving the discharge from the development has adequate spare capacity to accommodate the runoff is required.	Noted and included in the Appendix D – Design Calculation.