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Wilfred Ka Hing CHU/PLAND

寄件者: tmylwdpo_pd/PLAND
寄件日期: 2025年12月08日星期一 10:02
收件者: Wilfred Ka Hing CHU/PLAND
副本: Eric Chi Yeung CHIU/PLAND; Tracy Wing Sum LAW/PLAND; Belva Yuen King TONG/PLAND
主旨: 轉寄: s16 No. A/YL-LFS/570：補充文件（Drainage Proposal ）
附件: Temporary Drainage Proposal _YL_LFS_570_Fullset.pdf

From: tpbpd/PLAND <tpbpd@pland.gov.hk>
Sent: Monday, December 8, 2025 9:58 AM
To: tmylwdpo_pd/PLAND <tmylwdpo@pland.gov.hk>
Cc: Yuki Man Yin YIU/PLAND <ymyyiu@pland.gov.hk>
Subject: Fw: s16 No. A/YL-LFS/570：補充文件（Drainage Proposal ）

From: Chong Hermose [redacted]
Sent: Monday, December 8, 2025 9:46 AM
To: tpbpd/PLAND <tpbpd@pland.gov.hk>
Cc: Tracy Wing Sum LAW/PLAND <twslaw@pland.gov.hk>
Subject: s16 No. A/YL-LFS/570：補充文件（Drainage Proposal ）

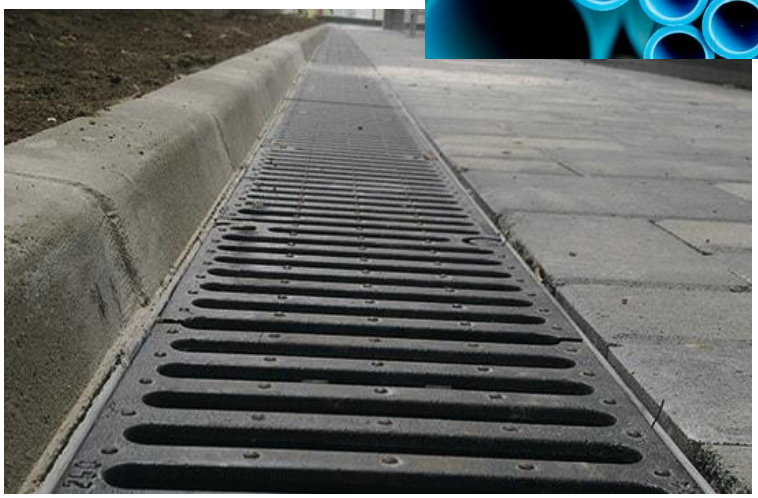
城規會/規劃處：

有關規劃許可：A/YL-LFS/570 的申請，現附上排水建議書，請查收。

謝謝。

Ms Chong
[redacted]

TEMPORARY DRAINAGE PROPOSAL



TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES

A/YL-LFS/570

ISSUE 1 (DECEMBER 2025)

Content Page

Appendix

1. Introduction

This report temporary drainage proposal for the proposed temporary open storage of hardware accessories for a period of 3 years at lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan, Yuen Long, New Territories. For site location, please refer to **Appendix A**.

1.1. Objectives of the Report

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

1.2. Report Structure

The report contains the following sections:

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

1.3. References

This report has been prepared with reference to the following documents:

- Stormwater Drainage Manual: Planning, Design and Management (Fifth Edition, January 2018)
- Technical Mote No.1 Technical Note to Prepare a Drainage Submission (December 2024)
- Stormwater Drainage Manual – Corrigendum No. 1/2022
- Stormwater Drainage Manual – Corrigendum No. 1/2024

2. Development Proposal

2.1. Existing Site Conditions

The application site is located in Lau Fau Shan, Yuen Long, New Territories, with a total area of approximately 1300 m^2. The existing ground level varying between + 17.65 mPD and + 15.75 mPD. The site layout plan is provided in **Appendix B**.

The applied development is a temporary open storage of hardware accessories. The type of application is the temporary use/development in rural areas for a period of 3 years. The zonings are under "Recreation". The application site is located at Lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan, Yuen Long, New Territories.

The application site is less than 1 ha in size and neither fall within flood prone areas such as lowlying areas and flooding blackspots nor involve pond filling and substantial earth filling, so it is regarded as simple site. There are no existing stormwater drains within the application site. There is an existing catchpit and village surface channel in vicinity of the site that proposed be discharged to, the location and picture of the existing catchpit and village surface channel are shown in **Appendix C**.

3. Assessment Methodology

3.1. Calculation Methodology for Runoff

According to Section 6.6.2 of *the Storm Drainage Manual*, an "Urban Drainage Branch System" refers to a network of interconnected drains that collect rainwater runoff from an urban area and transport it to a trunk drain, river, or sea. In simpler terms, 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.

Referring to Stormwater Drainage Manual, since the proposed U-channels have dimensions smaller than 1.8m, the drainage system would be classified as an urban drainage branch. It is normal practice to design the system with a return period of 50 years to ensure its adequacy in managing stormwater drainage. In consideration of the effect of recent climate change in the drainage design, a more conservative design approach is adopted. The return period has been increased to 100 years with the storm constraints specified in *Stormwater Drainage Manual – Corrigendum No. 1/2024.*

To calculate the peak instantaneous runoff values before and after the development, the Rational Method with recommended physical parameters including runoff coefficient (C) and storm constants for different return periods are adopted referred to the SDM.

The Rational Method is adopted for hydraulic analysis and the peak runoff is calculated based on the following equation:

$$Q_p = 0.278\ Ci\ A$$

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

The total area of the site will account for 1300 m^2. The runoff coefficient of 1 is assumed.

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

3.2. Calculation Methodology for Capacity Checking

Since the catchment areas are less than 1ha, peripheral surface U-channels are recommended to be constructed to collect the stormwater runoff within the site and to

intercept the overland flow from the adjacent lands. The surface u channel are proposed to be 400mm width. The collected stormwater should finally be diverted to the proposed 500 mm village surface channel in vicinity of the site.

For the worst-case scenario, bad condition of concrete u channel is assumed for the Manning's roughness coefficient i.e coefficient value is 0.016 for calculating capacities of concrete U-channel using Manning's Equation. The recommended roughness values ks for concrete channels with float finish is 3.3 mm under normal condition.

Manning's Equation for calculating the channel and pipe capacities is adopted for this analysis:

$$\frac{V = R^{2/3}S^{1/2}}{n}$$

where V = mean velocity, m/s
S = slope of the total energy line
n = Manning's roughness coefficient
R = hydraulic radius, m

3.3. Summary of Assessment Assumptions

The assumptions of the Drainage Proposal are summarized below for ease of reference:

- 100 years return period is adopted;
- Runoff coefficient of 1 for the paved area is assumed;
- Storm constants for 50 years return periods of HKO Headquarters
- Manning's roughness coefficient of 0.016 for the proposed concrete U-channels and concrete pipe are adopted; and
- Roughness values ks of 3.3 mm for concrete channels with float finish is adopted.

4. Potential Drainage Impact

4.1. Change in Drainage Characteristics

There is no existing drainage provision for the current site, the collected stormwater was discharged as surface runoff and infiltration leading to the natural stream or river. For conservative approach, the total area of the site for 1300 m^2 will be accounted for one catchment area.

The adjacent sites have no record of flooding. Peripheral surface channels are proposed to collect the surface runoff accrued on the site and to intercept the overland flow from the adjacent lands.

To manage the stormwater flows after developing the site, this drainage proposal detailed the proposed drainage system consisting of a set of U-channels for diverting stormwater flows to avoid causing flooding to the site.

4.2. Potential Drainage Impact

The runoff from the application site is proposed to be collected by U-channels along the boundary of the site and discharged to the terminate catchpit with sand trap, and eventually lead to the existing village surface channel in vicinity of the site through drainage pipe. The details of the proposed drainage works are illustrated in **Appendix D**.

To ensure a conservative approach, the critical scenario has been considered, involving the collection of all flow within the catchment area. Surface U-channels with a width of 400mm are proposed for this purpose. Surface runoff will be diverted from the site with 400mm drainage pipe to the nearby 500mm village surface channel. Design calculations for the proposed U-channel and drainage pipe are presented in **Appendix E1** and **Appendix E2**.

In addition, a hydraulic analysis has also been carried out to verify the capacity of the existing 300 mm pipe that collects surface runoff from the application site. A separate design check has been undertaken for the 500 mm surface channel, which serves as the proposed discharge point, using an enlarged catchment area that includes the adjacent sites. These calculations are provided in **Appendix F**.

The typical designs for the U-channels and catchpits are provided in **Appendix G** as a reference.

The design runoff arising from the proposed application site is to be discharged into the proposed 400mm U-channel and 400mm drainage pipe with connect with the existing catchpit in adjacent to site. The design calculations for U-channel and drainage pipe are summarized in **Table 1** and **Table 2** respectively.

From	To	U.S I.L	U.S I.L	Width (mm)	Length (m)	Grad.	Vel. Full Bore (m/s)	Cap. Q (m3/s)	Capacity	Check
CP1	CP2	17.05	16.84	400	16.6	40	2.65	0.38	28.4%	OK
CP2	CP4	15.75	15.36	400	51.5	40	2.65	0.38	28.3%	OK
CP1	CP3	16.8	16.38	400	52.3	60	2.16	0.31	34.7%	OK
CP3	CP4	15.75	15.55	400	29.1	35	2.83	0.40	26.4%	OK

Table 1: Drainage Schedule of Proposed U-channel Size

From	To	U.S I.L	U.S I.L	Width (mm)	Length (m)	Grad.	Vel. Full Bore (m/s)	Cap. Q (m3/s)	Capacity	Check
CP4	CP5	15.36	15.03	400	5	15	3.81	0.48	28.97%	OK

Table 2: Drainage Schedule of Proposed Pipe

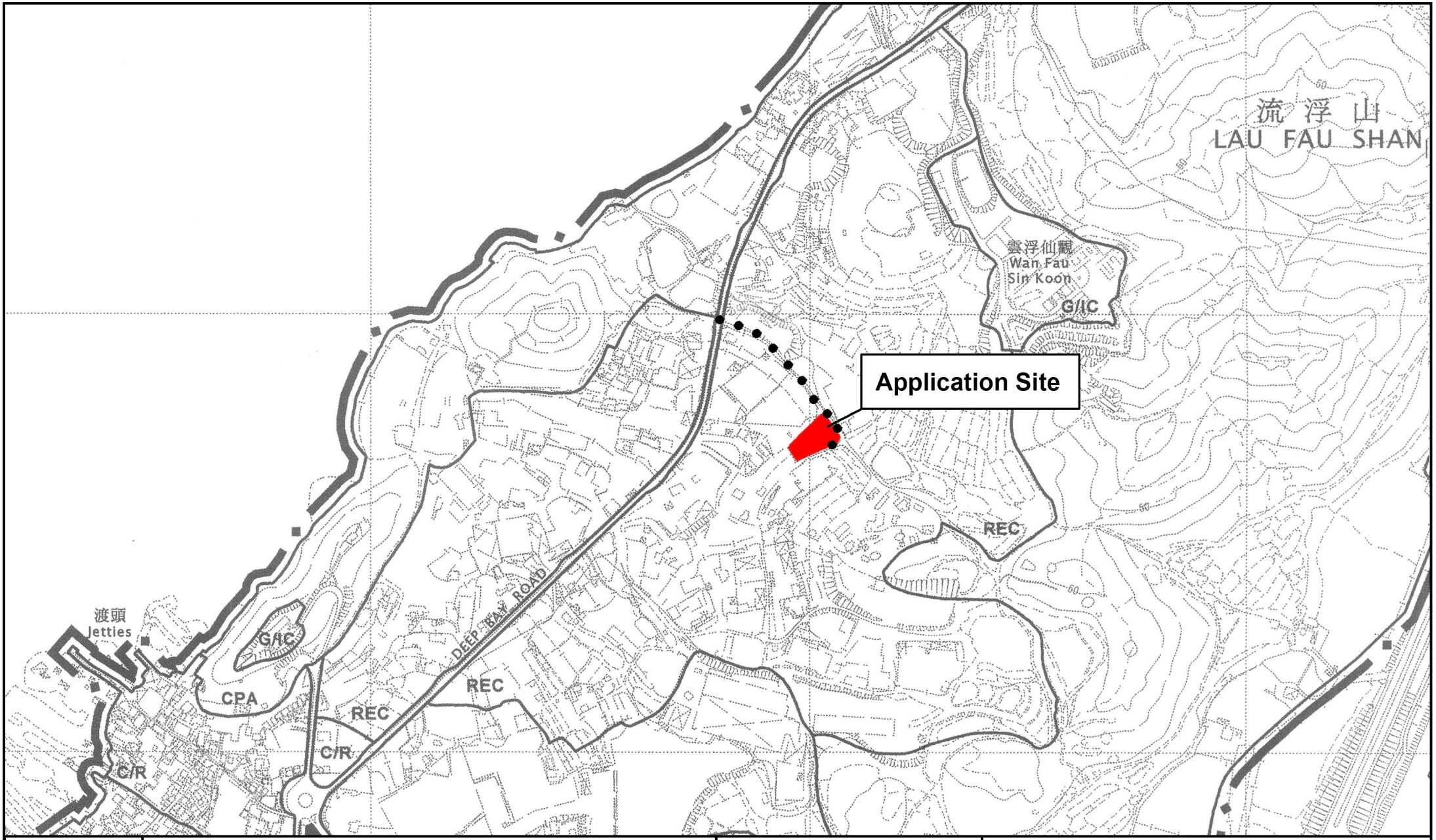
5. Conclusion

A temporary drainage proposal has been designed for temporary temporary open storage of hardware accessories. The type of application is the temporary use/development in rural areas for a period of 3 years. The zonings are under "Recreation". The application site is located at Lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan, Yuen Long, New Territories.

Based on the design calculations, a set U-channel with width of 400mm has been deemed sufficient to convey peak runoff under a 50-year return period from the application site. The stormwater collected from the site will be discharged into the nearby existing catchpit and then a 500mm village surface channel.

Coordination will be undertaken with relevant stakeholders, and feedback will be sought from appropriate government departments regarding temporary drainage arrangements to ensure the system operates effectively.

Appendix A
Location Plan of Application Site



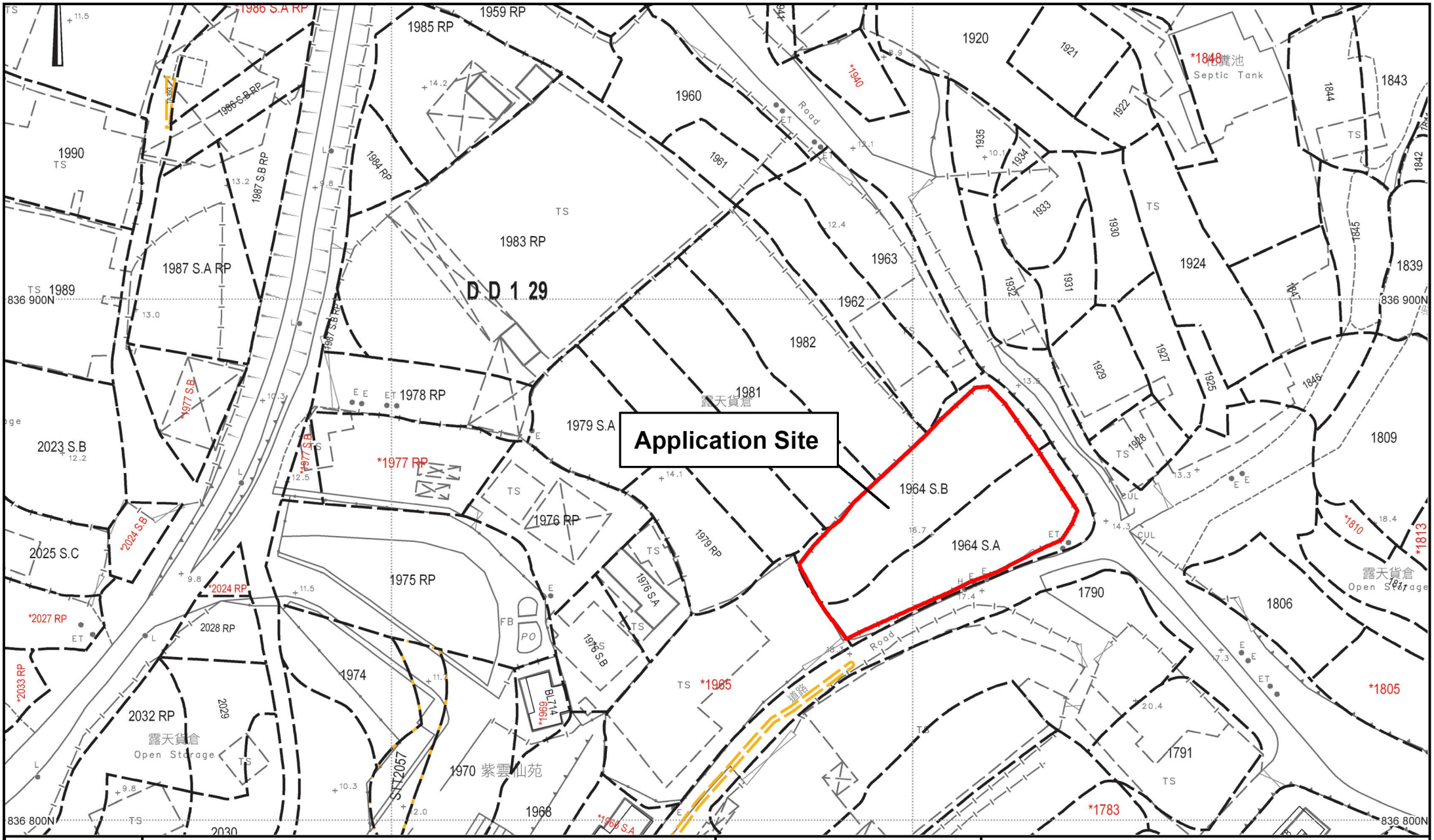
Allgain Land Planning
全堅土地規劃

Project 項目名稱:
Proposed Temporary Open Storage of Hardware Accessories for a Period of 3 Years at Lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan,Yuen Long, New Territories

Drawing Title 圖紙標題:
Location Plan

Drawing No. 圖號:
20250808

Remarks 備註:
●●● Vehicular access leading from Deep Bay Road



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全堅土地規劃

Project 項目名稱:

Proposed Temporary Open Storage of Hardware Accessories for a Period of 3 Years at Lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan,Yuen Long, New Territories

Drawing Title 圖紙標題:

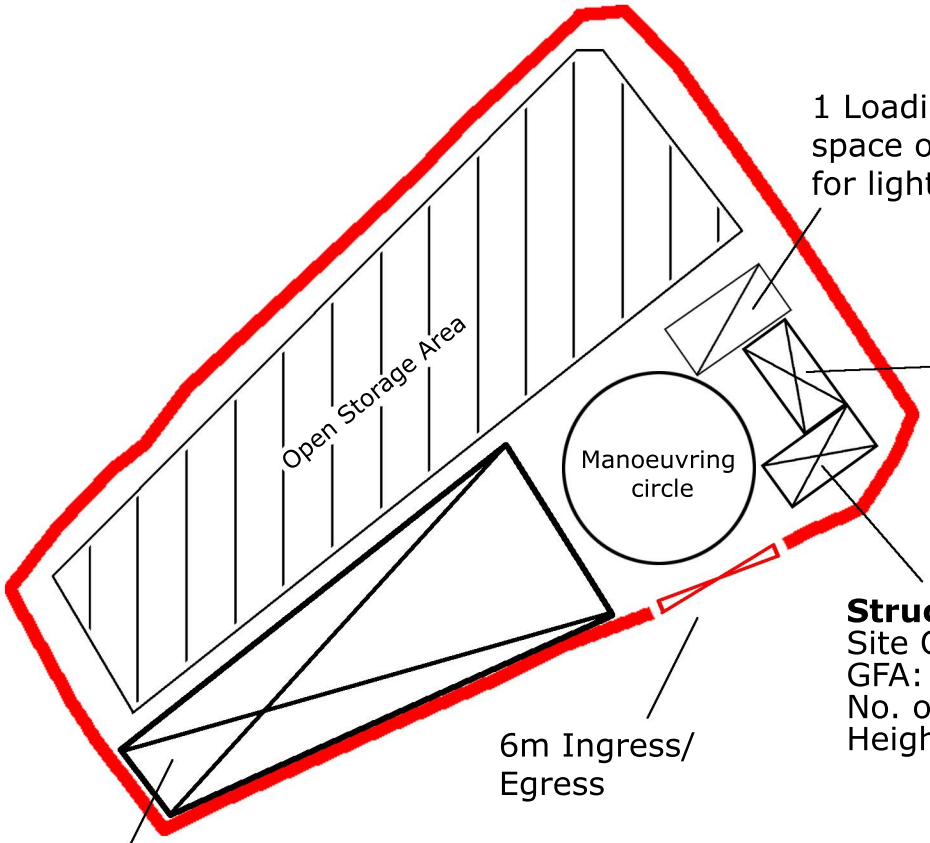
Site Plan

Drawing No. 圖號:

20250808

Remarks 備註:

Appendix B
Layout Plan of Application Site



1 Loading/unloading space of 7m x 3.5m for light goods vehicle

Structure 3
Toilet
GFA: 20m² (ABOUT)
No. of storey: 1
Height: Not exceeding 3m

Structure 2
Site Office
GFA: 20m² (ABOUT)
No. of storey: 1
Height: Not exceeding 3m

6m Ingress/ Egress

Structure 1
Warehouse for storage of hardware accessories
GFA: 220m² (ABOUT)
No. of Storey: 1
Height: Not exceeding 9m

Allgain Land Planning
全堅土地規劃

Project 項目名稱:
Proposed Temporary Open Storage of Hardware Accessories for a Period of 3 Years at Lots 1964 S.A (part) and 1964 S.B (part) in D.D. 129, Lau Fau Shan,Yuen Long, New Territories

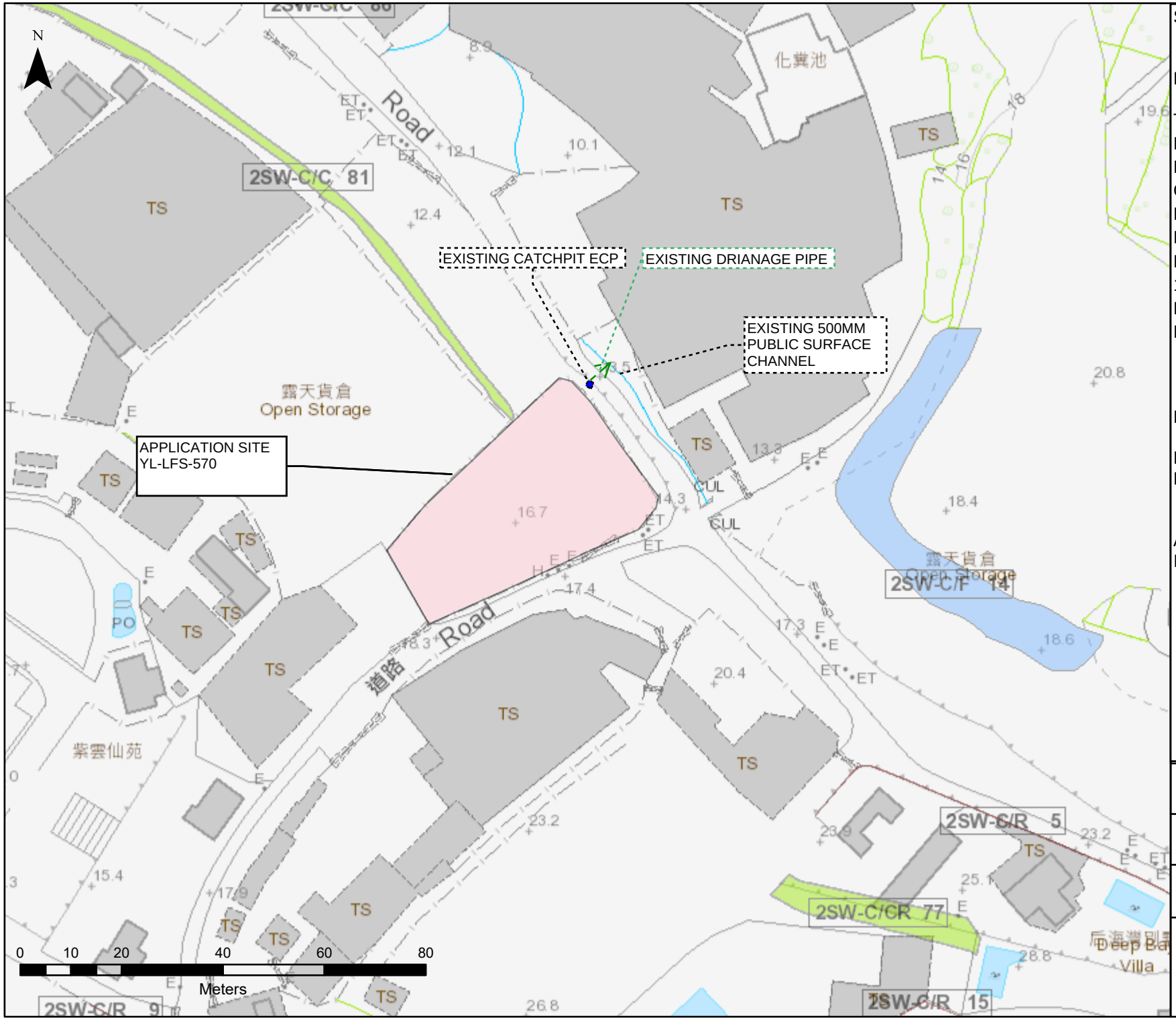
Drawing Title 圖紙標題:
Layout Plan

Drawing No. 圖號:
20250808

Remarks 備註:
Light goods vehicle
Structure

Appendix C

Location Plan of the Existing Drainage



SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE:

LOCATION PLAN OF EXISTING DRAINADE SYSTEM

APPENDIX C
ISSUE 1

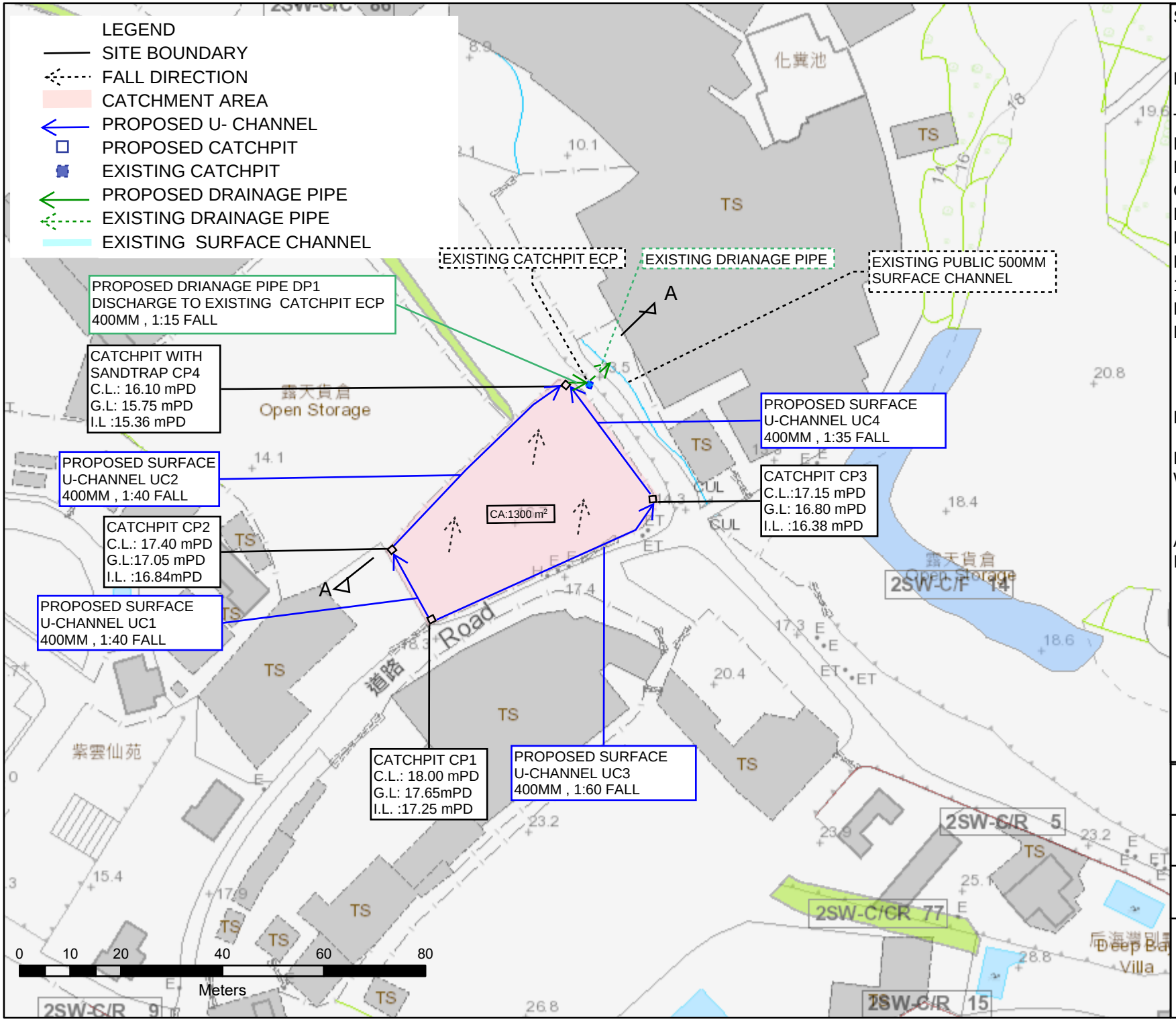
Division	
Scale	1:1000
Date	20/11/2025


APPLICATION SITE
YL-LFS-570
EXISTING CATCHPIT ECP
EXISTING 300MM DRIANAGE


EXISTING CATCHPIT ECP
EXISTING 300MM DRIANAGE
EXISTING 300MM DRIANAGE


EXISTING 500MM
PUBLIC SURFACE
CHANNEL
EXISTING 300MM DRIANAGE

Appendix D
Proposed Drainage Arrangement



SITE PLAN

PROJECT :

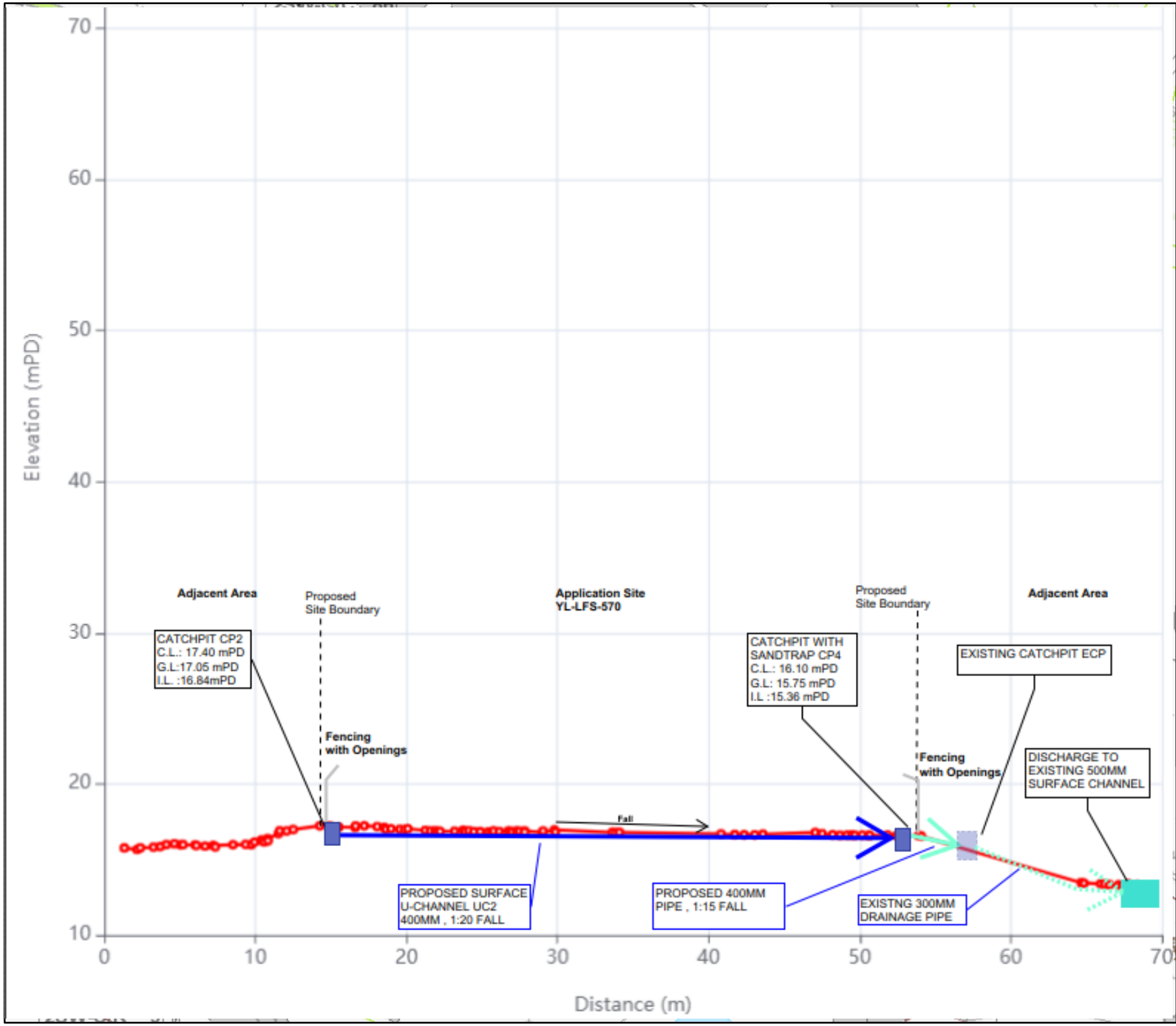
TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE:

PROPOSED DRAINAGE WORKS

APPENDIX D
ISSUE 1

Division	
Scale	1:1000
Date	20/11/2025



SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE:

PROPOSED DRAINAGE WORKS - SECTION A

APPENDIX D
ISSUE 1

Division	
Scale	1:1000
Date	20/11/2025

Appendix E1
Design Calculation of U Channel

Calculation Sheet	Date:	2025-12-07
Project Title:	Project No.:	YL-LFS-570
	Designed by:	RF
TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES	Appendix :	E
	Sheet No.:	1

Design for Proposed U Channel for Development Area

Catchpit No.		Catchment				Level				U Channel								Manning's Equation								
From (U/S)	To (D/S)	Surface Channel	Catchment. Area (m^2)	Runoff Coef. C	Ave. Slope / 100m	U/S G.L. (mPD)	D/S G.L. (mPD)	U/S I.L. (mPD)	D/S I.L. (mPD)	Mat-erial	Width (mm)	Depth (mm)	Lgth (m)	Grad. (1 in)	U Channel Area A (m2)	Wetted Peri.P (mm)	Hyd. Radius R (mm)	Mng's Coef. n	Vel. V at Full Bore (m/s)	Cap. Q_o (m^3/s)	Velocity Check	Time of Conc. t_c (min)	Rainfall Intensity i (mm/hr)	Runoff Q (m^3/s)	Capacity % (Q/Q_o)	Capacity Check
CP1	CP2	UC1	1300	1	1	17.65	17.05	17.25	16.84	CO	400	400	16.6	40	0.14	1.03	0.14	0.016	2.65	0.38	OK	1.172	297.25	0.11	28.4%	OK
CP2	CP4	UC2	1300	1	1	17.05	15.75	16.65	15.36	CO	400	400	51.5	40	0.14	1.03	0.14	0.016	2.65	0.38	OK	1.189	296.86	0.11	28.3%	OK
CP1	CP3	UC3	1300	1	1	17.65	16.8	17.25	16.38	CO	400	400	52.3	60	0.14	1.03	0.14	0.016	2.16	0.31	OK	1.209	296.38	0.11	34.7%	OK
CP3	CP4	UC4	1300	1	1	16.8	15.75	16.38	15.55	CO	400	400	29.1	35	0.14	1.03	0.14	0.016	2.83	0.40	OK	1.222	296.09	0.11	26.4%	OK

Formulae:

t_c = Time of Concentration = $t_o + t_f$

where t_o = Inlet Time = 1.172 min

t_f = Flow Time = â (Pipe Length / Flow Velocity)

V = Pipe Flow Velocity

= $(R)^{2/3}s^{1/2}/n$ for Manning's Equation

where g = Gravitational Acceleartion = 9.81 m/s^2

R = Hydraulic Radius

s = Frictional Slope

k_s = Surface Roughness = 3.3 mm for concrete CO — Ref. DSD SDM Table 14

= 0.06 mm for cast iron CI

= 0.6 mm for ductile iro DI

n = Kine. Viscosity = 1.141E-06 m^2/s

n = Manning's Coef. = 0.016 for concrete CO — Ref. DSD SDM Table 13

0.015 for cast iron CI

0.015 for ductile iron DI

Q_o = Pipe Flow Capacity = $(\pi D^2/4)V$

i = Rainfall Intensity — HKO Headquarters

= $a / (t_c + b)^c$ where a = 505.5 for a return period of 50 years — Ref. DSD Corrigendum No. 1/2024 SDM Table 3a

b = 3.29

c = 0.355

Q = Runoff = 0.278*CiA

where C = Runoff Coefficient

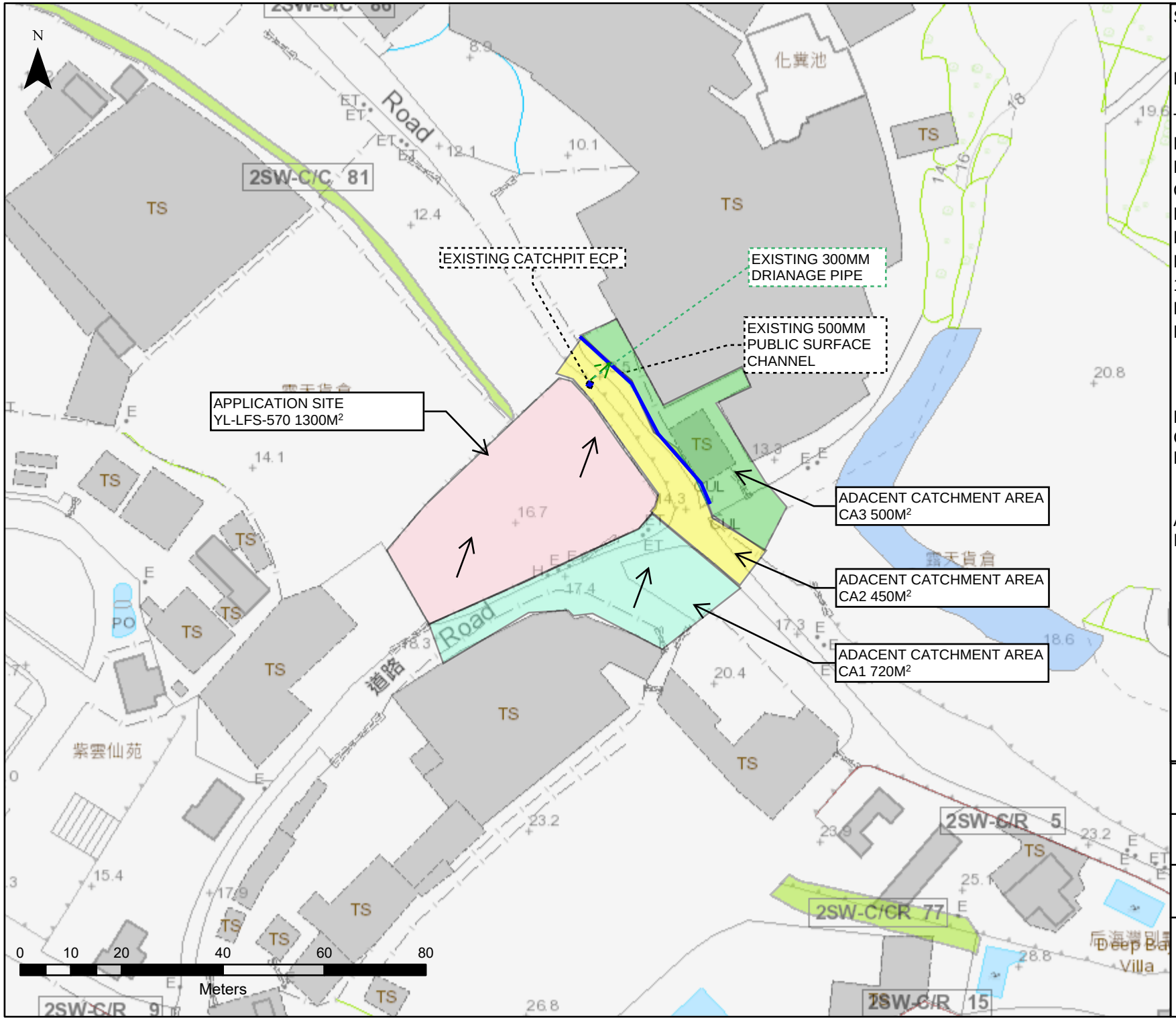
A = Catchment Area

Appendix E2
Design Calculation of Drainage Pipe

	TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES	Issue 1		Date:	Dec-25

Calculation				Note
DESIGN OF PIPE DP1 (PVC PIPE)				
Up Stream	=	CP4		
Down Stream	=	CP5		
Diameter of Pipe, D	=	400.00	mm	
Length of Pipe, L	=	5.00	m	
Up Stream Invert Level	=	15.36	mPD	
Down Stream Invert Level	=	15.03	mPD	
Gradient	=	1 in 15		
Area of Pipe, A	=	0.13	m2	
Wetted Perimeter, P	=	1.26	m	
Hydraulic Radius, R	=	0.10	m	
Velocity at Full-bore Condition, V	=	3.81	m/s	
Pipe Capacity, Q	=	0.48	m3/s	
Design Runoff/ Capacity	=	28.97	%	

Appendix F
Design Checking for Existing Drainage System



SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES

DRAWING TITLE:
CAPACITY CHECKING FOR EXISTING DRAINADE SYSTEM

APPENDIX G
ISSUE 1

Division	
Scale	1:1000
Date	20/11/2025

	TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES	Issue 1		Date:	Dec-25

Calculation				Note
DESIGN CHECKING OF EXISTING PIPE				
Up Stream	=	ECP		
Down Stream	=	EXISTING U CHANNEL		
Diameter of Pipe, D	=	300.00	mm	
Length of Pipe, L	=	10.00	m	
Up Stream Invert Level	=	15.03	mPD	
Down Stream Invert Level	=	13.50	mPD	
Accum. Catchment Area	=	890.00	m2	
Gradient	=	1 in 7		
Area of Pipe, A	=	0.07	m2	
Wetted Perimeter, P	=	0.94	m	
Hydraulic Radius, R	=	0.08	m	
Velocity at Full-bore Condition, V	=	4.79	m/s	
Pipe Capacity, Q	=	0.34	m3/s	
Design Runoff/ Capacity	=	68.79	%	

	TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY OPEN STORAGE OF HARDWARE ACCESSORIES FOR A PERIOD OF 3 YEARS AT LOTS 1964 S.A (PART) AND 1964 S.B (PART) IN D.D. 129, LAU FAU SHAN, YUEN LONG, NEW TERRITORIES	Issue 1		Date:	Dec-25

Calculation | **Note**

DESIGN CHECKING OF EXISTING U-CHANNEL

1. Design Data

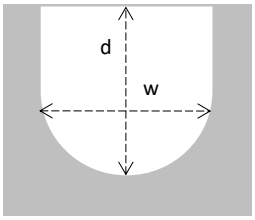
Total Catchment Area	=	2970.000	m2		
Average Slope , H	=	1.0 / 100	m		
Distance, L	=	50.000	m		
Runoff Coefficient, C1	=	1.00			
Time of concentration , to	=	3.25	min		
Rainfall Intensity, i (50 years return period)	=	$a / (t_d + b)^c$		Ref. DSD Manual Table 2a	
a	=	505.50			
b	=	3.29			
c	=	0.36		Ref. DSD Corrigendum No. 1/2024 SDM Table 3a	
td	=	3.67			
	=	253.85	mm/hr		
Manning coefficient, n	=	0.0160		Ref. DSD Manual Table 13	
Roughness coefficient, ks	=	3.3000	mm	Ref. DSD Manual Table 14	
Kinematic viscosity, v	=	1.14E-06	m2/s		

2. Runoff Estimation

Peak Runoff (Qp)	=	∑0.278CiA	
	=	0.20959	m3/s

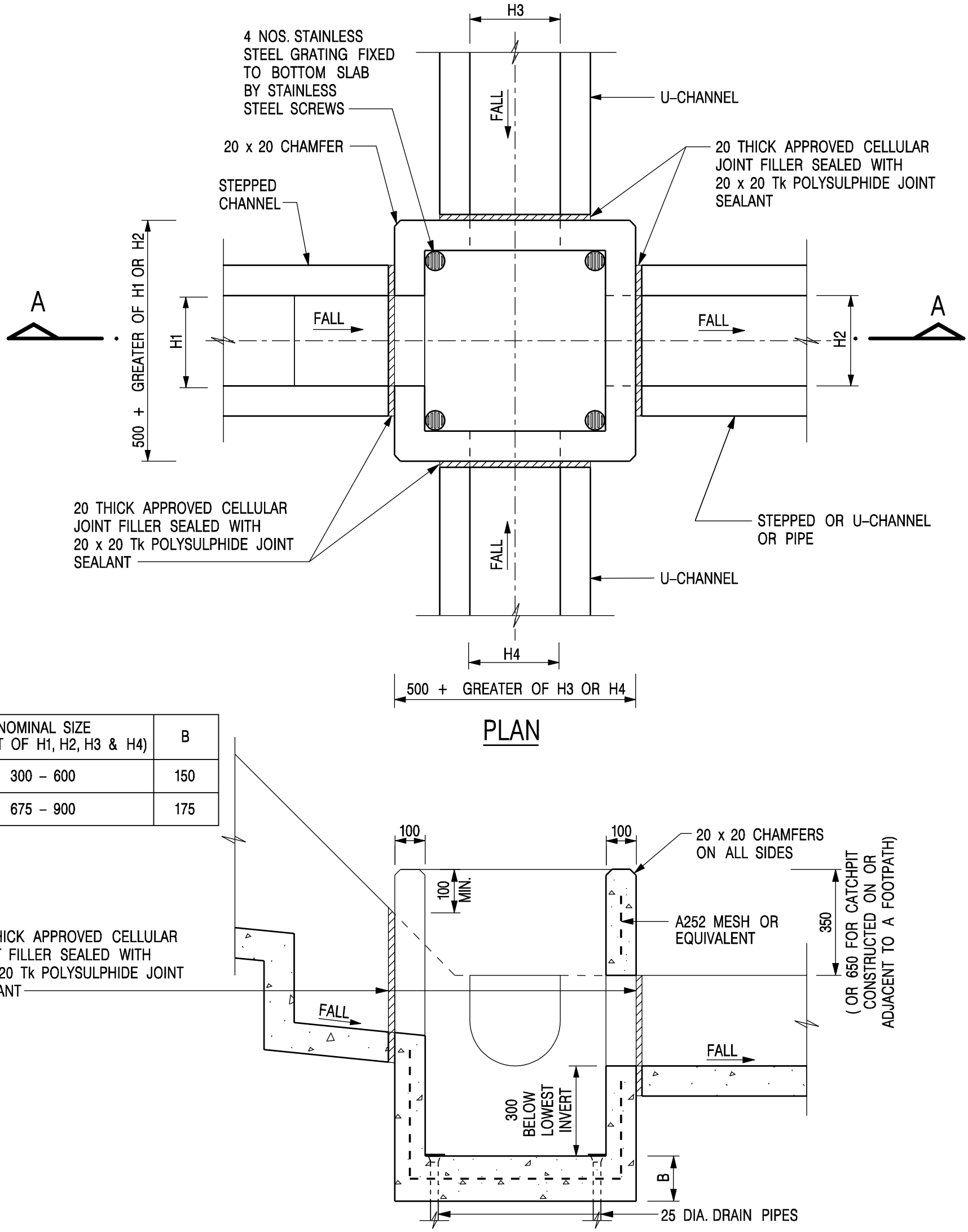
3. Hydraulic Design

Width of U-channel , w	=	500.00	mm			
Depth of U-channel, d	=	500.00	mm			
Upstream ,Lu	=	13.92	mPD			
Downstream, Ld	=	13.40	mPD			
Gradient	=	1 in 96				
Area of U-channel, A	=	0.22	m2			
Wetted Perimeter, P	=	1.29	m			
Hydraulic Radius, R	=	0.17	m			
Velocity at Full-bore Condition, V	=	1.98	m/s	OK		
Length of the drain, L	=	50.00	m			
Flow time, tf	=	0.42	min			
U-channel Design Capacity, Q	=	0.44	m3/s	>	0.21	m3/s
Design Runoff/ Capacity	=	47.34	%	OK		



Appendix G

Typical designs of the U-channels and Catchpits



PLAN

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

SECTION A – A

NOTES:

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

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

CATCHPIT WITH TRAP

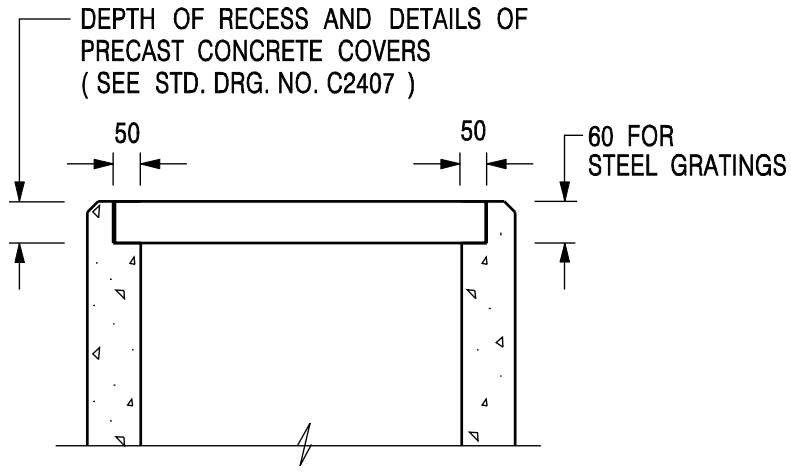
(SHEET 1 OF 2)

CEDD 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.

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

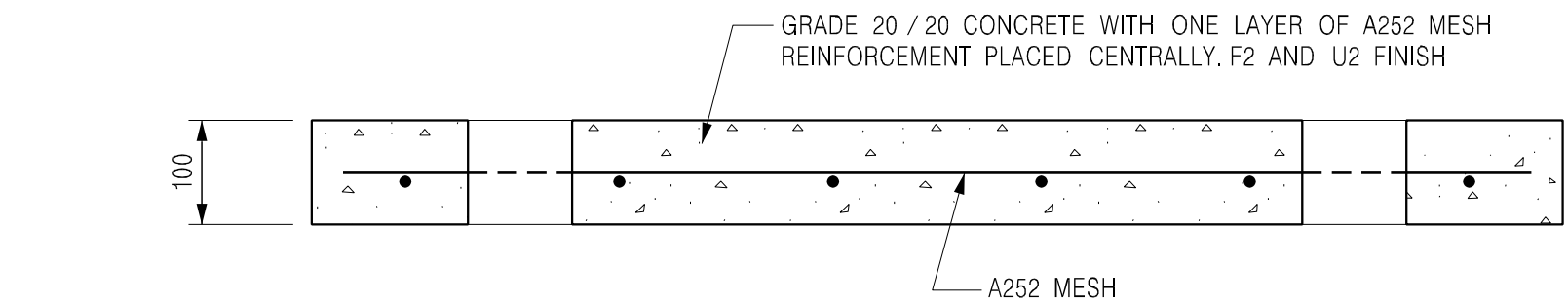
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

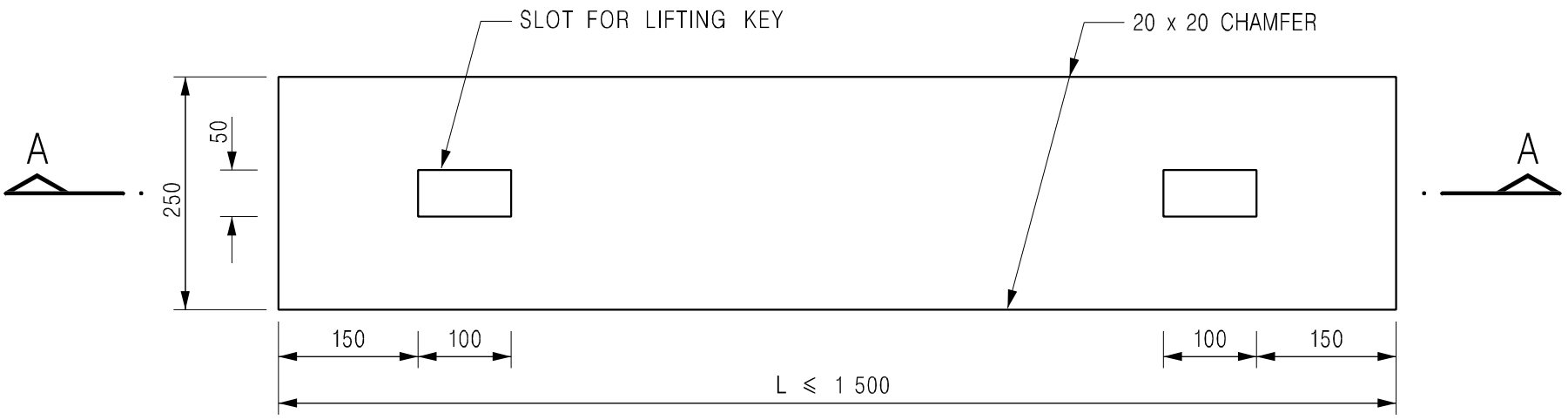
SCALE 1 : 20

DATE JAN 1991

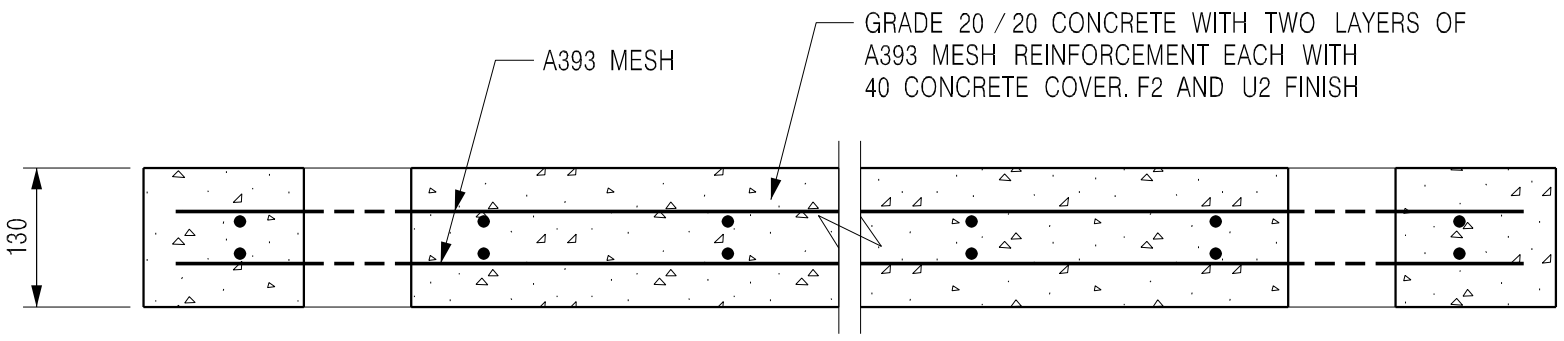
DRAWING NO. C2406 /2A



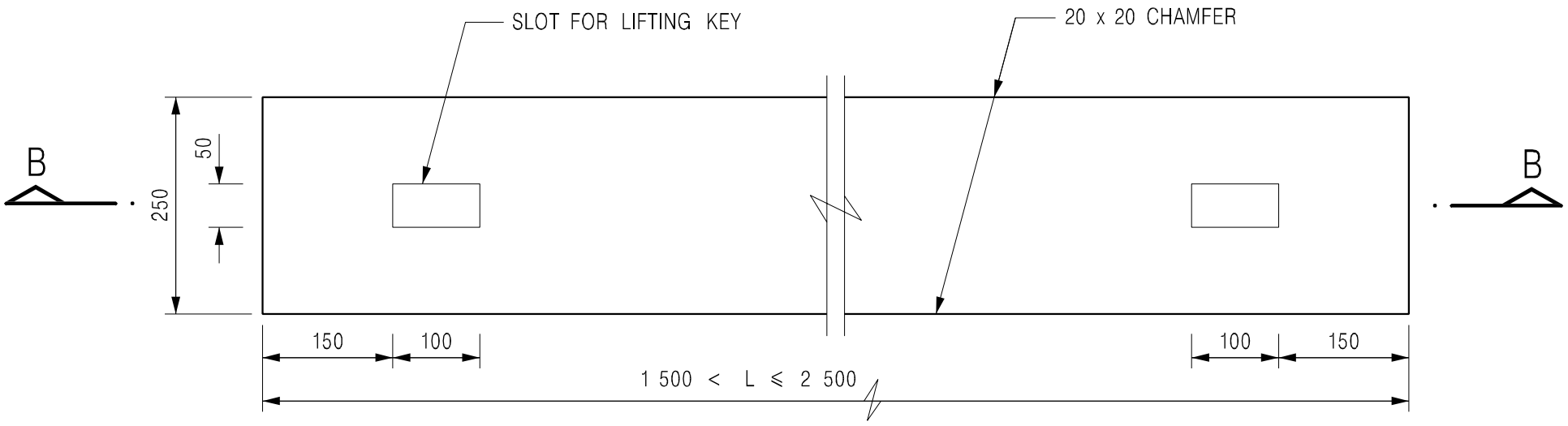
SECTION A – A



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.

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

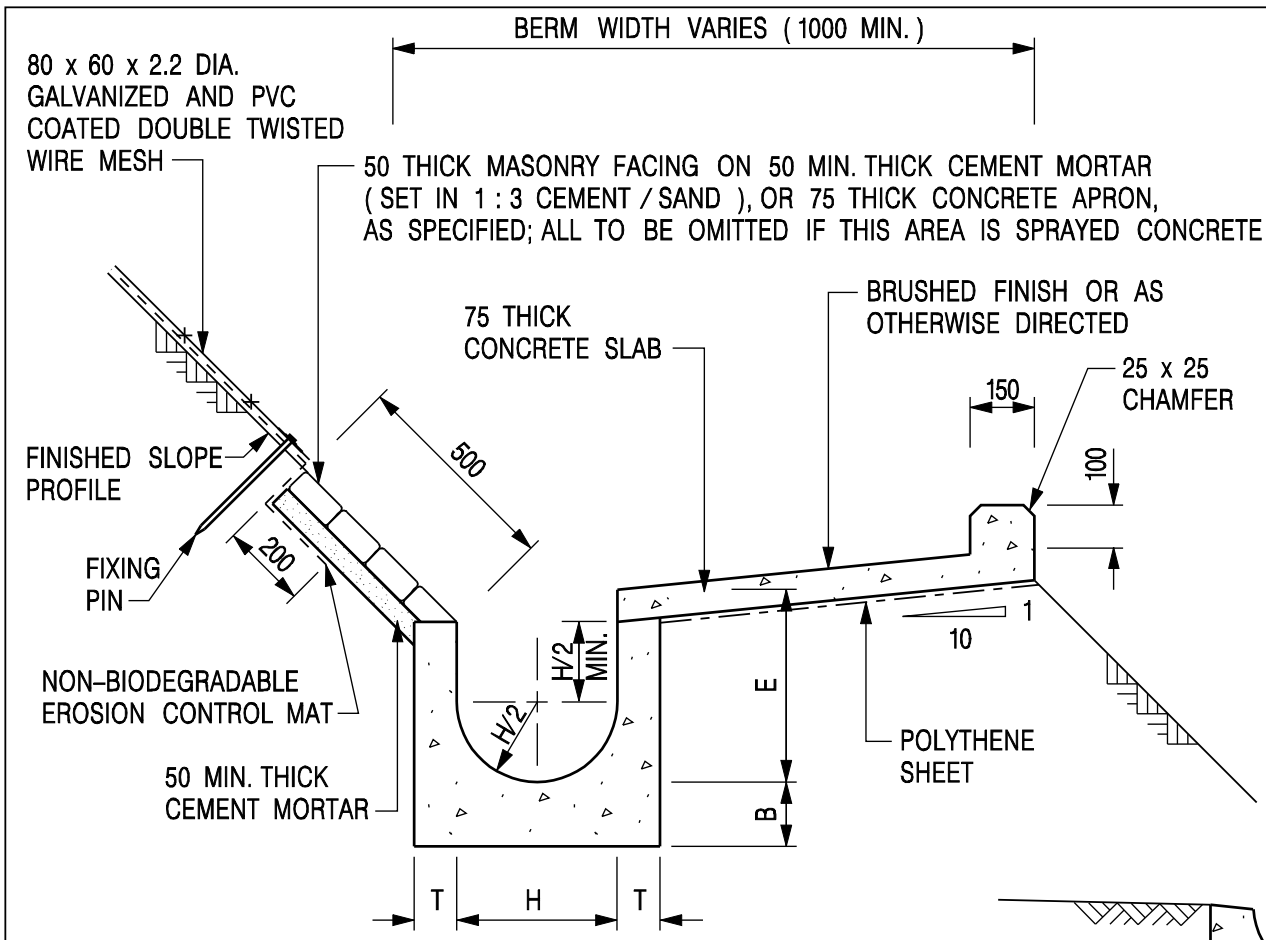
PRECAST CONCRETE COVERS FOR CATCHPIT AND SAND TRAP

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

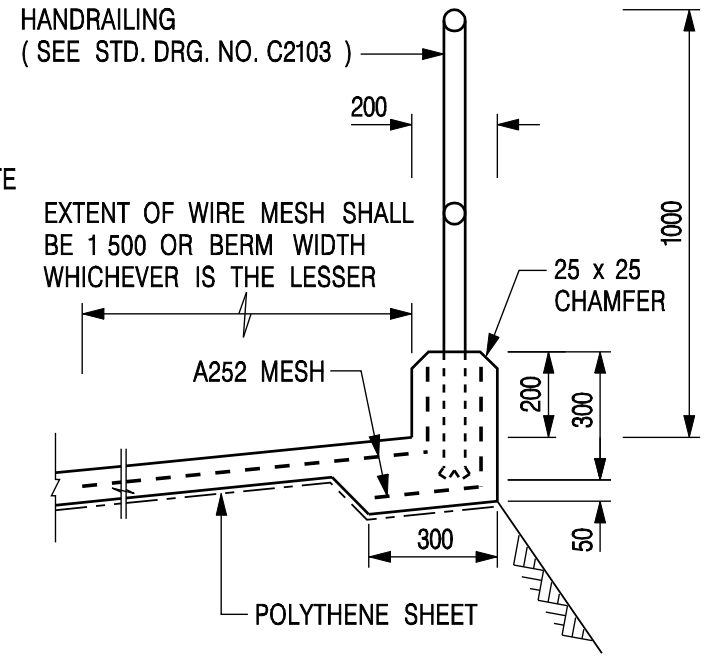
SCALE 1 : 10

DATE JAN 1991

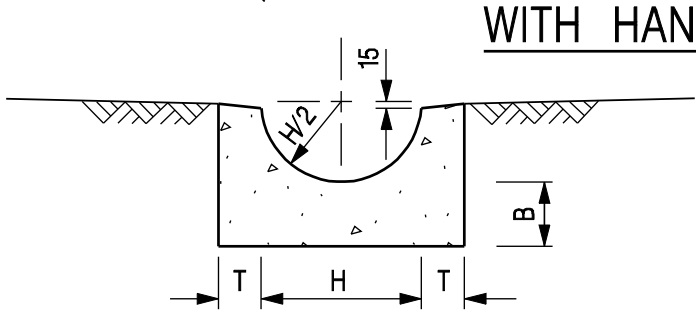
DRAWING NO. C2407B



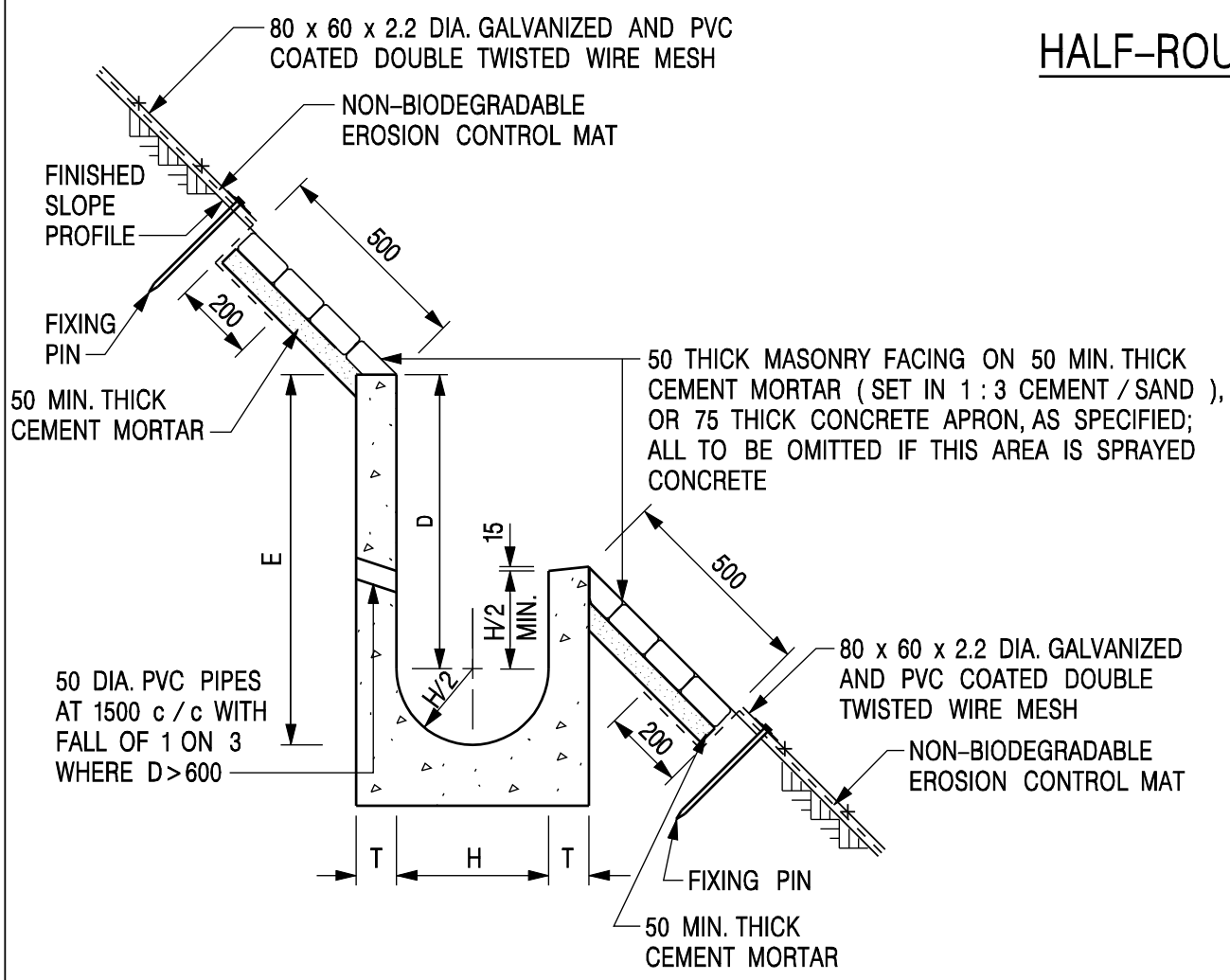
U-CHANNELS CONSTRUCTED ON BERM



DETAILS OF BERM WITH HANDRAILING



HALF-ROUND CHANNEL



U-CHANNELS NOT CONSTRUCTED ON BERM

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650
375 - 600	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE TO BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/1E.
8. CONCRETE TO BE COLOURED AS SPECIFIED.
9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/1E)

REF.	REVISION	SIGNATURE	DATE
I	MINOR AMENDMENT.	Original Signed	07.2018
H	THICKNESS OF MASONRY FACING AMENDED.	Original Signed	01.2005
G	MINOR AMENDMENT.	Original Signed	01.2004
F	GENERAL REVISION.	Original Signed	12.2002
E	DRAWING TITLE AMENDED.	Original Signed	11.2001
D	MINOR AMENDMENT.	Original Signed	08.2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6.99
B	MINOR AMENDMENTS.	Original Signed	3.94

DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 25

DATE JAN 1991

DRAWING NO. C2409I

卓越工程 建設香港

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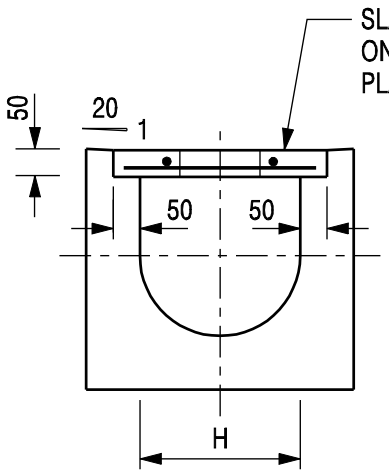
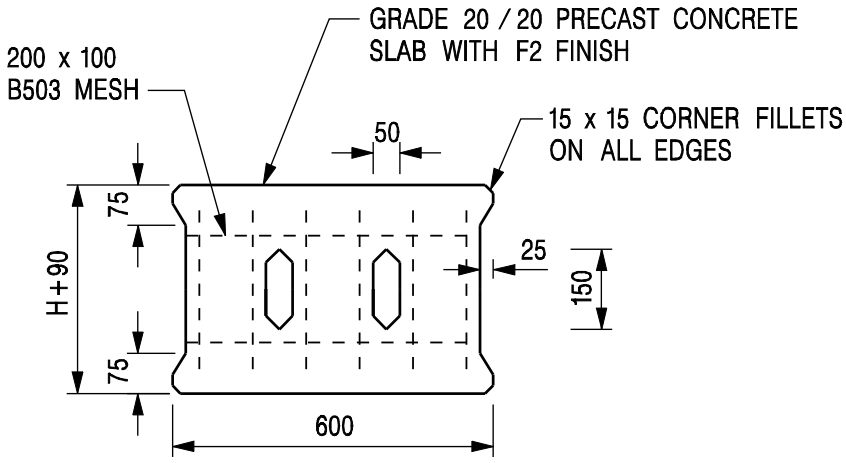


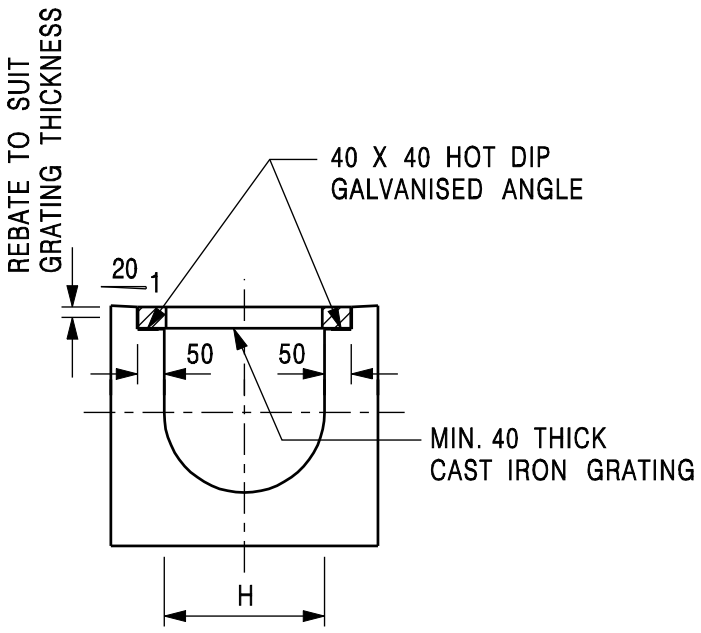
TYPICAL SECTION



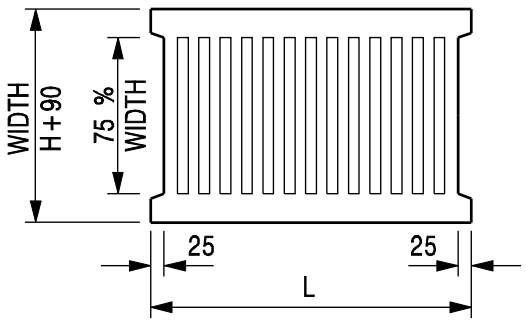
PLAN OF SLAB

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:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. H = NOMINAL CHANNEL SIZE.
3. ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
4. 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.

REF.	REVISION	SIGNATURE	DATE
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

COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

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