寄件者: Danny Ng [redacted]
寄件日期: 2026年03月17日星期二 10:00
收件者: tpbpd/PLAND
副本: Andrea Wing Yin YAN/PLAND; David Chi Chiu CHENG/PLAND; Athena Pui Yin LAI/PLAND; Bon Tang; Matthew Ng; Louis Tse; Christian Chim; Grace Wong
主旨: [FI] S.16 Planning Application No. A/YL-KTN/1213 - Further Information
附件: FI1 for A_YL-KTN_1213 (20260317).pdf

類別: Internet Email

Dear Sir,

We write to submit further information for the consideration of government bureaux/departments upon the subject application (*attached*).

Should you require more information, please do not hesitate to contact us. Thank you for your kind attention.

Kind Regards,

Danny NG | Town Planner
R-riches Group (HK) Limited

R-riches Property Consultants Limited | R-riches Planning Limited | R-riches Construction Limited
[redacted]

R-RICHES PLANNING LIMITED

盈卓規劃有限公司

Our Ref. : DD107 Lot 1866 S.A & VL
Your Ref. : TPB/A/YL-KTN/1213

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

By Email

17 March 2026

Dear Sir,

1st Further Information

Temporary Public Vehicle Park (Excluding Container Vehicle) for a Period of 5 Years in "Comprehensive Development Area (1)" Zone, Various Lots in D.D. 107 and Adjoining Government Land, Kam Tin, Yuen Long, New Territories

(S.16 Planning Application No. A/YL-KTN/1213)

We are writing to submit a drainage proposal of the subject application for the consideration of government bureaux/departments (**Appendix I**).

Should you require more information regarding the application, please contact the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Planning Limited

Danny NG
Town Planner

cc DPO/FSYLE, PlanD (Attn.: Ms. Andrea YAN email: ekytam@pland.gov.hk)
(Attn.: Mr. David CHENG email: dcccheng@pland.gov.hk)
(Attn.: Ms. Athena LAI email: apylai@pland.gov.hk)

[redacted]

SUBMISSION REPORT
FOR
DRAINAGE PROPOSAL DESIGN
FOR TEMPORARY PUBLIC VEHICLE PARK
(EXCLUDING CONTAINER VEHICLE) FOR A PERIOD OF 5 YEARS
ON
LOT 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1905 RP(PART)
AND 1750s.A ss.9 IN D.D.107
KAM TIN, YUEN LONG, N.T.

Report No. SD/1866/001

Date : March 2026

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1. Introduction
2. Existing Drainage Condition
3. Design parameters & assumptions
4. Proposed Stormwater Drainage
5. Effect on Drainage Characteristics and potential Drainage Impacts
6. Conclusions

APPENDIX

Appendix A Stormwater Drainage Proposal Plan
Appendix B Surface Drainage Design

REFERENCES

1. Stormwater Drainage Manual, Planning Design and Management by DSD
2. Geotechnical Manual for Slopes by GEO
3. Standard Drawings by DSD

1. Introduction

This proposal is prepared for the proposed stormwater drainage works for the proposed temporary public vehicle park (excluding container vehicle) for a period of 5 years on lot 1866s.A RP(part), 1866s.B RP, 1876s.B(part), 1905 RP(part) and 1750s.A ss.9 in D.D.107, Kam Tin, Yuen Long, N.T.

2. Existing Drainage Condition

A plan showing the existing catchments are enclosed in **Appendix B**. Currently, the surface runoff collected from the site is discharging to the existing government 6.5m wide open channel (SCP1009605) as shown in **Appendix A**. As per the existing site condition, additional peripheral U-channels area considered necessary for the proposed development. Drainage proposal is required to be carried out for the proposed development.

3. Design Parameters & Assumptions

The design criteria to be used for the modeling assessment are based on the standards set out in the Stormwater Drainage Manual, Fifth Edition (SDM). According to Section 6.6.1 of the SDM, the existing village drainage system in the vicinity of the development is classified as main rural catchment drainage system. Table 10 of the SDM recommends to be adopted a 50 year design return period storm event for the main rural drainage branch system.

<u>Stormwater Runoff (Q)</u>

The rate of stormwater runoff used in this assessment report is estimated by the "Rational method" in which the peak runoff is calculated from the formula:

$$Q = K \times i \times A / 3600$$

where
- Q = maximum runoff (L/s)
- i = design mean intensity of rainfall (mm/hr)
- A = area of catchment (m^2)
- K = runoff coefficient

Time of Concentration (tc)

The time of concentration is defined as the time required for stormwater runoff to flow from the most remote part of the catchment area to the point in the drainage system under consideration. Based on the assumptions adopted in the Rational Method, this is the time taken for the peak runoff to become established at the considered section.

The time of concentration comprises the time for water flowing within natural catchments and along the man-made drainage pipes/channels. For natural catchments, the time of concentration is estimated by the modified form of the Brandsby William's equation.

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

Where t_o = time of concentration of a natural catchment (min.)

A = catchment area (m^2)

H = average slope (m per 100m), 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)

Mean Rainfall Intensity (i)

Mean rainfall intensity-duration curves attached in this report are based on the Statistical analysis of long term rainfall records from the Hong Kong Observatory. A return period of 50 years is adopted.

Runoff Coefficient (K)

The value of K is taken as 0.95 for developed area. For vegetated ground, the value of K is taken as 0.3.

4. Proposed Stormwater Drainage

The proposed stormwater drainage works include surface U-channels at the peripheral of the site collecting the runoff from catchments within the site. The U-channels will connect and discharge the surface runoff to the existing government open channel. Catchpits with 300mm sump are proposed at the discharged points of proposed U-Channel to desilt the surface water before discharging to the drainage outside. The proposed stormwater drainage layout plan is shown in **Appendix A**.

5. Effect on Drainage Characteristics and Potential Drainage Impact

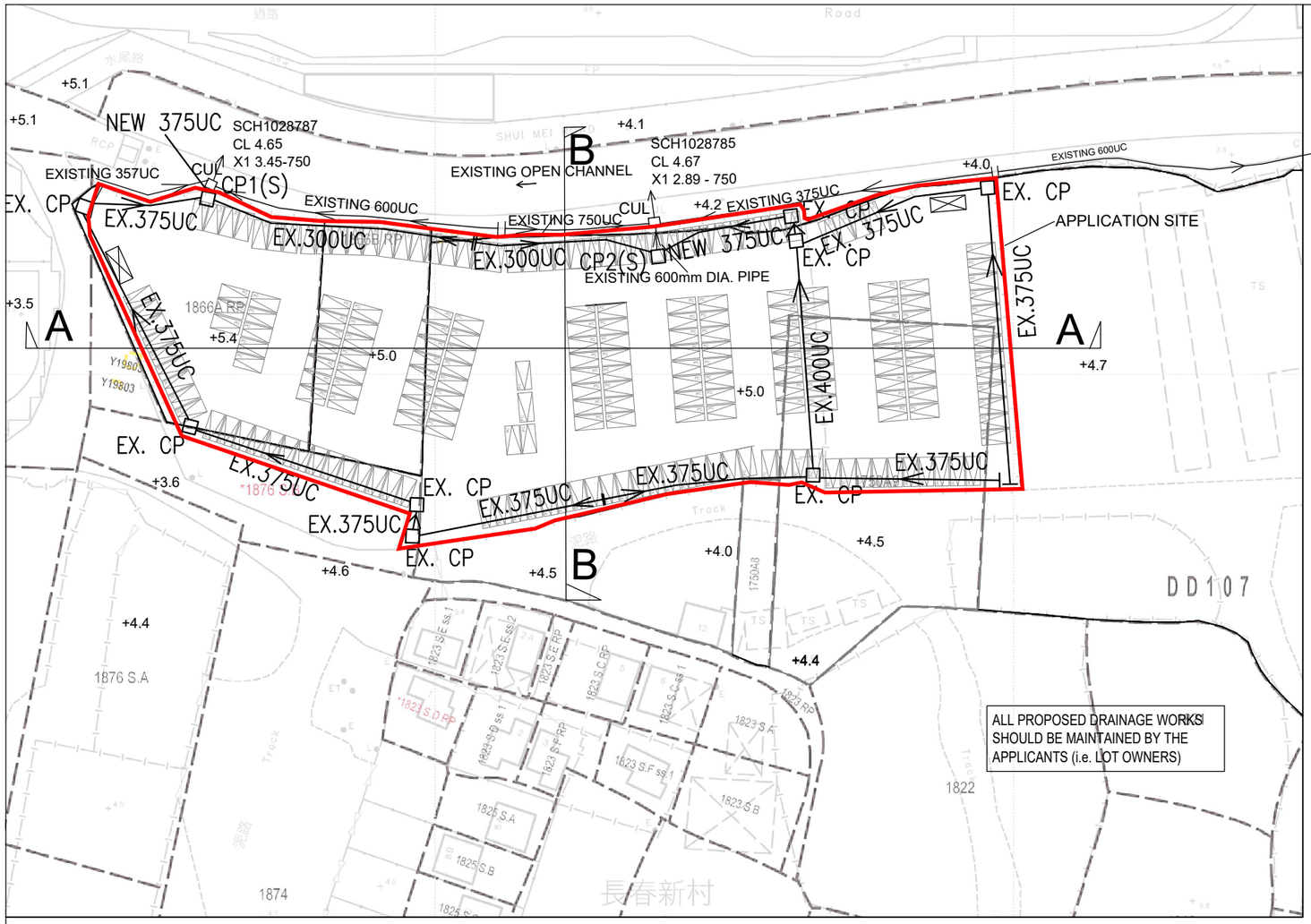
The drainage design of the proposed U-channel are presented in **Appendix B**.

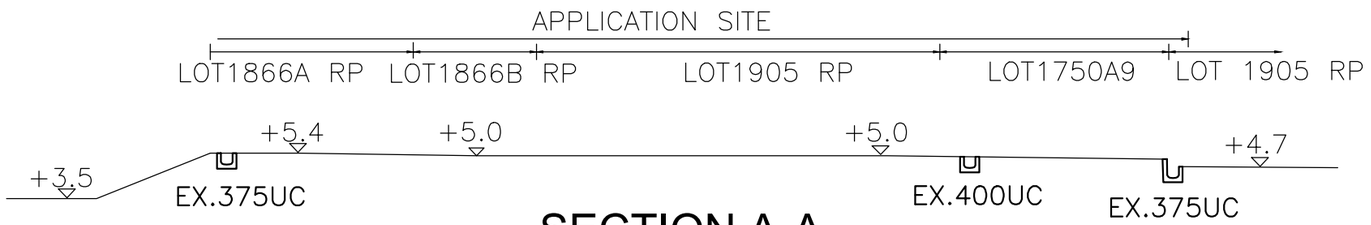
6. Conclusion

Peripheral channels are to be provided along the site boundary where necessary to intercept runoff from crossing the site. The drainage conditions of adjacent areas will not be adversely affected.

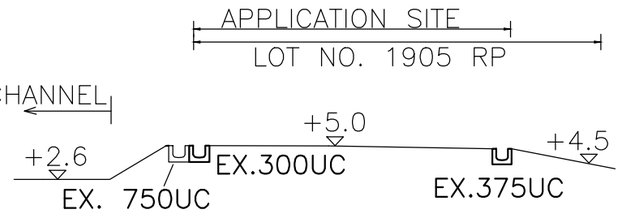
Appendix A

Stormwater Drainage Proposal Plan





SECTION A-A



SECTION B-B

PROPOSED CATCHPIT SCHEDULE

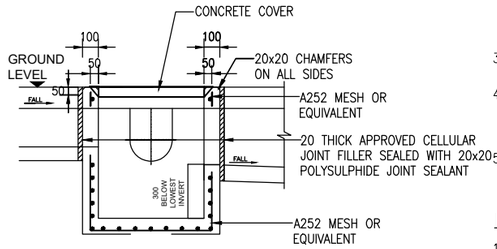
CATCHPIT NO.	C.L. (mPD)	I.L. (mPD)
CP1(s)	5.0	3.55
CP2(s)	5.0	3.53

LEGEND:

1:100
NEW 225UC → PROPOSED 225mm U-CHANNEL AT FALL 1: 100 (MIN)

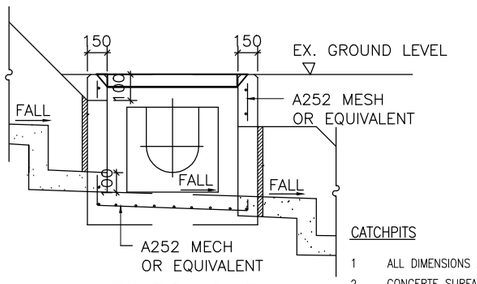
CP3(s) □ PROPOSED COVERED DESILTED CATCHPIT NO. CP3

CP1 □ PROPOSED COVERED CATCHPIT NO. CP1



SECTION D – D WITH DESILTED TRAP

COMPLY WITH CEDD'S DRAWING NO. DS C2405 AND C2406I

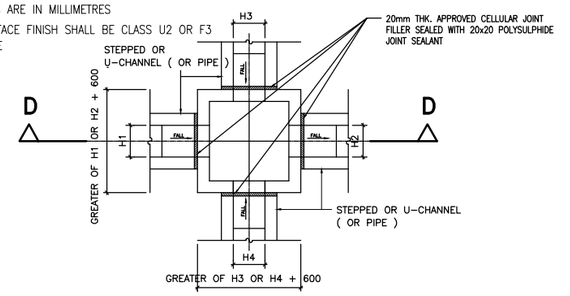


SECTION D–D

N.T.S.

CATCHPITS

1 ALL DIMENSIONS ARE IN MILLIMETRES
2 CONCERTE SURFACE FINISH SHALL BE CLASS U2 OR F3 AS APPROPRIATE



PLAN

TYPICAL DETAILS OF CATCHPIT

GENERAL NOTE

1. THE PROPOSED DRAINAGE WORK, WHETHER WITHIN OR OUTSIDE THE LOT BOUNDARY, SHOULD BE CONSTRUCTED AND MAINTAINED BY THE LOT OWNER AT HIS OWN EXPENSE. FOR WORKS TO BE UNDERTAKEN OUTSIDE THE LOT BOUNDARY, PRIOR CONSENT AND AGREEMENT FROM DLO AND/OR RELEVANT PRIVATE LOT OWNER SHOULD BE SOUGHT.

CONCRETE STRENGTH AND STEEL REINFORCEMENT SPECIFICATION FOR DRAINAGE DETAILS

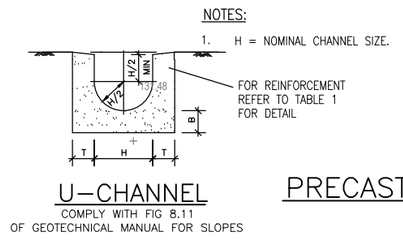
1. CONCRETE GRADE FOR CATCHPITS AND U-CHANNEL SHALL BE 30D DESIGN IN COMPLIANCE WITH CS1 : 2010
   FOR BLINDING LAYER SHALL BE 15D, DESIGN COMPLY WITH CS1-2010.
2. ALL MAIN BARS TO BE HOT ROLLED HIGH YIELD STEEL DEFORMED BAR COMPLM WITH CS2 : 2012
   Y – HIGH YIELD BAR 500 MPa
   M – MILD STEEL BAR 250 MPa
3. CONCRETE COVER TO MAIN REINFORCEMENT TO BE 50mm.
4. LAP LENGTH FOR ALL BARS TO BE 46x DIAMETER OF LARGER BAR TO BE LAPPED.
5. REACTIVE ALKALI CONTENT EXPRESSED IN SODIUM OXIDE PER CUBIC METER OF CONCRETE SHOULD NOT EXCEED 3KG AS PER PNAP APP-74.

HALF ROUND, U, AND STEPPED – CHANNELS

1 ALL DIMENSIONS ARE IN MILLIMETERS
2 CONCRETE SURFACE FINISHING SHALL BE CLASS U2 OR F2 AS APPROPRIATE
3 FOR HALF ROUND AND U – CHANNEL, SPACING OF EXPANSION JOINT IN CHANNELS, BERMS AND APRON TO BE 10m MAXIMUN. FOR STEPPED CHANNELS, EXPANSION JOINTS TO BE PROVIDED AT A MAXIMUN SPACING OF 10m.
4 DIMENSIONS FOR HALF ROUND AND U-CHANNELS SEE TABLE 1.
5 THE COVER FOR U-CHANNELS AND CATCHPIT SHALL COMPLY WITH CEDD'S STANDARD DRAWINGS NO. C2405 TO C2407 AND C2412.
6 ALL PROPOSED U-CHANNELS SHALL BE COVERED WITH GRATING

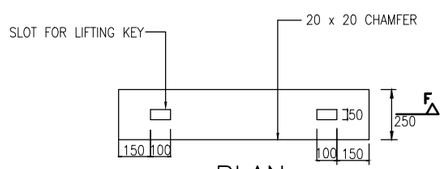
TABLE 1 : DIMENSION OF U-CHANNEL AND HALF-ROUND CHANNEL

NORMAL SIZE H	T	B	REINFORCING
<300	100	100	NIL
375 – 675	150	150	NIL
750 – 900	175	175	A252 MESH PLACED CENTRALLY



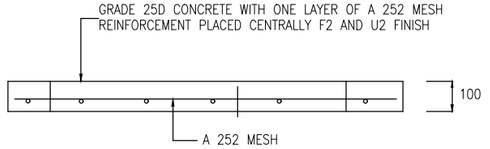
U-CHANNEL

COMPLY WITH FIG 8.11
OF GEOTECHNICAL MANUAL FOR SLOPES



PLAN

N.T.S.



PRECAST CONCRETE COVERS FOR CATCHPIT

N.T.S.

REV	DESCRIPTION	CHECKED	APPROVED	DWN	DATE
	DLO SUBMIT	RC	AY	RY	MARCH 26

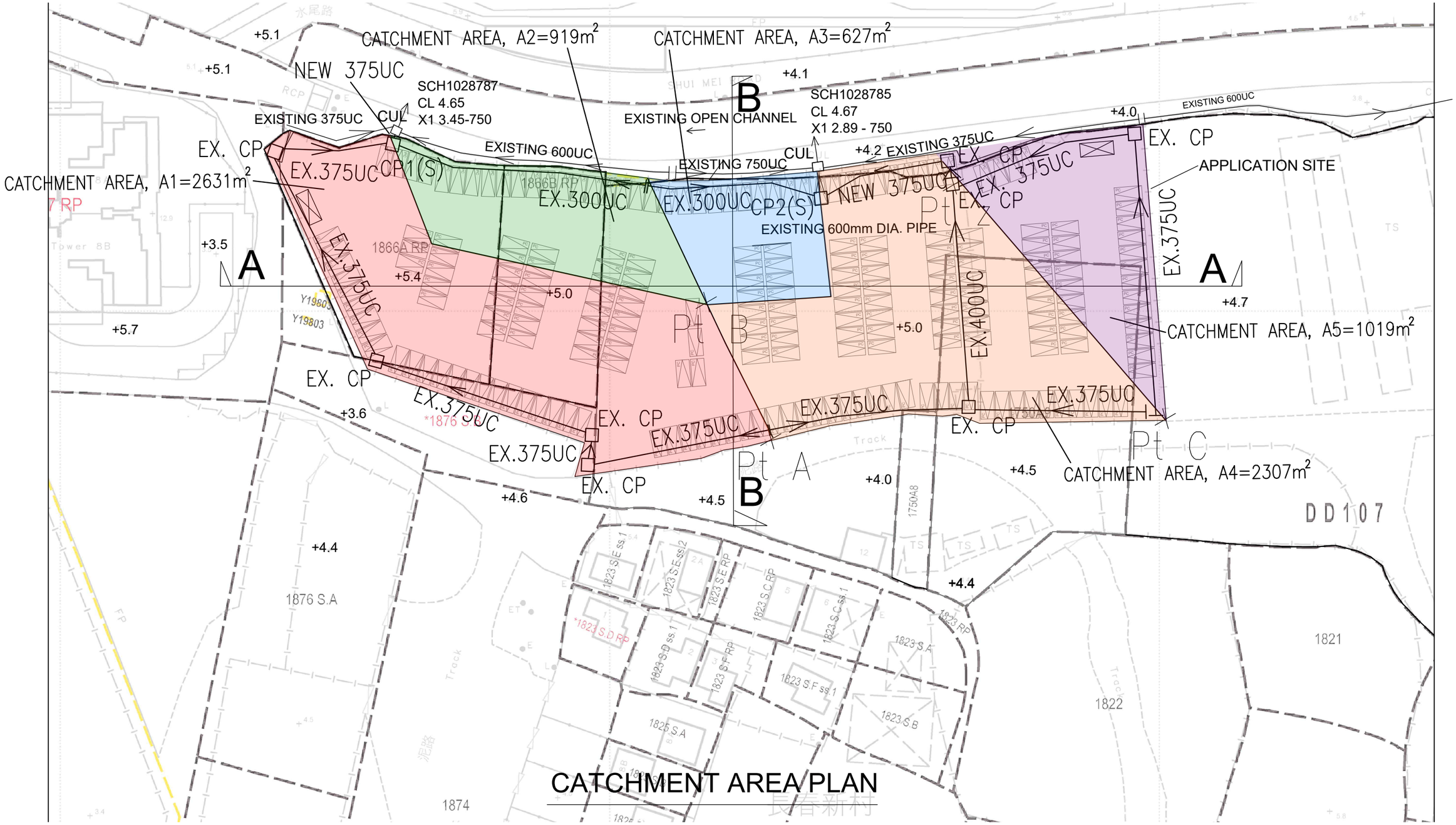
PROJECT TITLE:
STORMWATER DRAINAGE PROPOSAL
1866s.A RP(PART), 1866s.B RP, 1876s.B(PART)
1905 RP(PART) AND 1750s.A ss.9 IN D.D.107
KAM TIN, YUEN LONG, N.T.

DRAWING TITLE:
DRAINAGE PROPOSAL PLAN
AND TYPICAL DETAILS

SCALE :	N.T.S.		CAD FILE: CAD_REF
DRAWN	RY		DRAWING NO.
S.D	RY		SDP001
DESIGNED	RC		
CHECKED	AY		
			B.D. REF. NO.:

Appendix B

Surface Drainage Design



CATCHMENT AREA PLAN

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 375UC

Catchment area, A1 = 2631 m^2 Assume k = 0.95 for paved surface

Use Rational Method from Geo-Manual

$Q = kiA/3600$ where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP1 (Ld) = 107.00 m
Shortest distance from summit point to outlet, CP1 (Ls) = 88.00 m

Elevation of remote point (Pt A) = 5.00 mPD
Elevation of outlet point (CP1) = 3.550 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 1.65 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 6.37 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 215 mm/hr rainfall increase
Q = kiA/60 x 1.16
10389 lit/min

From TGN 43A1
For existing 375 UC with 1 in 100 gradient

Maximum capacity	=	16000	lit/min	>	10389	o.k.
The corresponding velocity	=	1.95	m/s	<	4	o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 300UC

Catchment area, A2 = 919 m^2 Assume k = 0.95 for paved surface

Use Rational Method from Geo-Manual

Q = kiA/3600 where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP1(s) (Ld) = 73.00 m
Shortest distance from summit point to outlet, CP1(s) (Ls) = 65.00 m

Elevation of remote point (Pt B) = 5.00 mPD
Elevation of outlet point (CP1(s)) = 3.550 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 2.23 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 4.55 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 235 mm/hr rainfall increase
Q = kiA/60 x 1.16
3967 lit/min

From TGN 43A1
For existing 300 UC with 1 in 100 gradient

Maximum capacity = 8000 lit/min > 3967 o.k.
The corresponding velocity = 1.70 m/s < 4 o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 300UC

Catchment area, A3 = 627 m^2 Assume k = 0.95 for paved surface

Use Rational Method from Geo-Manual

Q = kiA/3600 where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP2(s) (Ld) = 59.00 m
Shortest distance from summit point to outlet, CP2(s) (Ls) = 33.00 m

Elevation of remote point (Pt B) = 5.00 mPD
Elevation of outlet point (CP2(s)) = 3.530 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 4.45 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 3.32 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 245 mm/hr rainfall increase
Q = kiA/60 x 1.16
2821 lit/min

From TGN 43A1
For existing 300 UC with 1 in 100 gradient

Maximum capacity = 8000 lit/min > 2821 o.k.
The corresponding velocity = 1.70 m/s < 4 o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 375UC

Catchment area, A4 = 2307 m^2 Assume k = 0.95 for paved surface

Use Rational Method from Geo-Manual

Q = kiA/3600 where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP2(s) (Ld) = 109.00 m
Shortest distance from summit point to outlet, CP2(s) (Ls) = 75.00 m

Elevation of remote point (Pt C) = 5.00 mPD
Elevation of outlet point (CP2(s)) = 3.530 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 1.96 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 6.35 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 215 mm/hr rainfall increase
Q = kiA/60 x 1.16
9110 lit/min

From TGN 43A1
For existing 375 UC with 1 in 100 gradient

Maximum capacity = 16000 lit/min > 9110 o.k.
The corresponding velocity = 1.95 m/s < 4 o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 375UC

Catchment area, A5 = 1019 m^2 Assume k = 0.95 for paved surface

Use Rational Method from Geo-Manual

Q = kiA/3600 where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, Pt Z (Ld) = 90.00 m
Shortest distance from summit point to outlet, Pt Z (Ls) = 61.00 m

Elevation of remote point (Pt C) = 5.00 mPD
Elevation of outlet point (Pt Z) = 3.720 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 2.10 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 5.62 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 220 mm/hr rainfall increase
Q = kiA/60 x 1.16
4117 lit/min

From TGN 43A1
For existing 375 UC with 1 in 100 gradient

Maximum capacity	=	16000	lit/min	>	4117	o.k.
The corresponding velocity	=	1.95	m/s	<	4	o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of proposed 375UC

Catchment area,	A1	=	2631	m^2	Assume k = 0.95 for paved surface
	A2	=	919	m^2	
	Ttoal Catchment Area, A1+A2	=	**3550**	m^2	

Use Rational Method from Geo-Manual

$Q = kiA/3600$ where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP1(s)	(Ld) =	107.00	m
Shortest distance from summit point to outlet, CP1(s)	(Ls) =	88.00	m

Elevation of remote point (Pt A)	=	5.00	mPD
Elevation of outlet point (CP1(s))	=	3.550	mPD
Average fall, H	=	$(z_1-z_2)/L_s$ x 100	
	=	1.65	m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 6.18 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i	=	215	mm/hr	rainfall increase
Q	=	kiA/60	x 1.16	
		14018	lit/min	

From TGN 43A1
For proposed 375 UC with 1 in 100 gradient

Maximum capacity	=	16000	lit/min	>	14018	o.k.
The corresponding velocity	=	1.95	m/s	<	4	o.k.

Drainage Design Page no.

Drainage Design at 1866s.A RP(PART), 1866s.B RP, 1876s.B(PART), 1750s.A ss.9 AND
Project No.: 1905(PART) 107 Date: 13-Mar-26
Prepared by: Ray Cheng

Check for the drainage capactiy of existing 600mm dia. pipe

	A3	=	627	m^2	
Catchment area,	A4	=	2307	m^2	Assume k = 0.95 for paved surface
	A5	=	1019	m^2	
	Ttoal Catchment Area, A3+A4+A5	=	**3953**	m^2	

Use Rational Method from Geo-Manual

$Q = kiA/3600$ where,

Q = Maximum runoff (lit/sec)
k = Runoff coefficient
i = Design mean intensity of rainfall (mm/hr)
A = Total catchment area (m^2)

Longest distance from summit point to outlet, CP2(s) (Ld) = 121.00 m
Shortest distance from summit point to outlet, CP2(s) (Ls) = 75.00 m

Elevation of remote point (Pt C) = 5.00 mPD
Elevation of outlet point (CP2(s)) = 3.530 mPD

Average fall, H = $(z_1-z_2)/L_s$ x 100
= 1.96 m per 100m

T_c = $0.14465 \times L_d / (H^{0.2} \times A^{0.1})$
= 6.68 min

Assume a 1 in 50 year design rainfall return period for rural area
From SDM Corrigendum No. 1/2024

i = 215 mm/hr rainfall increase
Q = kiA/60 x 1.16
15610 lit/min

The capacity of the existing 600mm dia. pipe = 41280 lit/min > 15610 o.k.

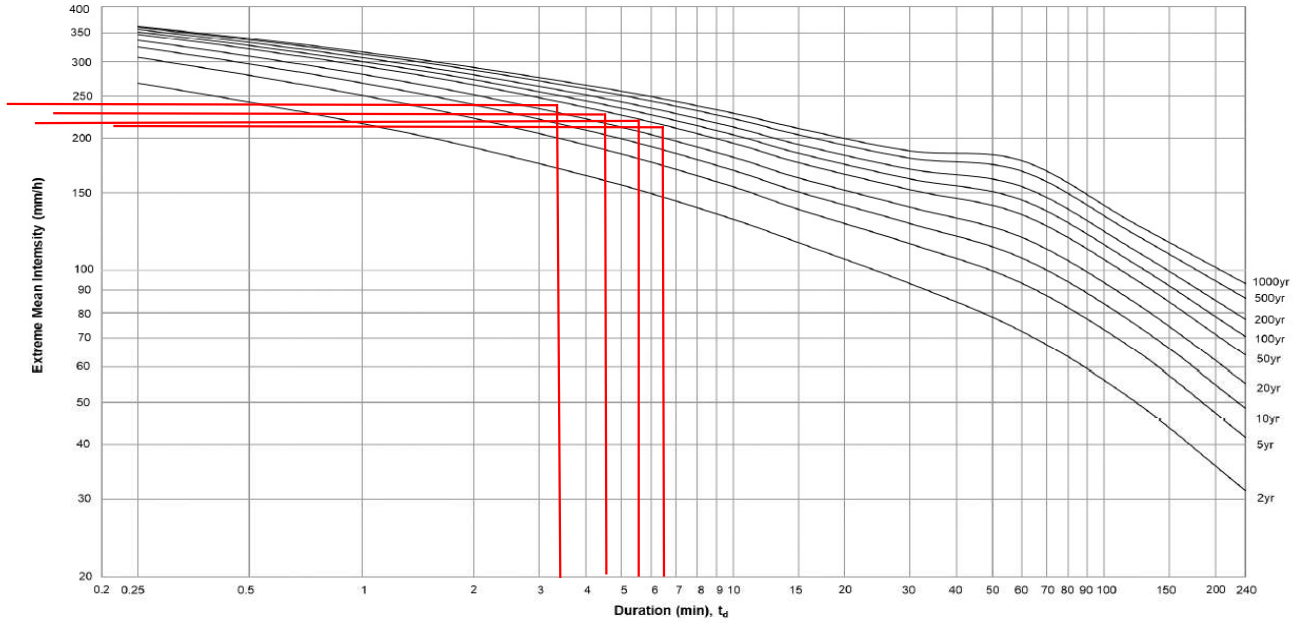


Figure 4a – Intensity-Duration-Frequency Curves of HKO Headquarters
(for durations not exceeding 4 hours)

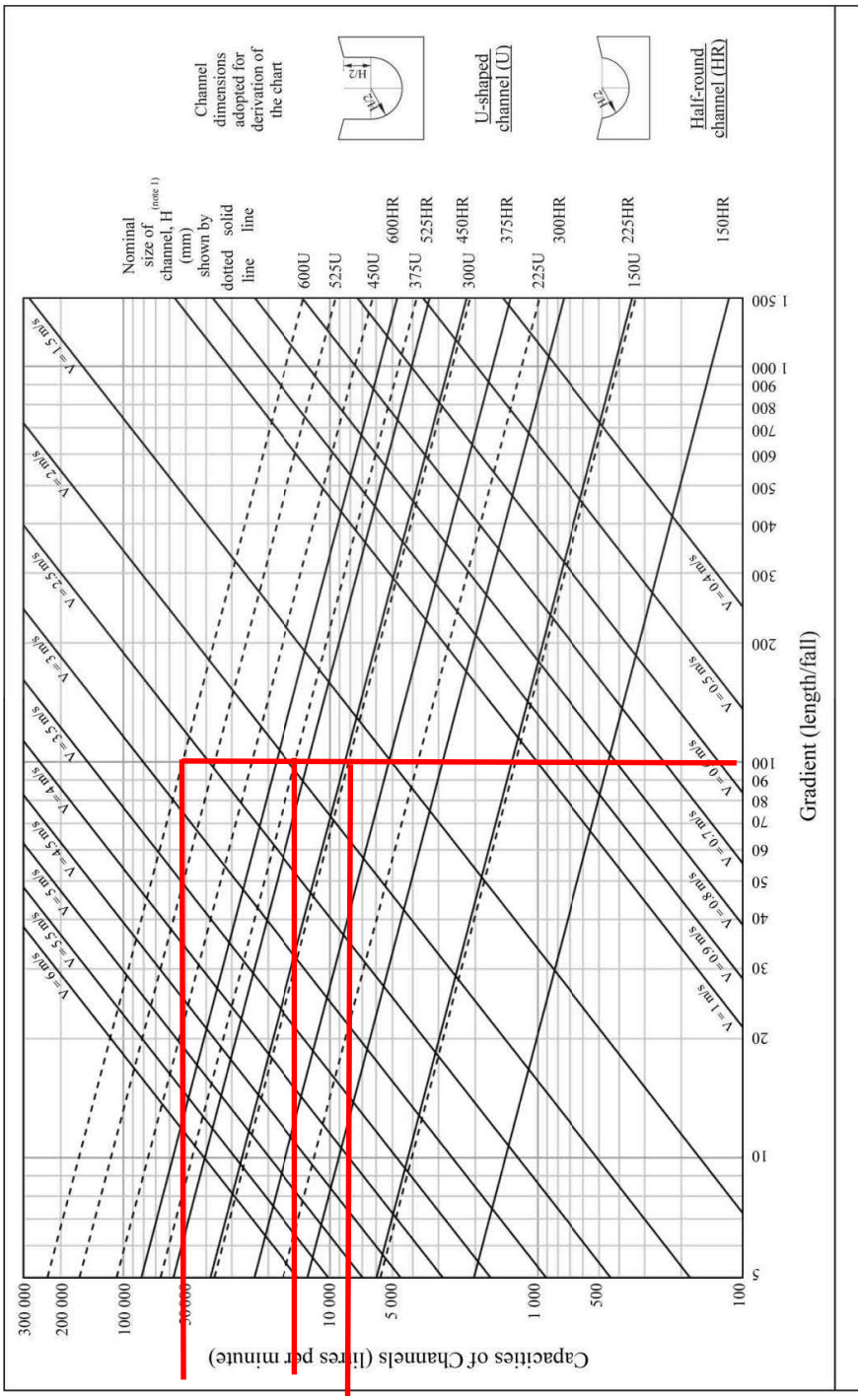


Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm