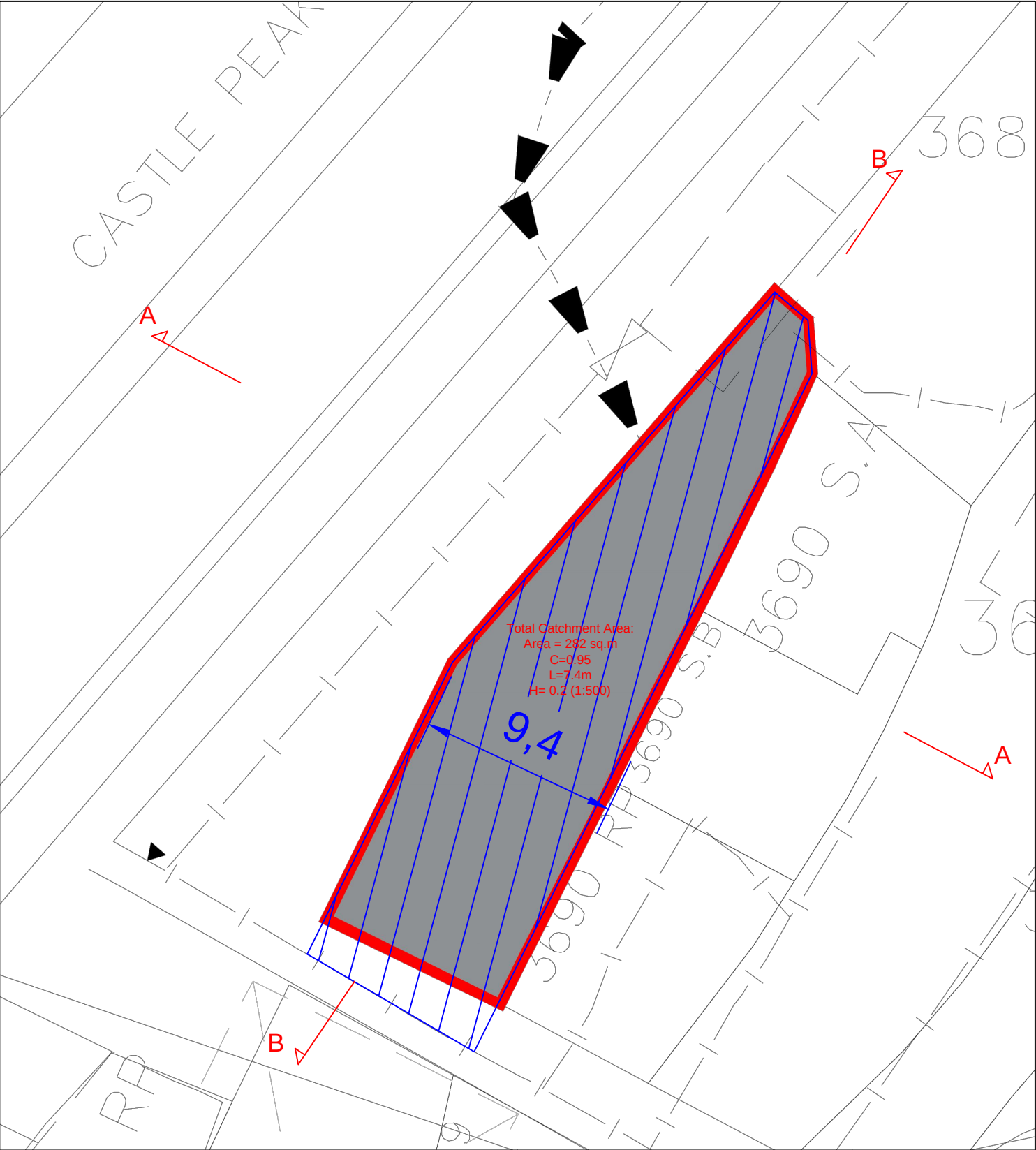
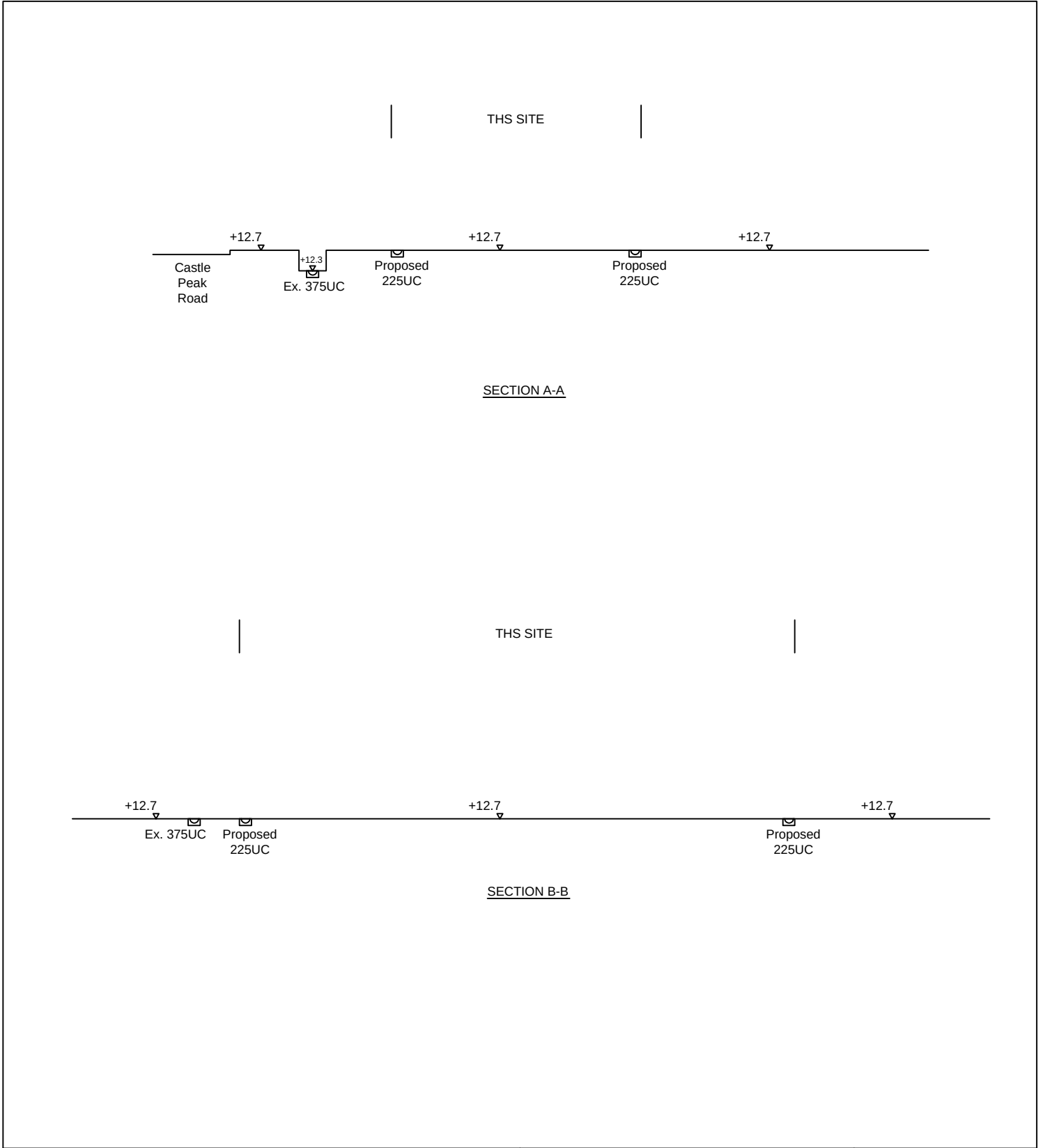


Appendix A

Drainage Proposal



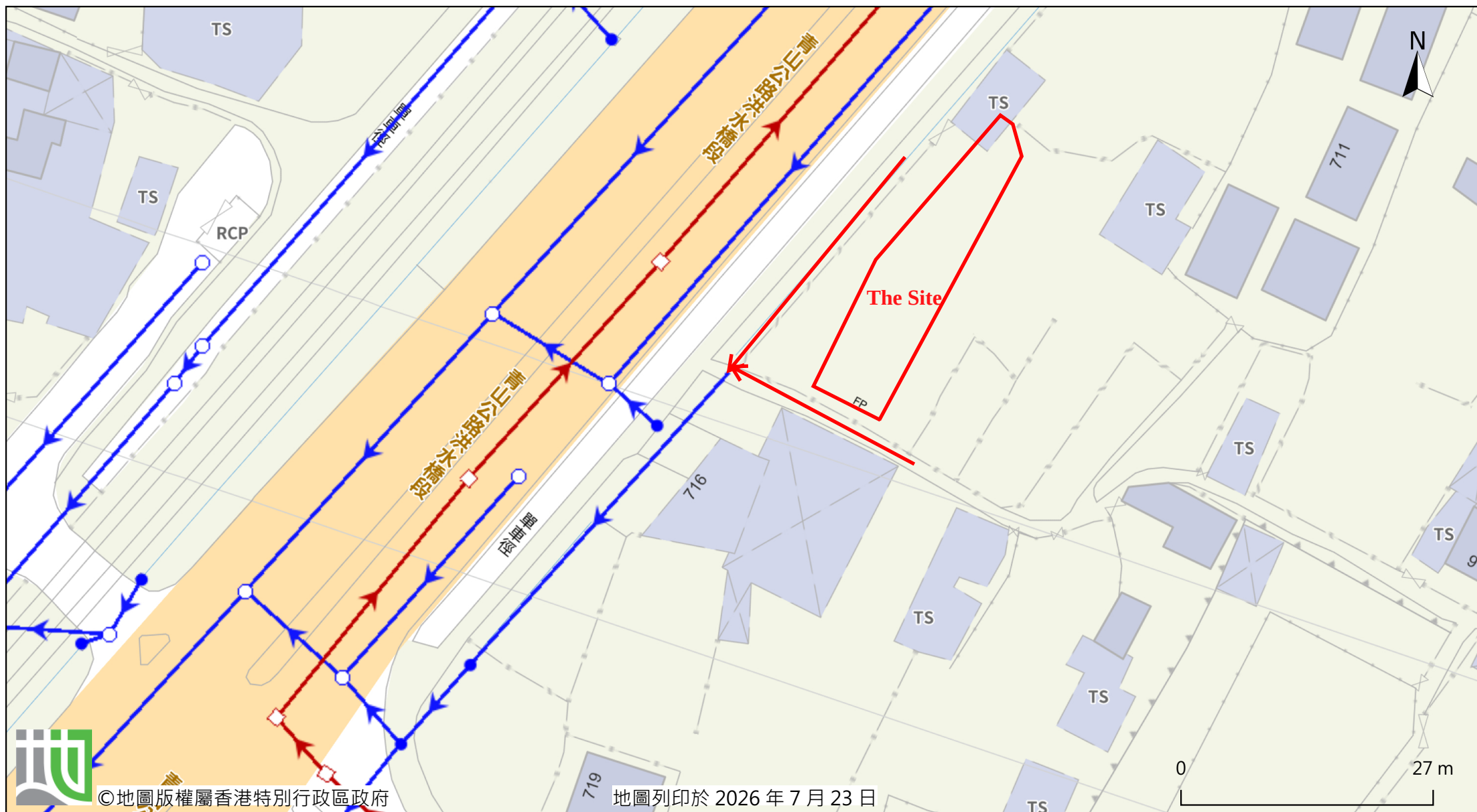
正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANT COMPANY		Title: Drainage Proposal - CATCHMENTN AREA PLAN		D02
Project: TEMPORARY SHOP AND SERVICES (MOTOR-VEHICLE SHOWROOM) WITH ANCILLARY FACILITIES FOR A PERIOD OF 5 YEARS at LOT 3688RP IN D.D. 124, LAM TEI, TUEN MUN, NEW TERRITORIES		Drawn by: DM	Date: 23-7-2026	
		Check by: DM	Scale: ----	



正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANT COMPANY Project: TEMPORARY SHOP AND SERVICES (MOTOR-VEHICLE SHOWROOM) WITH ANCILLARY FACILITIES FOR A PERIOD OF 5 YEARS at LOT 3688RP IN D.D. 124, LAM TEI, TUEN MUN, NEW TERRITORIES	Title: Drainage Proposal - SECTIONS		D03
	Drawn by: DM	Date: 23-7-2026	
	Check by: DM	Scale: ----	



Ultimate Discharge Path



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地圖列印於 2026 年 7 月 23 日

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Photo 1



Photo 2



Photo 2a



Photo 2b



Photo 3



THE SITE,Area = 282 m² (C= 0.95)

Check Proposed 225UC

Calculation of Design Runoff of the Proposed Development,

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

A = 282 m²
 = 282
 = 0.000282 km²

t = 0.14465 L/ H^{0.2}A^{0.1}
 = 0.14465*9.4/0.2^{0.2}*282^{0.1}
 = 1.067 min

i = 1.16*a/(t+b)^c (50 yrs return period, Table 3d, Corrigendum 2024,
 = 1.16*505.5/(1.067+3.29)^{0.355} SDM) and (16% increase due to climate change)
 = 347.7 mm/hr

Therefore, Q = 0.278*0.95*347.7*0.000282/0.9
 = 0.0288 m³/sec (0.9 factor is adopted for sediment)

Manning Equation

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

r= 0.1125 m

where R = ($\pi r^2/2+2r^2$)/($\pi r+2r$) A= 0.045 m²
 = 0.078 m

n = 0.014 s/m^{1/3} (Talbe 13 of Stormwater Drainage Manual)

S_f = 0.01 (1: 100)

Therefore, V = 0.078^{2/3}*0.01^{0.5}/0.014
 = 1.305 m/sec

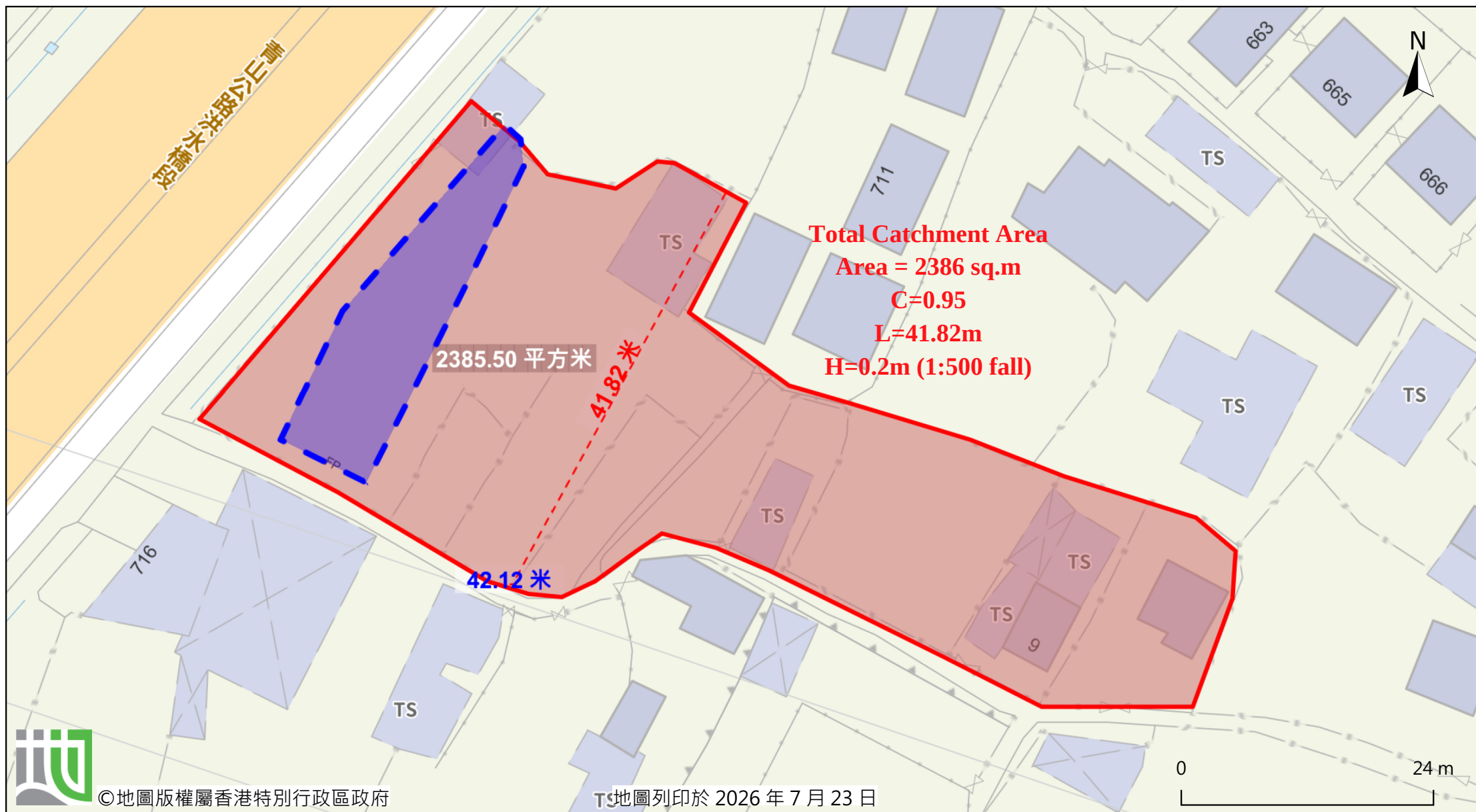
Maximum Capacity (Q_{max}) = V*A
 = 0.059 m³/sec
 > 0.0288 lit/min

% Utilization = 49%

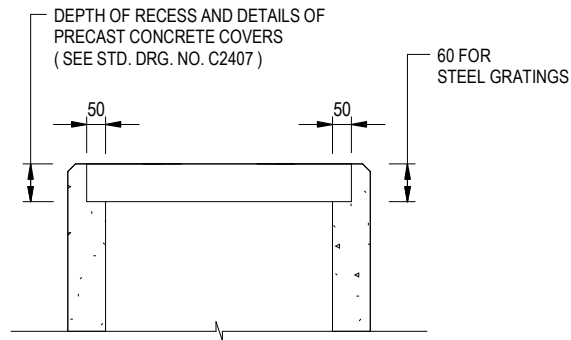
Provide 225UC (1:100) is OK



Catchment Area Plan for Ex. 375UC



Total Catchment Area, Area	=	2386	m ²	(C= 0.95)
<u>Check Existing 375UC</u>				
<u>Calculation of Design Runoff of the Proposed Development,</u>				
	Σ Q	=	Σ 0.278 C i A	
	A	=	2386	m ²
		=	2386	
		=	0.002386	km ²
	t	=	0.14465 L/ H ^{0.2} A ^{0.1}	L= 41.82 m
		=	0.14465*41.82/0.2 ^{0.2} *2386 ^{0.1}	H= 0.20 m
		=	3.835	min
	i	=	1.16*a/(t+b) ^c	(50 yrs return period, Table 3d, Corrigendum 2024,
		=	1.16*505.5/(3.835+3.29) ^{0.355}	SDM) and (16% increase due to climate change)
		=	292.0	mm/hr
Therefore,	Q	=	0.278*0.95*292.0*0.002386/0.9	
		=	<u>0.2045</u>	m ³ /sec (0.9 factor is adopted for sediment)
<u>Manning Equation</u>	V	=	R ^{2/3} *S _f ^{0.5} /n	
				r= 0.1875 m
where	R	=	(π r ² /2+2r ²)/(π r+2r)	A= 0.126 m ²
		=	0.130	m
	n	=	0.014	s/m ^{1/3} (Talbe 13 of Stormwater Drainage Manual)
	S _f	=	0.01	(1: 100)
Therefore,	V	=	0.130 ^{2/3} *0.01 ^{0.5} /0.014	
		=	1.835	m/sec
Maximum Capacity (Q _{max})	=	V*A		
	=	0.230	m ³ /sec	
	>	<u>0.204</u>	lit/min	
% Utilization	=	<u>89%</u>		
Ex. 375UC (1:100) is OK				



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 1000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1000 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.

B	BIM OBJECT REVISION.	Original Signed	12.2025
A	MINOR AMENDMENT.	Original Signed	04.2016
—	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

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



**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /2B

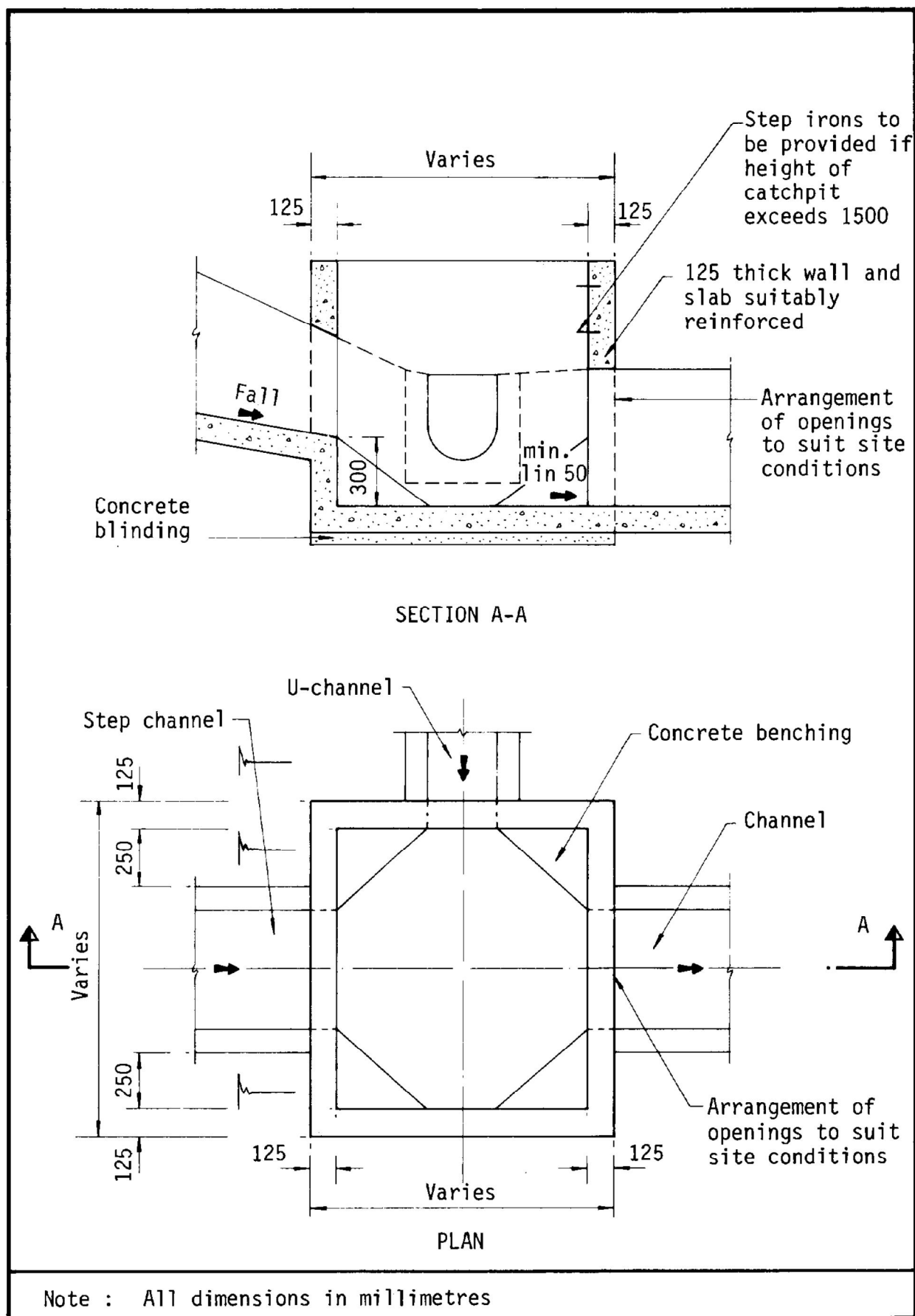
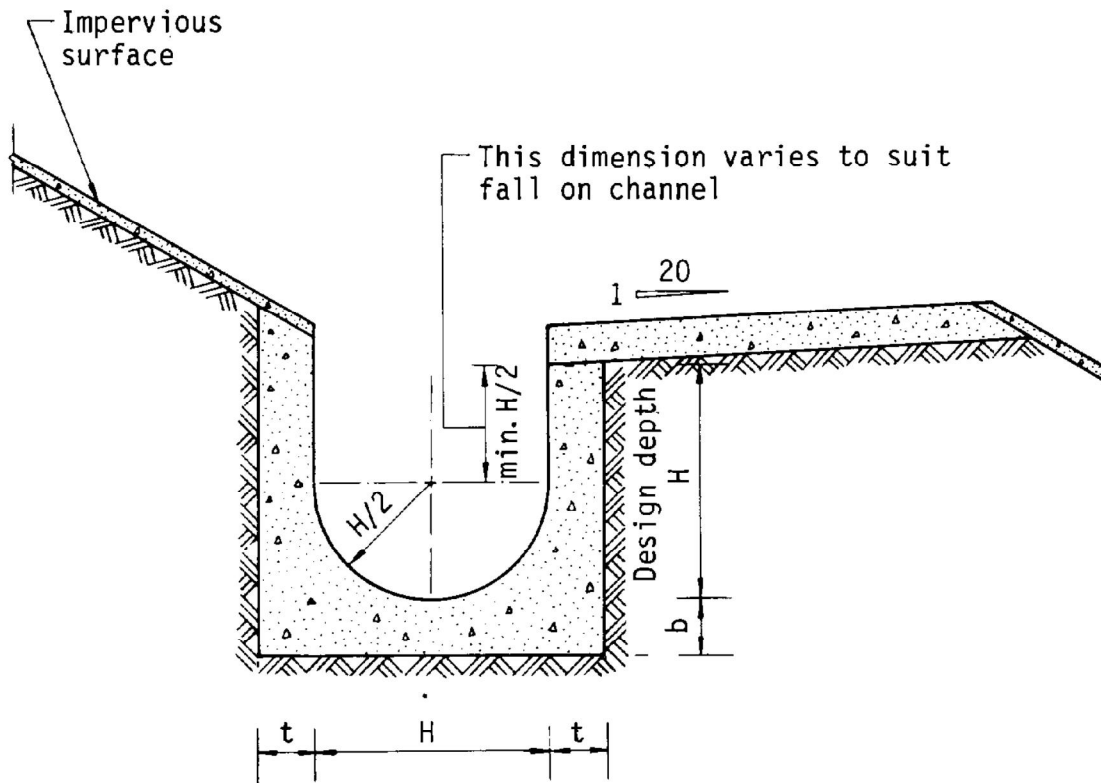


Figure 8.10 - Typical Details of Catchpits



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