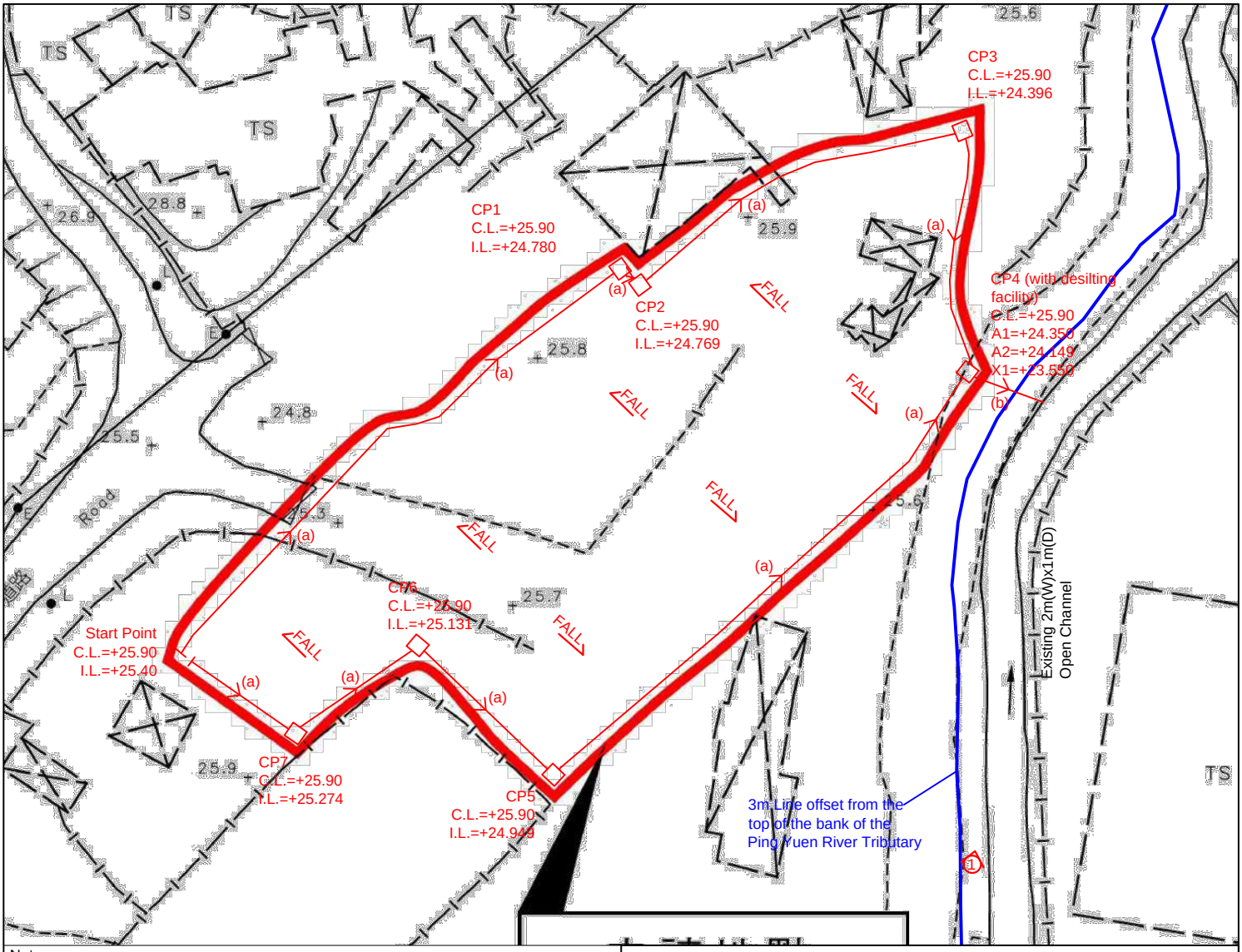
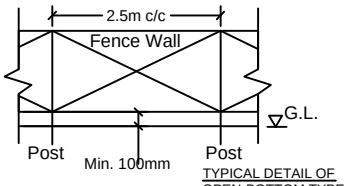


Note:

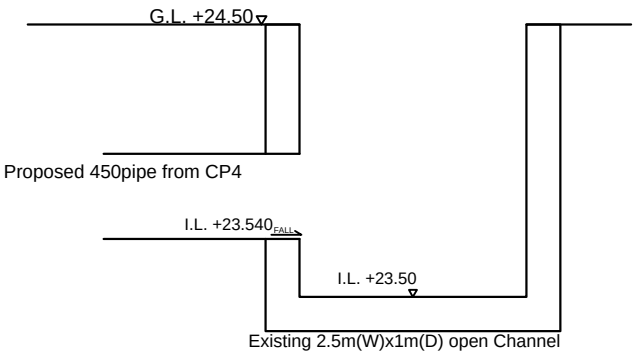
1. Catchpits (CP4) with desilting facility shall follow CEDD standard drawing No. C2406I.
2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
3. Fence Wall to be erected (if any) shall be Open-bottom type.



TYPICAL DETAIL OF OPEN-BOTTOM TYPE FENCE WALL

LEGEND

CP	Proposed CatchPit
(a)	Proposed 450UC (1:100) with Cast Iron Cover
(b)	Proposed 450mm dia. concrete pipe (1:100)
	Existing 2m(W)x1m(D) Open Channel
1	Photo Viewspot



CONNECTION DETAILS

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Title: Drainage Proposal - LAYOUT

D01

Drawn by: DM

Date: 2–12–2025

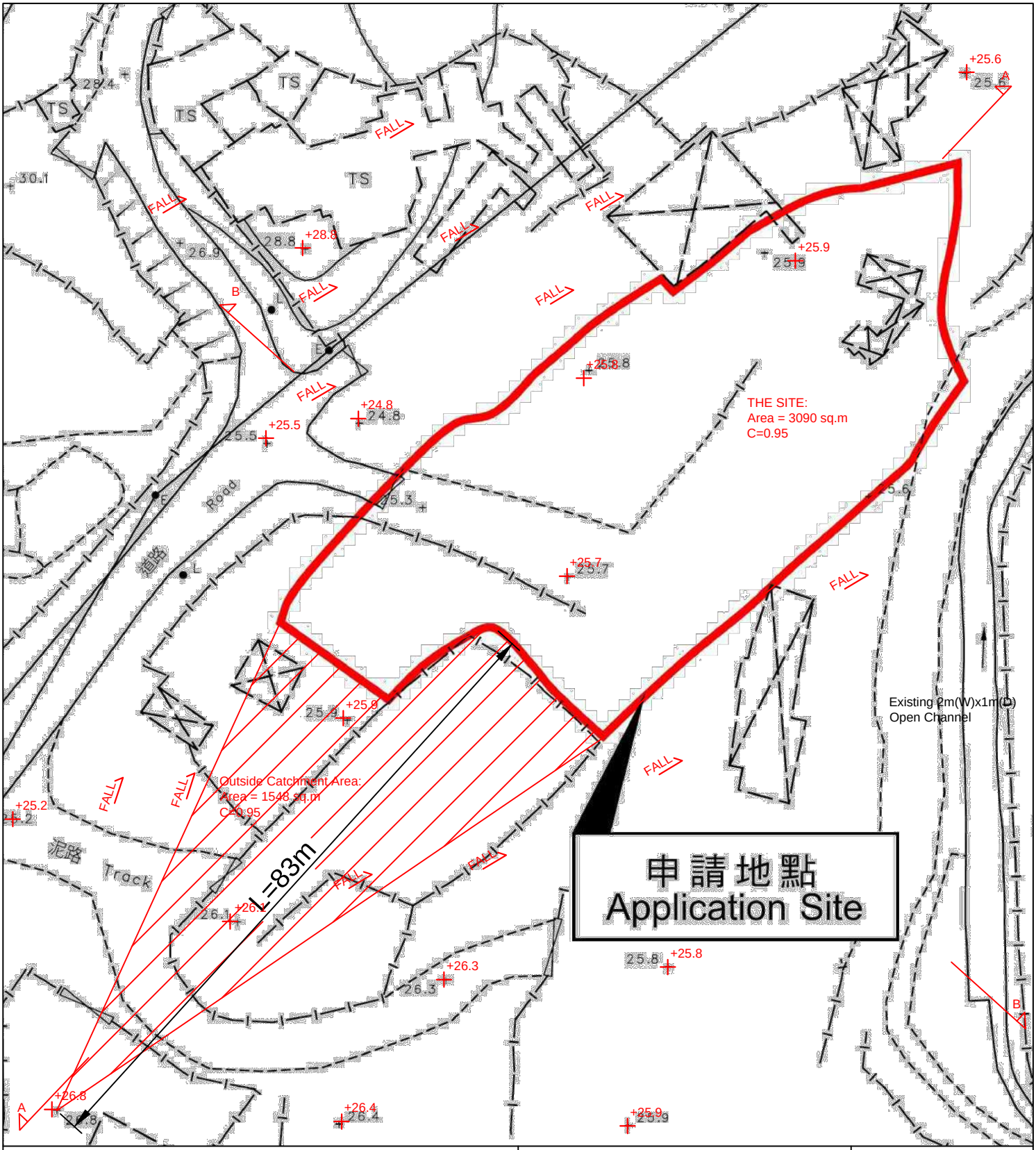
Check by: DM

Scale: ----

Project:

Proposed Temporary Open Storage of Construction Machinery and Construction Materials and Associated Filling of Land for a Period of 3 Years at Lot 356 (Part) in D.D. 87, Kong Nga Po, Sheung Shui, New Territories

(Application No.: A/NE-FTA/269)



正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Title:

Drainage Proposal -
CATCHEMTN AREA PLAN

D02

Drawn by:

DM

Date:

2–12–2025

Check by:

DM

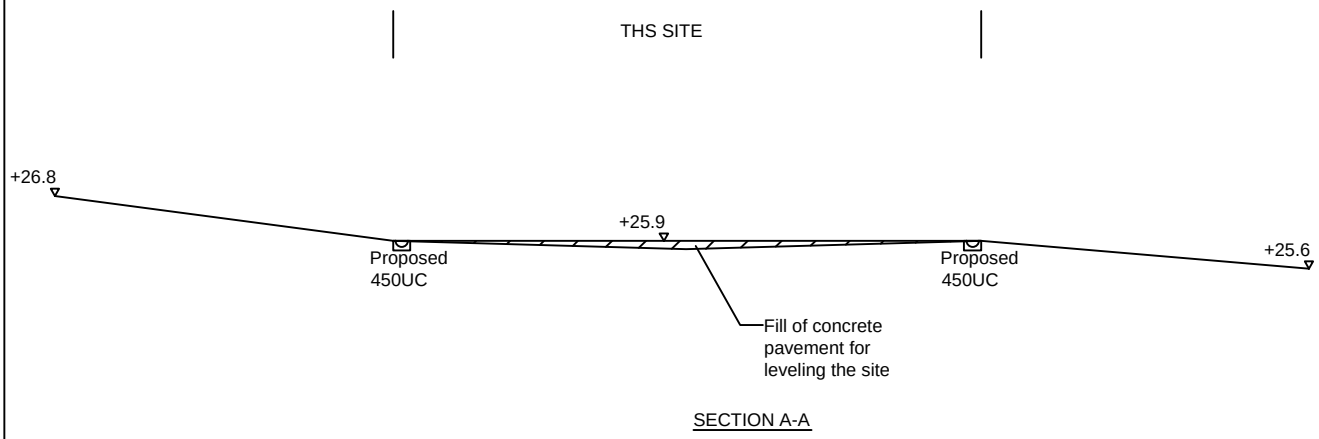
Scale:

– – – –

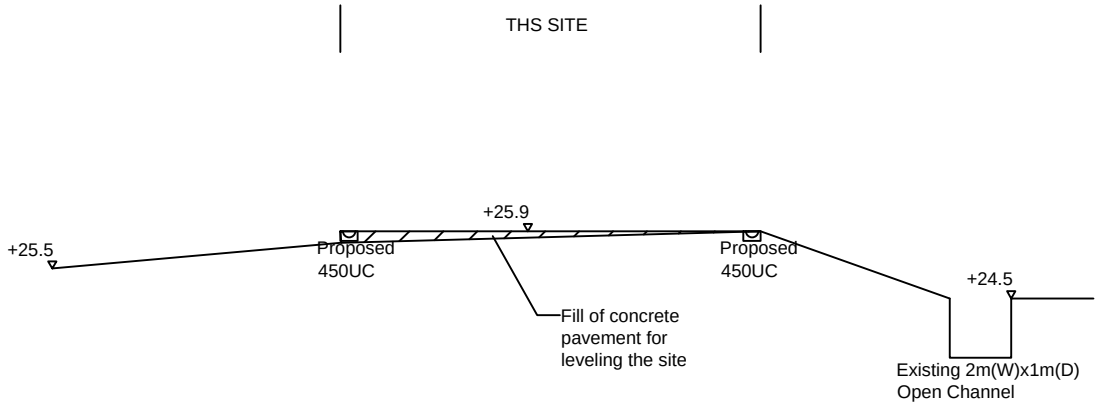
Project:

Proposed Temporary Open Storage of Construction Machinery and Construction Materials and Associated Filling of Land for a Period of 3 Years at Lot 356 (Part) in D.D. 87, Kong Nga Po, Sheung Shui, New Territories

(Application No.: A/NE-FTA/269)



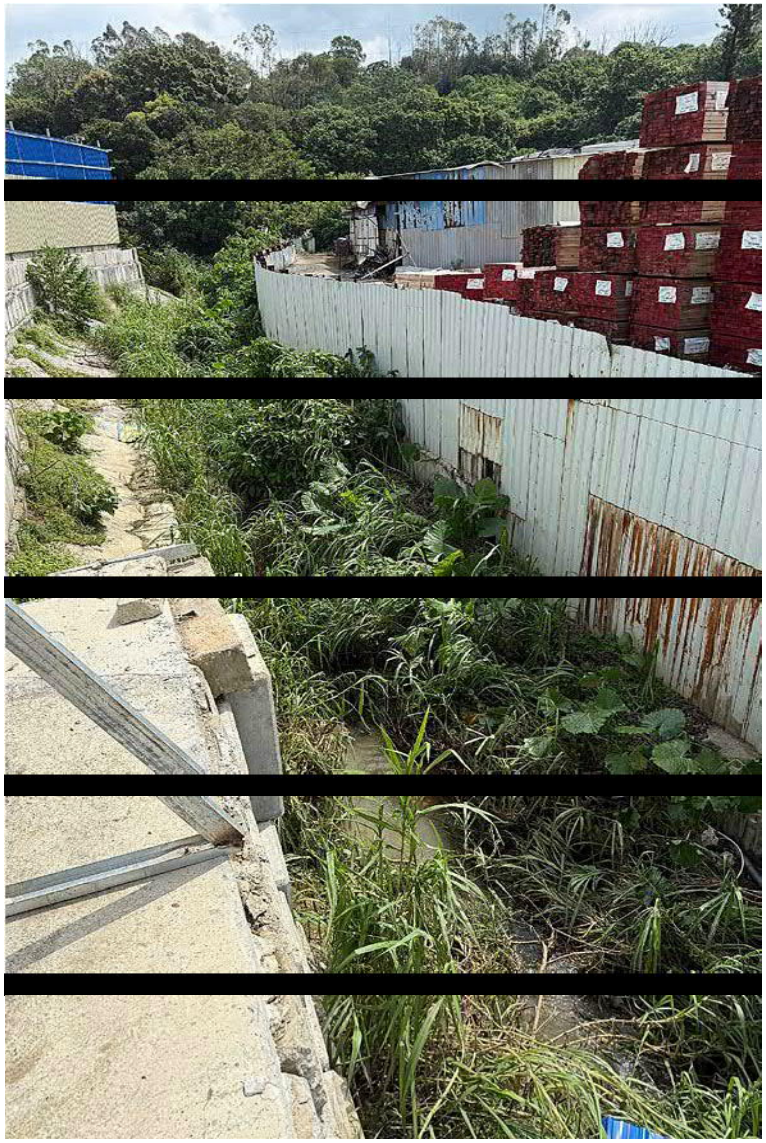
SECTION A-A



SECTION B-B

正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANT COMPANY	Title: Drainage Proposal - SECTIONS	D03
	Drawn by: DM	Date: 2–12–2025
Project: **Proposed Temporary Open Storage of Construction Machinery and Construction Materials and Associated Filling of Land for a Period of 3 Years at Lot 356 (Part) in D.D. 87, Kong Nga Po, Sheung Shui, New Territories** **(Application No.: A/NE-FTA/269)**	Check by: DM	Scale: ––––

Photo 1



THE SITE,Area	=	3090	m^2	(C=	0.95	)
Outside Catchment Area, Area	=	1548	m^2	(C=	0.95	)

Calculation of Design Runoff of the Proposed Development,

For the design of drains insidethe site,

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

A	=	3090+2444	m^2	
	=	4638		
	=	0.004638	km^2	
t	=	$0.14465\ L/\ H^{0.2}A^{0.1}$		
	=	$0.14465*3/1^{0.2}*4638^{0.1}$		
	=	5.161	min	
i	=	$1.16*a/(t+b)^{c}$		(50 yrs return period, Table 3d, Corrigendum 2024, SDM) and (16% increase due to climate change)
	=	$1.16*474.6/(5.161+2.90)^{0.371}$		
	=	242.1	mm/hr	
Therefore, Q	=	0.278*0.95*242.1*0.005534		
	=	0.2965	m^3/sec	
	=	17792	lit/min	

Provide 450UC (1:100) is OK

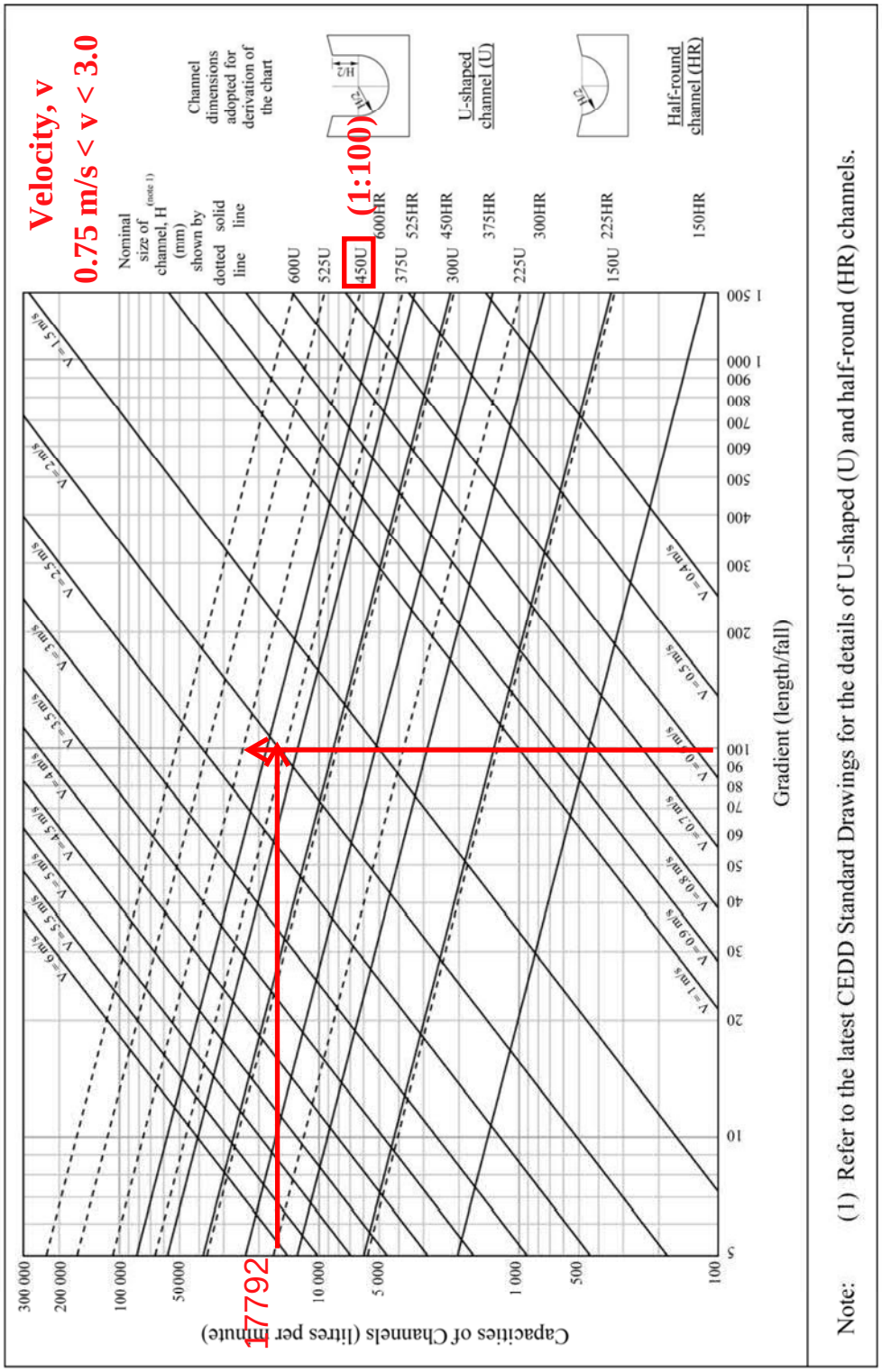


Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm

Check 450mm dia. Pipes 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/s2	gravitational acceleration (m/s2)	
D	=	0.45	m	internal pipe diameter (m)	
ks	=	0.00003	m	hydraulic pipeline roughness (m)	(Table14, from DSD SDM 2018, concrete pipe)
v	=	1.14E-06	m2/s	kinematic viscosity of fluid (m2/s)	
s	=	0.01		hydraulic gradient (1: 100)	

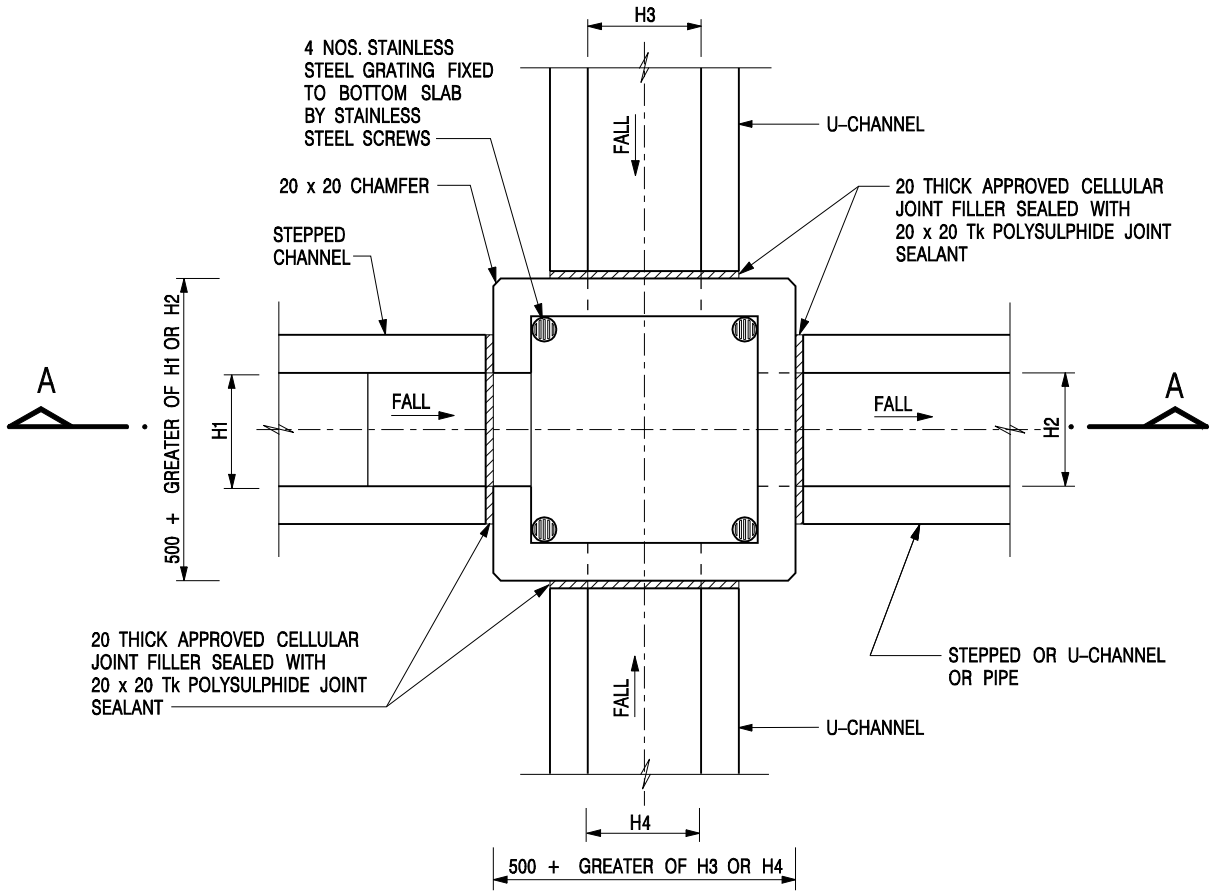
Therefore, design V of pipe capacity = 2.62 m/s

Q= 0.8VA (0.8 factor for sedimentation)

= 0.333 m3/s

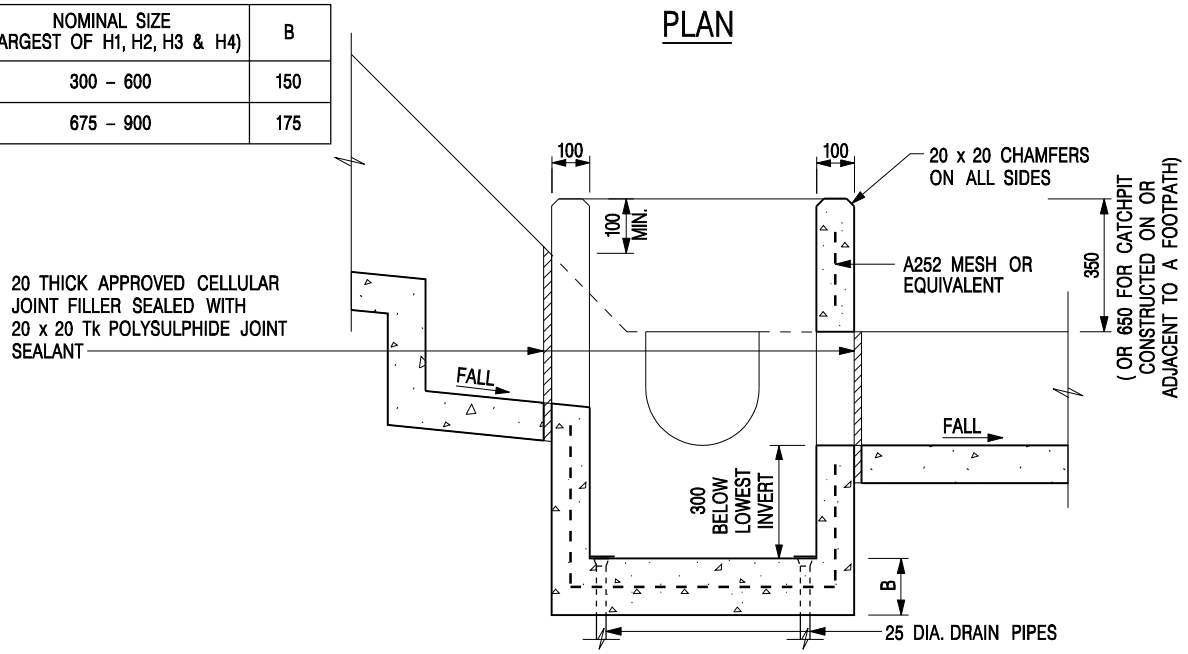
= 19981 lit/min

> 17792 lit/min Ok



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

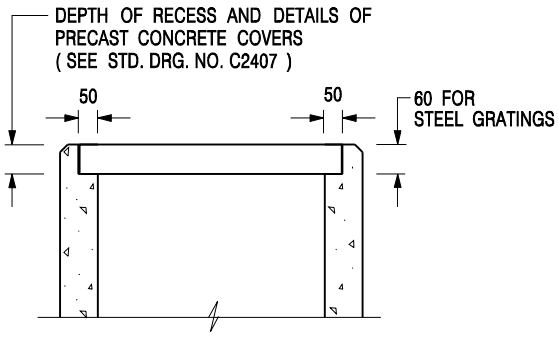
(SHEET 1 OF 2)

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

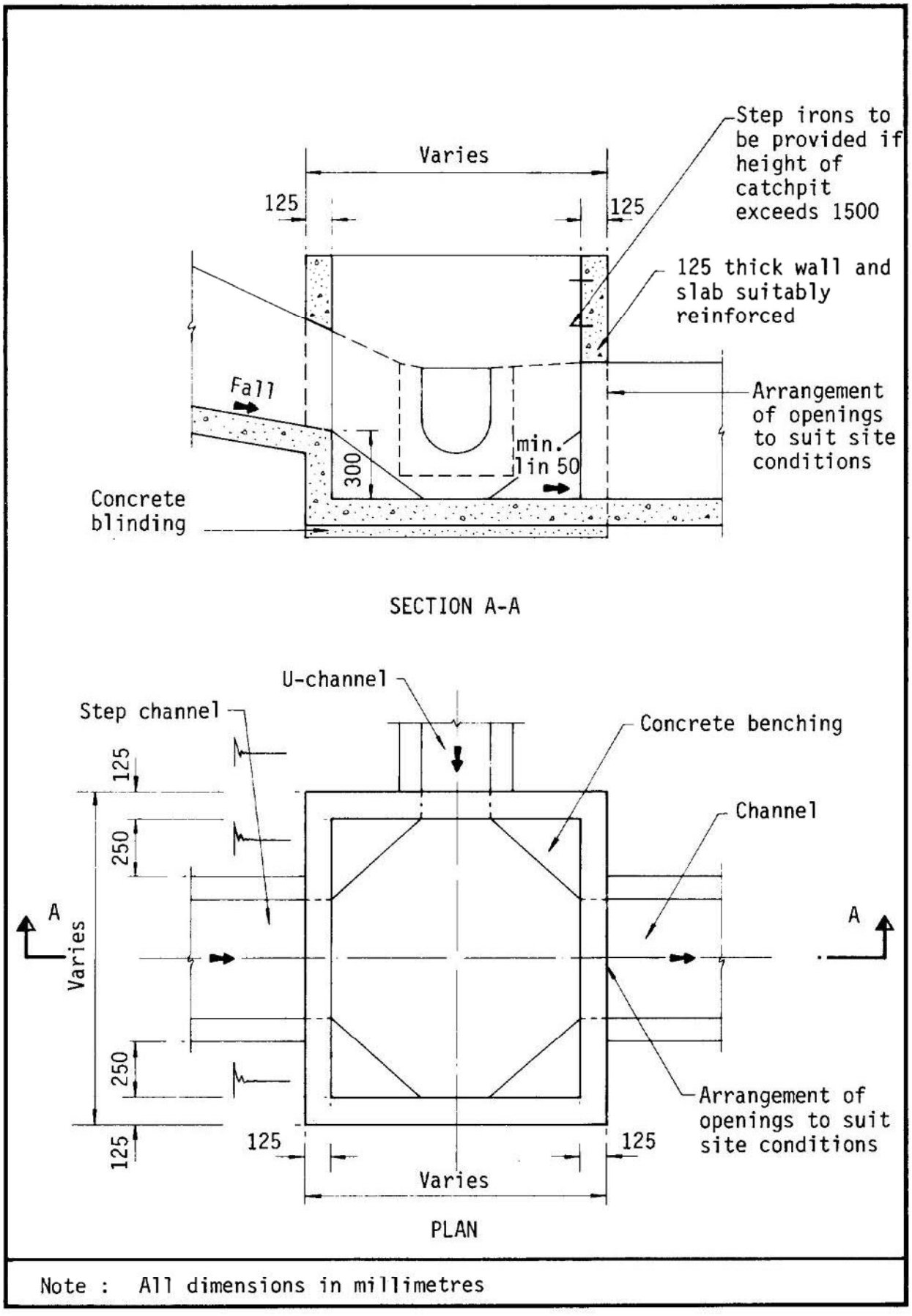
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

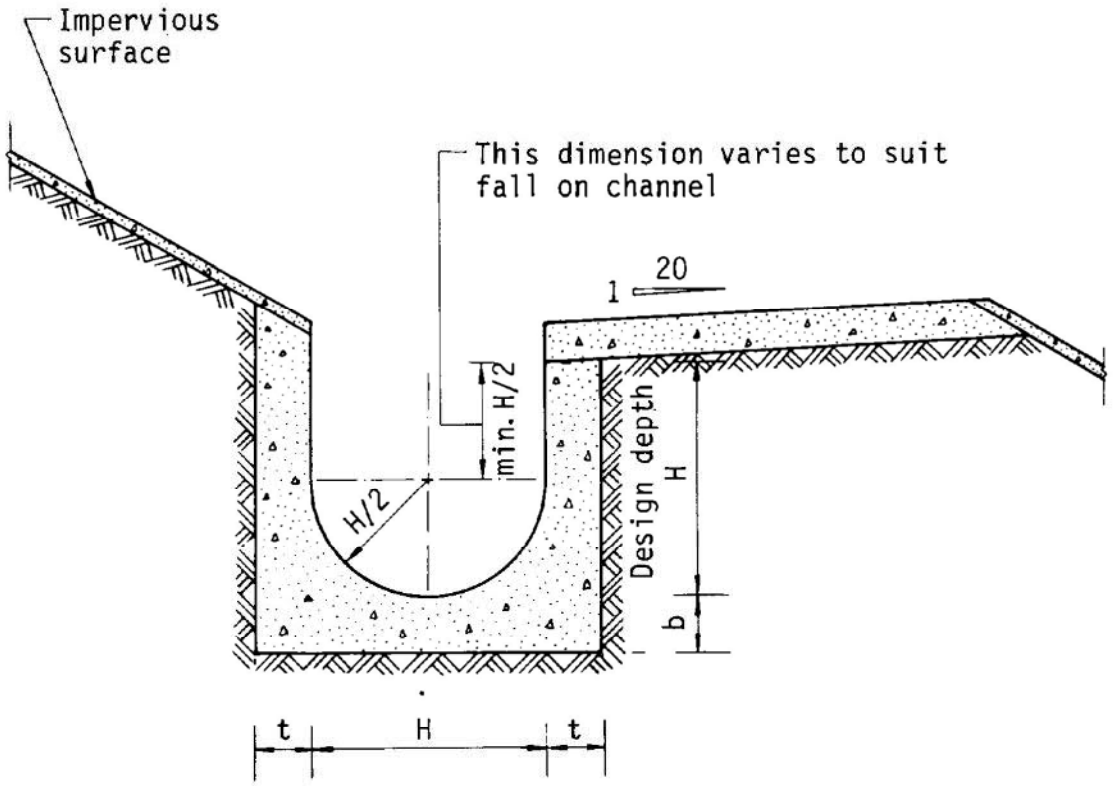
DATE JAN 1991

DRAWING NO. C2406 /2A



Note : All dimensions in millimetres

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