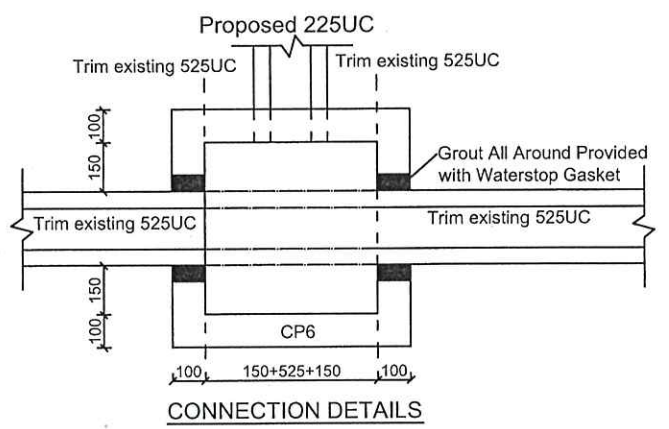


- Note:**
- Catchpits (CP4) with desilting facility shall follow CEDD standard drawing No. C2406I.
 - Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
 - Adjacent area which is developed or occupied, which has their stormwater collection syste.
 - Minor filling works to be carried out. Existing Formation Level is +10.50mPD. Proposed Formation Level is +10.70mPD. The cover level of proposed UC shall be flush with adjoining ground.

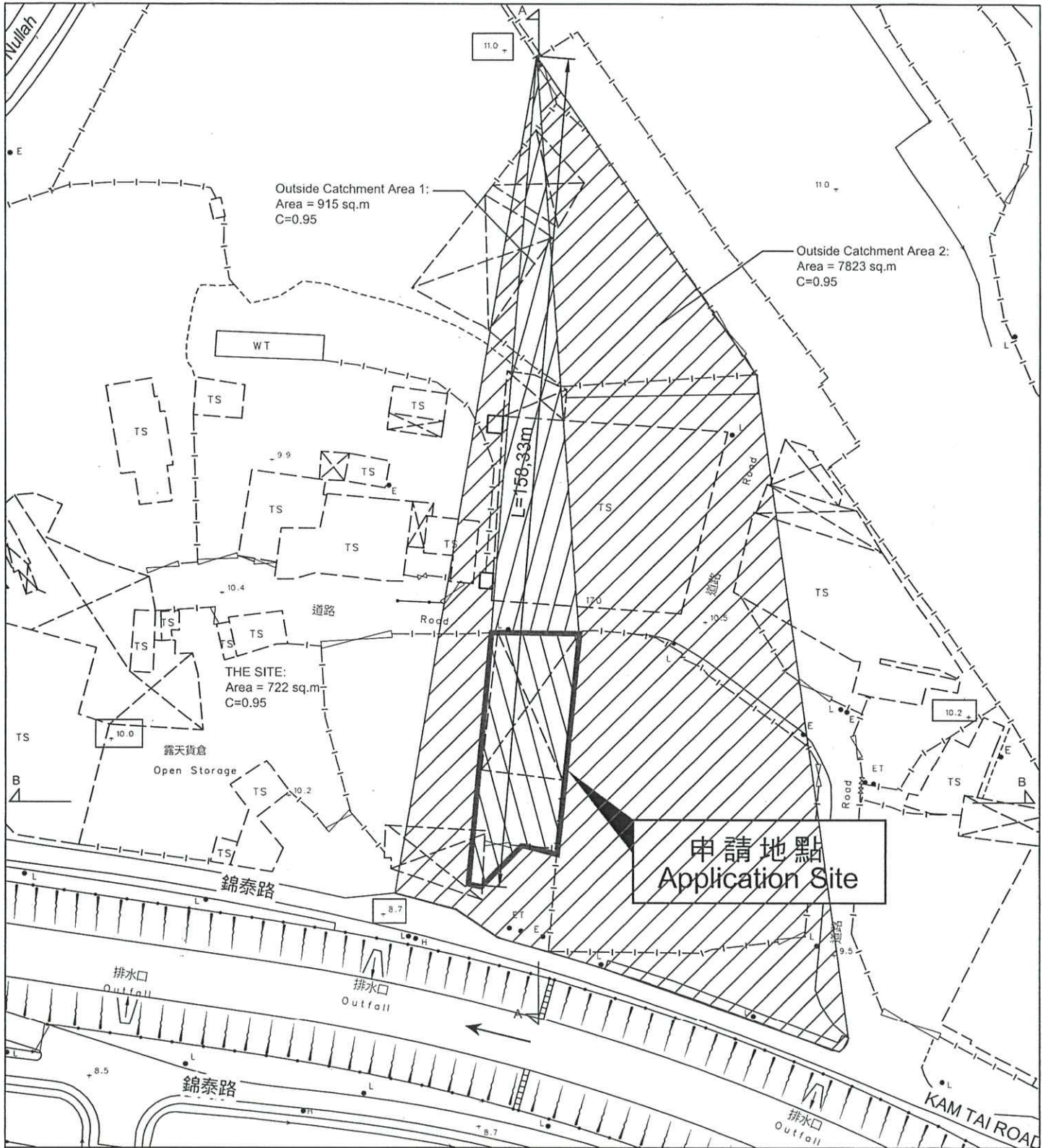
LEGEND	
	Proposed CatchPit
	Proposed 225UC (1:70) with Cast Iron Cover
	Proposed 225UC (1:20) with Cast Iron Cover
	Existing CatchPit
	Existing Drains



正宏工程顧問公司

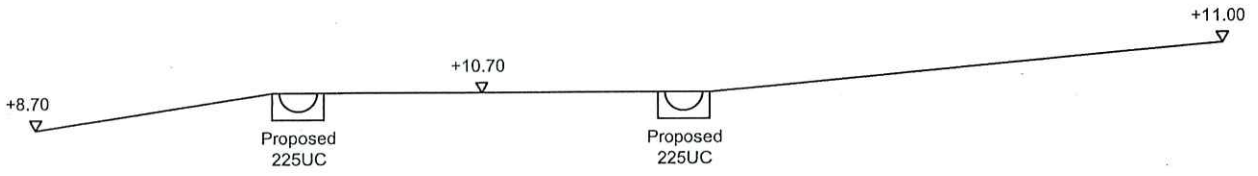
CHING WAN ENGINEERING CONSULTANTS CO.

Title:		D01	
Drainage Proposal - LAYOUT			
Drawn by:	Date:		
DM			
Check by:	Scale:		
DM	----		



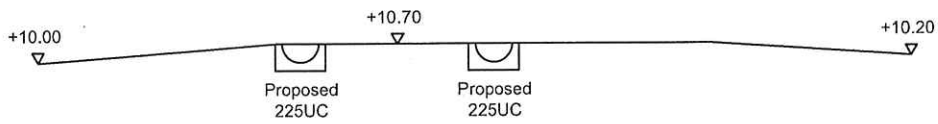
<p>正宏工程顧問公司</p> <p>CHING WAN ENGINEERING CONSULTANTS CO.</p>	Title:		D02
	Catchment Plan		
	Drawn by:		Date:
	DM		
Check by:		Scale:	
DM		---	

THE SITE



SECTION A-A

THE SITE



SECTION B-B

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CHING WAN ENGINEERING CONSULTANTS CO.

Title:

SECTIONS

D03

Drawn by:

DM

Date:

Check by:

DM

Scale:

Design Drain inside The Site

$$Q = 0.278 C i A$$

Consider The Site + Outside Catchment Area 1:

$$C = 0.95 \quad (\text{P.42 of Stormwater Drainage Manual})$$

$$\begin{aligned} A &= 722+915 \quad \text{m}^2 \\ &= 1637 \\ &= 0.001637 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L / H^{0.2} A^{0.1} \\ &= 0.14465 * 158.33 / 1^{0.2} * 1637^{0.1} \\ &= 10.926 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111 * a / (t+b)^c \quad (\text{10 yrs return period, Table 3d, Corrigendum 2024, SDM) and (11.1\% increase due to climate change)} \\ &= 1.111 * 454.9 / (0.766 + 3.44)^{0.412} \\ &= 168.6 \quad \text{mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 0.95 * 168.6 * 0.001637 \\ &= 0.0728819 \quad \text{m}^3/\text{sec} \\ &= 4373 \quad \text{lit/min} \end{aligned}$$

Provide 225UC (1:70) is OK

Check Existing 525UC

$$Q = 0.278 C i A$$

Consider The Site + Outside Catchment Area 1 + Outside Catchment Area 2:

$$C = 0.95 \quad (\text{P.42 of Stormwater Drainage Manual})$$

$$\begin{aligned} A &= 722+915+7823 \quad \text{m}^2 \\ &= 9460 \\ &= 0.00946 \quad \text{km}^2 \end{aligned}$$

$$i = 168.6 \quad \text{mm/hr}$$

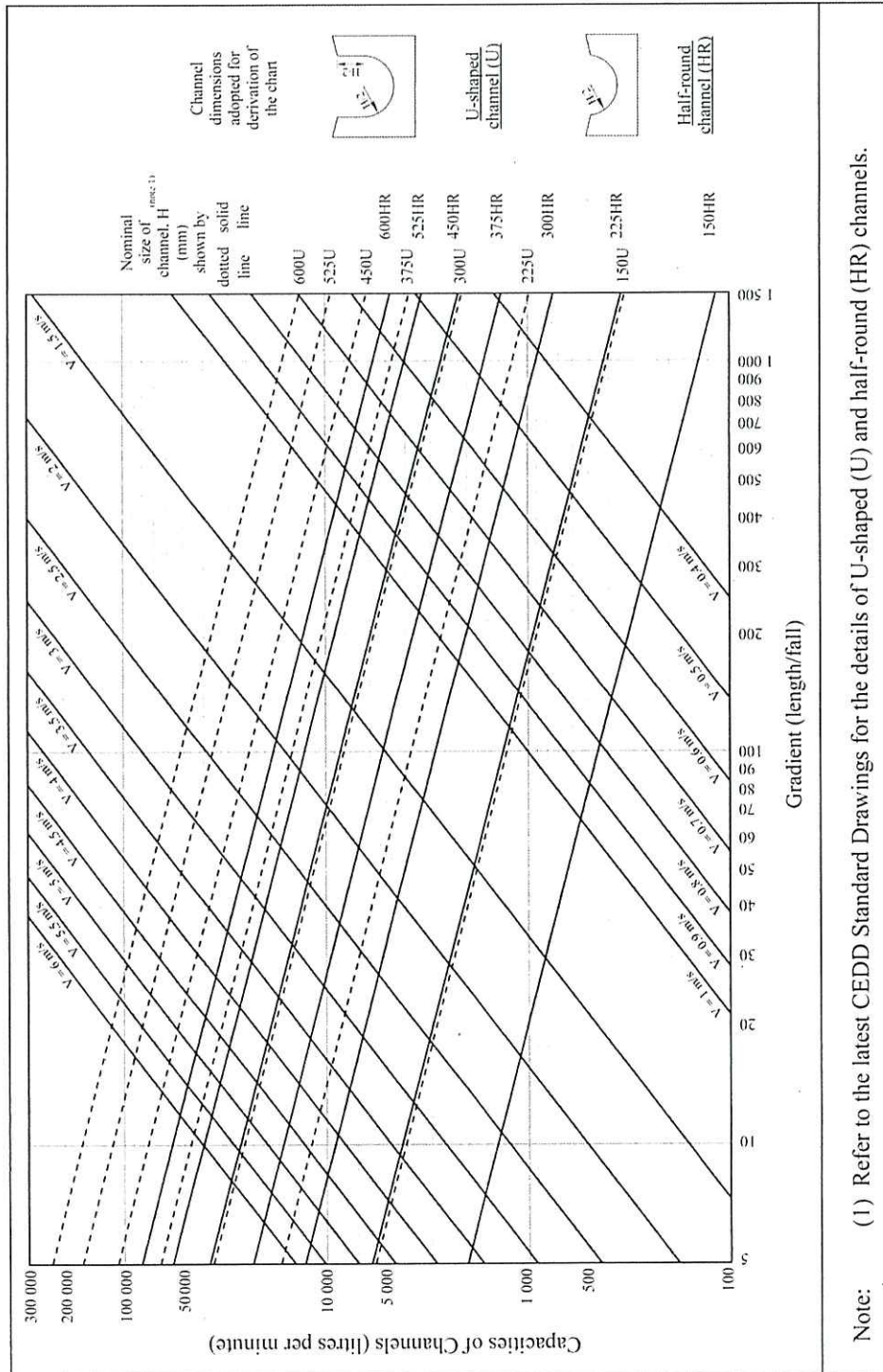
$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 0.95 * 168.6 * 0.00946 \\ &= 0.4211747 \quad \text{m}^3/\text{sec} \\ &= 25270 \quad \text{lit/min} \end{aligned}$$

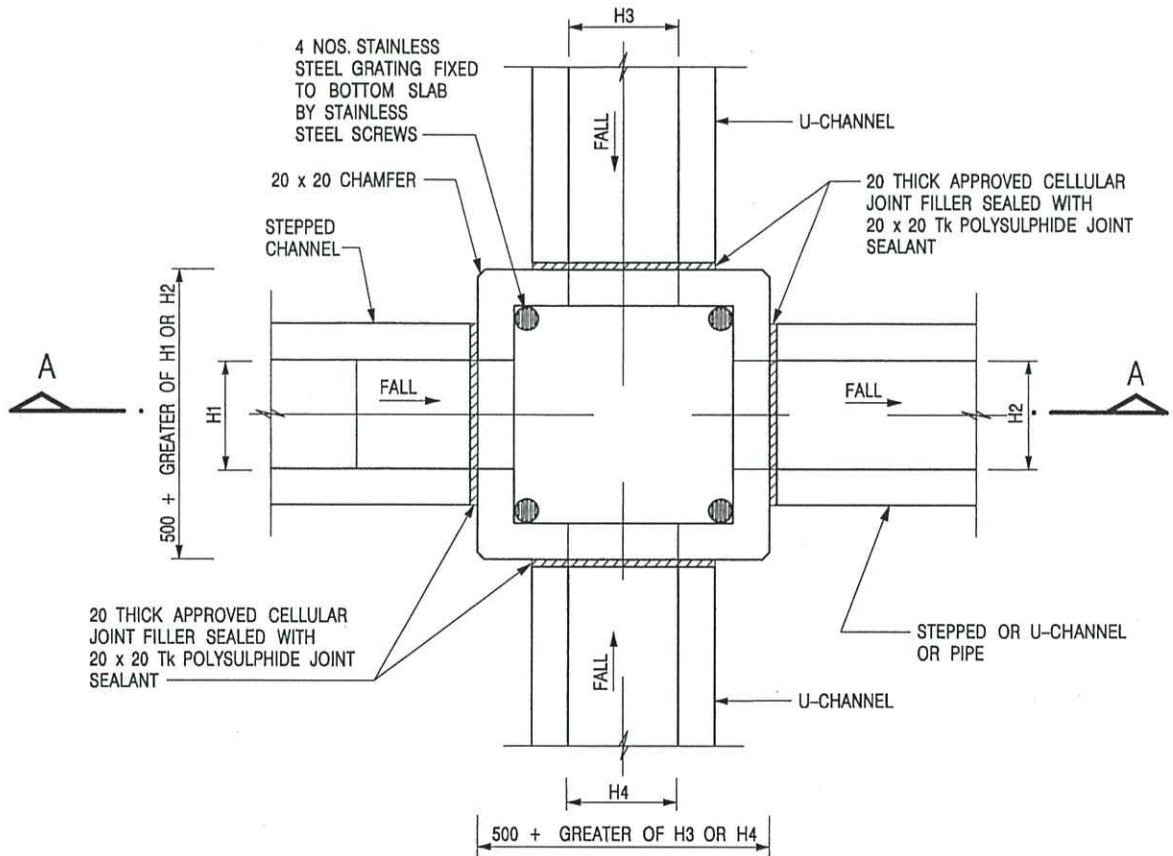
Existing 525UC (1:100) is OK

GEO Technical Guidance Note No. 43 (TGN 43)
Guidelines on Hydraulic Design of U-shaped and Half-round Channels on Slopes

Issue No.: 1 Revision: - Date: 05.06.2014 Page: 3 of 3

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

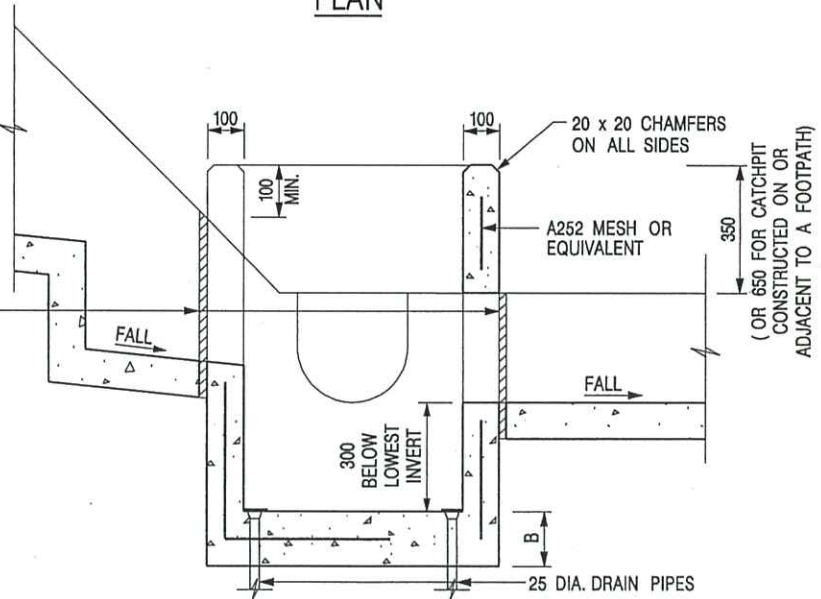




PLAN

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

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 TK POLYSULPHIDE JOINT SEALANT



SECTION A - A

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

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

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

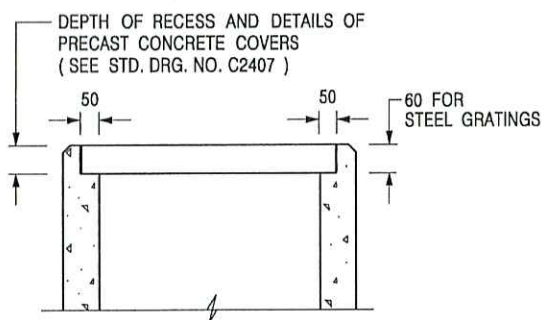


CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DRAWING NO. C2406 / 1

DATE JAN 1991



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) 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 'G' ON STD. DRG. NO. C2405; 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 'F' ON STD. DRG. NO. C2405.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

-	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

DRAWING NO.

DATE JAN 1991

C2406 /2

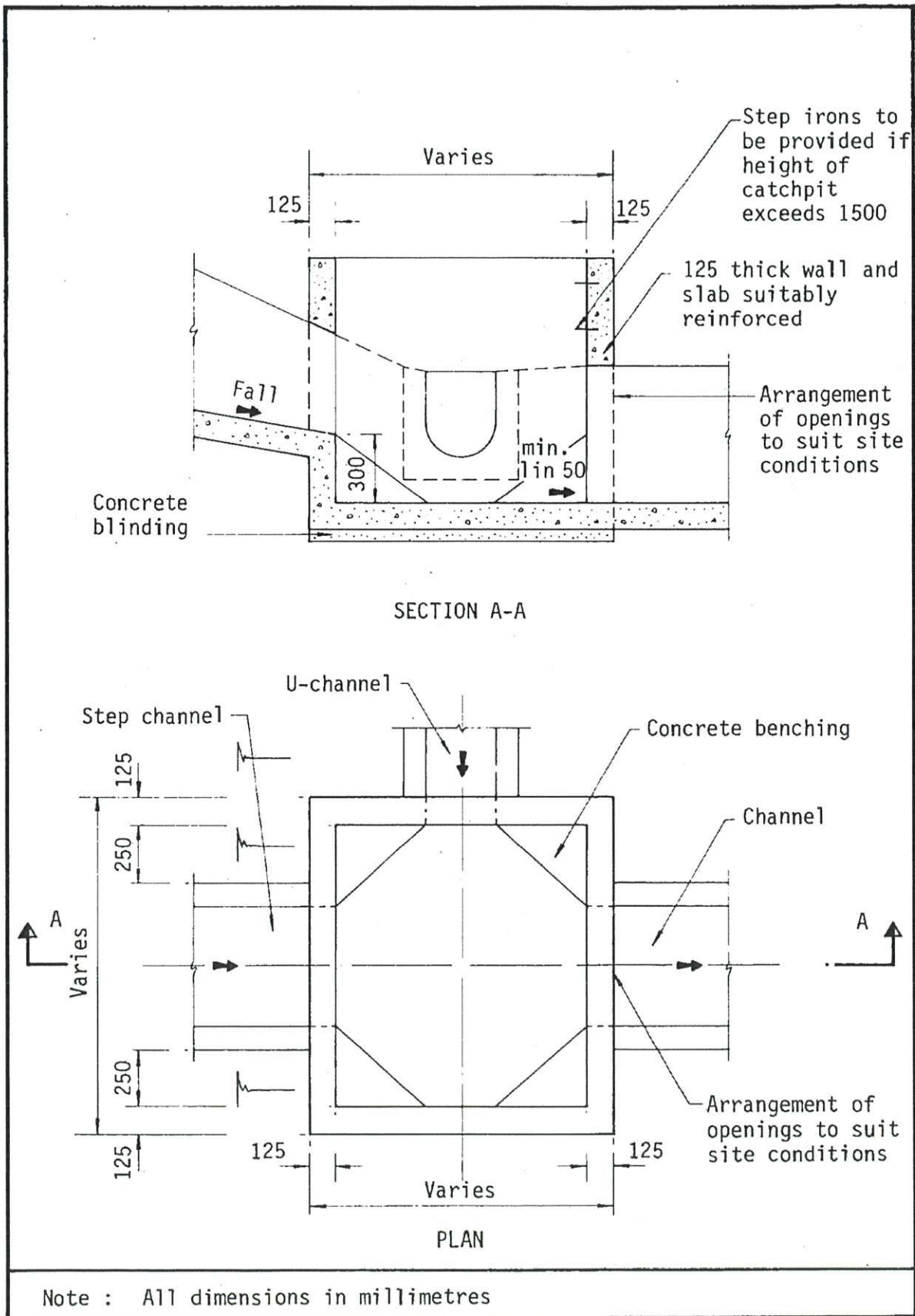
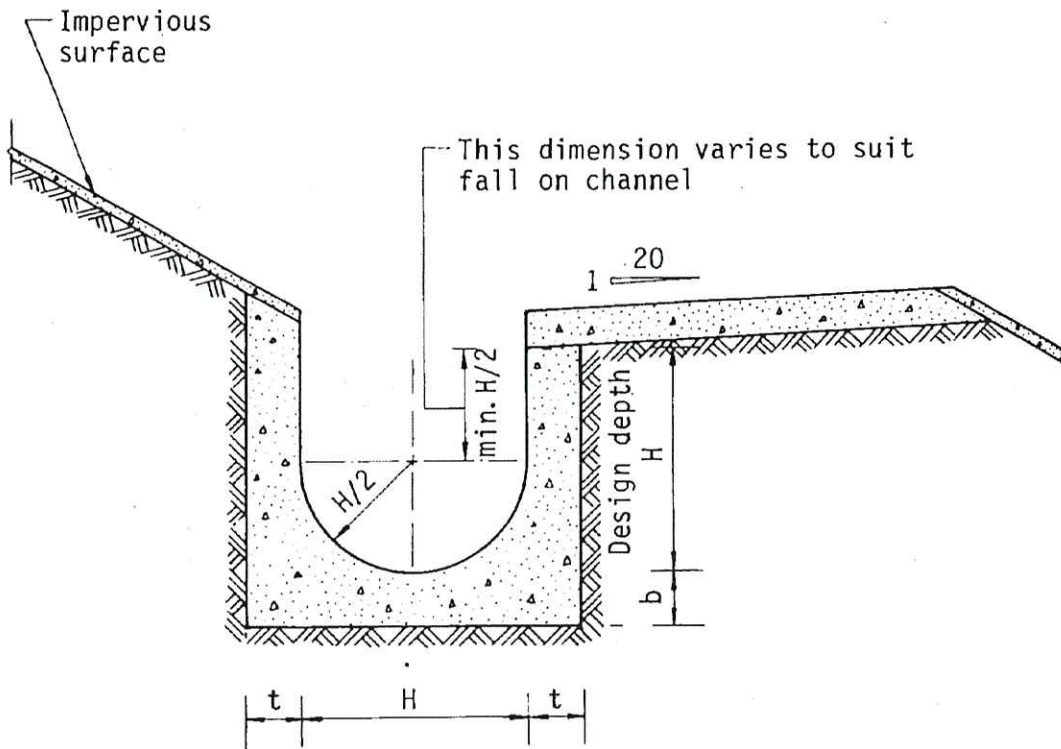


Figure 8.10 - Typical Details of Catchpits



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