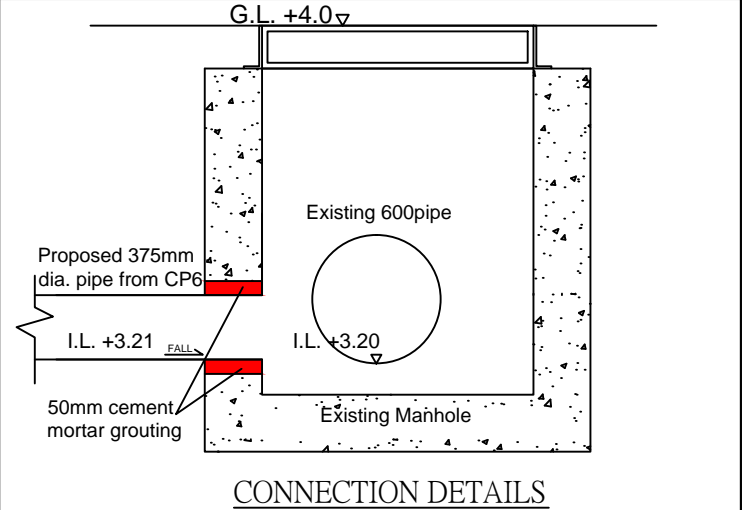


Note:

- Catchpits (CP3) 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 system.
- No filling works/site formation works to be carried out. Existing Formation Level varies +3.90mPD to +4.20mPD.

LEGEND

- CP Proposed CatchPit
- MH Existing Manhole
- (a) Proposed 375HRUC (1:200) with Cast Iron Cover
- (b) Proposed 375UPVC Pipe (1:100)
- (600) Existing 600 pipe
- +4.20 Exist Level (mPD)
- ① Photo Viewport



CONNECTION DETAILS

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:
Proposed Temporary Shop and Services with Ancillary Facilities for a Period of 3 Years at Lot 3250 S.B ss.45 in D.D. 104, Mai Po, Yuen Long, New Territories

(Application No.:A/YL-MP/358)

Title:

Drainage Proposal - LAYOUT

D01

Drawn by:

DM

Date:

21-3-2025

Check by:

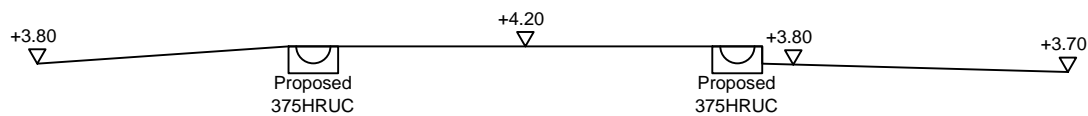
DM

Scale:

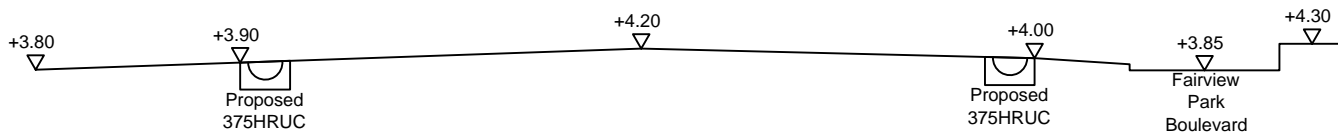
Area having its own
stormwater collection system

THE SITE

Area having its own
stormwater collection system



THE SITE



正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:
**Proposed Temporary Shop and Services with Ancillary Facilities for
a Period of 3 Years at Lot 3250 S.B ss.45 in D.D. 104, Mai Po, Yuen
Long, New Territories**

(Application No.:A/YL-MP/358)

Title:

Drainage Proposal - SECTIONS

D02

Drawn by:

DM

Date:

21-3-2025

Check by:

DM

Scale:

Photo 1





Calculation of Design Runoff of the Proposed Development,

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

The Site:

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

$$\begin{aligned} A &= 743 \quad \text{m}^2 \\ &= 0.000743 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L/H^{0.2} A^{0.1} \\ &= 0.14465 * 10/1^{0.2} * 743^{0.1} \\ &= 0.747 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111 * a/(t+b)^c \quad (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111 * 505.5/(0.747+3.29)^{0.355} \quad \text{SDM) and (11.1\% increase due to climate change)} \\ &= 342.2 \quad \text{mm/hr} \end{aligned}$$

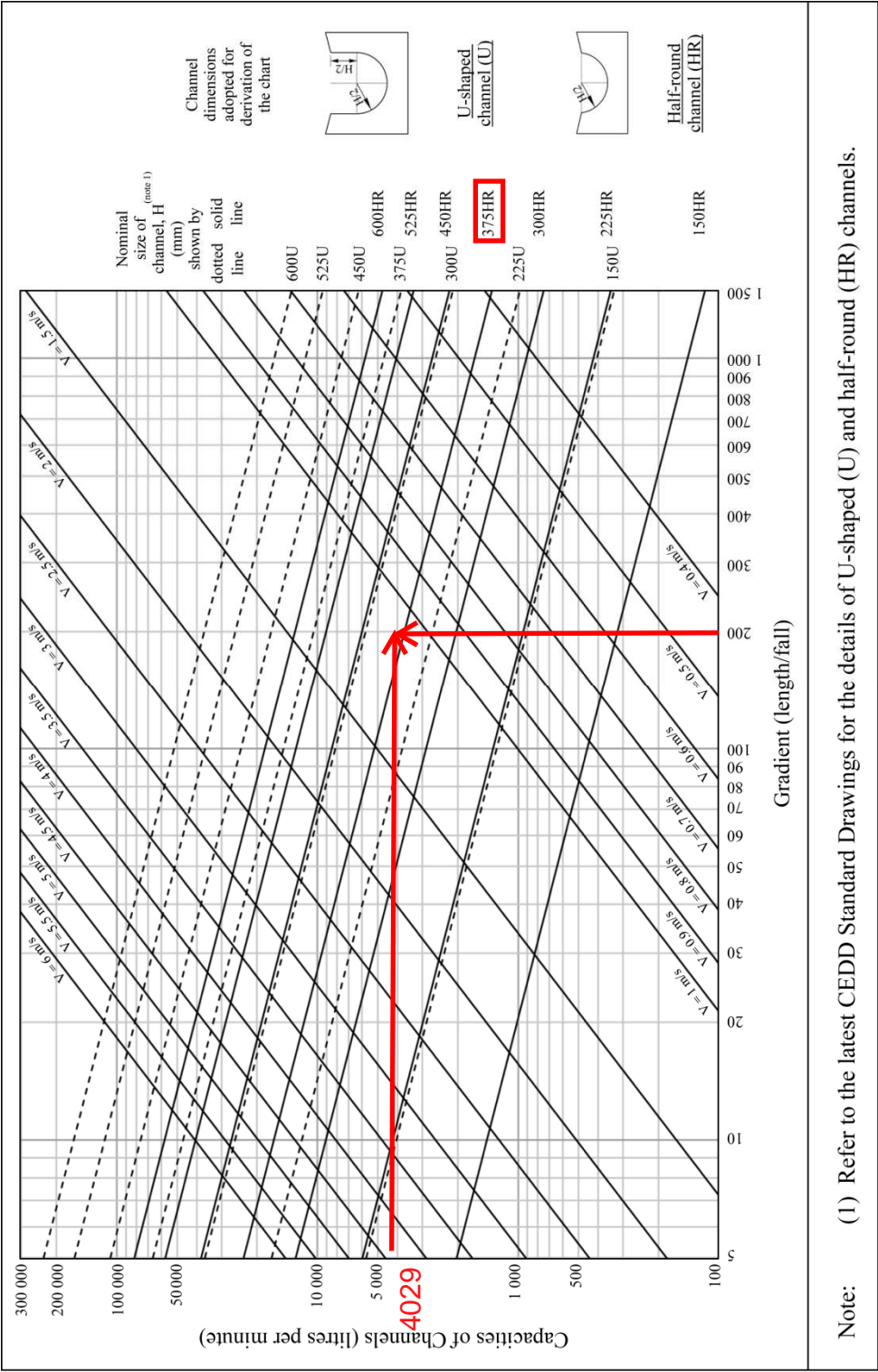
$$\begin{aligned} \text{Therefore, } Q &= 0.278 * 0.95 * 342.2 * 0.000743 \\ &= 0.0672 \quad \text{m}^3/\text{sec} \\ &= 4029 \quad \text{lit/min} \end{aligned}$$

Provide 375HRUC (1:200) 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



Check 375mm dia. Pipes by Colebrook-White Equation

$$V = -\sqrt{(8gDs)} \log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

where :

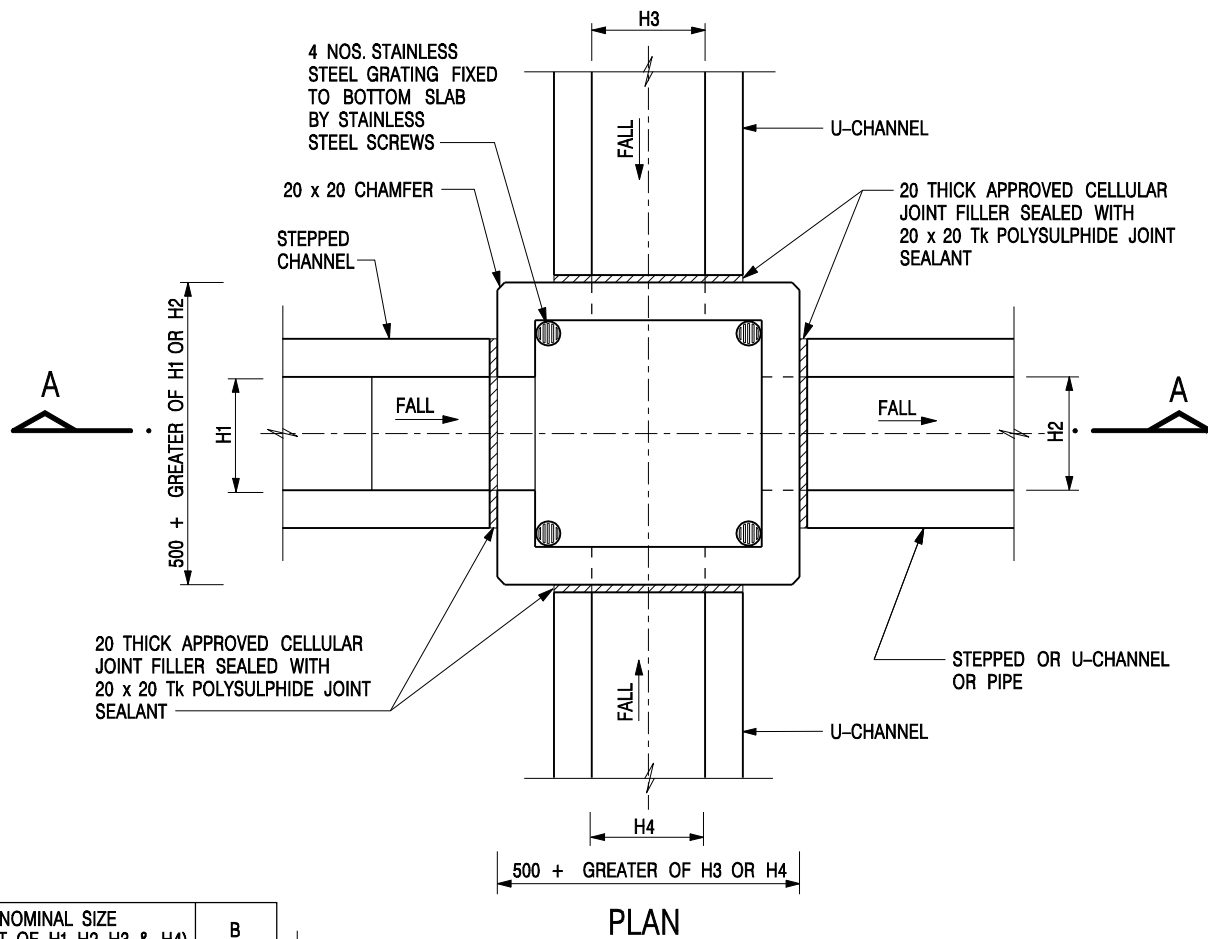
V	=			mean velocity (m/s)
g	=	9.81	m/s ²	gravitational acceleration (m/s ²)
D	=	0.375	m	internal pipe diameter (m)
ks	=	0.00015	m	hydraulic pipeline roughness (m)
v	=	1.14E-06	m ² /s	kinematic viscosity of fluid (m ² /s)
s	=	0.01		hydraulic gradient

(Table 5, from DSD Sewerage Manual, concrete pipe)

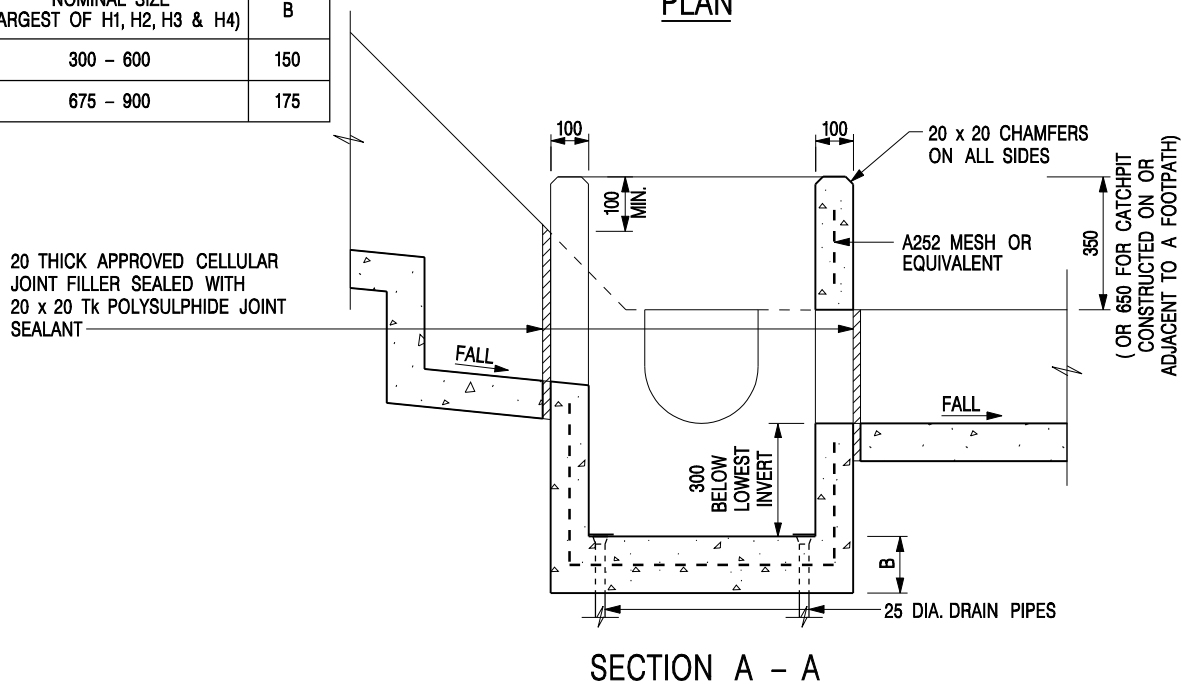
Therefore, design V of pipe capacity = 2.0971 m/s

Q= 0.8VA (0.8 factor for sedimentation)
 = 0.185 m³/s
 = 11117.747 lit/min
 > 4029 lit/min OK

Proposed 375mm dia. underground pipe (1:100) is OK




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

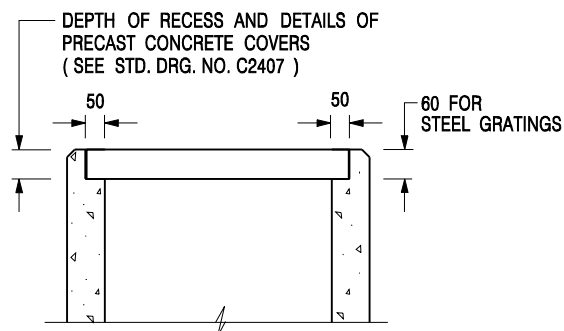


NOTES:

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

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

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

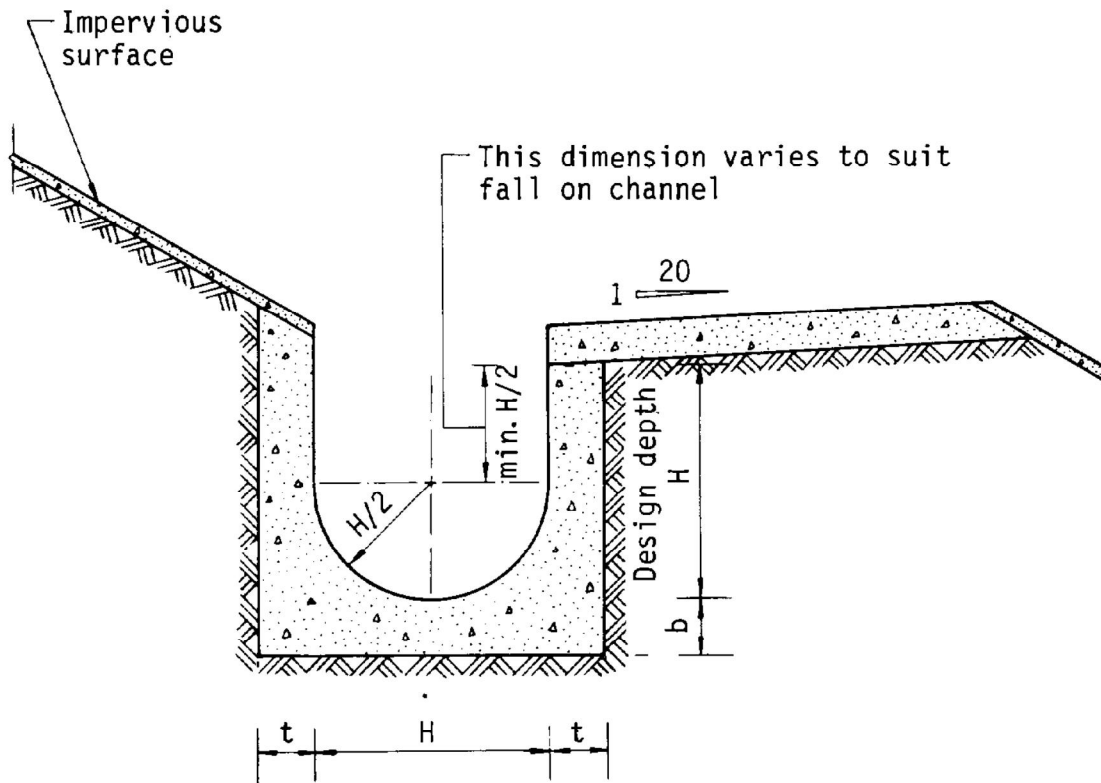
DATE JAN 1991

DRAWING NO.

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