

寄件者: Tang Lok San [REDACTED]
寄件日期: 2026年03月23日星期一 11:33
收件者: tpbpd/PLAND
副本: David Chi Chiu CHENG/PLAND
主旨: Re: S. 16 Planning Application No. A/YL-KTN/1157 - Departmental Comments
附件: A-YL-KTN-1157 Drainage Proposal 21-3-2026_compressed.pdf
類別: Internet Email

Town Planning Board,

Thank you for the email. Please see the attachment for the further information on the departmental comment from DSD. Please contact Mr. Tang via email [REDACTED] if you have any question regarding to the captioned application.

Yours sincerely,
Mr. Tang

Comments from Drainage Services Department
(Contact Person: Ms. Jessica KWAN; Tel.: 3965 8924)

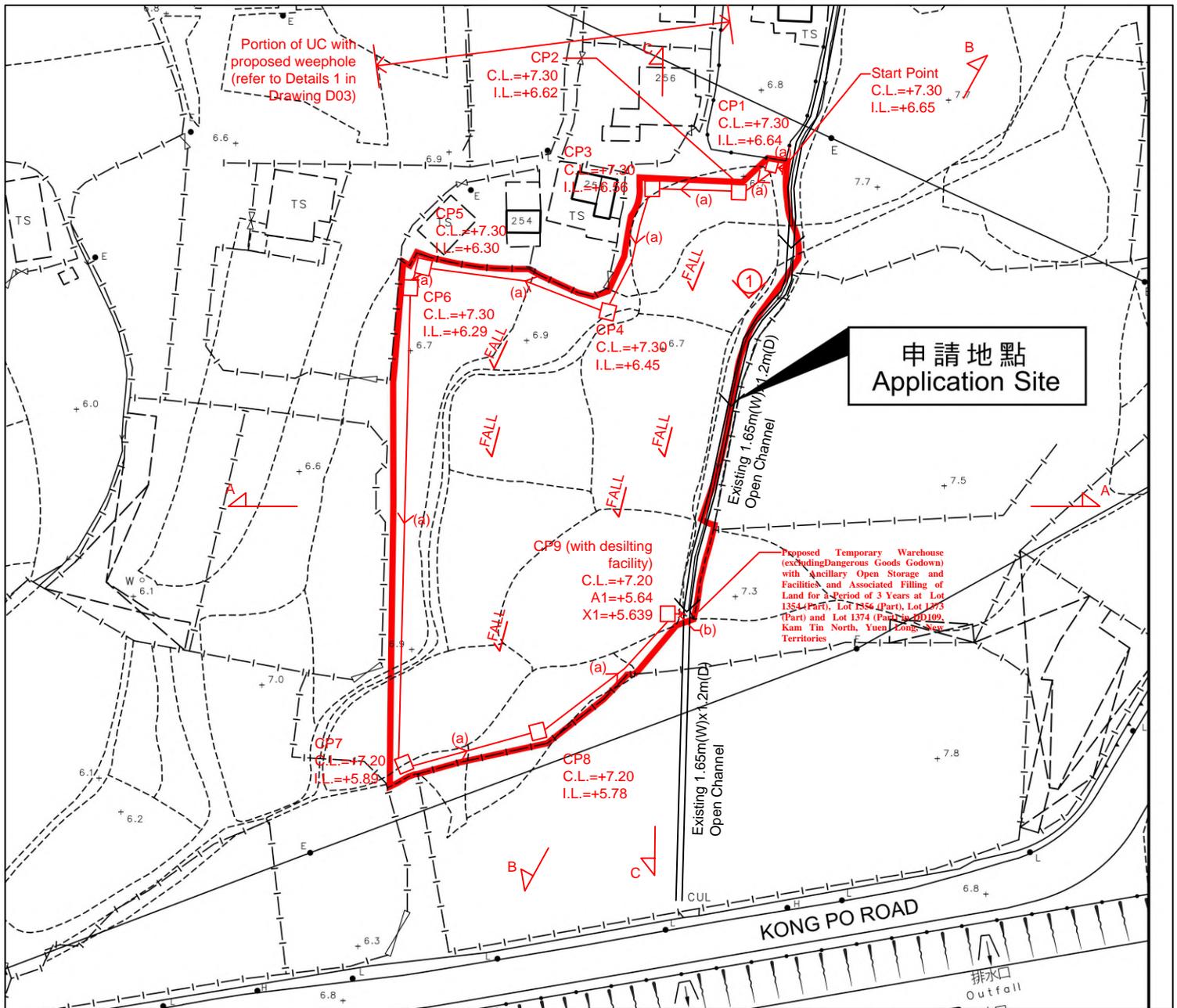
Please find our comments on the revised drainage proposal for your information.

1. For the hydraulic calculation regarding the existing drainage facilities, deposition of sediment in drainage system should be considered in the hydraulic calculation as per the requirement in Stormwater Drainage Manual (Section 9.3). The applicant should demonstrate the existing facilities to be discharged to have sufficient capacity to cater for any additional flow generated due to the subject application.

Outside catchment area is revised. The corresponding hydraulic calculation is updated. 0.9 factor is adopted for the determination of design Q. 0.8 factor is adopted for the determination of the capacity of the designed 600mm dia. pipe. 300mm freeboard is considered for checking of existing open channel.

2. Drawing (No.: D01 & D03): It is noted that there is proposed land filling works for the development. For Section C-C, the applicant should review flow direction at the north of the application site. Proper surface channels should be provided at the lower platform and wall toe to collect the overland flow to/ from adjacent areas. The applicant should review design of the proposed drainage system such as cover levels and invert levels of the proposed drainage facilities. Also, the applicant should clarify discrepancy of cover level of the proposed drainage facilities at the south of the application site shown on the submitted drainage plan and Section C-C.

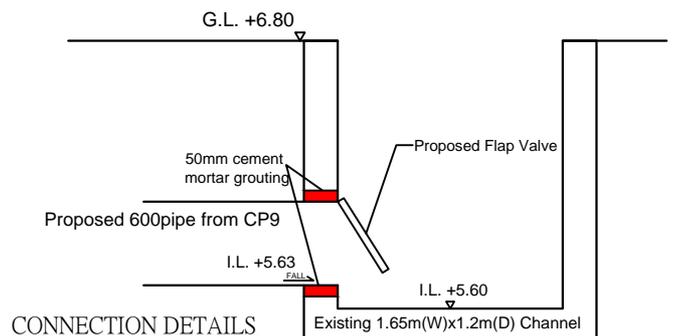
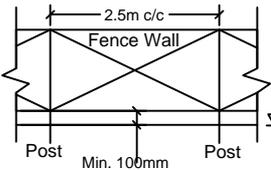
Flow direction is reviewed. The proposed 600UC is designed to have weephole to cater the overland flow from the north of the site. Section C-C is revised accordingly.



- Note:**
- Catchpits (CP9) with desilting facility shall follow CEDD standard drawing No. C2406I.
 - Catchpit and UC shall follow CEDD standard drawing No.2405 and 2409J respectively.
 - Open-bottom type fence wall to be erected.
 - There is no site formation works. Filling works to be carried out to leveling the site.
 - The debris in the existing 1.65m(W)x1.2m(D) open channel shall be removed.

LEGEND

- Proposed CatchPit
- Proposed 600UC (1:200) with Cast Iron Cover
- Proposed 600mm dia. concrete pipe (1:100)
- Existing 1.65m(W)x1.2m(D) Open Channel
- Photo Viewport



Title:

Drainage Proposal - LAYOUT

D01

Project

Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of Three Years at Lots 1354 (Part), 1356 (Part), 1373 (Part), 1374 (Part) and 1375 (Part) in D.D. 109, Kam Tin North, Yuen Long, New Territories

(Application Number: A/YL-KTN/1157)

Drawn by:

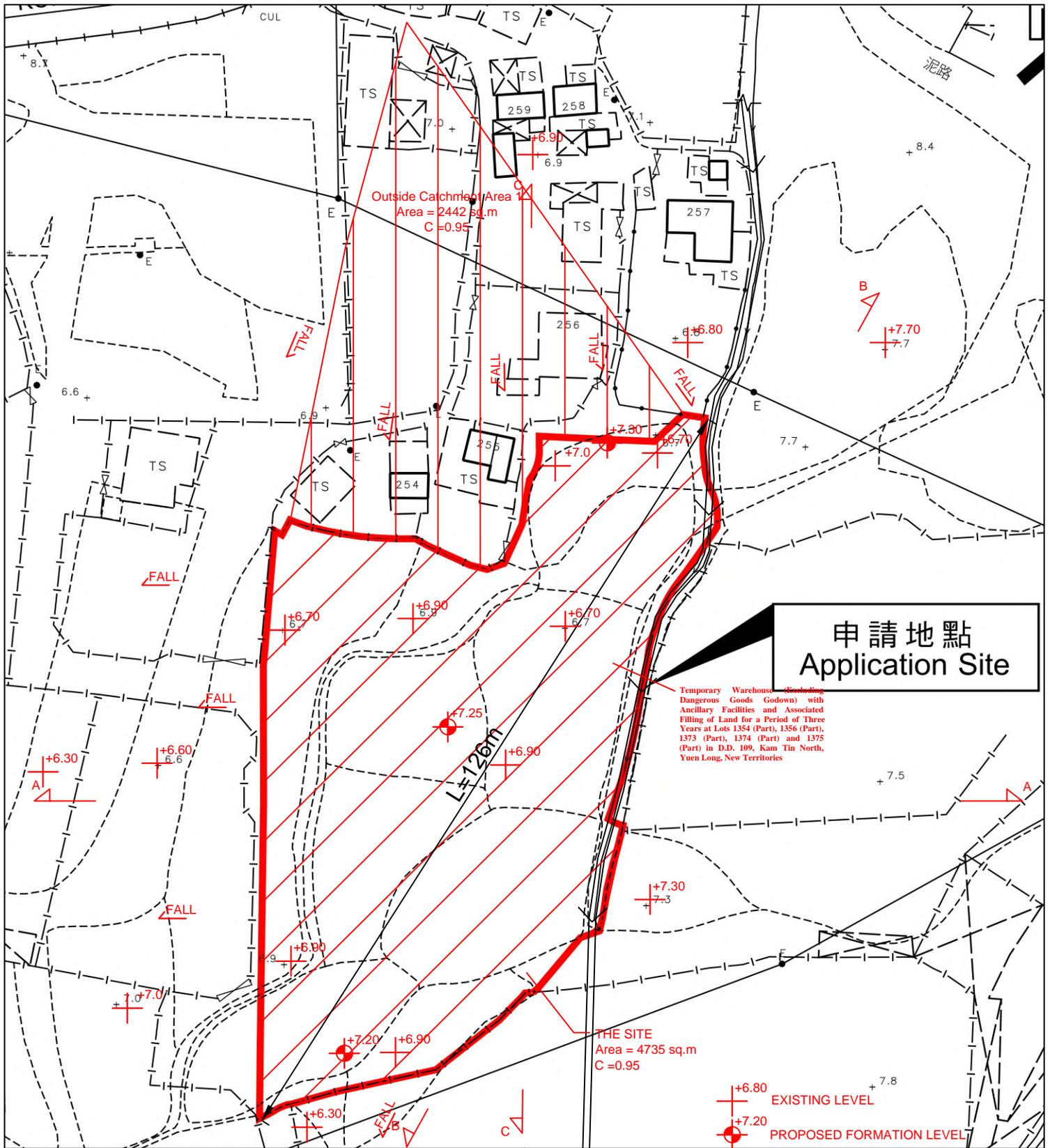
DM

Date:

21-3-2026

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY



Project:
 Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of Three Years at Lots 1354 (Part), 1356 (Part), 1373 (Part), 1374 (Part) and 1375 (Part) in D.D. 109, Kam Tin North, Yuen Long, New Territories

(Application Number: A/YL-KTN/1157)

Title:

Catchment Area Plan

D02

Drawn by:

DM

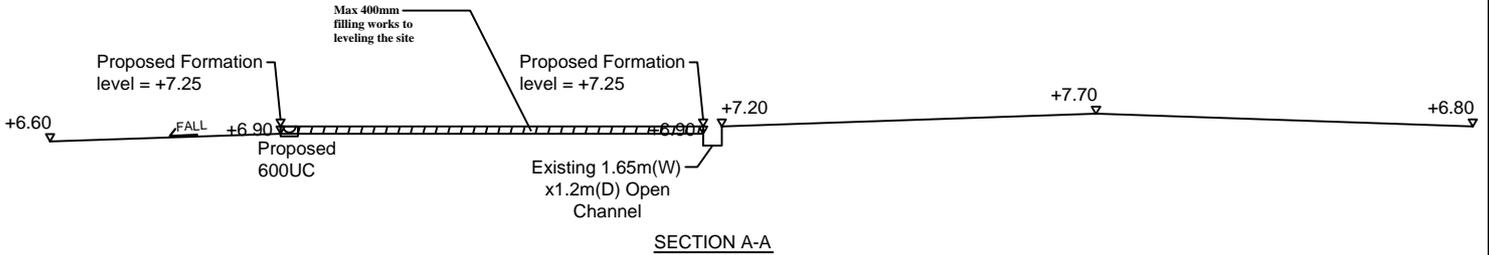
Date:

21-3-2026

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

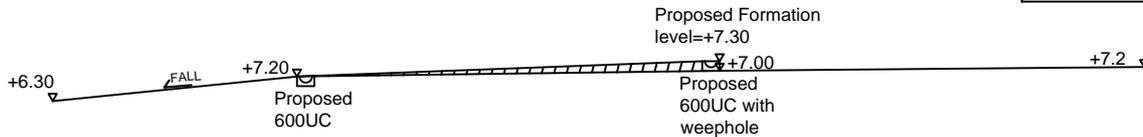
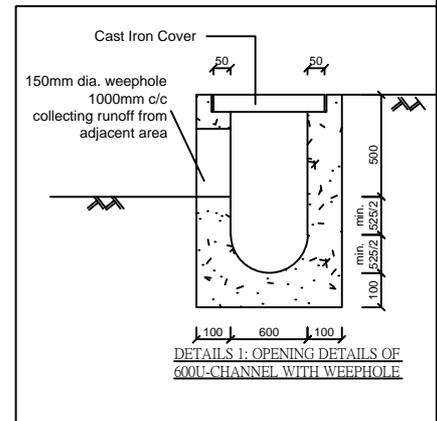
Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of Three Years at Lots 1354 (Part), 1356 (Part), 1373 (Part), 1374 (Part) and 1375 (Part) in D.D. 109, Kam Tin North, Yuen Long, New Territories



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Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of Three Years at Lots 1354 (Part), 1356 (Part), 1373 (Part), 1374 (Part) and 1375 (Part) in D.D. 109, Kam Tin North, Yuen Long, New Territories

(Application Number: A/YL-KTN/1157)

Title:

SECTIONS

D03

Drawn by:

DM

Date:

21-3-2026

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Photo 1





Final discharge of Ex. 1.65m(W)x1.2D(W)



Photo 2



Photo 3



Photo 4



Outside Catchment Area 1, Area = 2442 m² (C= 0.95)
 THE SITE, Area = 4735 m² (C= 0.95)

**Calculation of Design Runoff of the Proposed Development,
 For the design of drains inside the site, Catchment Area 1 + The Site**

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

$$A = 2442+4735 \quad \text{m}^2$$

$$= 7177$$

$$= 0.007177 \quad \text{km}^2$$

$$t = 0.14465 L/H^{0.2} A^{0.1}$$

$$= 0.14465 * 126 / 1^{0.2} * 7177^{0.1}$$

$$= 7.501 \quad \text{min}$$

$$i = 1.16 * a / (t+b)^c \quad (50 \text{ yrs return period, Table 3a, Corrigendum 2024, SDM) and (16\% increase due to climate change)}$$

$$= 1.16 * 505.5 / (7.501 + 3.29)^{0.355}$$

$$= 252.0 \quad \text{mm/hr}$$

Therefore, $Q = 0.278 * 0.95 * 252.0 * 0.007177 / 0.9$ (0.9 factor is adopted for sedimentation)

$$= 0.5308 \quad \text{m}^3/\text{sec}$$

$$= \underline{\underline{31847}} \quad \text{lit/min}$$

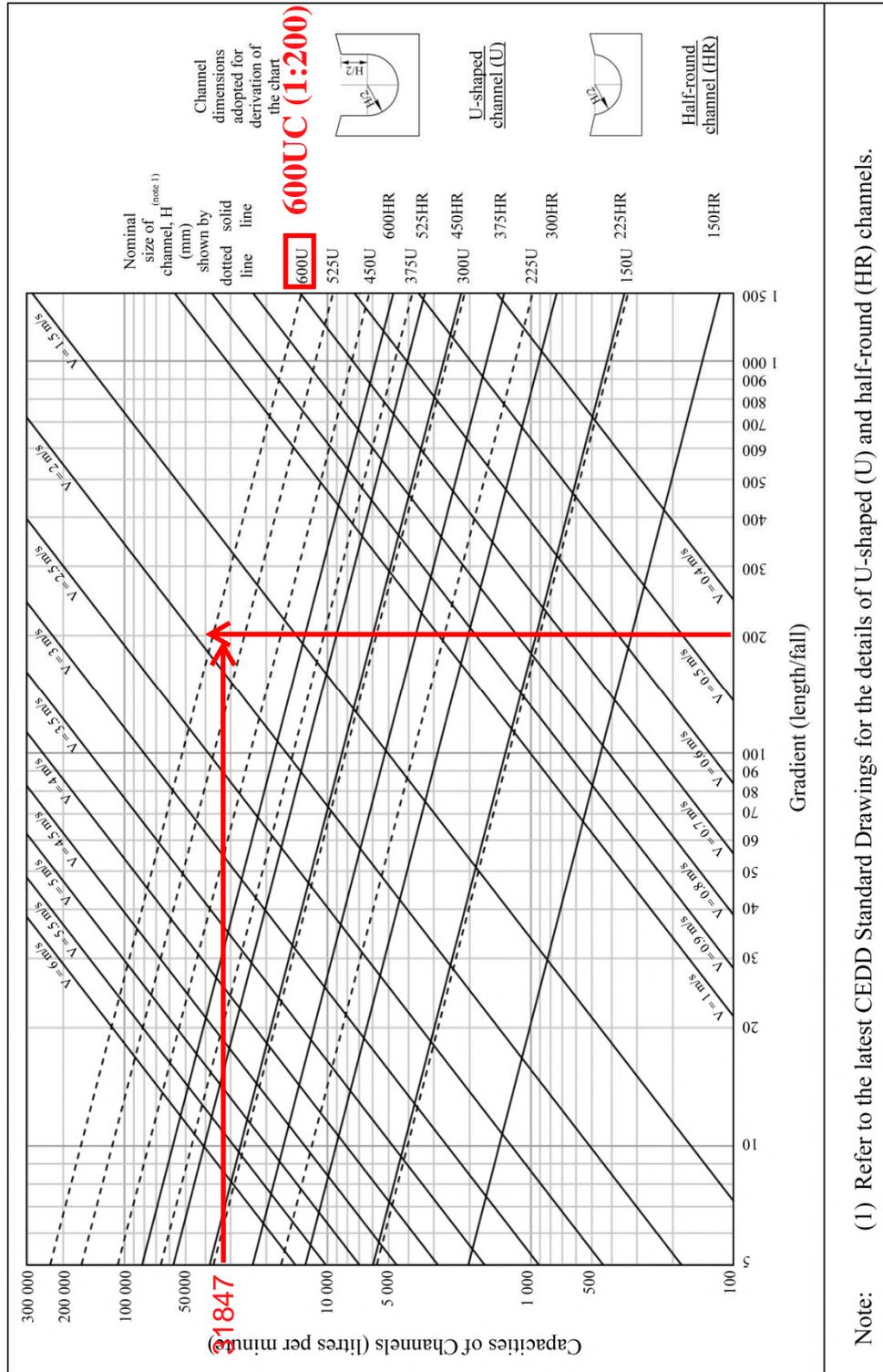
Provide 600UC (1:200) is OK

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

Flow velocity (v), 1.5 < v < 2m/s

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



Check 600mm dia. Pipes by Colebrook-White Equation

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

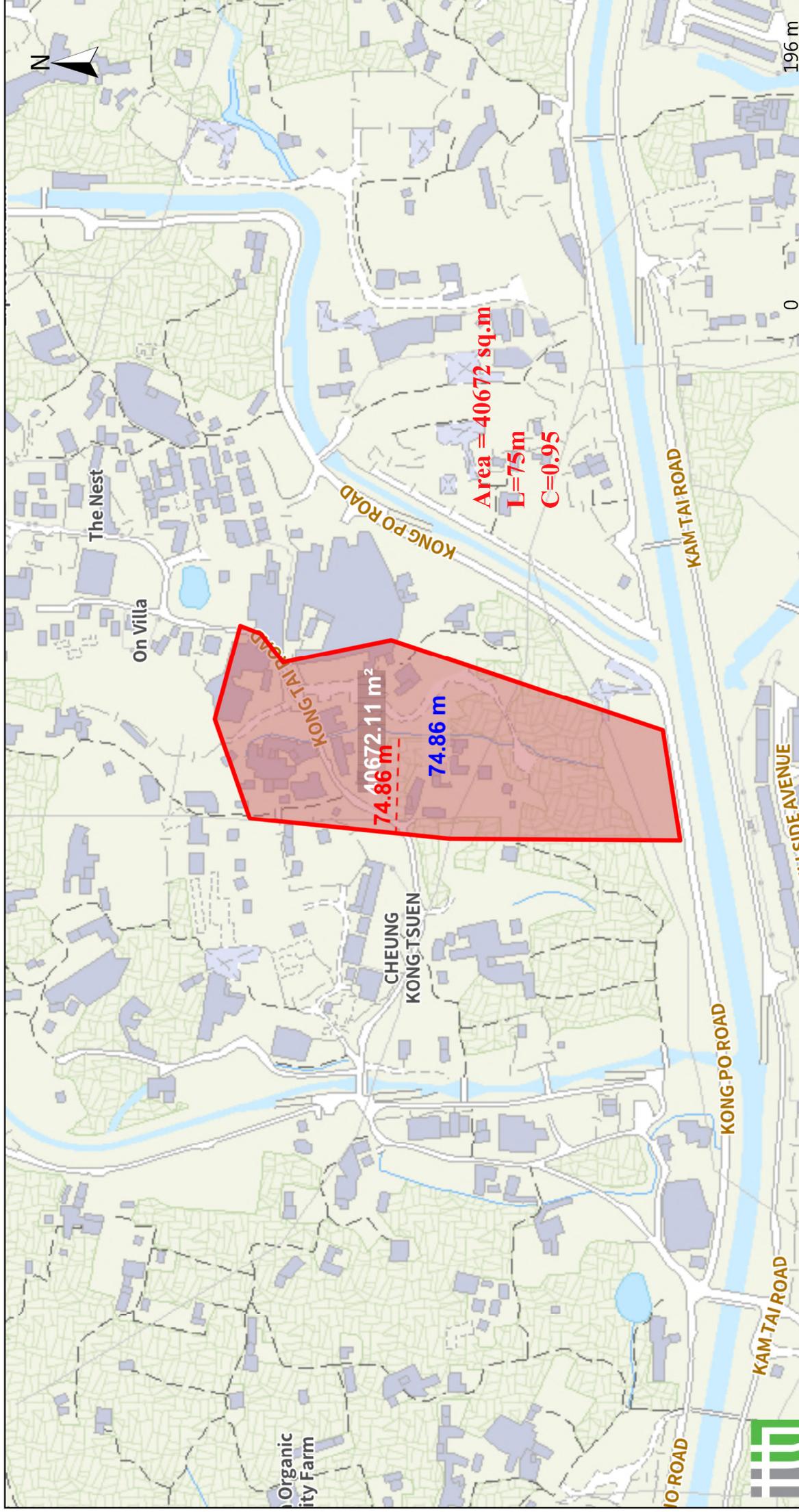
where :

V	=		mean velocity (m/s)	
g	=	9.81	m/s ² gravitational acceleration (m/s ²)	
D	=	0.6	m internal pipe diameter (m)	
ks	=	0.00015	m hydraulic pipeline roughness (m)	(Table14, from DSD SDM 2018, concrete pipe)
v	=	1.14E-06	m ² /s kinematic viscosity of fluid (m ² /s)	
s	=	0.01	hydraulic gradient	

Therefore, design V of pipe capacity = 2.8059 m/s

Q= 0.8VA		(0.8 factor for sedimentation)
= 0.635	m ³ /s	
= 38081	lit/min	
> 31847	lit/min	Ok

Catchment Area Plan for Existing 1.65m(W)x1.2m(D) Open Channel



Catchment Area = 40672 m² (C= 0.95)

Calculation of Design Runoff

For checking the existing 1.65m(W)x1.2m(D) Open Channel

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

$$A = 40672 \text{ m}^2$$

$$= 40672$$

$$= 0.040672 \text{ km}^2$$

$$t = 0.14465 L / H^{0.2} A^{0.1}$$

$$= 0.14465 * 75 / 1^{0.2} * 40672^{0.1}$$

$$= 3.754 \text{ min}$$

$$i = 1.16 * a / (t + b)^c \quad (50 \text{ yrs return period, Table 3a, Corrigendum 2024, SDM) and (16\% increase due to climate change)$$

$$= 1.16 * 505.5 / (3.754 + 3.29)^{0.355}$$

$$= 293.2 \text{ mm/hr}$$

Therefore, $Q = 0.278 * 0.95 * 293.2 * 0.040672$

$$= 3.1497 \text{ m}^3/\text{sec}$$

$$= \underline{188985} \text{ lit/min}$$

Calculation Maximum Capacity of Existing 1.65m(W)x1.2m(D) Open Channel

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

where $R = WD / (W + 2D)$ $W = 1.65 \text{ m}$
 $= 0.4304 \text{ m}$ $D = 0.9 \text{ m}$ (300mm freeboard considered)
 $\text{Area} = WD = 1.485 \text{ m}^2$

$n = 0.016 \text{ s/m}^{1/3}$ (Table 13 of Stormwater Drainage Manual)

$S_f = 0.004$

Therefore, $V = 0.4521^{2/3} * 0.003^{0.5} / 0.016$

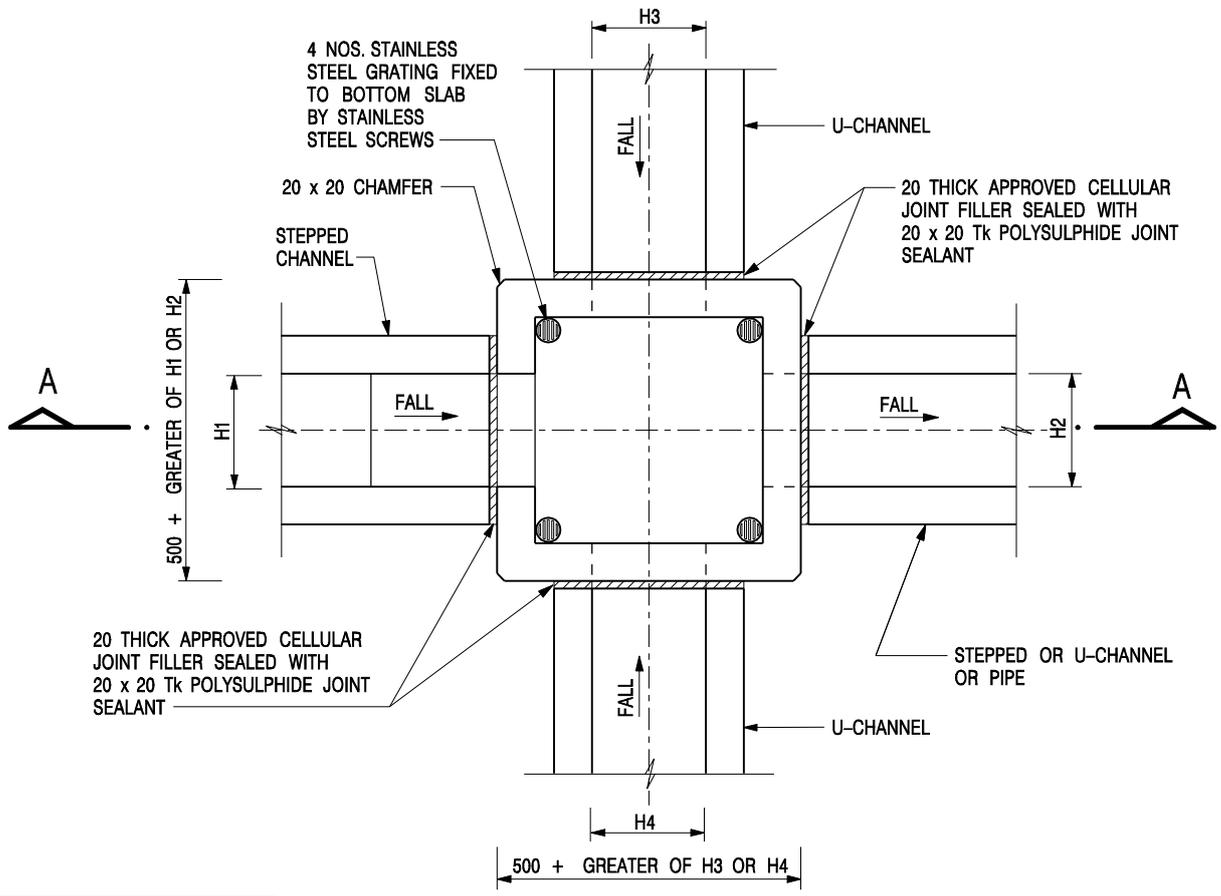
$$= 2.15 \text{ m/sec}$$

Maximum Capacity (Q_{max}) = $V * A$

$$= 3.19 \text{ m}^3/\text{sec}$$

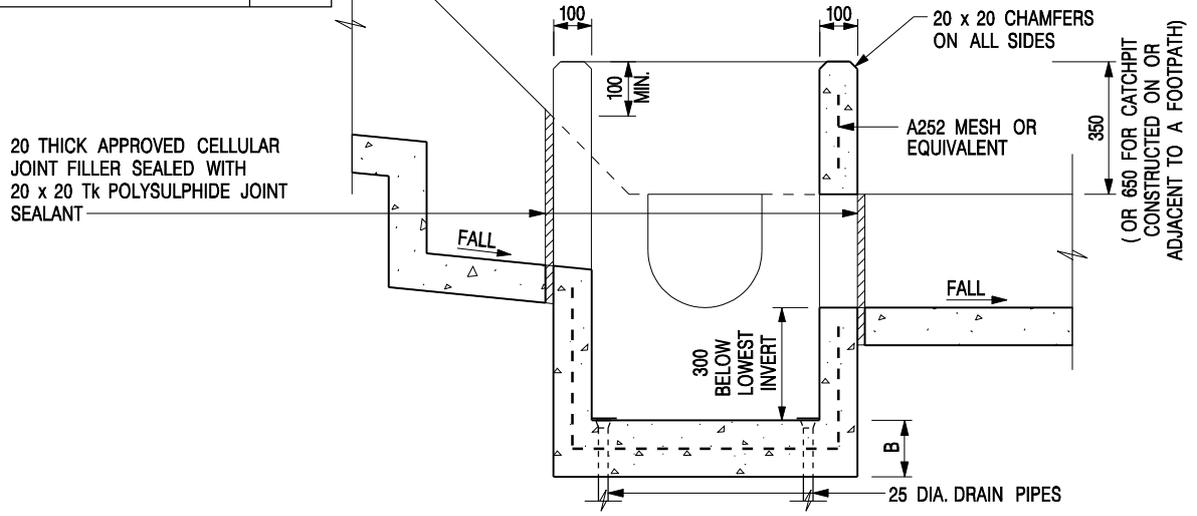
$$= 191439 \text{ lit/min}$$

$$> 188985 \text{ lit/min} \quad \text{OK}$$



PLAN

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



SECTION A - A

NOTES:

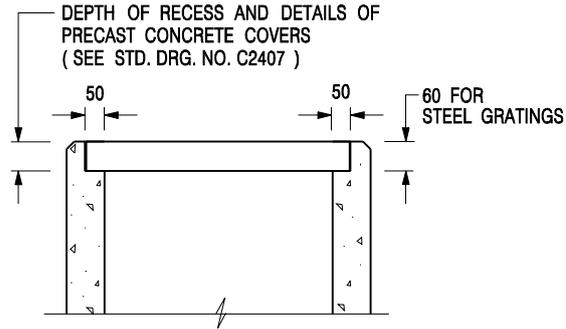
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

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

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20	DRAWING NO. C2406 /1
DATE JAN 1991	



**ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS**

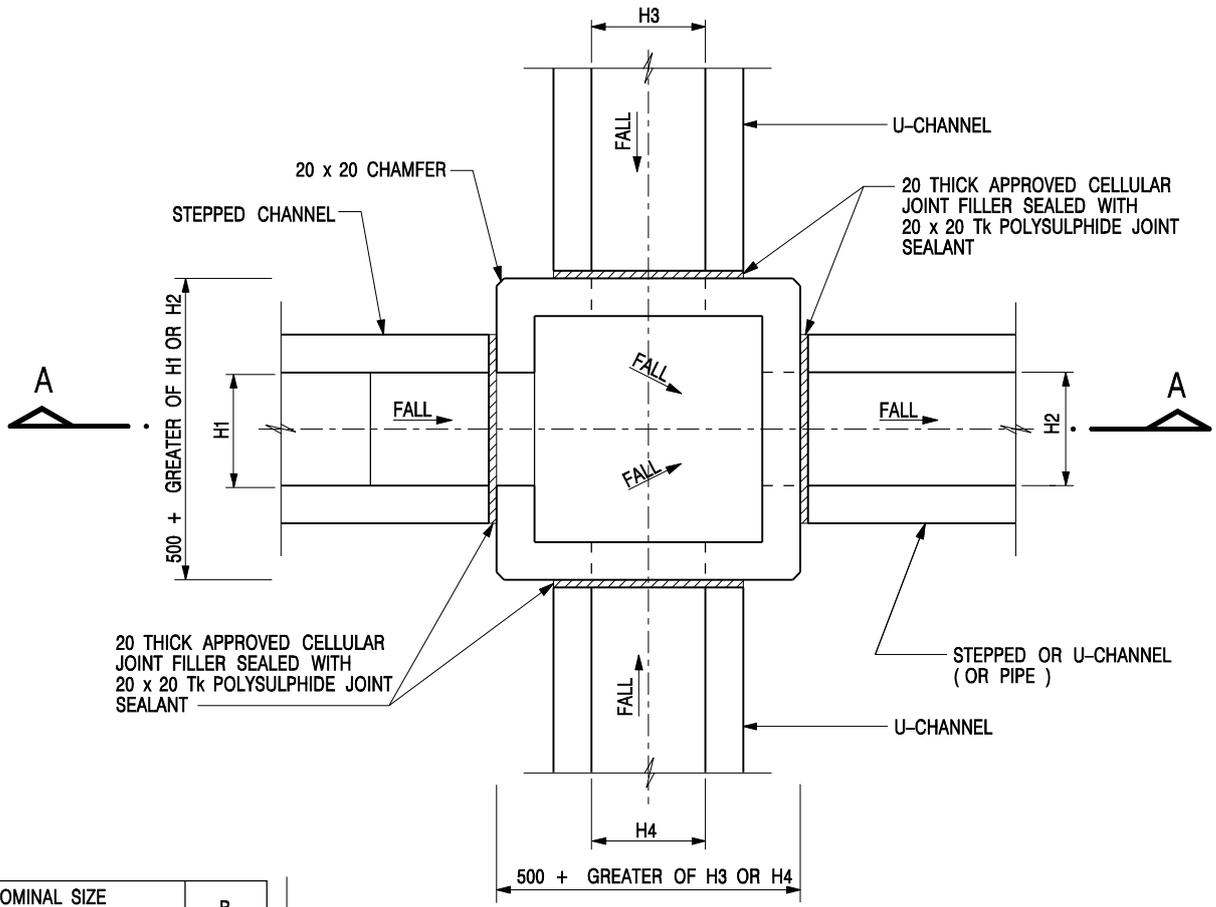
NOTES:

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 /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.

A	MINOR AMENDMENT.	Original Signed	04.2016
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

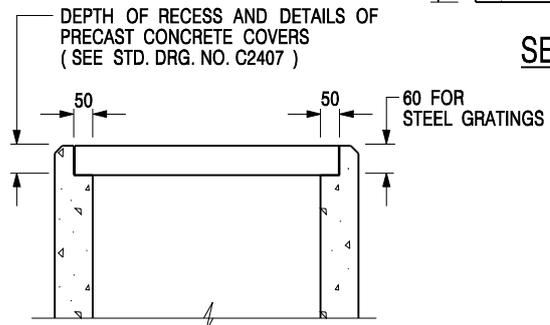
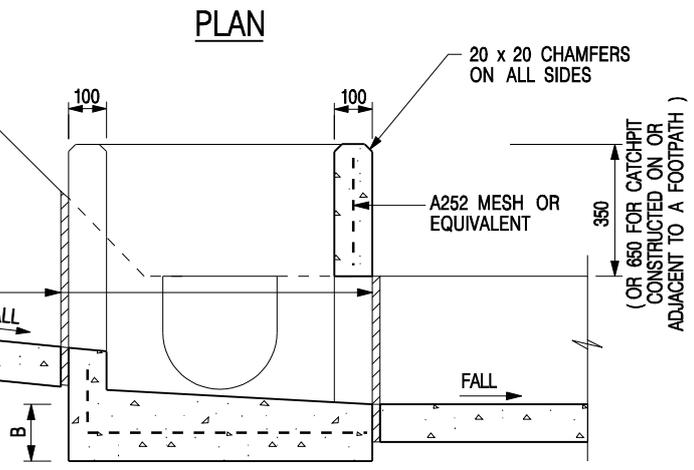
**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**

 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	
SCALE 1 : 20	DRAWING NO. C2406 /2A
DATE JAN 1991	



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

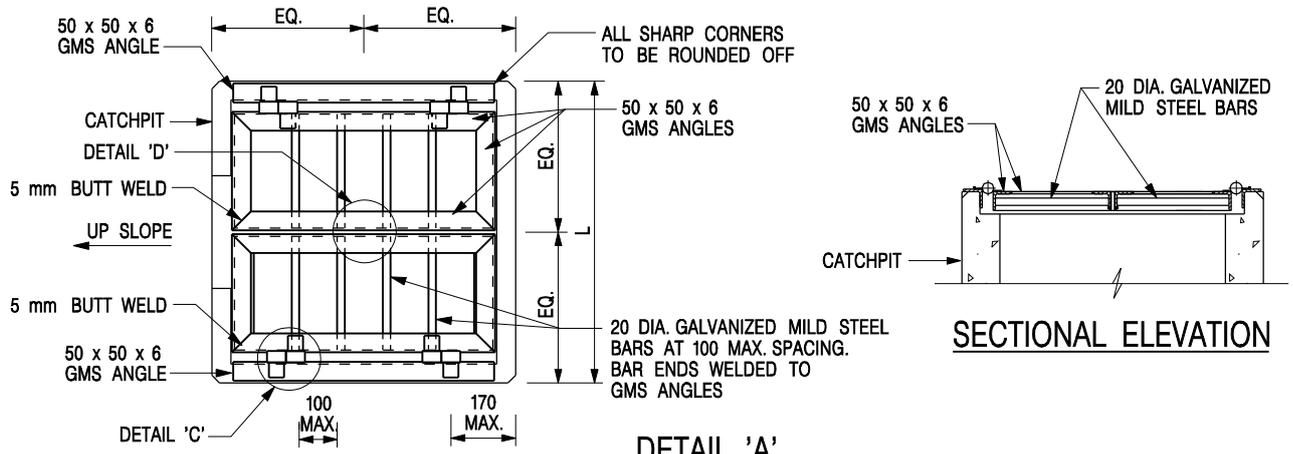


- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. REFER TO SHEET 5 FOR OTHER NOTES.

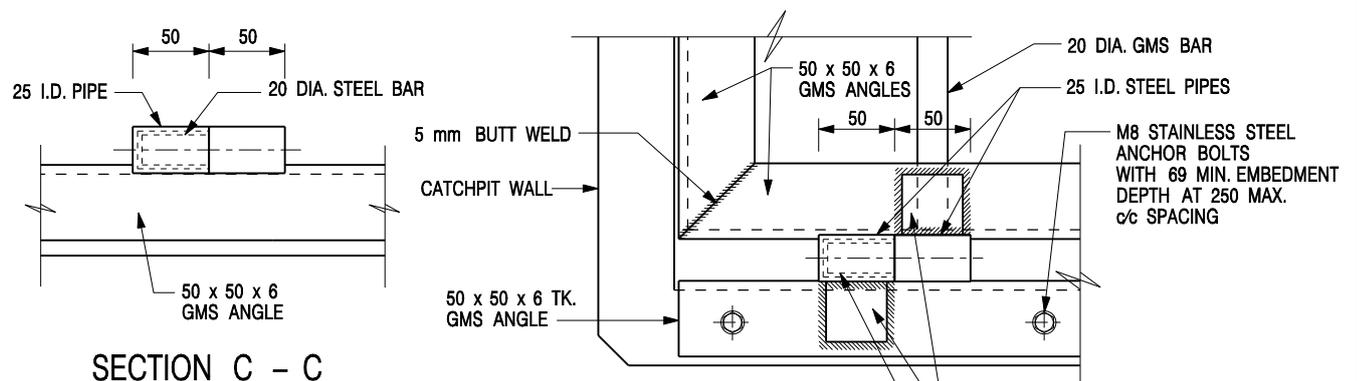
**ALTERNATIVE TOP SECTION FOR
PRECAST CONCRETE COVERS / GRATINGS**

**STANDARD CATCHPIT DETAILS
(SHEET 1 OF 5)**

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE 1 : 20 DATE JAN 1991	

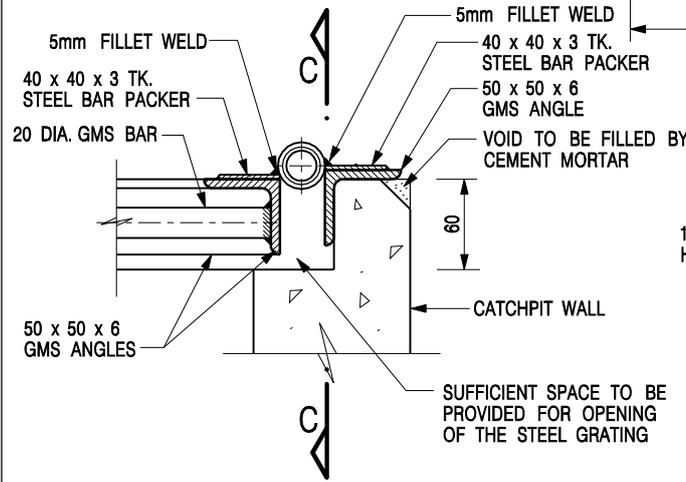


DETAIL 'A'
 (DETAILS OF DOUBLE SIDE OPENING STEEL GRATING FOR L > 900mm)
 SCALE 1 : 20

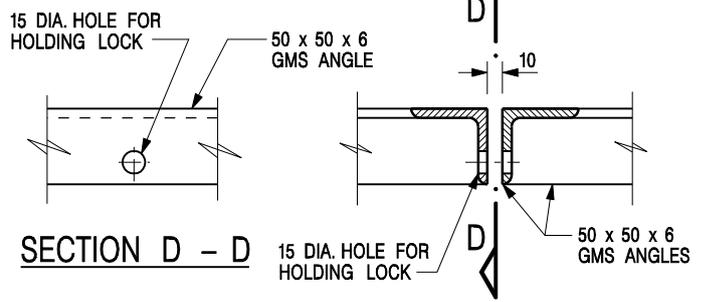


SECTION C - C

DETAIL 'C'
 (DETAILS OF HINGE)
 SCALE 1 : 5



SECTIONAL ELEVATION
 (DETAIL 'C')



SECTION D - D

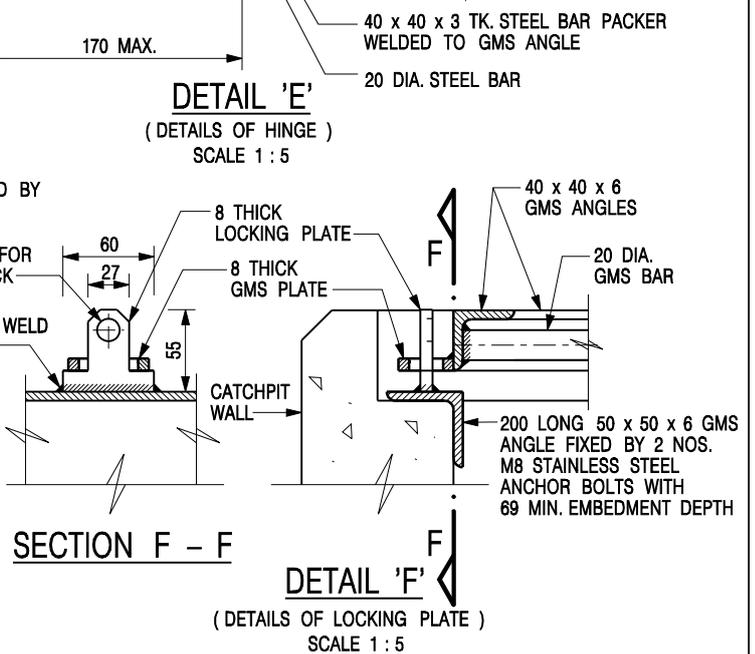
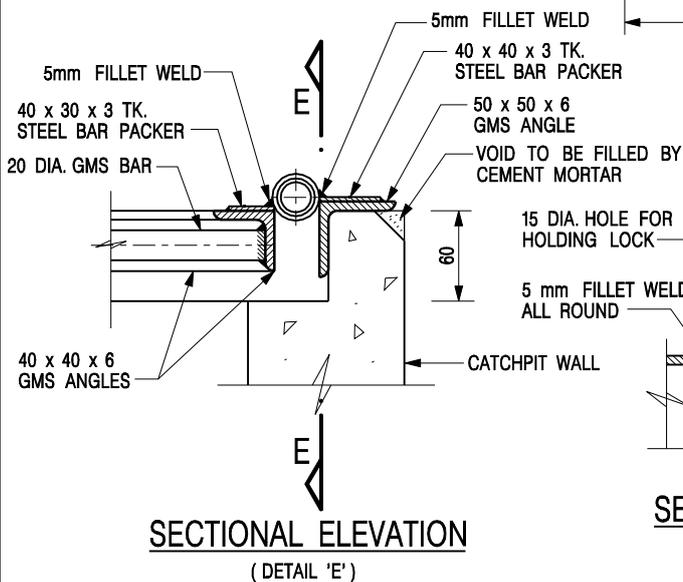
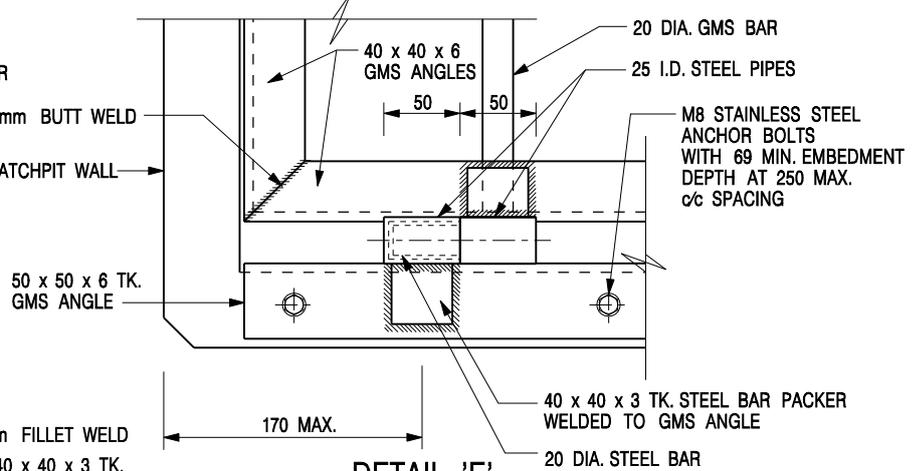
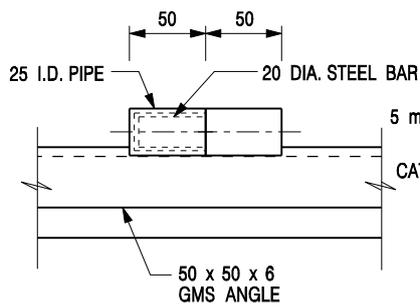
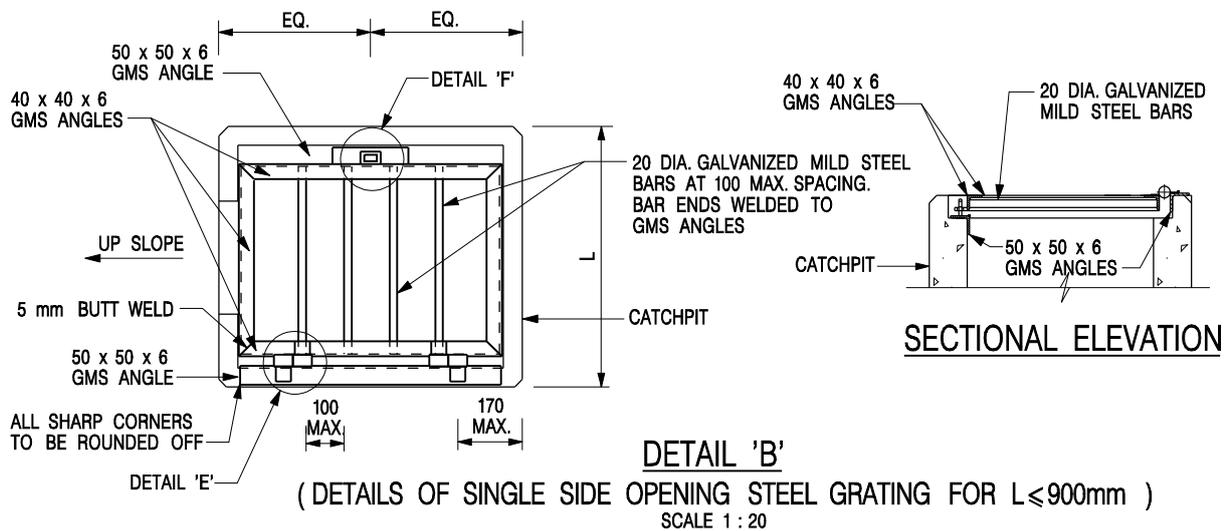
DETAIL 'D'
 (DETAILS OF HOLE FOR LOCK)
 SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

STANDARD CATCHPIT DETAILS
 (SHEET 2 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
		SCALE AS SHOWN DRAWING NO. DATE JAN 1991 C2405 / 2	

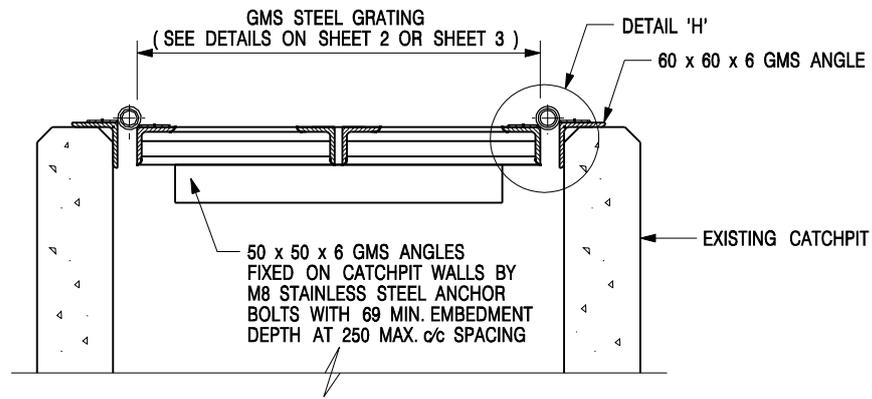


NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES.
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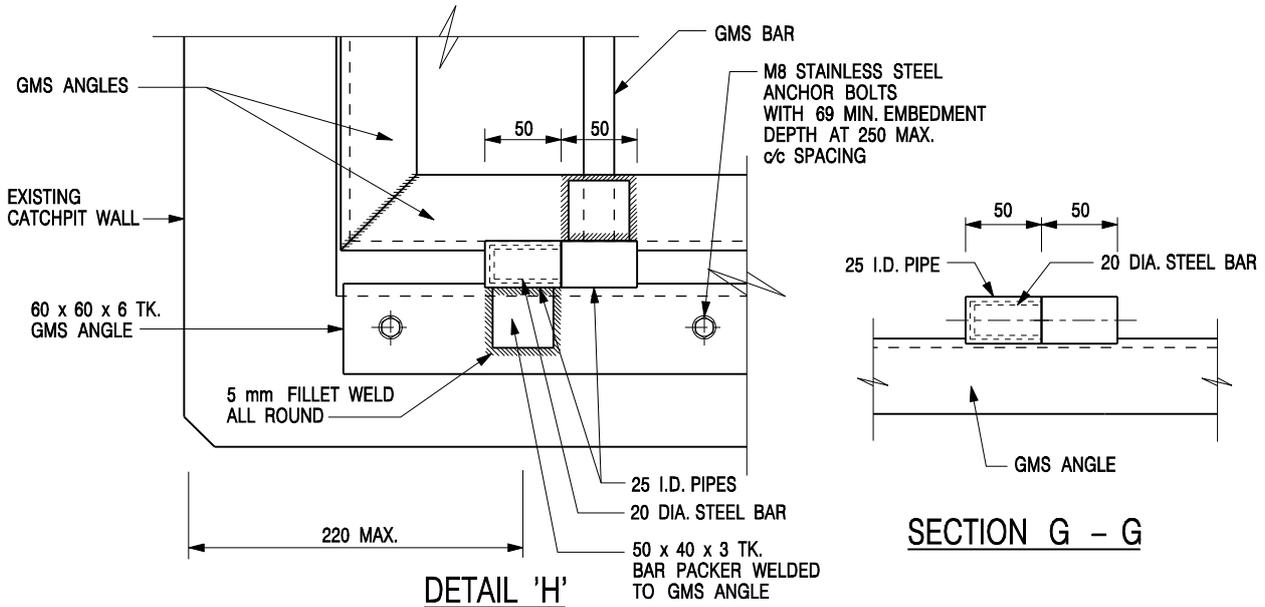
STANDARD CATCHPIT DETAILS
(SHEET 3 OF 5)

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
		SCALE AS SHOWN	
		DRAWING NO. C2405 / 3	
DATE JAN 1991			

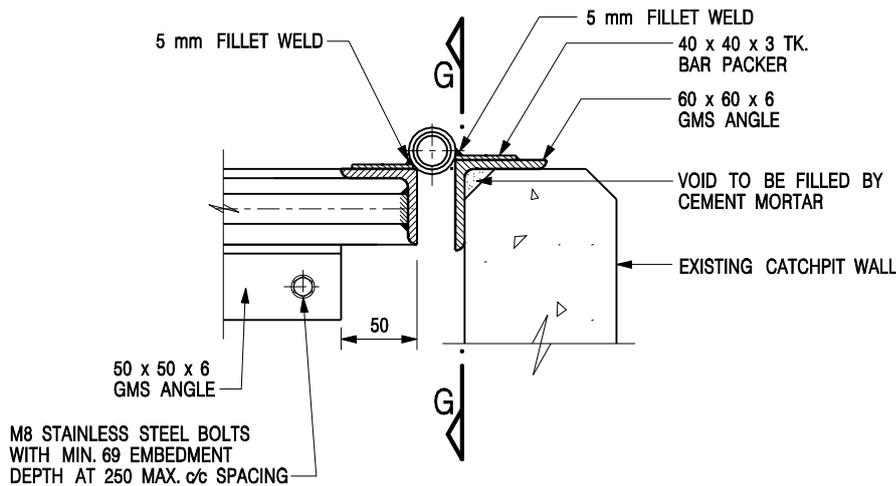


**DETAIL 'G' - DETAILS OF STEEL GRATING
CONSTRUCTED ON EXISTING CATCHPIT**

SCALE 1 : 10



DETAIL 'H'
(DETAILS OF HINGE)
SCALE 1 : 5



SECTIONAL ELEVATION
(DETAIL 'H')

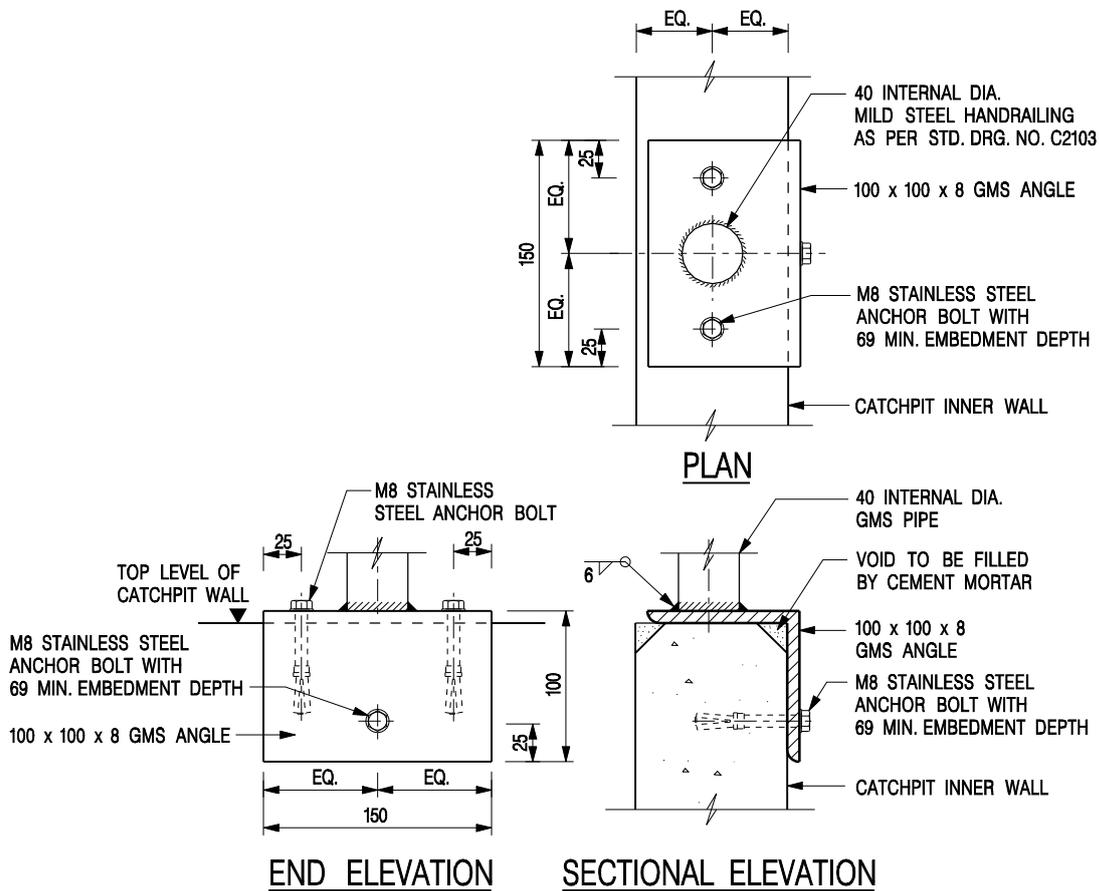
NOTES:

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2. REFER TO SHEET 5 FOR OTHER NOTES.

-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

STANDARD CATCHPIT DETAILS
(SHEET 4 OF 5)

 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE AS SHOWN	
		DRAWING NO. C2405 / 4	
DATE JAN 1991			



**DETAIL 'J' – FIXING DETAILS FOR HANDRAILING
ON TOP OF CATCHPIT WALL**

SCALE 1 : 5

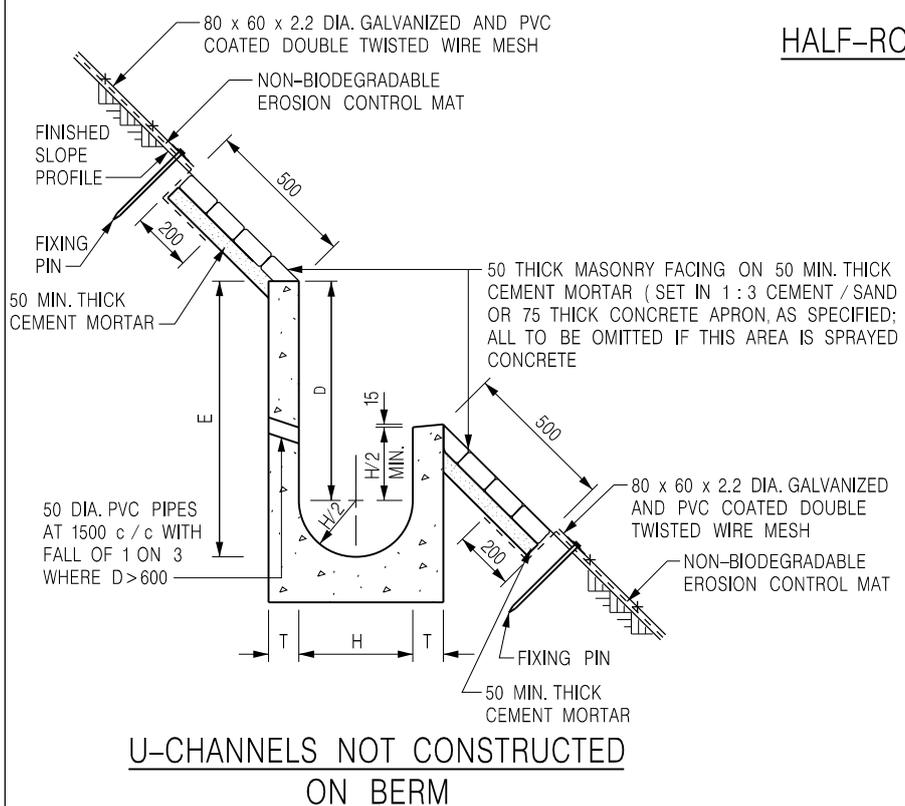
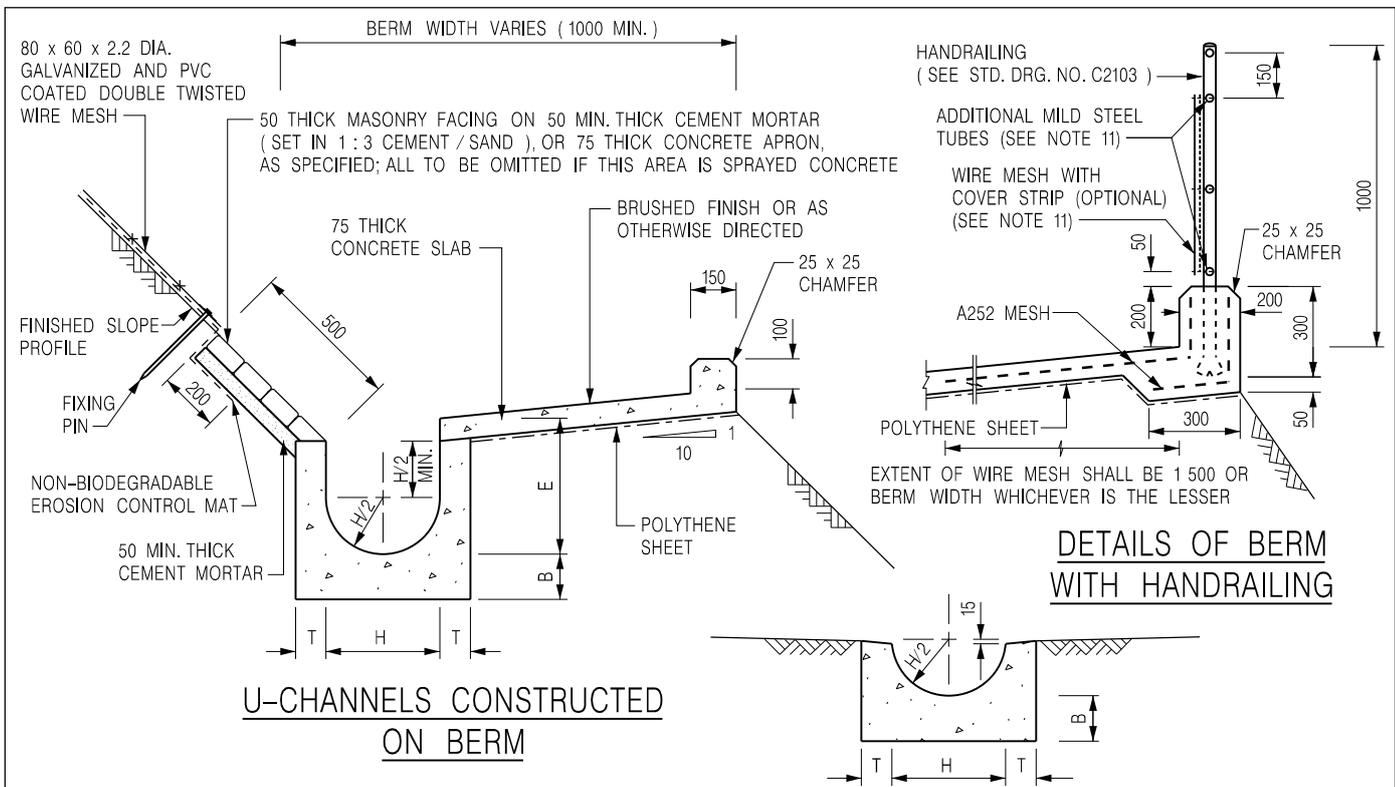
NOTES:

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. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAILS ON SHEET 2 OR SHEET 3) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
7. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON SHEET 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.
8. 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 mm ϕ c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
9. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
10. ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
11. UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
12. ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
13. ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
14. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

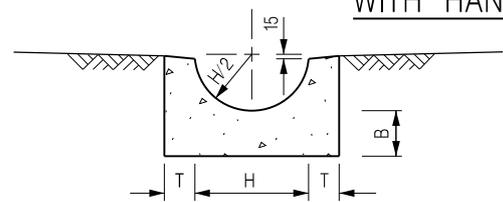
-	FORMER DRG. NO. C2405J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**STANDARD CATCHPIT DETAILS
(SHEET 5 OF 5)**

 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	
SCALE AS SHOWN	DRAWING NO.
DATE JAN 1991	C2405 /5



HALF-ROUND CHANNEL



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL CONCRETE TO BE GRADE 20 / 20.
 3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
 4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
 5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
 6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
 7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/E.
 8. CONCRETE TO BE COLOURED AS SPECIFIED.
 9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
 10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/E)
 11. THE WIRE MESH ON HANDRAILING IS OPTIONAL. THE COVER STRIP AND ADDITIONAL MILD STEEL TUBES ARE NEEDED ONLY IF WIRE MESH IS PROVIDED. (SEE STD. DRG. NO. C2103)

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650
375 - 600	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

REF.	REVISION	SIGNATURE	DATE
J	DETAILS OF HANDRAILING AMENDED.	Original Signed	08.2024
I	MINOR AMENDMENT.	Original Signed	07.2018
H	THICKNESS OF MASONRY FACING AMENDED.	Original Signed	01.2005
G	MINOR AMENDMENT.	Original Signed	01.2004
F	GENERAL REVISION.	Original Signed	12.2002

DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)


CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 25	DRAWING NO.
DATE JAN 1991	C2409J