

Our Ref. : DD118 Lot 1439  
Your Ref. : TPB/A/YL-TT/808

The Secretary,  
Town Planning Board,  
15/F, North Point Government Offices,  
333 Java Road,  
North Point, Hong Kong

**By E-mail**

14 August 2026

Dear Sir,

**Supplementary Information**

**Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with  
Ancillary Facilities and Associated Filling of Land for a Period of 3 Years in "Agriculture" Zone,  
Lot 1439 (Part) in D.D. 118, Tai Tong, Yuen Long, New Territories**

**(S.16 Planning Application No. A/YL-TT/808)**

We write to provide a revised drainage proposal (**enclosed**) for the captioned application, which serves to supersede the previous drainage proposal enclosed at Appendix IV of the original submission.

Should you require more information, please contact the undersigned directly at [REDACTED].  
[REDACTED]. Thank you for your kind attention.

Yours faithfully,

For and on behalf of  
**R-riches Planning Limited**

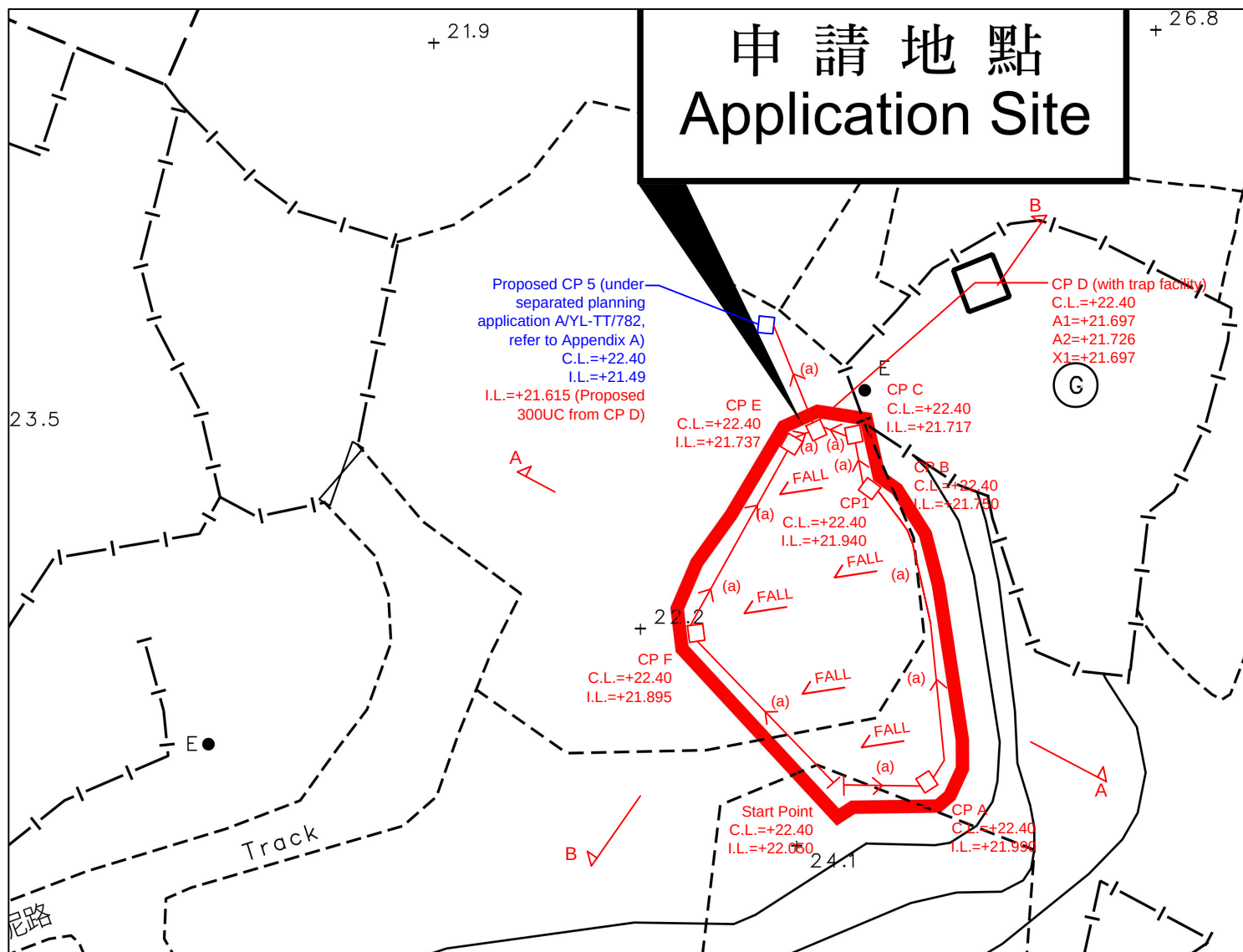


**Christian CHIM**  
Town Planner



**Appendix IV**  
Drainage proposal



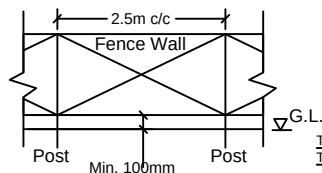


**Note:**

1. Catchpits (CP D) with desilting facility shall follow CEDD standard drawing No. C24061.
2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
3. Open-bottom type fence wall to be erected..
4. Minor filling works to be carried out. Existing Formation Level is +22.20mPD. Proposed Formation Level is +22.40mPD. The overland shall not be affected.

**LEGEND**

- CP Proposed CatchPit
- (a) Proposed 300UC (1:100) with Cast Iron Cover
- (b) Proposed 300mm dia. concrete pipe (1:150)



TYPICAL DETAIL OF OPEN-BOTTOM TYPE FENCE WALL

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**Project:**

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**Title:**

Drainage Proposal - LAYOUT

D01

**Drawn by:**

DM

**Date:**

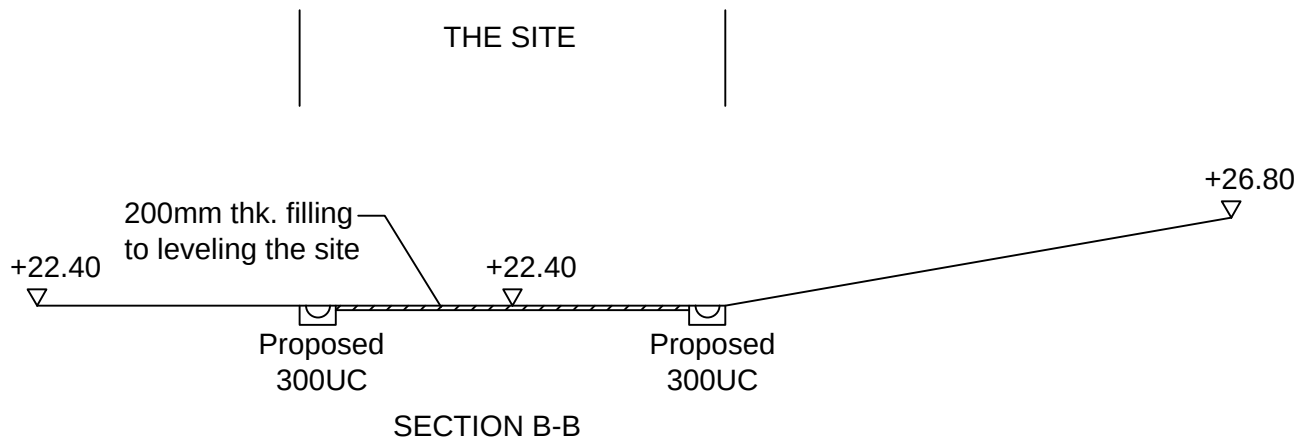
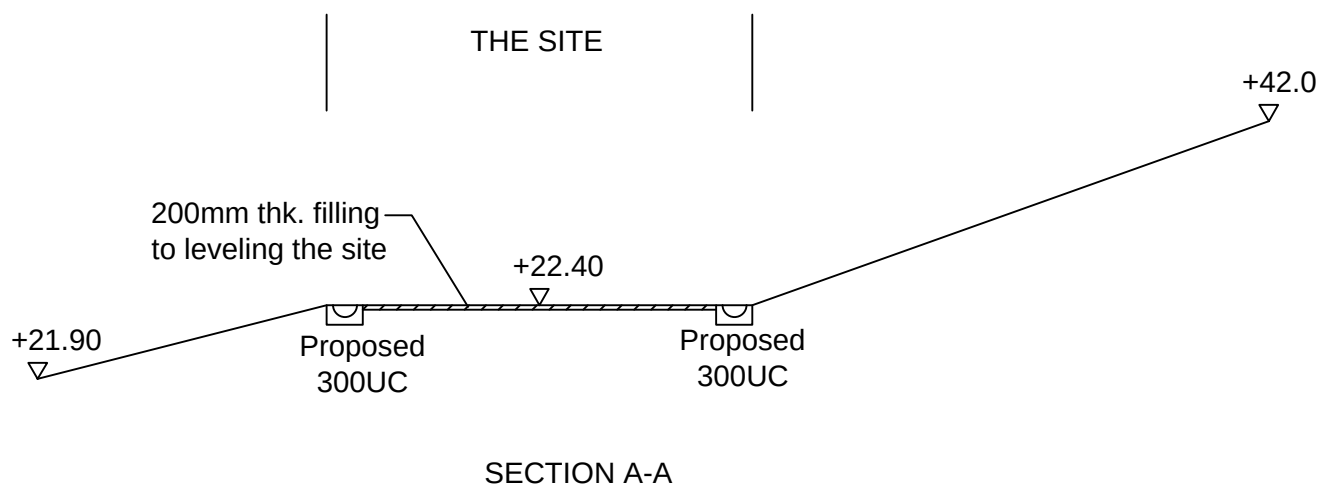
17-4-2026

**Check by:**

DM

**Scale:**

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**Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land at Lot 1439 (Part) in D.D. 118, Tai Tong, Yuen Long, New Territories**

Title:

SECTIONS

D02

Drawn by:

DM

Date:

17-4-2026

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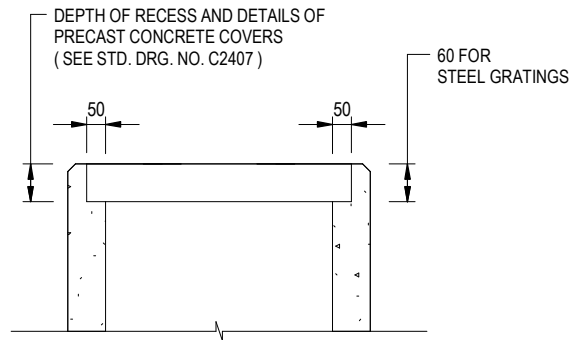
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|                                                                                                                        |                |                                                               |                               |                                                    |                                          |
|------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------|-------------------------------|----------------------------------------------------|------------------------------------------|
| The site, Area                                                                                                         | = 541          | m <sup>2</sup>                                                | (C= 0.95 )                    |                                                    |                                          |
| (Same as Outside Catchment Area 3 under submission of A/YL-TT/782)                                                     |                |                                                               |                               |                                                    |                                          |
| Outside Catchment Area 2, Area                                                                                         | = 1517         | m <sup>2</sup>                                                | (C= 0.25 )                    | L3= 130.08 m,                                      | H3= 13.53 m                              |
| <b>Calculation of Design Runoff of the Proposed Development.</b>                                                       |                |                                                               |                               |                                                    |                                          |
| <b>For the design of drains inside the site</b>                                                                        |                |                                                               |                               |                                                    |                                          |
| $\Sigma Q$                                                                                                             | =              | $\Sigma 0.278 C i A$                                          |                               |                                                    |                                          |
| A                                                                                                                      | =              | 541+1517                                                      | m <sup>2</sup>                |                                                    |                                          |
|                                                                                                                        | =              | 2058                                                          |                               |                                                    |                                          |
|                                                                                                                        | =              | 0.002058                                                      | km <sup>2</sup>               |                                                    |                                          |
| t                                                                                                                      | =              | $0.14465 L3/ H3^{0.2} A^{0.1}$                                |                               |                                                    |                                          |
|                                                                                                                        | =              | $0.14465*130.08/13.53^{0.2}*2335^{0.1}$                       |                               |                                                    |                                          |
|                                                                                                                        | =              | 5.211                                                         | min                           |                                                    |                                          |
| i                                                                                                                      | =              | $1.16*a/(t+b)^c$                                              |                               | (50 yrs return period, Table 3a, Corrigendum 2024, |                                          |
|                                                                                                                        | =              | $1.16*505.5/(5.211+3.29)^{0.355}$                             |                               | SDM) and (16% increase due to climate change)      |                                          |
|                                                                                                                        | =              | 274.3                                                         | mm/hr                         |                                                    |                                          |
| Therefore, Q1                                                                                                          | =              | $0.278*0.25*274.3*0.001517/0.9+0.278*0.95*274.3*0.000541/0.9$ |                               | (0.9 factor is adopted for sediment)               |                                          |
|                                                                                                                        | =              | <b>0.0757</b>                                                 | m <sup>3</sup> /sec           |                                                    |                                          |
| <b>Manning Equation</b>                                                                                                | V              | =                                                             | $R^{2/3}*S_f^{0.5}/n$         |                                                    |                                          |
| where                                                                                                                  | R              | =                                                             | $(\pi r^2/2+2r^2)/(\pi r+2r)$ | r= 0.15 m                                          |                                          |
|                                                                                                                        |                | =                                                             | 0.1042                        | m                                                  | A= 0.0803 m <sup>2</sup>                 |
|                                                                                                                        | n              | =                                                             | 0.012                         | s/m <sup>1/3</sup>                                 | (Talbe 13 of Stormwater Drainage Manual) |
|                                                                                                                        | S <sub>f</sub> | =                                                             | 0.01                          | (1:100)                                            |                                          |
| Therefore, V                                                                                                           | =              | $0.1042^{2/3}*0.01^{0.5}/0.012$                               |                               |                                                    |                                          |
|                                                                                                                        | =              | 1.845                                                         | m/sec                         |                                                    |                                          |
| Maximum Capacity (Qmax)                                                                                                | =              | V*A                                                           |                               |                                                    |                                          |
|                                                                                                                        | =              | <b>0.148</b>                                                  | m <sup>3</sup> /sec           |                                                    |                                          |
|                                                                                                                        | >              | <b>0.0757</b>                                                 | m <sup>3</sup> /sec           |                                                    |                                          |
| % utilization                                                                                                          | =              | <b>51%</b>                                                    |                               |                                                    |                                          |
| <b>Provide 300UC (1:100) is OK</b>                                                                                     |                |                                                               |                               |                                                    |                                          |
| <b>*Design checking for downstream refers to Appendix A: Drainage Proposal under Planning Application A/YL-TT/782)</b> |                |                                                               |                               |                                                    |                                          |





## 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**

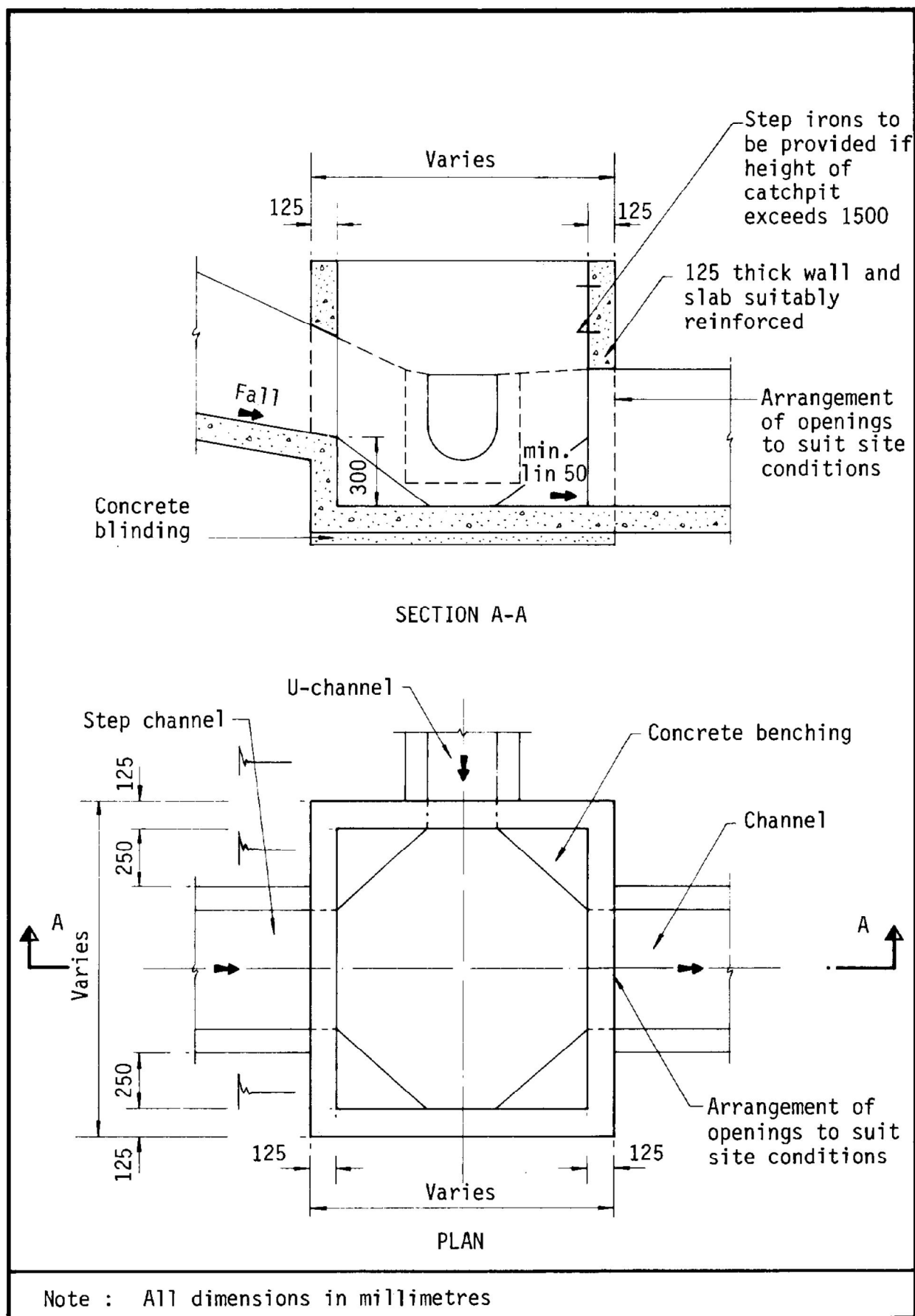
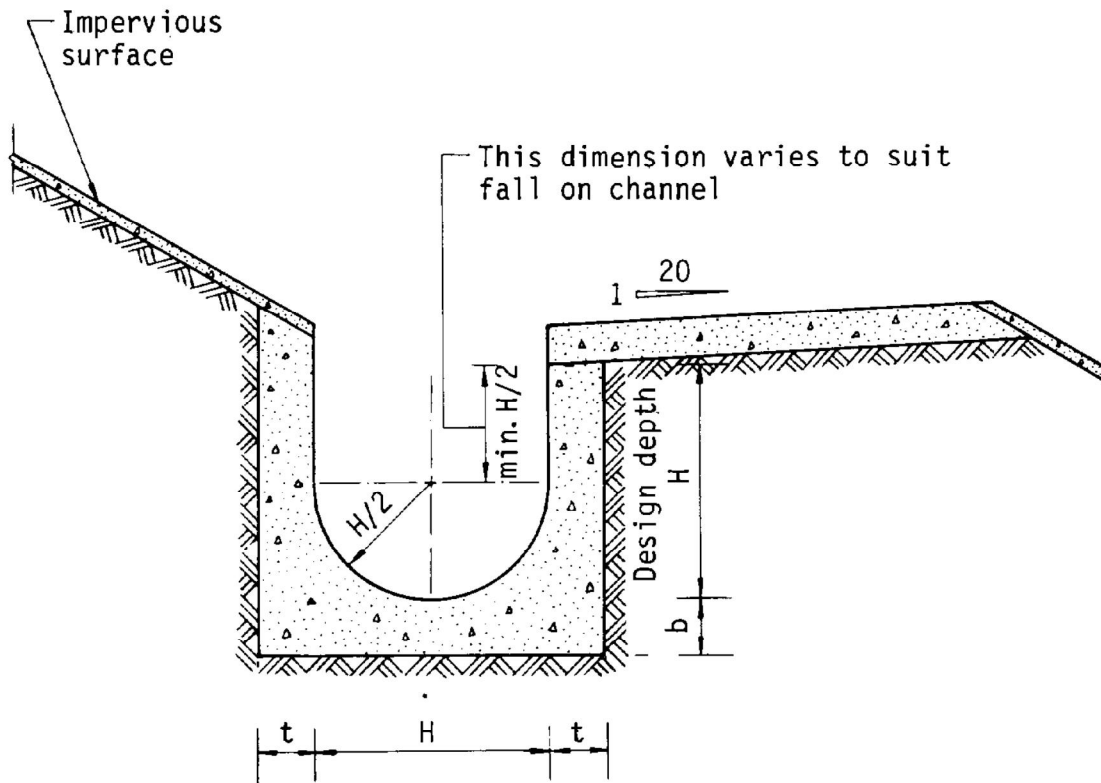


Figure 8.10 - Typical Details of Catchpits



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                |

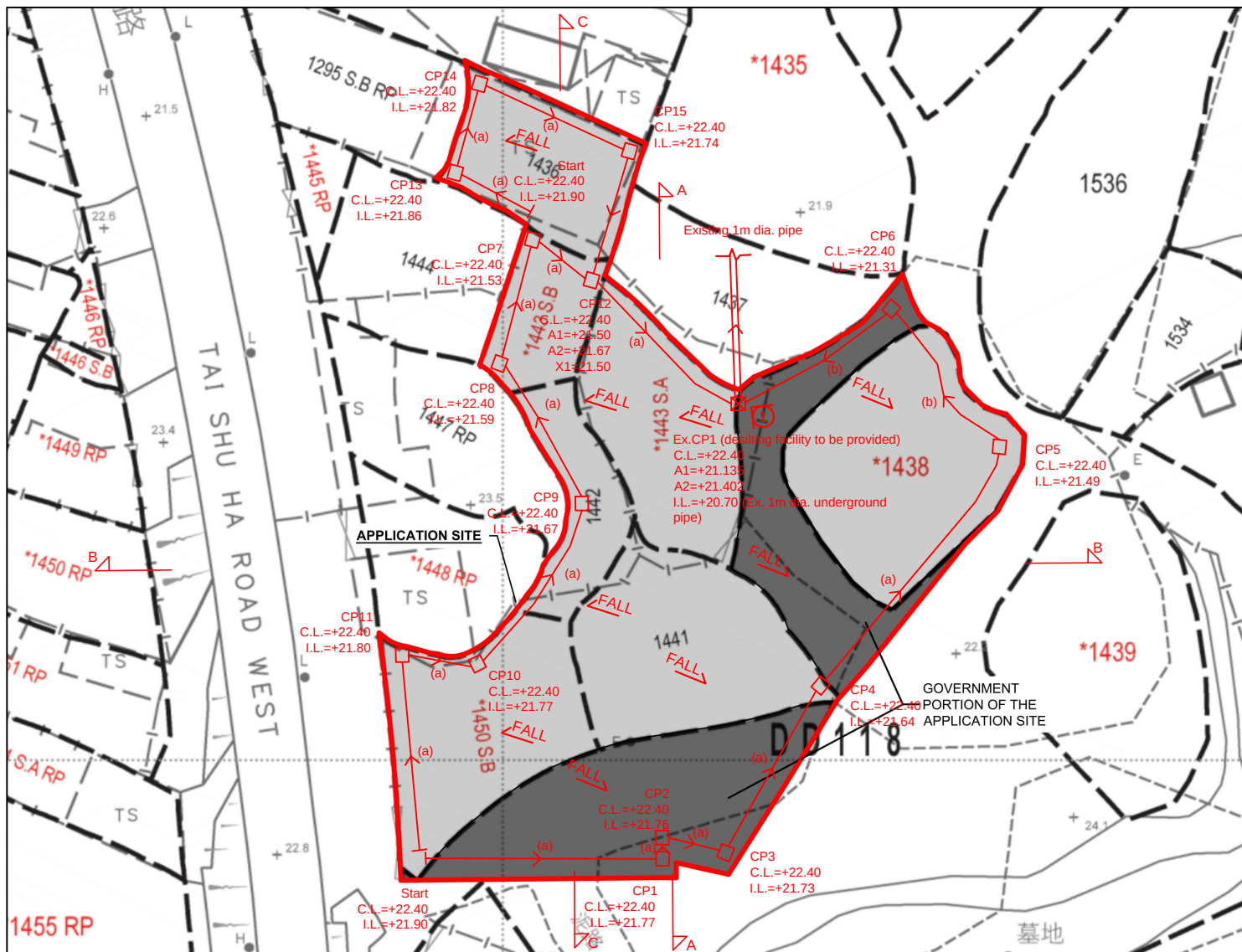
Figure 8.11 - Typical U-channel Details

## Appendix A

Drainage Proposal under Planning Application

A/YL-TT/782





#### Note:

1. Existent Catchpits (CP1) shall be modified to provided desilting facility

2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.

3. Adjacent area which is developed or occupied, which has their stormwater collection syste.

4. Minor filling works to be carried out. Existing Formation Level is +22.20mPD. Proposed Formation Level is +22.40mPD. The cover level of proposed UC shall be flush with adjoining ground.

#### LEGEND

□ CP Proposed CatchPit

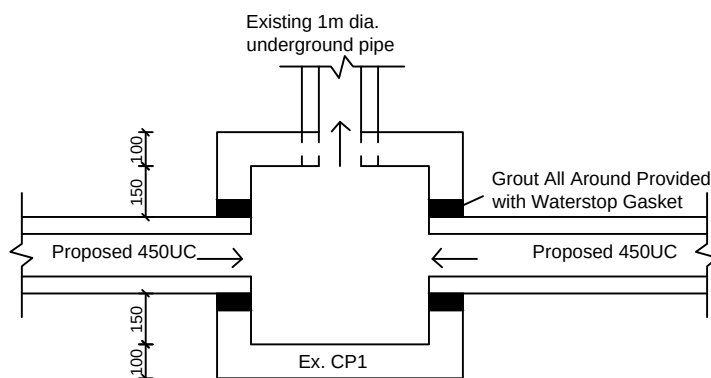
☒ CP Existing CatchPit

(a) Proposed 450UC (1:200) with Cast Iron Cover

(b) Proposed 450UC (1:100) with Cast Iron Cover

Existing 1m dia. underground pipe

① Photo Viewport



CONNECTION DETAILS

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

#### Project:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land at Various Lots in D.D. 118 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (Application No.:A/YL-TT/782)

#### Title:

Drainage Proposal - LAYOUT

D01

#### Drawn by:

DM

#### Date:

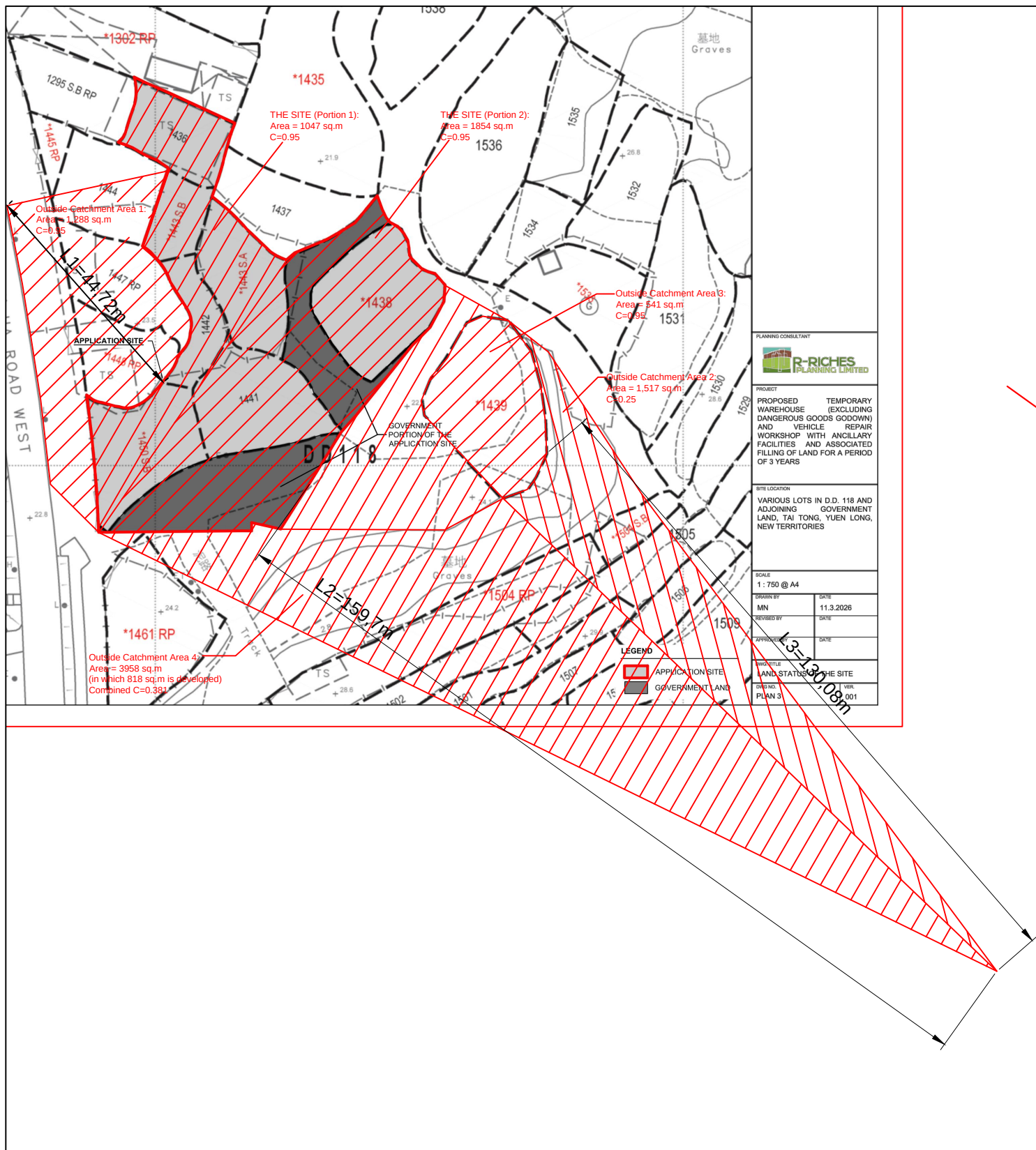
25-6-2026

#### Check by:

DM

#### Scale:

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正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:

**Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land at Various Lots in D.D. 118 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories**  
(Application No.:A/YL-TT/782)

Title:

Drainage Proposal  
(Catchment Area Plan)

D02

Drawn by:

DM

Date:

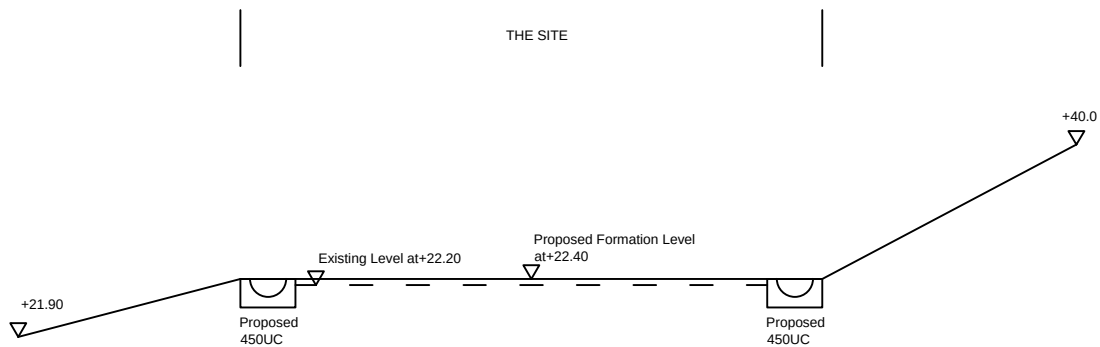
25-6-2026

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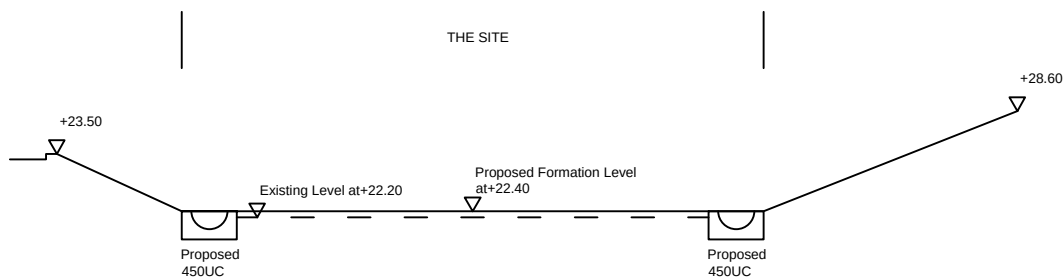
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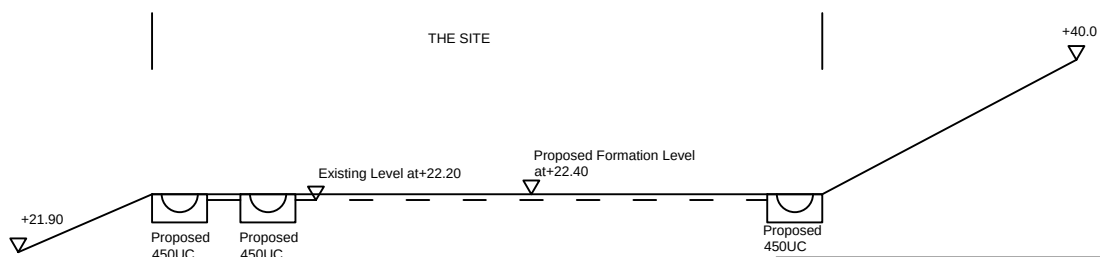
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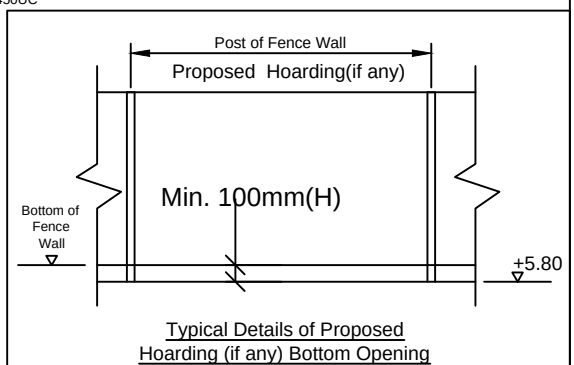
SECTION A-A



SECTION B-B



SECTION C-C



正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:  
**Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land at Various Lots in D.D. 118 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories**  
 (Application No.:A/YL-TT/782)

Title:

Drainage Proposal - SECTIONS

D03

Drawn by:

DM

Date:

25-6-2026

Check by:

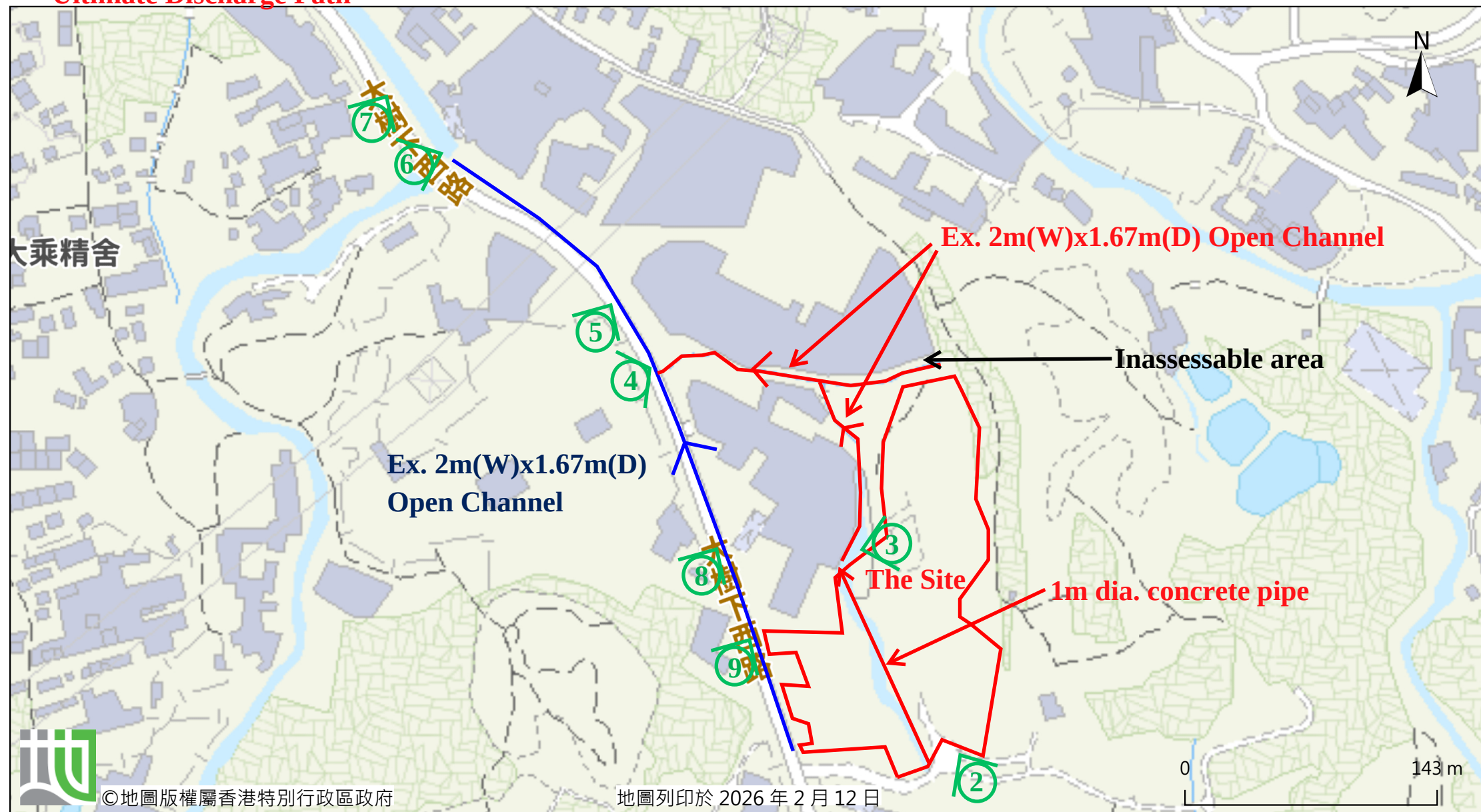
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Scale:

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## Ultimate Discharge Path





**Photo 1**



**Photo 1a**





**Photo 2 - 1m dia. pipe**



**Photo 3 - approximate 3m(w)x1.m(D) watercourse**





**Photo 4 - Approximate 1mx1m open channel**



**Photo 5 - Approximate 1mx1m open channel**





**Photo 6**



**Photo 7**



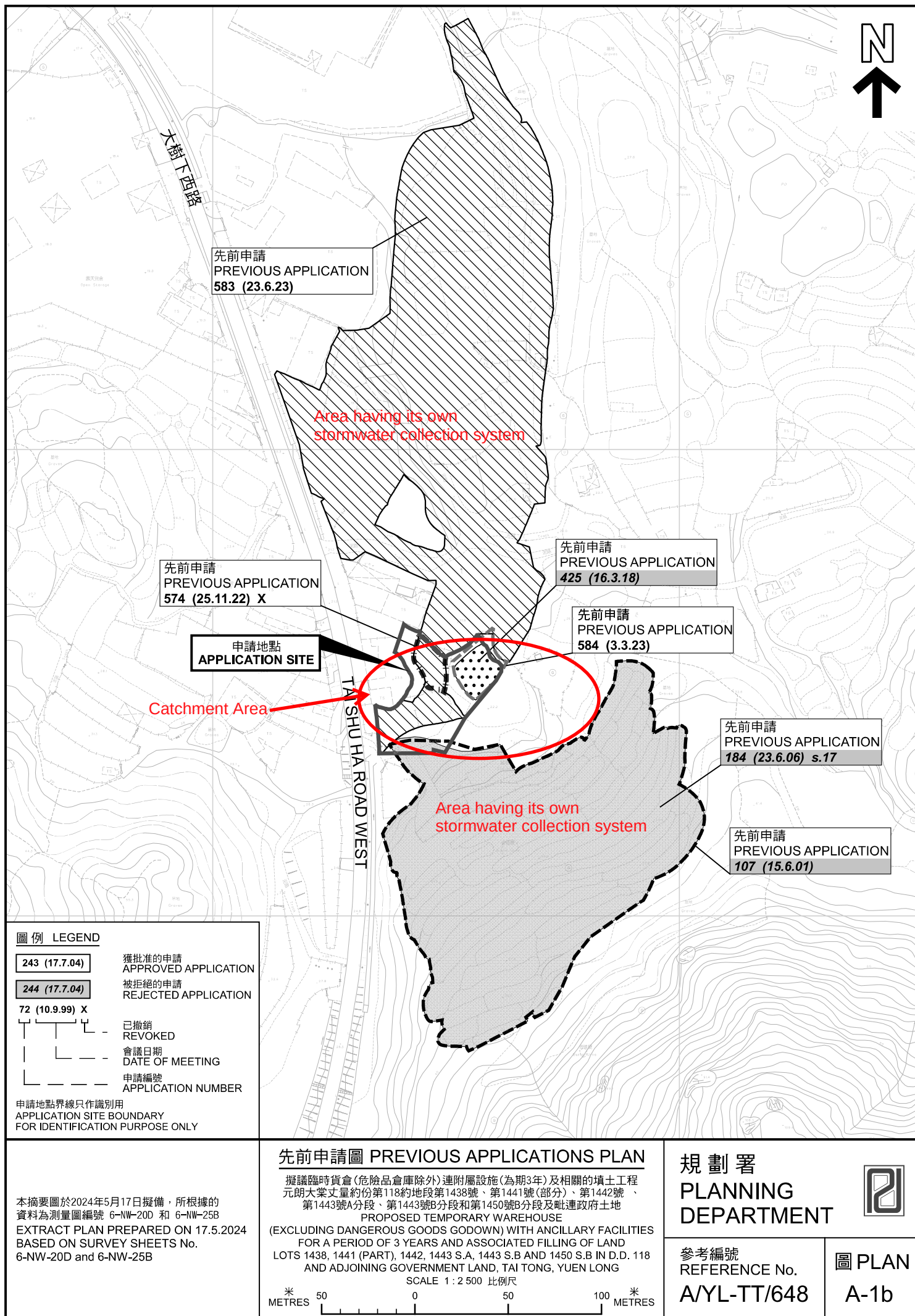


**Photo 8**



**Photo 9**









Justification of C value



由「地理資訊地圖」網站提供: <https://www.map.gov.hk>

Catchment Area 4 Combined C=0.381

注意: 使用此地圖受「地理資訊地圖」的使用條款及條件以及知識產權告示約束。



|                                                                                                                       |        |                                                         |                     |                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------|
| Outside Catchment Area 1, Area                                                                                        | = 1288 | m <sup>2</sup>                                          | (C= 0.95 )          | L1= 44.72 m, H1= 1 m                                                                             |
| Outside Catchment Area 2, Area                                                                                        | = 1517 | m <sup>2</sup>                                          | (C= 0.25 )          | L2= 159.7 m, H2= 11.02 m                                                                         |
| Outside Catchment Area 3, Area                                                                                        | = 541  | m <sup>2</sup>                                          | (C= 0.95 )          | where H2= (40+22.4)*100/159.7                                                                    |
| Outside Catchment Area 4, Area                                                                                        | = 4371 | m <sup>2</sup>                                          | (C= 0.381 )         |                                                                                                  |
| THE SITE (Portion 1), Area                                                                                            | = 1047 | m <sup>2</sup>                                          | (C= 0.95 )          | L3= 130.08 m, H3= 13.53 m                                                                        |
| THE SITE (Portion 2), Area                                                                                            | = 1854 | m <sup>2</sup>                                          | (C= 0.95 )          | where H3= (40+22.4)*100/130.08                                                                   |
| <b>Calculation of Design Runoff of the Proposed Development.</b>                                                      |        |                                                         |                     |                                                                                                  |
| <b>For the design of drains from Start Point to Ex. CP1 via CP11, The Site (Portion 1) + Outside Catchment Area 1</b> |        |                                                         |                     |                                                                                                  |
| $\Sigma Q$                                                                                                            | =      | $\Sigma 0.278 C i A$                                    |                     |                                                                                                  |
| A                                                                                                                     | =      | 1047+1288                                               | m <sup>2</sup>      |                                                                                                  |
|                                                                                                                       | =      | 2335                                                    |                     |                                                                                                  |
|                                                                                                                       | =      | 0.002335                                                | km <sup>2</sup>     |                                                                                                  |
| t                                                                                                                     | =      | 0.14465 L1/ H1 <sup>0.2</sup> A <sup>0.1</sup>          |                     |                                                                                                  |
|                                                                                                                       | =      | 0.14465*44.72/1 <sup>0.2</sup> *2335 <sup>0.1</sup>     |                     |                                                                                                  |
|                                                                                                                       | =      | 2.978                                                   | min                 |                                                                                                  |
| i                                                                                                                     | =      | 1.16*a/(t+b) <sup>c</sup>                               |                     | (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (16% increase due to climate change) |
|                                                                                                                       | =      | 1.16*505.5/(2.978+3.29) <sup>0.355</sup>                |                     |                                                                                                  |
|                                                                                                                       | =      | 305.6                                                   | mm/hr               |                                                                                                  |
| Therefore, Q1                                                                                                         | =      | 0.278*0.95*305.6*0.002335/0.9                           |                     | (0.9 factor is adopted for sediment)                                                             |
|                                                                                                                       | =      | <b>0.2094</b>                                           | m <sup>3</sup> /sec |                                                                                                  |
| <b>Manning Equation</b>                                                                                               |        |                                                         |                     |                                                                                                  |
| V                                                                                                                     | =      | $R^{2/3} * S_f^{0.5} / n$                               |                     |                                                                                                  |
| where R                                                                                                               | =      | $(\pi r^2 / 2 + 2r^2) / (\pi r + 2r)$                   | r= 0.225 m          |                                                                                                  |
|                                                                                                                       | =      | 0.1563                                                  | m                   | A= 0.1808 m <sup>2</sup>                                                                         |
| n                                                                                                                     | =      | 0.012                                                   | s/m <sup>1/3</sup>  | (Talbe 13 of Stormwater Drainage Manual)                                                         |
| S <sub>f</sub>                                                                                                        | =      | 0.005                                                   | (1:200)             |                                                                                                  |
| Therefore, V                                                                                                          | =      | 0.1563 <sup>2/3</sup> *0.005 <sup>0.5</sup> /0.012      |                     |                                                                                                  |
|                                                                                                                       | =      | 1.710                                                   | m/sec               |                                                                                                  |
| Maximum Capacity (Qmax)                                                                                               | =      | V*A                                                     |                     |                                                                                                  |
|                                                                                                                       | =      | <b>0.309</b>                                            | m <sup>3</sup> /sec |                                                                                                  |
|                                                                                                                       | >      | <b>0.2094</b>                                           | m <sup>3</sup> /sec |                                                                                                  |
| % utilization                                                                                                         | =      | <b>68%</b>                                              |                     |                                                                                                  |
| <b>Provide 450UC (1:200) is OK</b>                                                                                    |        |                                                         |                     |                                                                                                  |
| <b>Calculation of Design Runoff of the Proposed Development.</b>                                                      |        |                                                         |                     |                                                                                                  |
| <b>For the design of drains Start Point to CP5 , The Site (Portion 2) + Outside Catchment Area 4</b>                  |        |                                                         |                     |                                                                                                  |
| $\Sigma Q$                                                                                                            | =      | $\Sigma 0.278 C i A$                                    |                     |                                                                                                  |
| A                                                                                                                     | =      | 1854+4371                                               | m <sup>2</sup>      |                                                                                                  |
|                                                                                                                       | =      | 6225                                                    |                     |                                                                                                  |
|                                                                                                                       | =      | 0.006225                                                | km <sup>2</sup>     |                                                                                                  |
| t                                                                                                                     | =      | 0.14465 L2/ H2 <sup>0.2</sup> A <sup>0.1</sup>          |                     |                                                                                                  |
|                                                                                                                       | =      | 0.14465*159.7/11.02 <sup>0.2</sup> *6225 <sup>0.1</sup> |                     |                                                                                                  |
|                                                                                                                       | =      | 5.967                                                   | min                 |                                                                                                  |
| i                                                                                                                     | =      | 1.16*a/(t+b) <sup>c</sup>                               |                     | (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (16% increase due to climate change) |
|                                                                                                                       | =      | 1.16*505.5/(5.967+3.29) <sup>0.355</sup>                |                     |                                                                                                  |
|                                                                                                                       | =      | 266.1                                                   | mm/hr               |                                                                                                  |
| Therefore, Q2                                                                                                         | =      | 0.278*0.381*266.1*0.004371+0.278*0.95*266.1*0.001854    |                     |                                                                                                  |
|                                                                                                                       | =      | 0.2535                                                  | m <sup>3</sup> /sec |                                                                                                  |
|                                                                                                                       | =      | <b>15211</b>                                            | lit/min             |                                                                                                  |
| <b>Manning Equation</b>                                                                                               |        |                                                         |                     |                                                                                                  |
| V                                                                                                                     | =      | $R^{2/3} * S_f^{0.5} / n$                               |                     |                                                                                                  |
| where R                                                                                                               | =      | $(\pi r^2 / 2 + 2r^2) / (\pi r + 2r)$                   | r= 0.225 m          |                                                                                                  |
|                                                                                                                       | =      | 0.1563                                                  | m                   | A= 0.1808 m <sup>2</sup>                                                                         |
| n                                                                                                                     | =      | 0.012                                                   | s/m <sup>1/3</sup>  | (Talbe 13 of Stormwater Drainage Manual)                                                         |
| S <sub>f</sub>                                                                                                        | =      | 0.005                                                   | (1:200)             |                                                                                                  |
| Therefore, V                                                                                                          | =      | 0.1563 <sup>2/3</sup> *0.005 <sup>0.5</sup> /0.012      |                     |                                                                                                  |
|                                                                                                                       | =      | 1.710                                                   | m/sec               |                                                                                                  |
| Maximum Capacity (Qmax)                                                                                               | =      | V*A                                                     |                     |                                                                                                  |
|                                                                                                                       | =      | <b>0.309</b>                                            | m <sup>3</sup> /sec |                                                                                                  |
|                                                                                                                       | >      | <b>0.2535</b>                                           | m <sup>3</sup> /sec |                                                                                                  |
| % utilization                                                                                                         | =      | <b>82%</b>                                              |                     |                                                                                                  |
| <b>Provide 450UC (1:200) is OK</b>                                                                                    |        |                                                         |                     |                                                                                                  |

**For the design of drains from CP5 to EX. CP1, Outside Catchment Area (2+3) + Q2**

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

$$\begin{aligned} A &= 1517+541 \quad \text{m}^2 \\ &= 2058 \\ &= 0.002058 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L^3 / H^3 \cdot A^{0.1} \\ &= 0.14465 * 130.08 / 13.53^{0.2} * 2058^{0.1} \\ &= 5.21 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.16 * a / (t+b)^c \quad (50 \text{ yrs return period, Table 3a, Corrigendum 2024, SDM) and (16\% increase due to climate change)} \\ &= 1.16 * 505.5 / (3.61+3.29)^{0.355} \\ &= 274.3 \quad \text{mm/hr} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } Q_3 &= 0.278 * 0.25 * 274.3 * 0.001517 + 0.278 * 0.95 * 274.3 * 0.000541 + Q_2 \\ &= \mathbf{0.3216} \quad \text{m}^3/\text{sec} \end{aligned}$$

**Manning Equation**

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

$$\begin{aligned} \text{where } R &= (\pi r^2 / 2 + 2r^2) / (\pi r + 2r) \quad r = 0.225 \quad \text{m} \\ &= 0.1563 \quad \text{m} \quad A = 0.1808 \quad \text{m}^2 \end{aligned}$$

$$n = 0.012 \quad \text{s/m}^{1/3} \quad (\text{Table 13 of Stormwater Drainage Manual})$$

$$S_f = 0.010 \quad (1:100)$$

$$\begin{aligned} \text{Therefore, } V &= 0.1563^{2/3} * 0.01^{0.5} / 0.012 \\ &= 2.418 \quad \text{m/sec} \end{aligned}$$

$$\begin{aligned} \text{Maximum Capacity (Qmax)} &= V * A \\ &= \mathbf{0.437} \quad \text{m}^3/\text{sec} \\ &> \mathbf{0.3216} \quad \text{m}^3/\text{sec} \end{aligned}$$

$$\% \text{ utilization} = \mathbf{74\%}$$

**Provide 450UC (1:100) is OK**

**For the design of drains outfall from the site, Q1+Q3**

$$\begin{aligned} Q &= Q_1 + Q_3 \\ &= 0.2094 + 0.3216 \\ &= \mathbf{0.5310} \quad \text{lit/min} \end{aligned}$$

Check Ex. 1m dia. Pipes by Colebrook-White Equation

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

where :

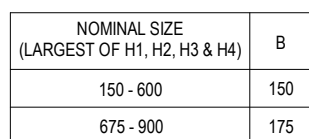
$$\begin{aligned} V &= \text{mean velocity (m/s)} \\ g &= 9.81 \quad \text{m/s}^2 \quad \text{gravitational acceleration (m/s}^2\text{)} \\ D &= 1 \quad \text{m} \quad \text{internal pipe diameter (m)} \\ ks &= 0.00006 \quad \text{m} \quad \text{hydraulic pipeline roughness (m)} \quad (\text{Table14, from DSD SDM 2018, concrete pipe}) \\ v &= 1.14E-06 \quad \text{m}^2/\text{s} \quad \text{kinematic viscosity of fluid (m}^2/\text{s)} \\ s &= 0.005 \quad \text{hydraulic gradient} \quad (1: 200) \end{aligned}$$

$$\begin{aligned} \text{Therefore, design V} &= 2.88 \quad \text{m/s} \\ \text{of pipe capacity} & \end{aligned}$$

$$\begin{aligned} Q &= 0.8VA \quad (0.8 \text{ factor for sedimentation}) \\ &= \mathbf{1.809} \quad \text{m}^3/\text{s} \\ &> \mathbf{0.5310} \quad \text{m}^3/\text{s} \quad \text{Ok} \\ \% \text{ utilization} &= \mathbf{29\%} \end{aligned}$$

**Existing 1m dia. concrete pipe (1:200) is OK**





- SECTION A - A

|             |                         |                  |             |
|-------------|-------------------------|------------------|-------------|
| A           | BIM OBJECT REVISION.    | Original Signed  | 12.2025     |
| —           | FORMER DRG. NO. C2406J. | Original Signed  | 03.2015     |
| <b>REF.</b> | <b>REVISION</b>         | <b>SIGNATURE</b> | <b>DATE</b> |

# CATCHPIT WITH TRAP (SHEET 1 OF 2)

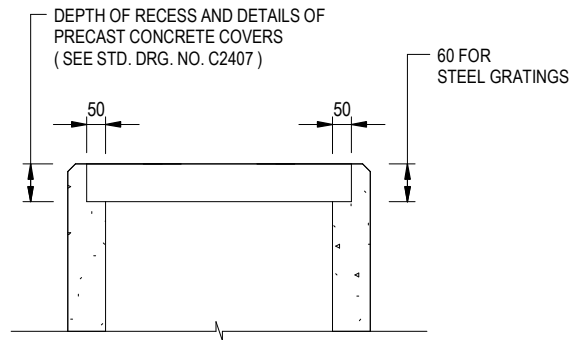

**CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT**

**SCALE** 1 : 20

|      |          |
|------|----------|
| DATE | JAN 1991 |
|------|----------|

|                    |
|--------------------|
| <b>DRAWING NO.</b> |
|--------------------|

C2406 /1A



## 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**

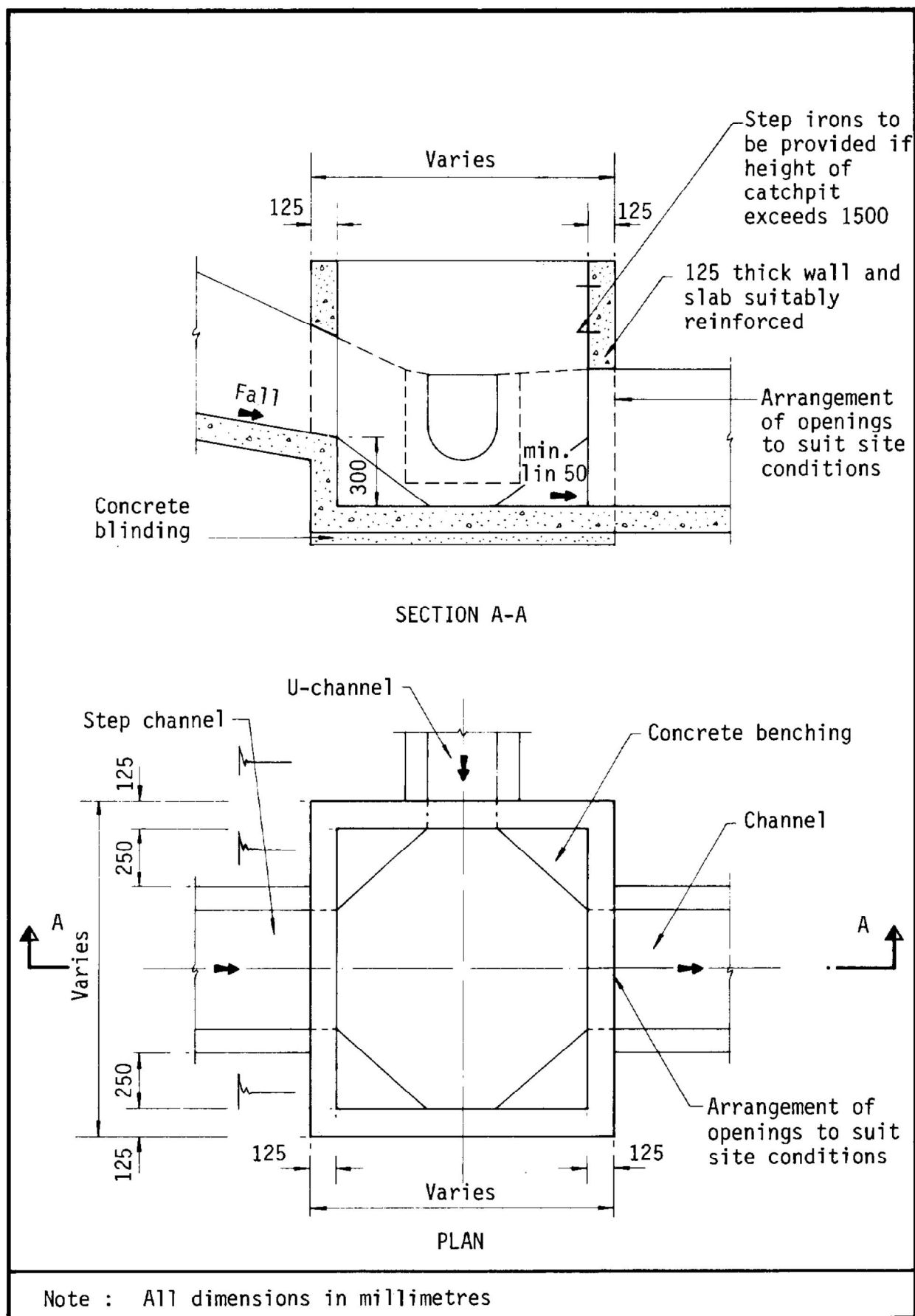
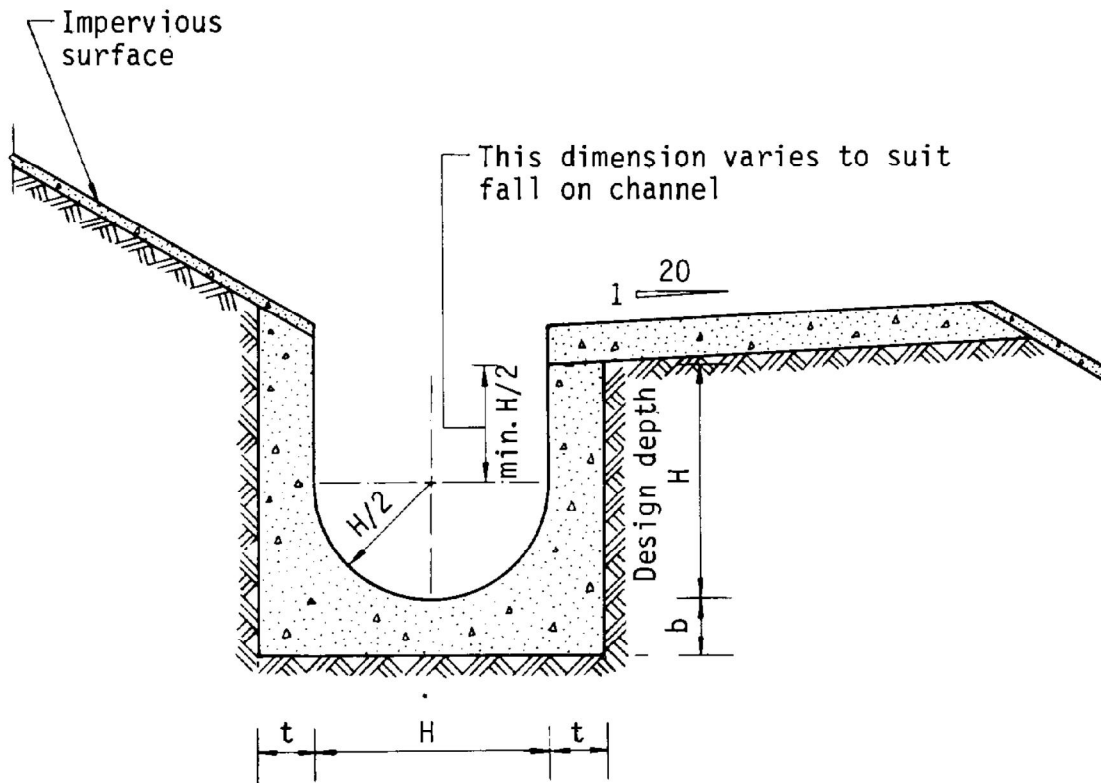


Figure 8.10 - Typical Details of Catchpits





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