TOCO PLANNING CONSULTANTS LTD.
TOWN PLANNING, ENVIRONMENT & DEVELOPMENT CONSULTANCY
達材都市規劃顧問有限公司

[redacted]

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

Your ref: A/YL-NSW/370

Dear Sir/ Madam, 12 November 2026

**Section 16 Planning Application for Proposed Temporary Sales of Private Cars, Motor Vehicle Showroom, Vehicle Maintenance Workshop, Retail Shop for Car Components/ Accessories and Convenience Store with Associated Uses for a Period of 3 Years at Lot Nos. 766 S.A, 766 S.C and 767 in D.D. 115, Au Tau, Yuen Long**

We refer to our captioned submission dated 9.4.2026 and we have received comments from the Drainage Services Department (DSD) via FS&YLE District Planning Office (DPO) email on 9.11.2026.

In response to comments from DSD, please find enclosed 3 copies each of the Response-to-Comments table with revised Drainage Proposal attached for your attention.

Yours faithfully,
Toco Planning Consultants Ltd.

Ted Chan
Managing Director

*cc. Client*
*FS&YLE DPO - Ms. LAI Pui Yin, Athena*

TED T. C. CHAN
MPIA, MHKIP, RPP

# 1. RESPONSES TO DEPARTMENTAL COMMENTS

## 1. Responses to Comments from Drainage Services Department (DSD)

| Item | Departmental Comments | The Applicant's Responses |
|---|---|---|
| **Comments on Further Information (II) Received on 9.11.2026** | | |
| DSD(1) | (a) According to the external catchment considered in the hydraulic calculation, the ground level on the eastern side is higher than the application site. However, the C.L. of proposed 300UC at the starting point and at CP1 is +9.15 mPD, which is higher than the existing ground level on the eastern side (i.e. +8.5 mPD) as shown on the proposed drainage layout plan. Please review the C.L. of proposed U-channel at the starting point and catchpit CP1. | Catchment area has been revised accordingly. CL of CP1 has been revised to +8.975. |
| DSD(2) | (b) Please review the cross sections to present the existing ground level of the adjacent areas, in particular the northern and eastern areas. | Cross sections have been revised accordingly. |
| DSD(3) | (c) The invert level at the starting point of the proposed u-channel (+8.85mPD) should not be the same as CP1 (+8.85mPD) which result in zero gradient, please review. | Invert level of CP1 and start point has been revised accordingly. |
| DSD(4) | (d) Please consider to change the proposed 300 mm underground channels into surface channel to convey the surface runoff. | It is revised to proposed 375UC. |
| DSD(5) | (e) Please provide a site photo showing the existing ground conditions at the location of proposed catchpit CP6 and | Site photo showing location of CP6 is provided. |

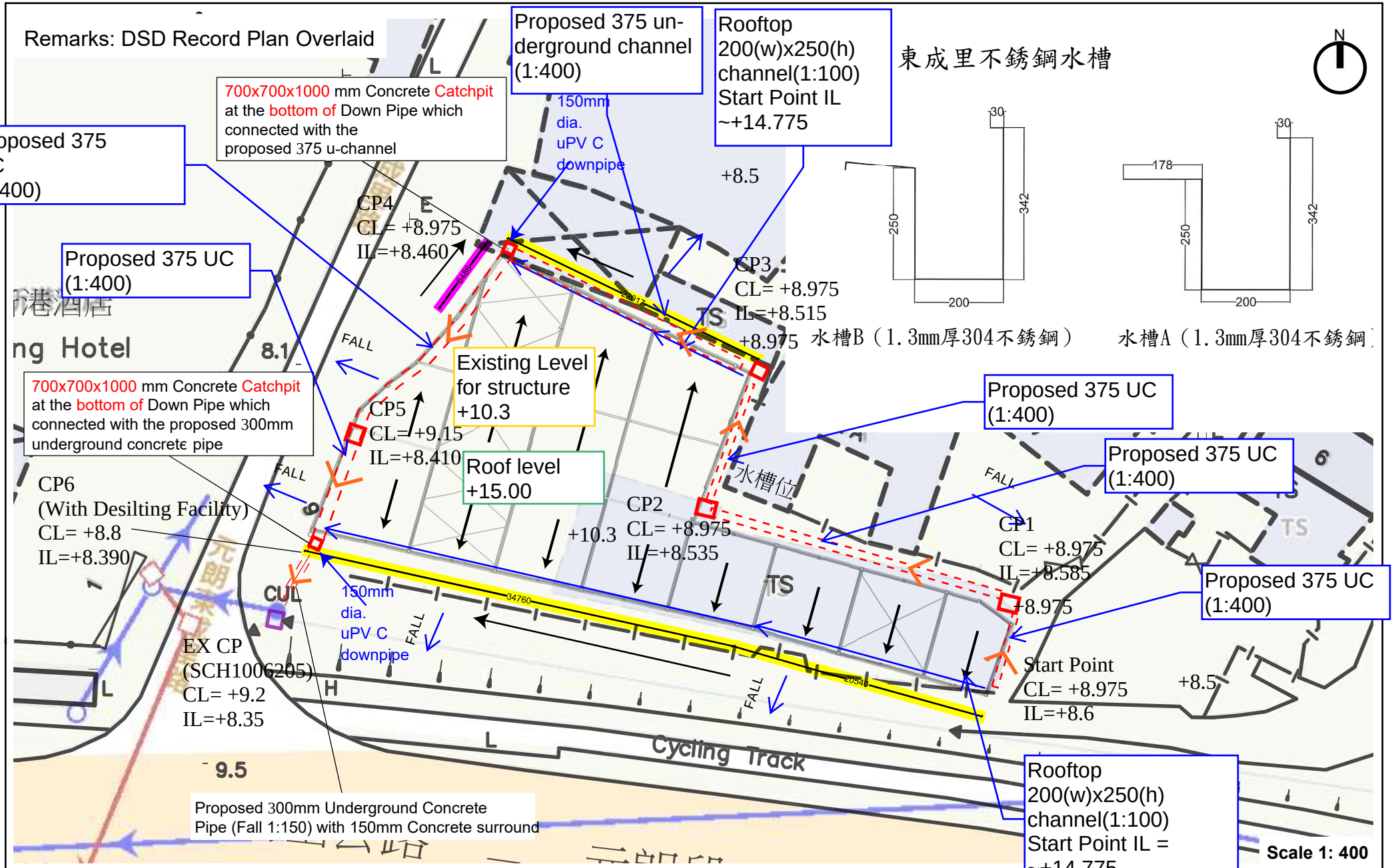
| Item | Departmental Comments | The Applicant's Responses |
|---|---|---|
| | indicate the location of the proposed catchpit CP6 in the photo for ease of reference. | |
| DSD(6) | (f) Please state the size and material of the proposed downpipe on the drainage layout plan. | 150mm dia, uPVC downpipe is indicated on plan. |
| DSD(7) | (g) Please review the note "700x700x1000mm Concrete Catchpit at the bottom of Down Pipe which connected with the proposed 200 Cast Iron Pipe" shown on the drainage layout plan, as no proposed cast iron pipe is indicated. | It is revised accordingly. |

# Drainage Proposal for

**Section 16 Planning Application for Proposed Temporary Sales of Private Cars, Motor Vehicle Showroom, Vehicle Maintenance Workshop, Retail Shop for Car Components/ Accessories and Convenience Store with Associated Uses for a Period of 3 Years at Lot Nos. 766 S.A, 766 S.C and 767 in D.D. 115, Au Tau, Yuen Long**

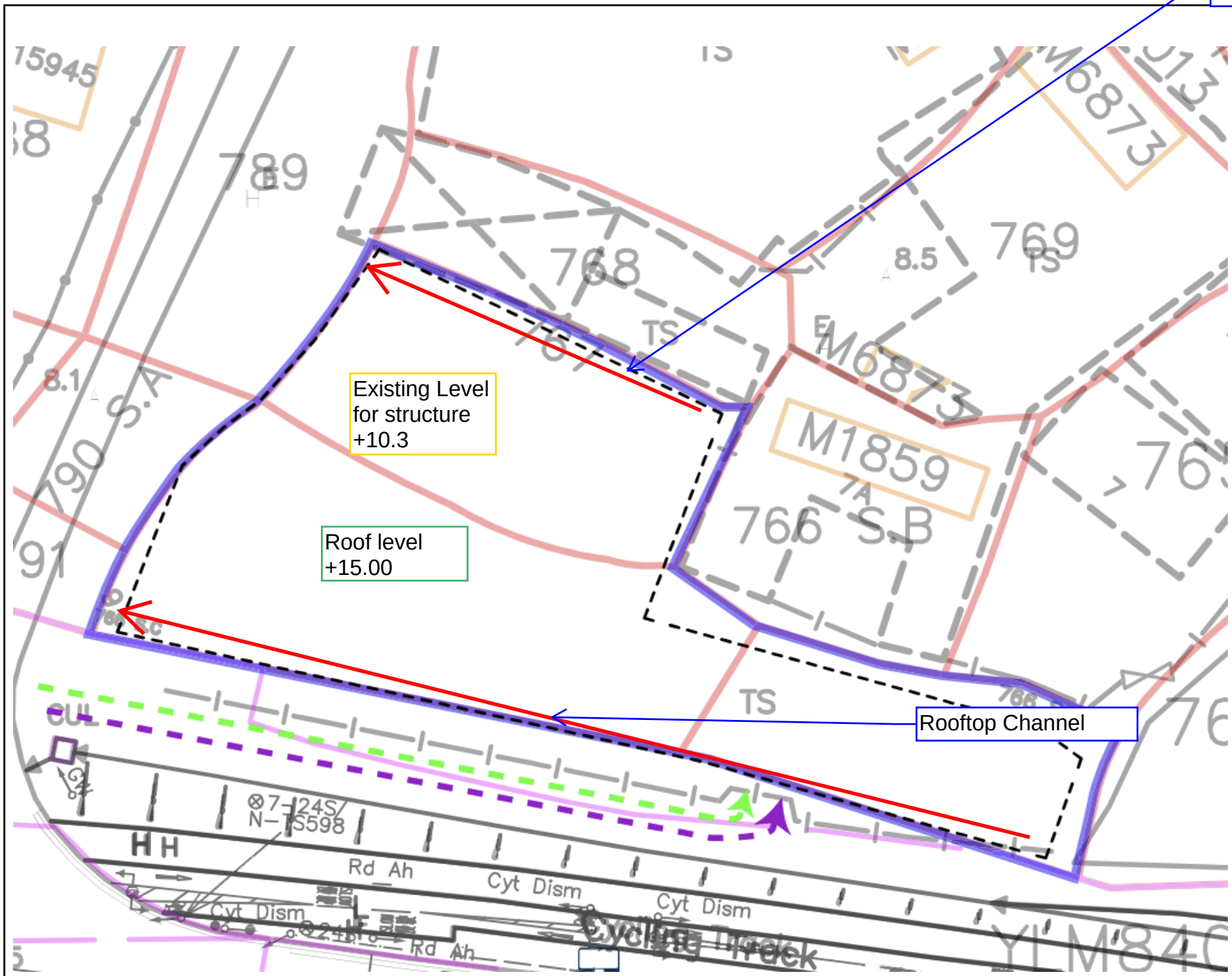
**Prepared By C & H Consulting CO., Ltd.**

**Date: Nov 2026**




# Drainage Proposal

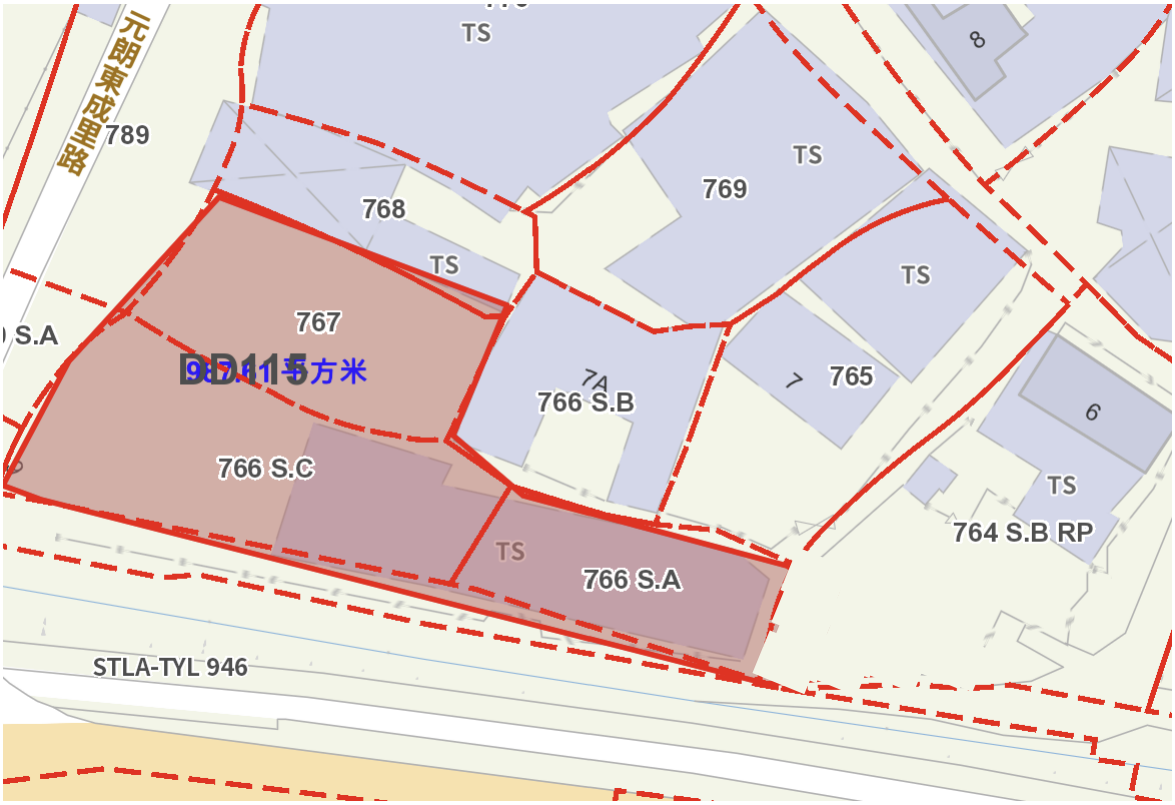
(Prepared on 12.10.2026)




# Rooftop Drainage Proposal

(Prepared on 12.10.2026)

C&H CONSULTING




$$t_o = \frac{0.14465L}{H^{0.2}\,A^{0.1}}$$

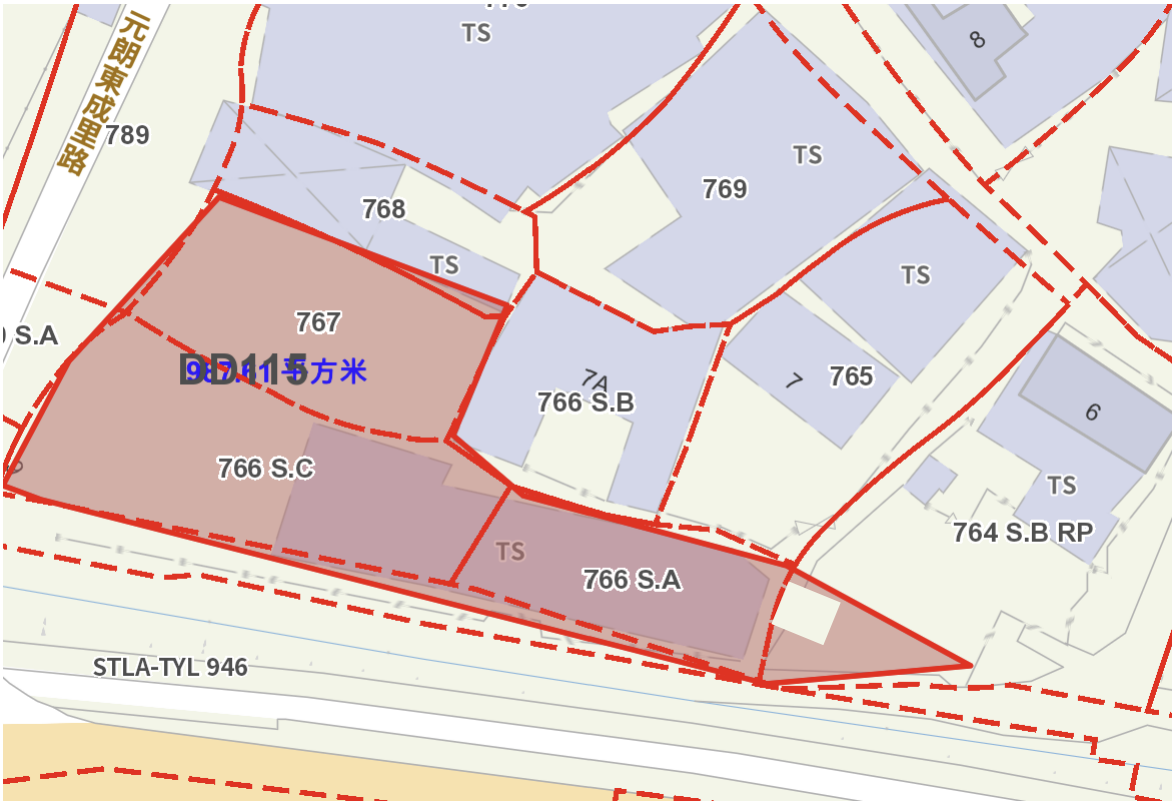
here $t_o$ = time of concentration of a natural catchment (min.)

$A$ = catchment area ($m^2$)

$H$ = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

$L$ = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

```
to = 0.14465 x 0/ (100/150)^0.2 /1280^0.1
   = 0 mins
```




$$t_o = \frac{0.14465L}{H^{0.2}\,A^{0.1}}$$

here $t_o$ = time of concentration of a natural catchment (min.)

$A$ = catchment area ($m^2$)

$H$ = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

$L$ = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

```
to = 0.14465 x 0/ (100/150)^0.2 /1280^0.1
   = 0 mins
```

Assume return period T = 50years

According to Table 3a of SDM 2018,

a = 505.5 , b = 3.29 , c = 0.355

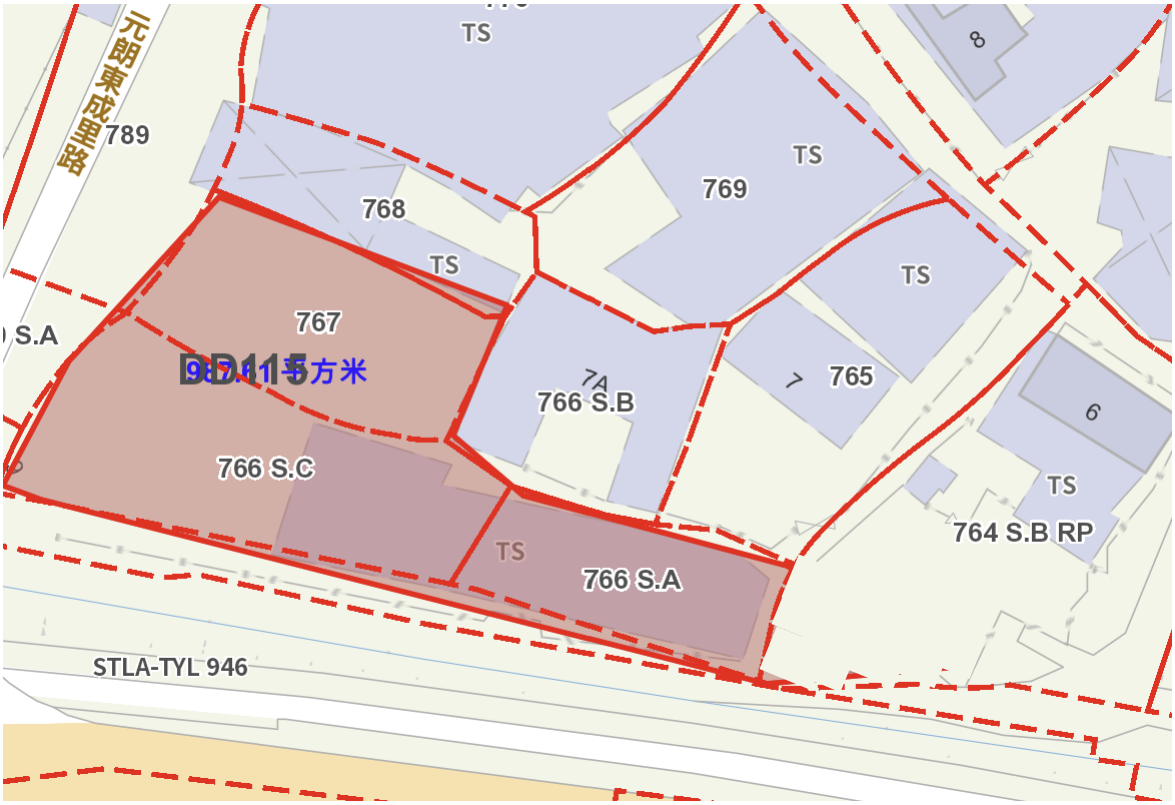
$$i = \frac{a}{(td+b)^{c}}$$

Duration in minutes is taken as 6 mins

According to Table 28 of SDM, 2018 , rainfall increase = 16%

$$i = \frac{505.5}{(0+3.29)^{0.355}}(1 + 16\%) = 331 \times (1 + 16\%) = 384\text{mm/hr}$$

384mm/hr is taken for design




Catchment Area = 987m$^2$ ， Coefficient of runoff = 0.9

According to Section 9.3 of SDM 2018, reduction in area capacity 10%, Q should be enlarged as 1.1

$Q = 0.278\ C\ i\ A \times 1.1$
$= 0.278(0.9)(384)(987 \times 10^{-6}) \times 1.1$
$= 0.1043 m^3/s$
$= 6258 lit/min$

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

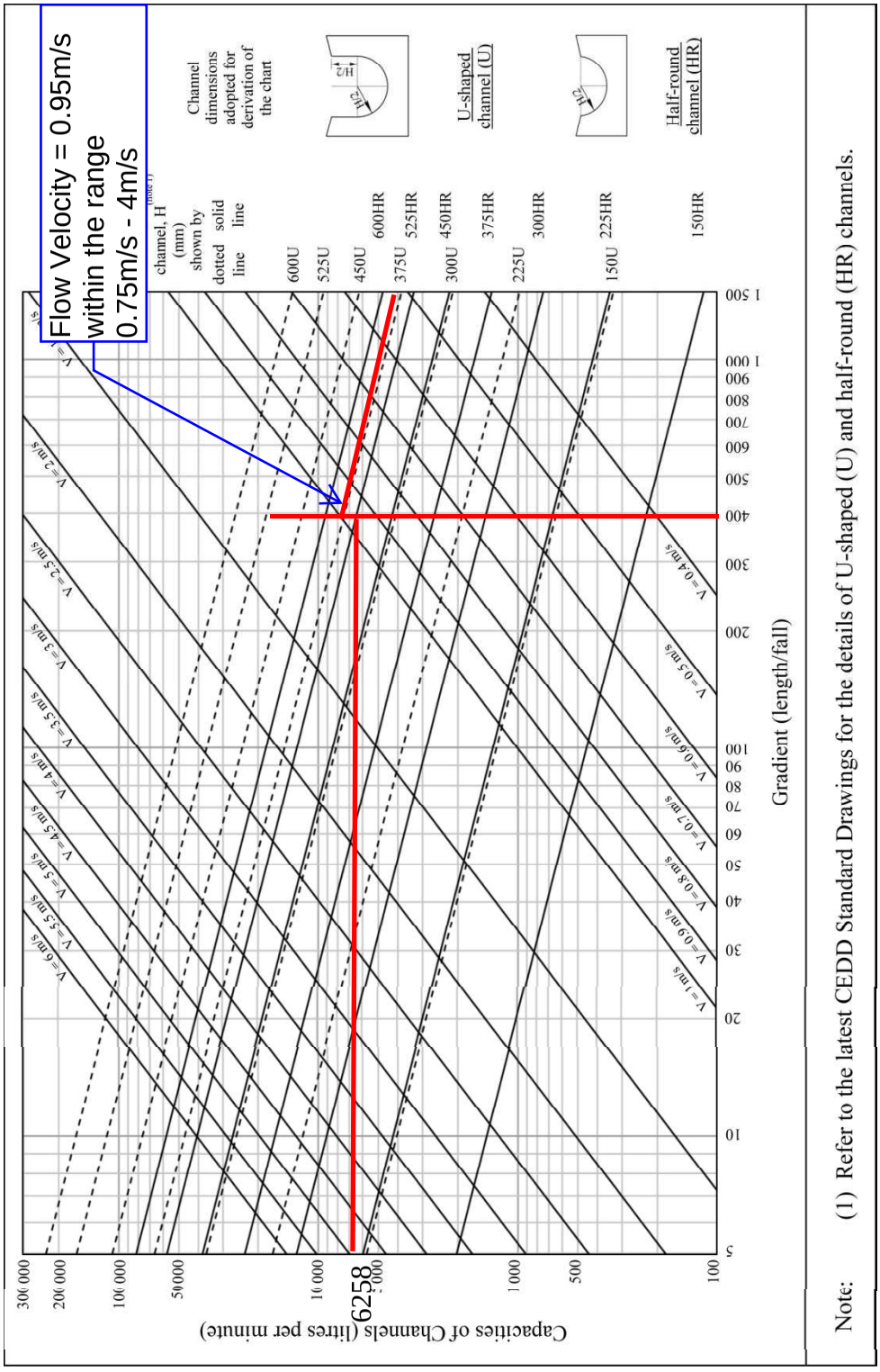
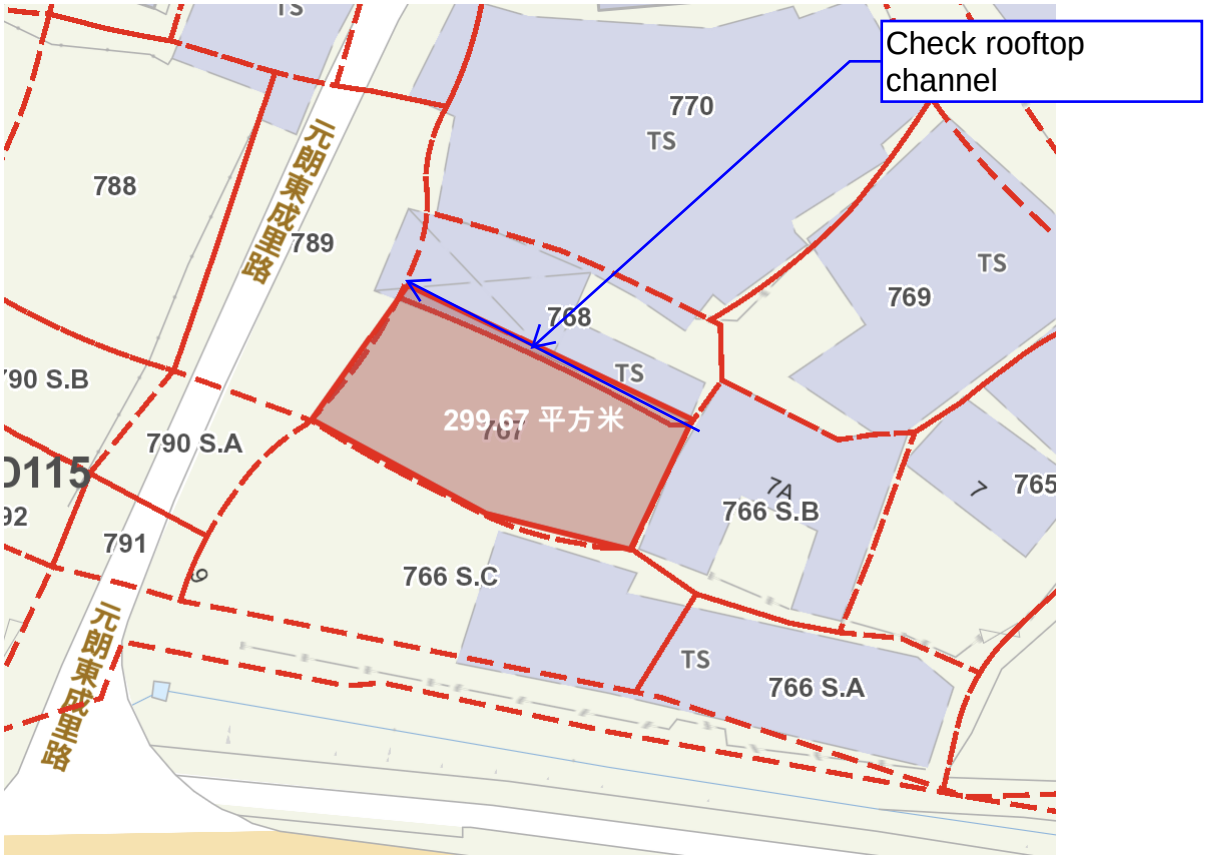



Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm

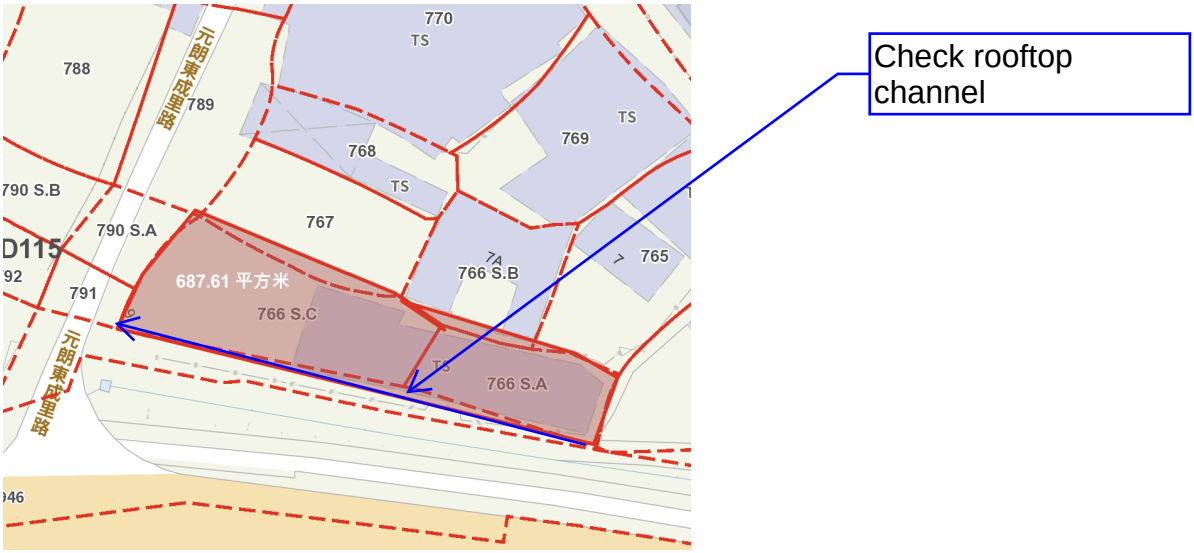
Note: (1) Refer to the latest CEDD Standard Drawings for the details of U-shaped (U) and half-round (HR) channels.




Catchment Area = 300m$^2$ ， Coefficient of runoff = 0.9

According to Section 9.3 of SDM 2018, reduction in area capacity 10%, Q should be enlarged as 1.1

Q = 0.278 C i A x 1.1
= 0.278(0.9)(384)(300x10$^{-6}$) x 1.1
= 0.0322m$^3$/s
= 1930lit/min




Catchment Area = 687m$^2$ ， Coefficient of runoff = 0.9

According to Section 9.3 of SDM 2018, reduction in area capacity 10%, Q should be enlarged as 1.1

Q = 0.278 C i A x 1.1
= 0.278(0.9)(384)(687x10$^{-6}$) x 1.1
= 0.0726m$^3$/s
= 4356lit/min

Checking 0.2m (width) x 0.25m(Depth) rooftop channel (1:100)

By Manning's equation,

$$Q = \frac{1}{n}\frac{A^{5/3}}{P^{2/3}}S_o^{1/2}$$

Take n =0.01

$S_o$ = 0.01

A =0.2x0.25 = 0.05$m^2$

P= 0.2+0.25+0.25 = 0.7m

Table 13 - Values of n to be used with the Manning equation

Source: Brater, E.F. & King, H.W. (1976)

| Surface | Best | Good | Fair | Bad |
|---|---|---|---|---|
| Uncoated cast-iron pipe | 0.012 | 0.013 | 0.014 | 0.015 |
| Coated cast-iron pipe | 0.011 | 0.012* | 0.013* | |
| Commercial wrought-iron pipe, black | 0.012 | 0.013 | 0.014 | 0.015 |
| Commercial wrought-iron pipe, galvanized | 0.013 | 0.014 | 0.015 | 0.017 |
| Smooth brass and glass pipe | 0.009 | 0.010 | 0.011 | 0.013 |
| Smooth lockbar and welded "OD" pipe | 0.010 | 0.011* | 0.013* | |
| Riveted and spiral steel pipe | 0.013 | 0.015* | 0.017* | |
| Vitrified sewer pipe | 0.010 | 0.013* | 0.015 | 0.017 |
| Common clay drainage tile | 0.011 | 0.012* | 0.014* | 0.017 |
| Glazed brickwork | 0.011 | 0.012 | 0.013* | 0.015 |
| Brick in cement mortar; brick sewers | 0.012 | 0.013 | 0.015* | 0.017 |
| Neat cement surfaces | 0.010 | 0.011 | 0.012 | 0.013 |
| Cement mortar surfaces | 0.011 | 0.012 | 0.013* | 0.015 |
| Concrete pipe | 0.012 | 0.013 | 0.015* | 0.016 |
| Wood stave pipe | 0.010 | 0.011 | 0.012 | 0.013 |
| Plank flumes - Planed | 0.010 | 0.012* | 0.013 | 0.014 |
| - Unplaned | 0.011 | 0.013* | 0.014 | 0.015 |
| - With battens | 0.012 | 0.015* | 0.016 | |
| Concrete-lined channels | 0.012 | 0.014* | 0.016* | 0.018 |

Q = 1/0.01 x (0.05)^(5/3) x 0.01^0.5 / 0.7^(2/3)

= 0.086$m^3/s$

> 0.0726$m^3/s$ OK!

Proposed rooftop channel (1:100) can cater the surface runoff from proposed development

Check existing 300 ϕ PE100 pipe by Colebook - white Equation.

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

$g = 9.81 m/s^2$

$D = 0.3m$

Ks = 0.00015m (Table 5, from DSD Sewage Manual, concrete pipe)

$v = 1.14 \times 10^{-6}\ m^2/s$

$S = 0.015$

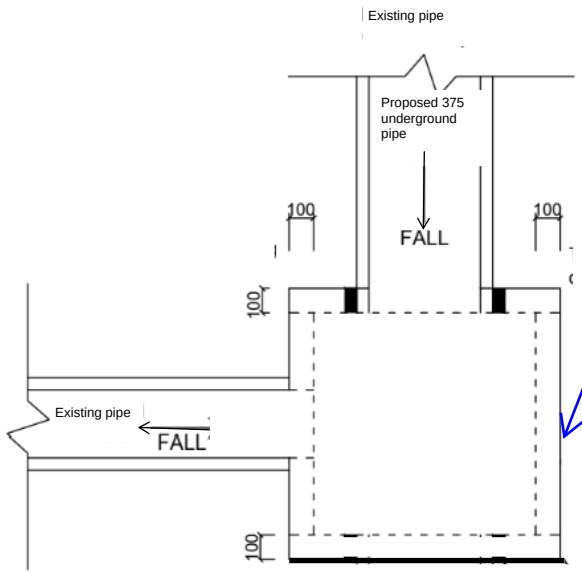
$$\text{Cross-Section Area} = \frac{TV(0.3)^2}{4} = 0.07065 \text{ sqm}$$

Therefore, design velocity of pipe capacity = 1.93 m/s

> velocity from catchment area

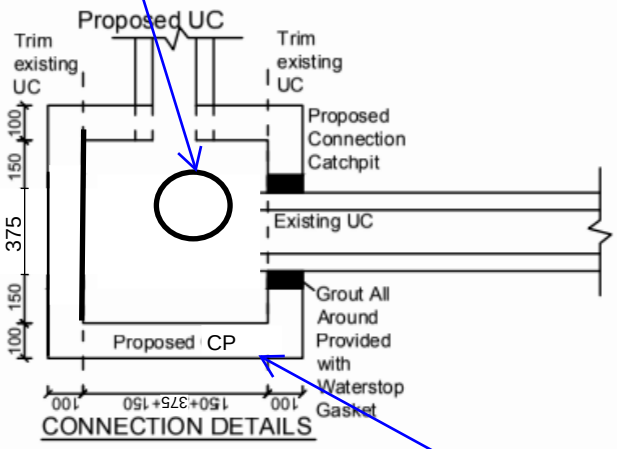
$$= \frac{0.0864}{0.0706} = 1.22 m/s \text{ OK!}$$

As a result, proposed 300mm dia underground pipe can cater the surface runoff due to proposed development




EX CP
CL=+9.2
IL=+8.35

Proposed downpipe from rooftop channel

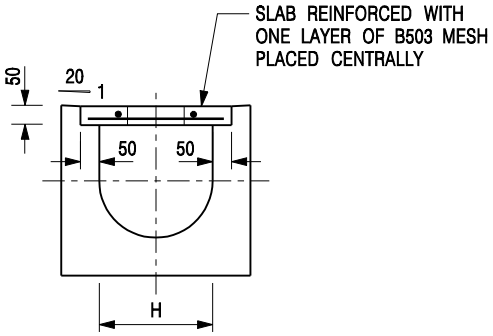



CP4
CL=+8.975
IL=+8.460

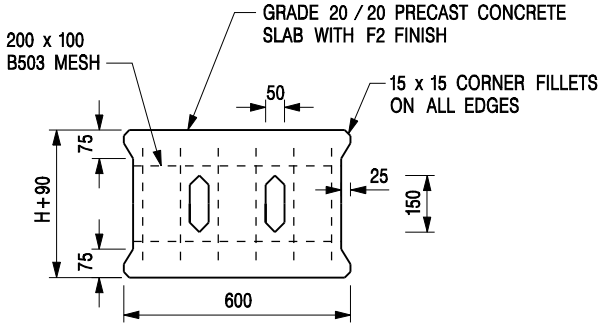
OR

CP6
CL=+8.8
IL=+8.39

# EX CP -Connection Details



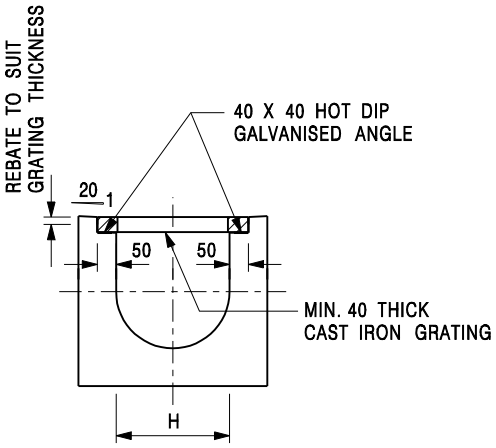

TYPICAL SECTION



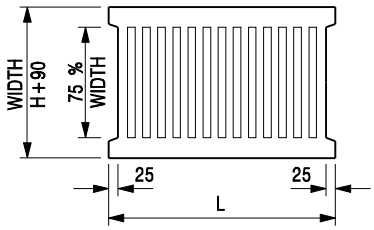

PLAN OF SLAB

## U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)




TYPICAL SECTION




L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

## U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. H = NOMINAL CHANNEL SIZE.
3. ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
4. FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| E | NOTES 3 & 4 AMENDED. | Original Signed | 12.2014 |
| D | NOTE 4 ADDED. | Original Signed | 06.2008 |
| C | MINOR AMENDMENT. NOTE 3 ADDED. | Original Signed | 12.2005 |
| B | NAME OF DEPARTMENT AMENDED. | Original Signed | 01.2005 |
| A | CAST IRON GRATING AMENDED. | Original Signed | 12.2002 |

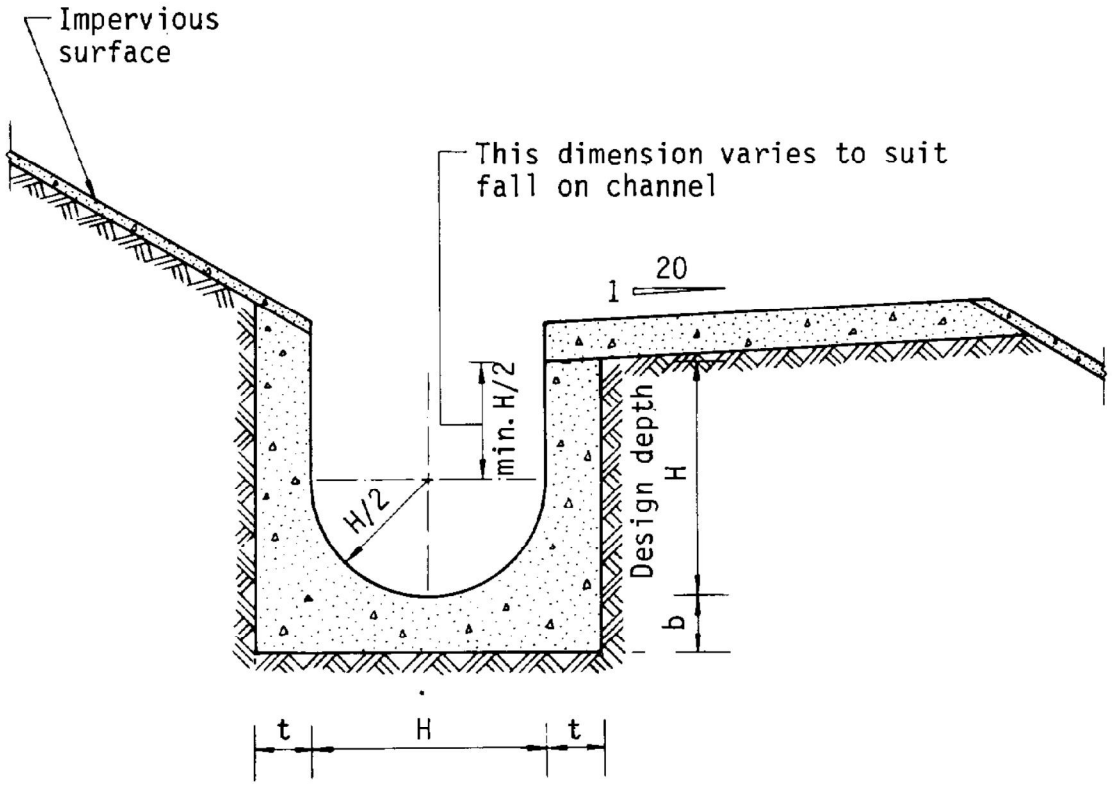
# COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

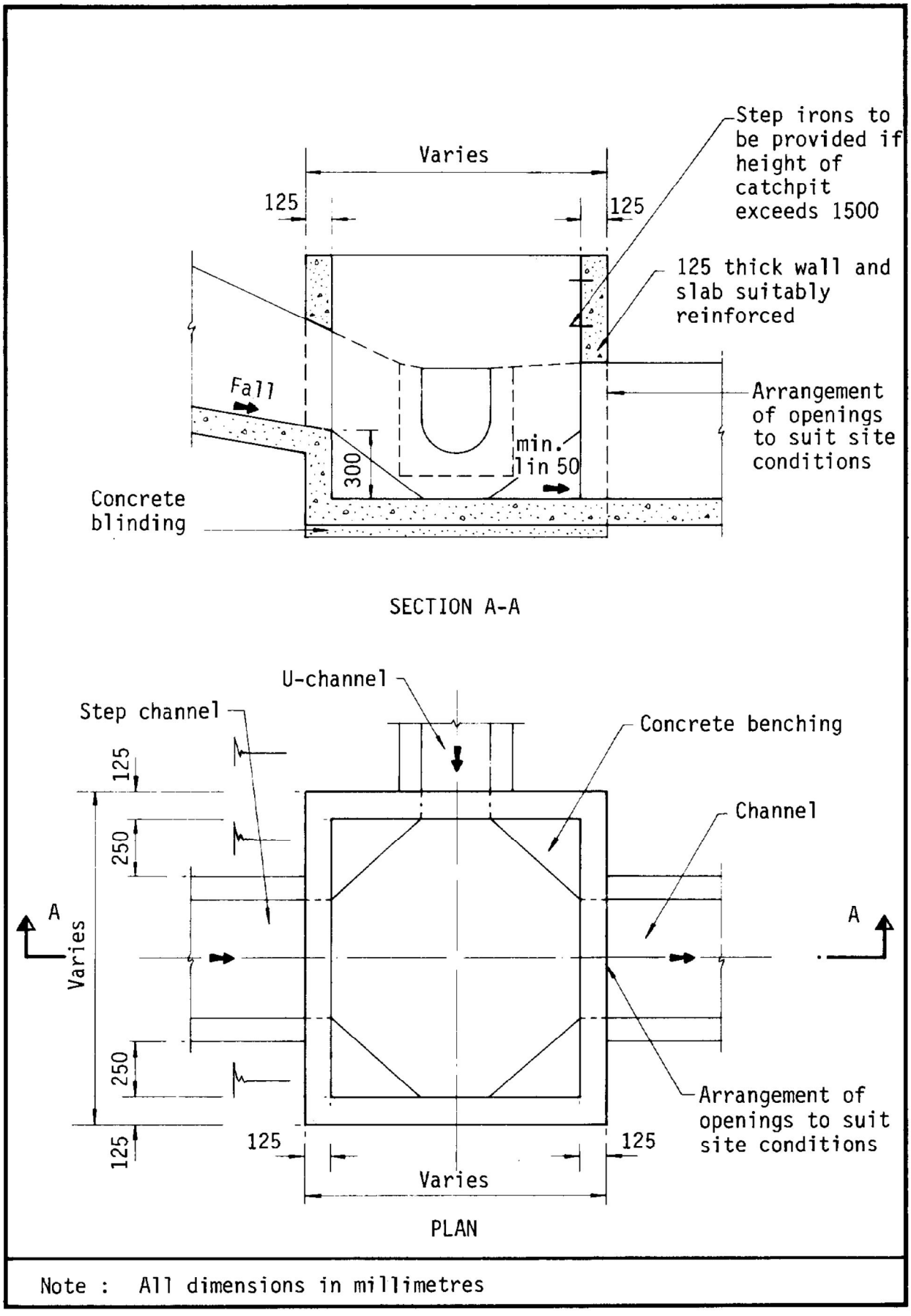
DATE JAN 1991

DRAWING NO. C2412E



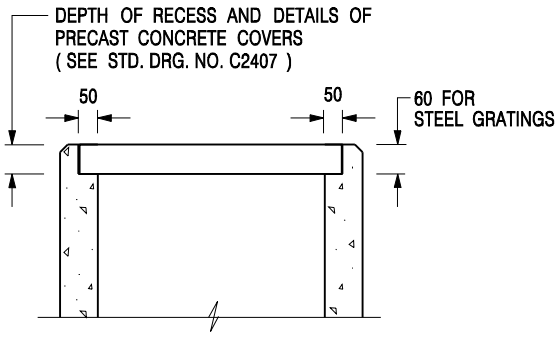

| Dimensions of U - channel | | |
|---|---|---|
| Nominal size of channel H (mm) | Thickness t (mm) | Thickness b (mm) |
| 225 to 600 | 150 | 150 |
| 675 to 1200 | 175 | 225 |

Figure 8.11 - Typical U-channel Details




Note : All dimensions in millimetres

Figure 8.10 - Typical Details of Catchpits




# ALTERNATIVE TOP SECTION
# FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

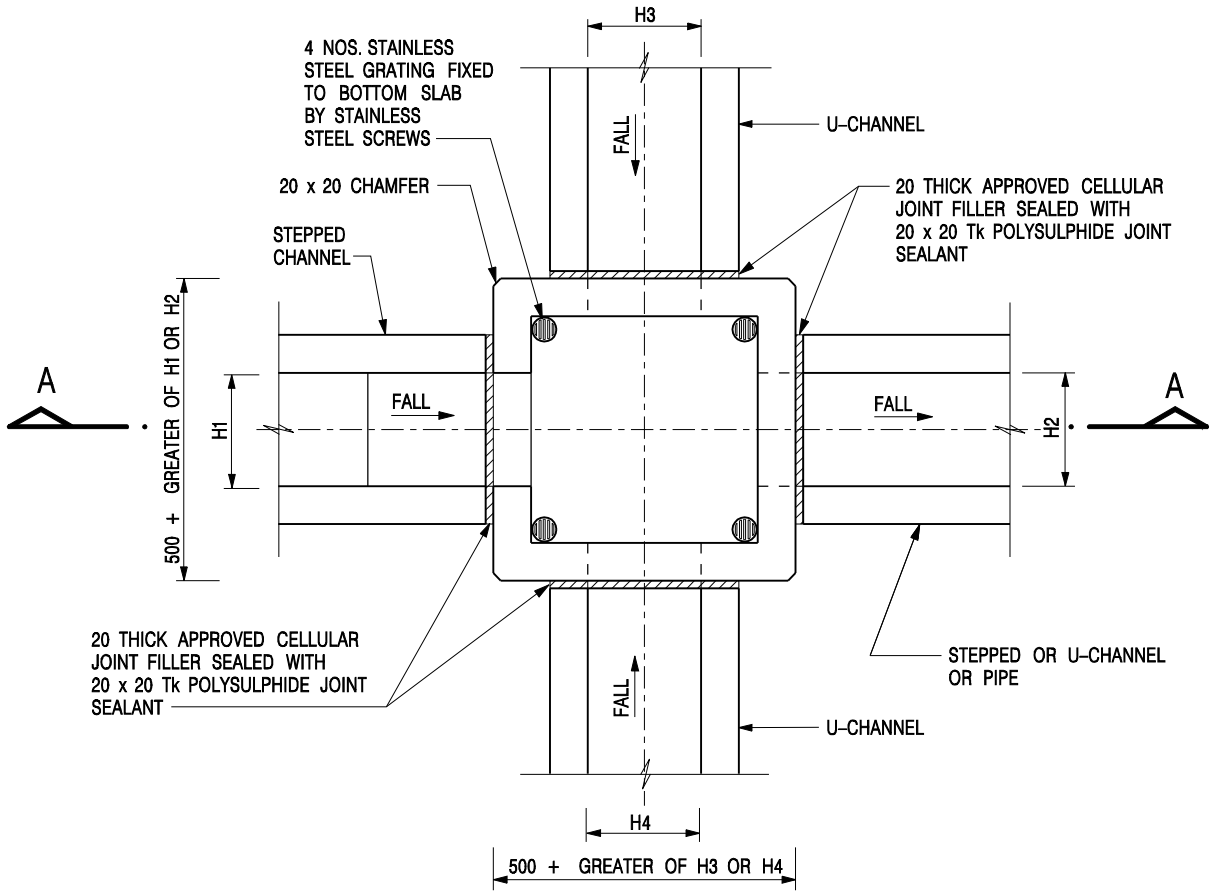
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED 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.

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

# CATCHPIT WITH TRAP
# (SHEET 2 OF 2)

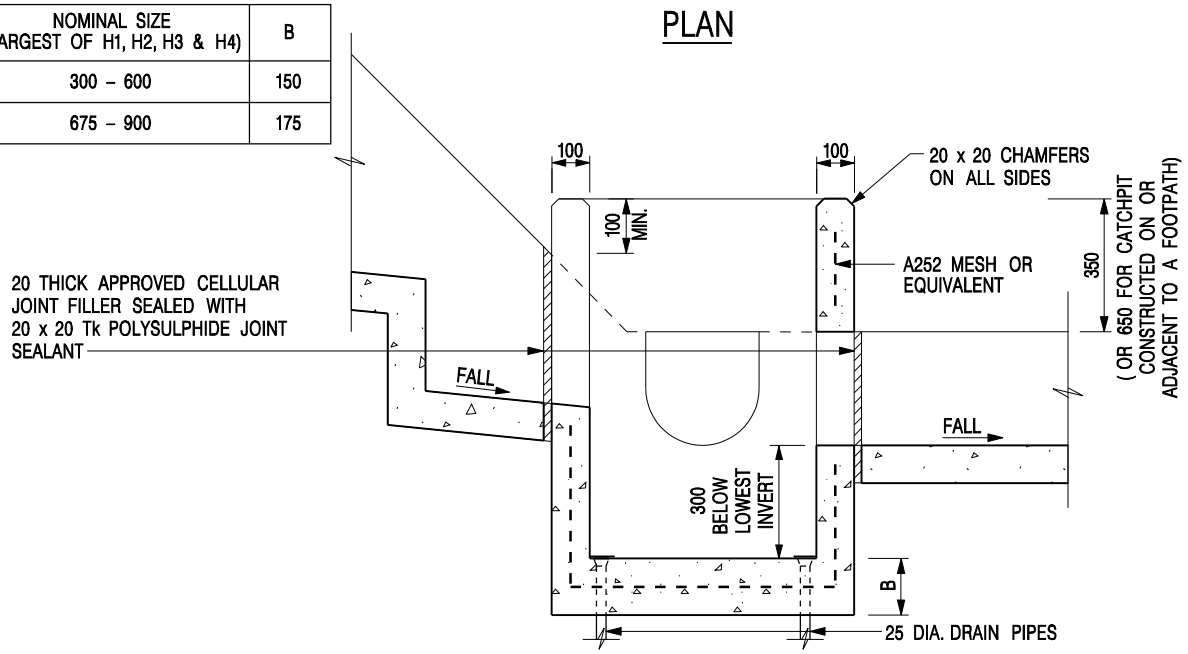
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| | |
|---|---|
| SCALE 1 : 20 | DRAWING NO. C2406 /2 |
| DATE JAN 1991 | |




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

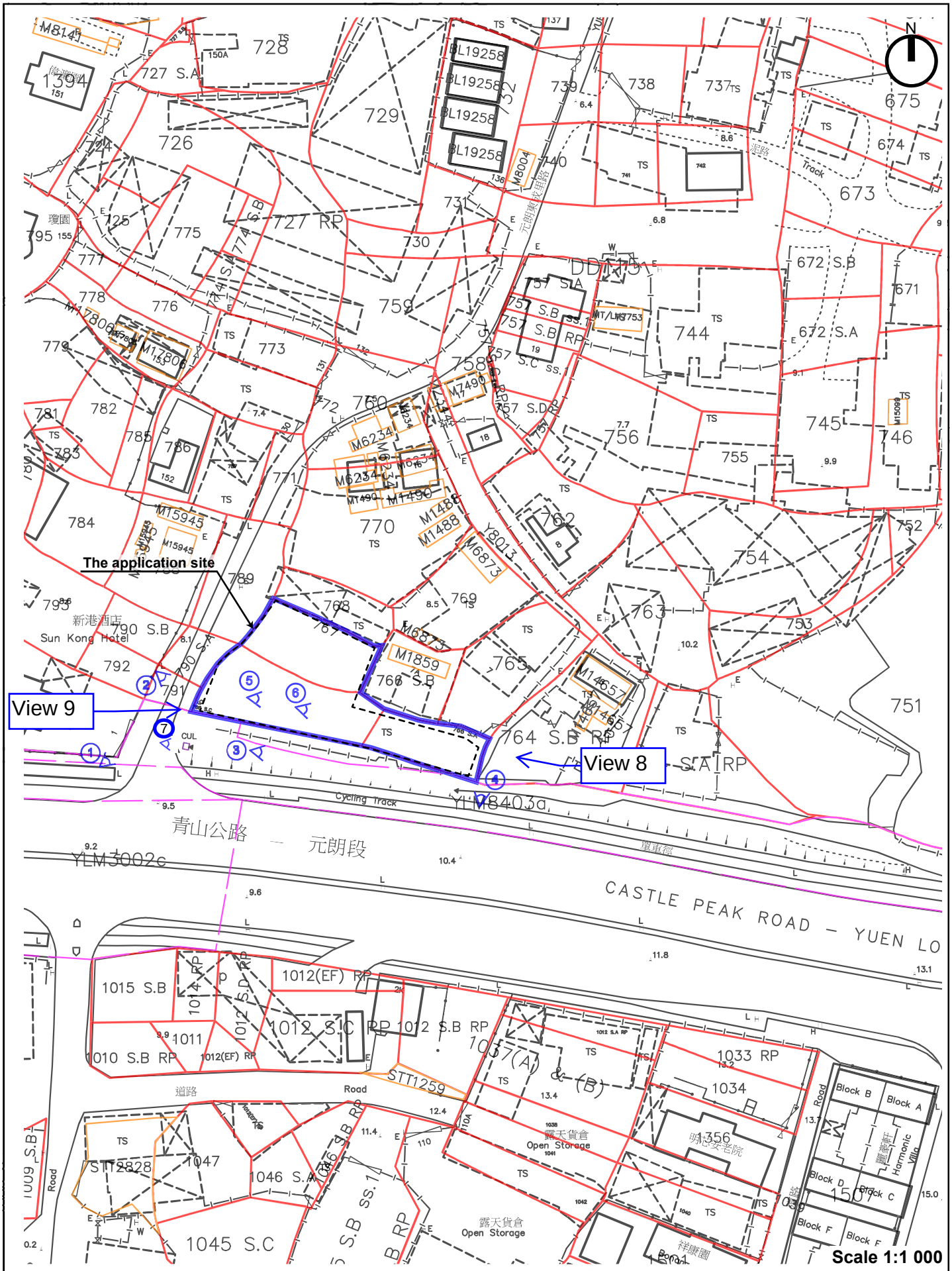
(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1




TOCO

# Plan B: Land Status Plan

(Prepared on 8.4.2026)



Photo 1: Aerial View of the site.

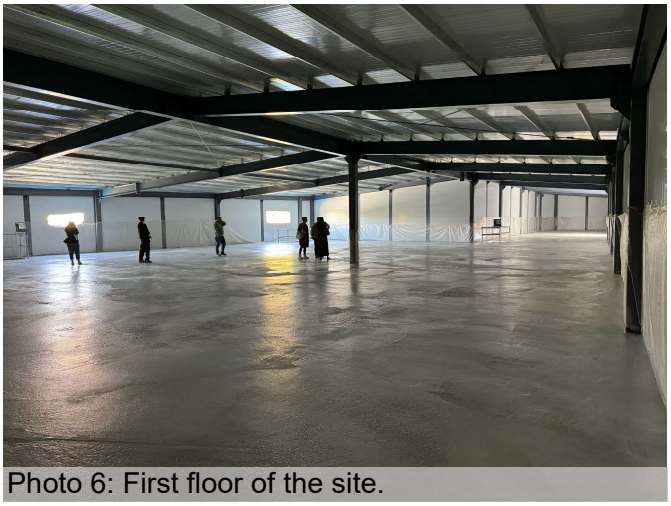

Photo 2: The western side of the site.



Photo 3: The southern side of the site.


Photo 4: The eastern side of the site.


Photo 5: Ground floor of the site.


Photo 6: First floor of the site.

TOCO

# Site Photos

(Prepared on 8.4.2026)



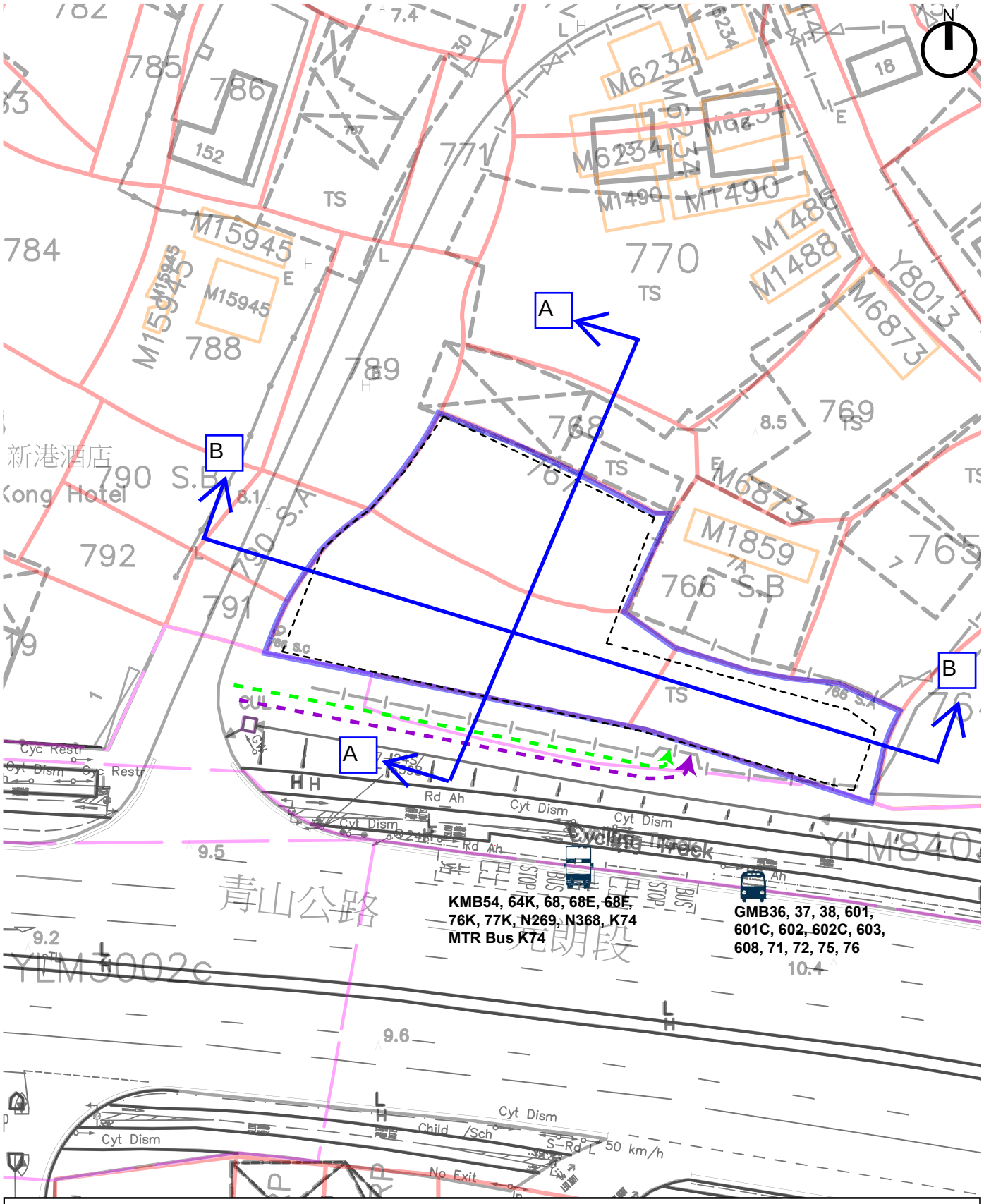
Photo 7 Existing Drainage Facility SCH1006205




Photo 8 Eastern side of the application site (Before application)




Photo 9 CP6 Location at the application site (Before application)




Legend

The application site — Vehicular Access — Pedestrian Access

(Do not scale this drawing. All measurements must be checked on Site.)

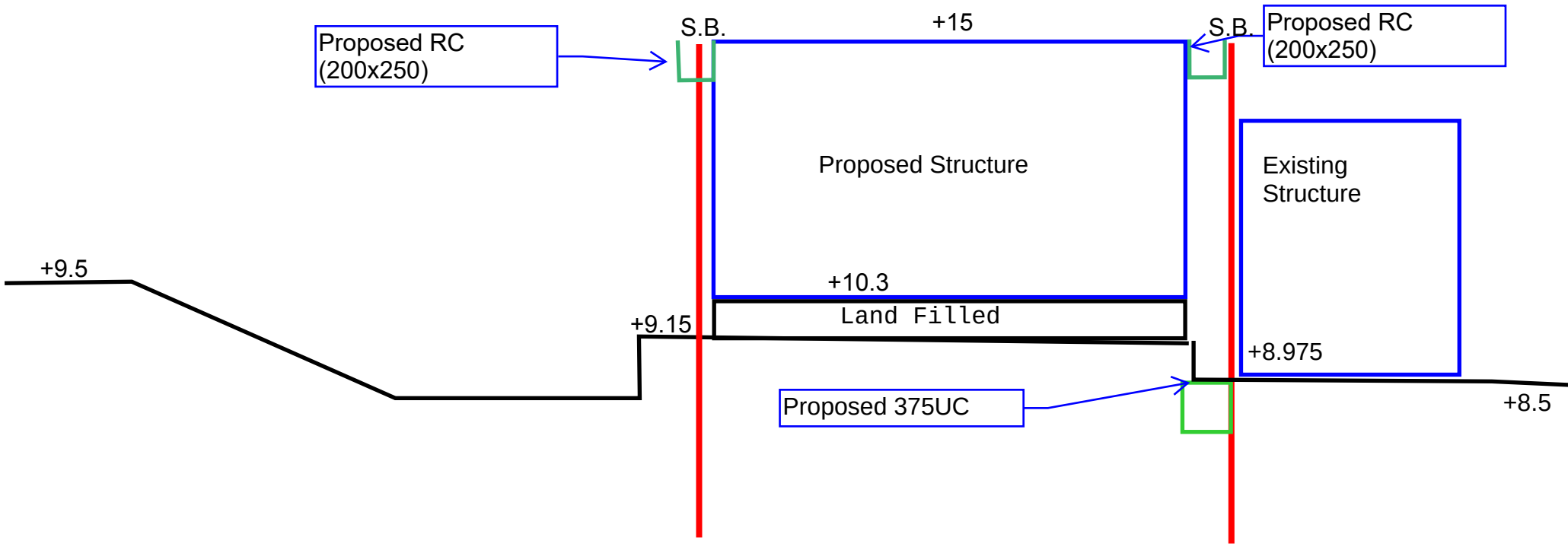
**Scale 1:500**

C&H CONSULTING

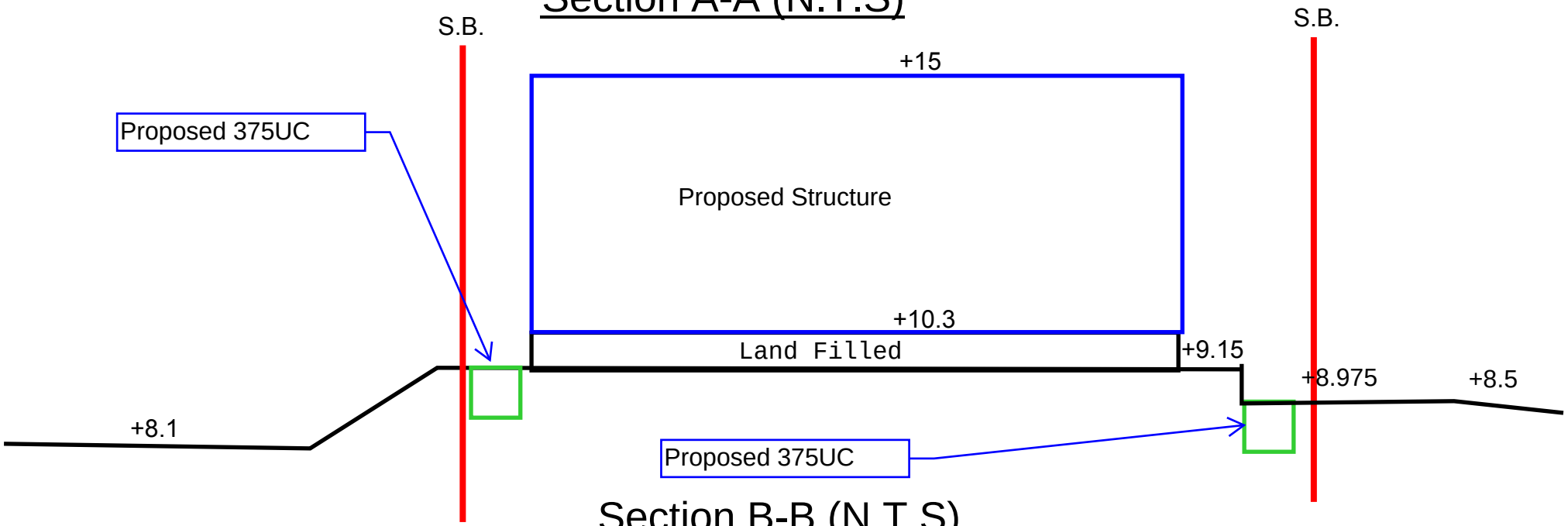
# Plan C: Site Plan

(For Section)

(Prepared on 12.10.2026)




Section A-A (N.T.S)




Section B-B (N.T.S)