GoldRich PLANNERS & SURVEYORS LTD.

金 潤 規 劃 測 量 師 行 有 限 公 司

[redacted]

Your Ref.: A/YL-KTS/1102 Our Ref.: P22068B/TL26202 1 June 2026

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

By E-mail
tpbpd@pland.gov.hk

Dear Sir,

Submission of Further Information (FI)

Temporary Shop and Services (Retail Shop for Hardware Groceries and Construction Materials) with Ancillary Facilities for a Period of 5 Years in "Residential (Group D)" Zone, Lots 681 RP (Part), 682 RP (Part) and 683 RP (Part) in D.D. 106 and Adjoining Government Land, Yuen Long, New Territories
(Application No. A/YL-KTS/1102)

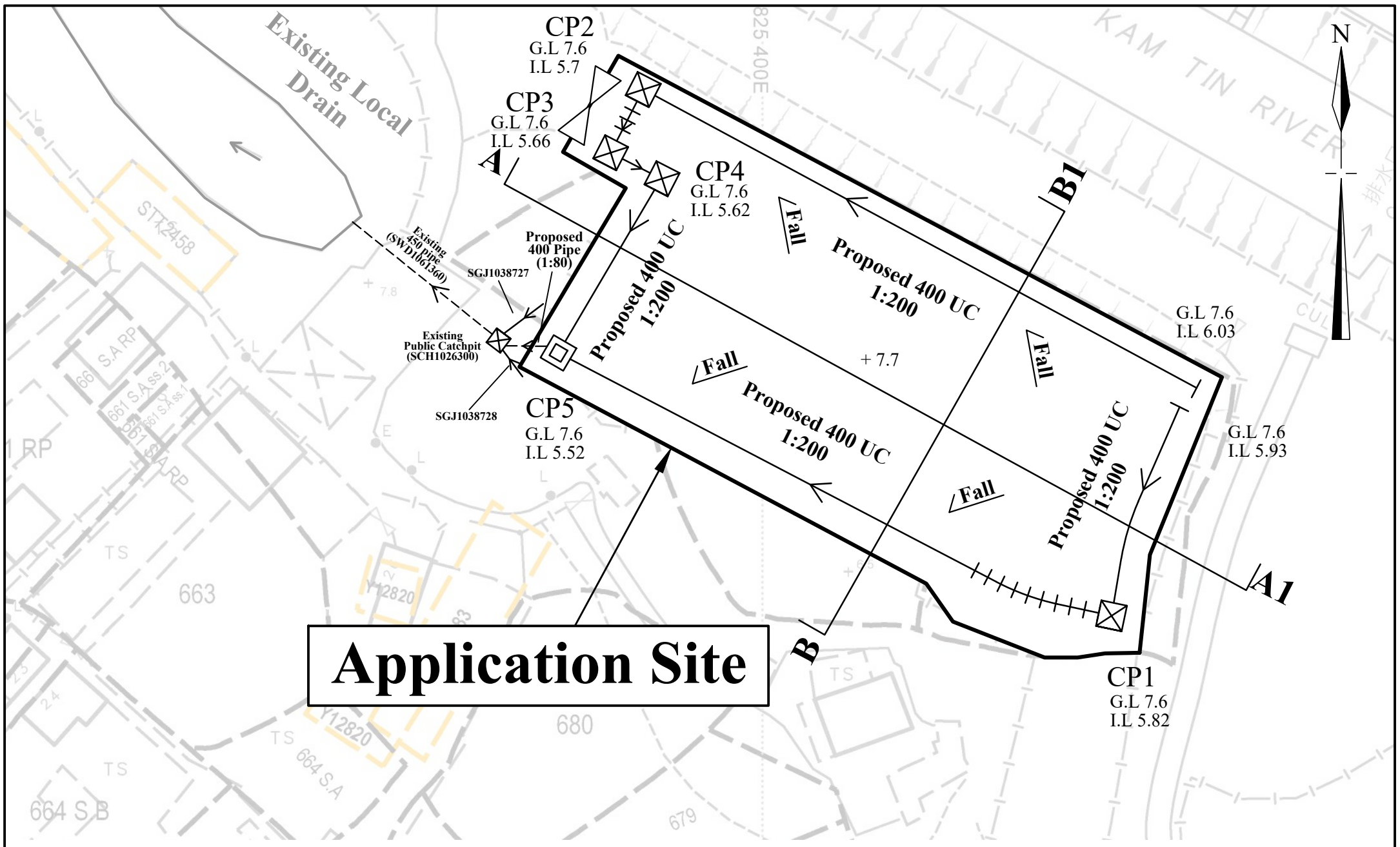
We write to submit an updated drainage proposal and hydraulic calculation for the captioned application, which serves to supersede our previous FI submission under our reference P22068B/TL26201 dated 1.6.2026.

Yours faithfully,
For and on behalf of
Goldrich Planners & Surveyors Ltd.

Francis LAU

Encl.

c.c.
DPO/FSYLE, PlanD (Attn.: Ms. Athena LAI)
CE/MN, DSD (Attn.: Mr. Jeff TSE)



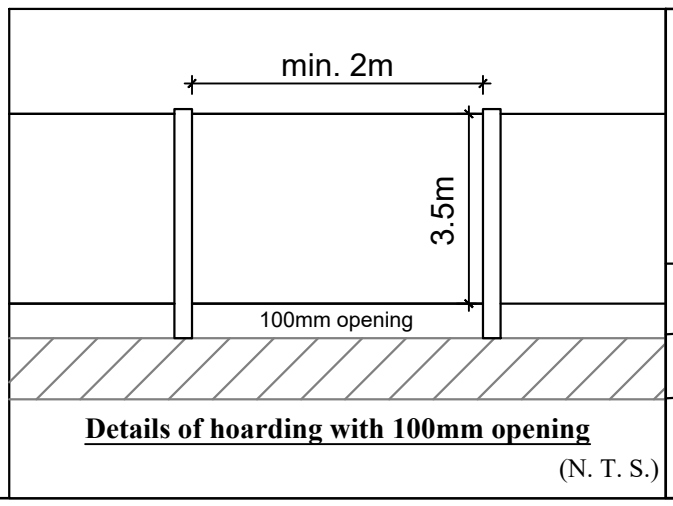
Legend:

- Vehicular Ingress/ Egress
- Catch-pit
- Catch-pit with trap
- U-Channel
- U-Channel with C.I. cover
- Pipe

Note: The existing DSD's drainage facilities (SCH1026300, SGJ1038727 and SGJ1038728, etc.) will be maintained and not to be affected due to the proposed development.

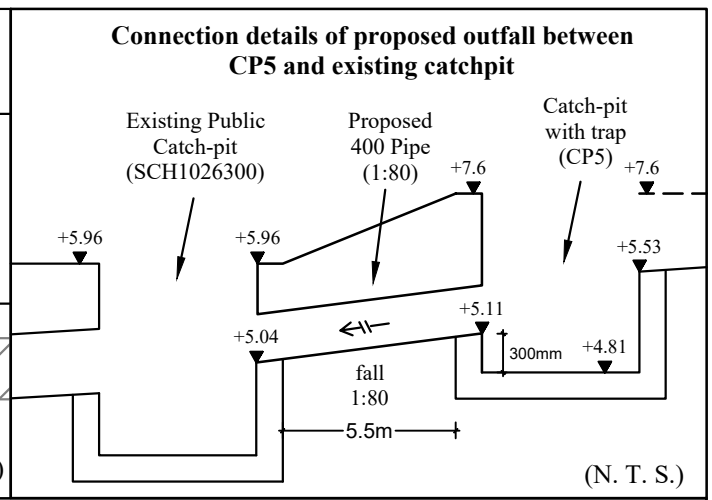
No site formation/levelling works to be carried out under this application

Site Area: 2,258m²

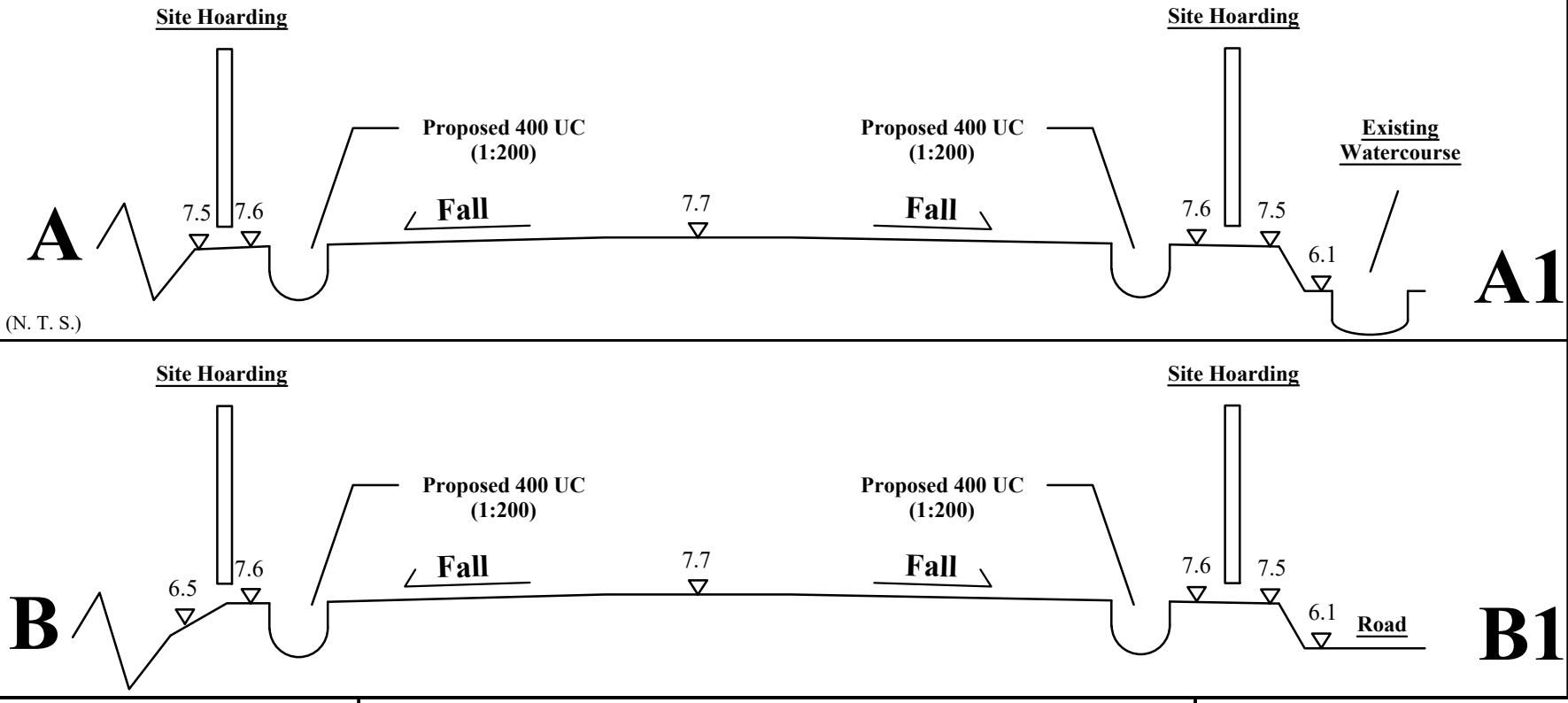


Details of hoarding with 100mm opening

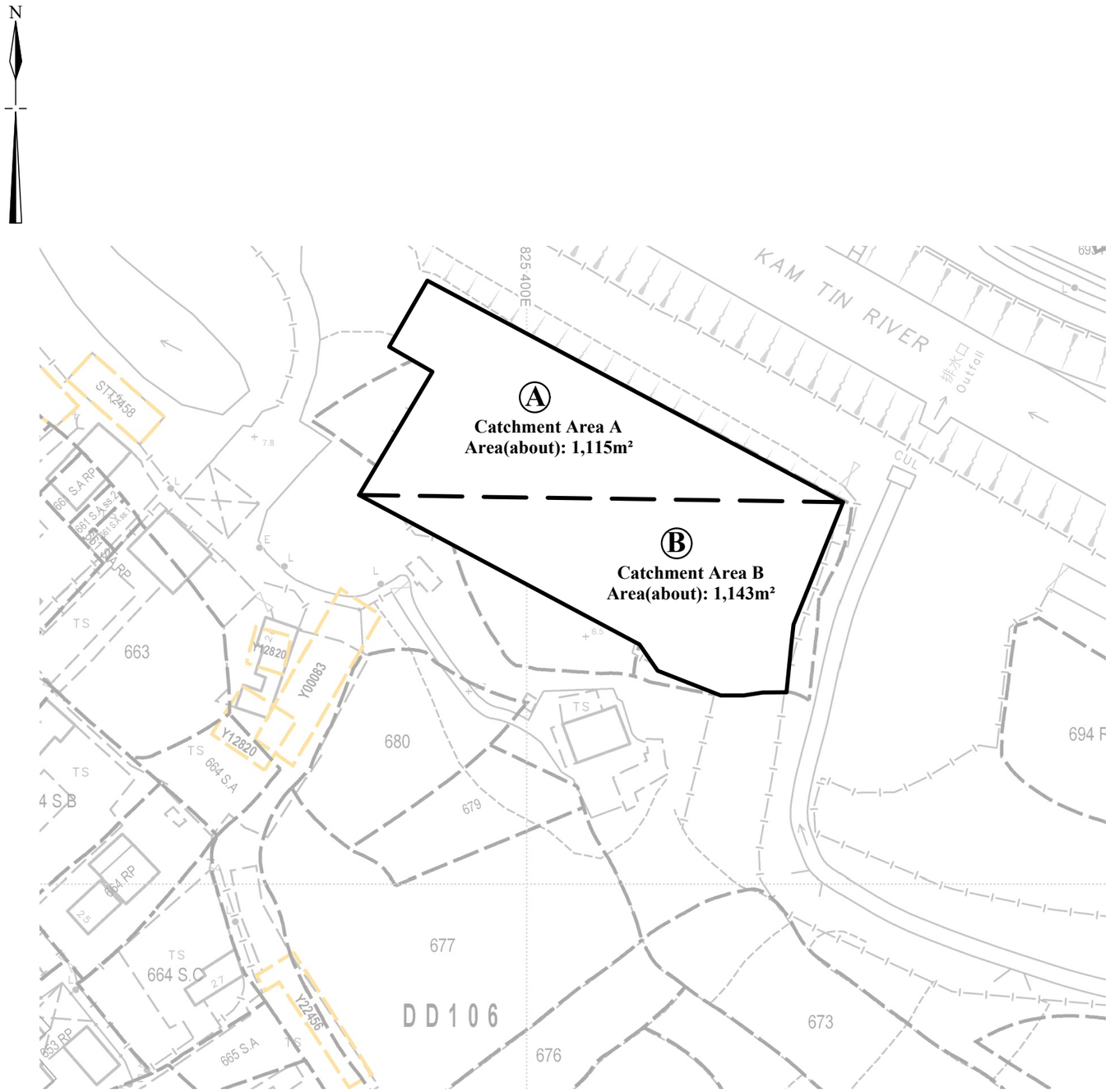
(N. T. S.)



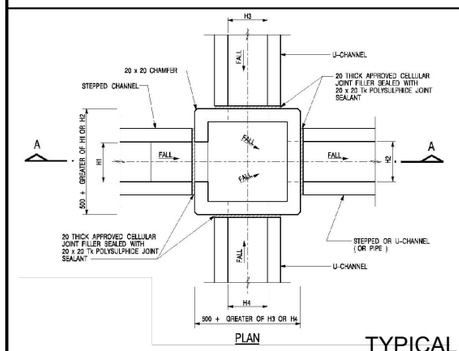
(N. T. S.)

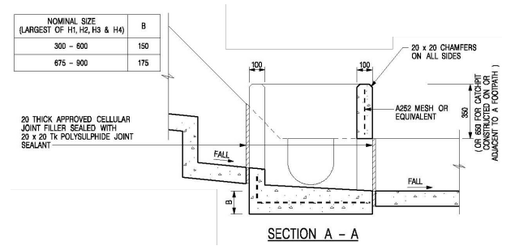


1:500 (A3)	**Drainage Proposal**	Goldrich Planners & Surveyors Ltd.
March 2026	Lots 681 RP(part), 682 RP(part) and 683 RP(part) in DD.106 and adjoining Government Land	Plan 5.1b (P 22068B)

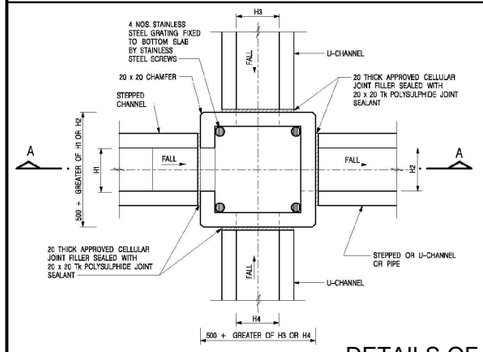


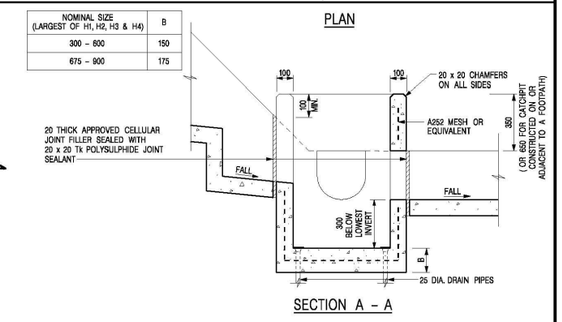
AREA OF CATCHMENT
(N.T.S)



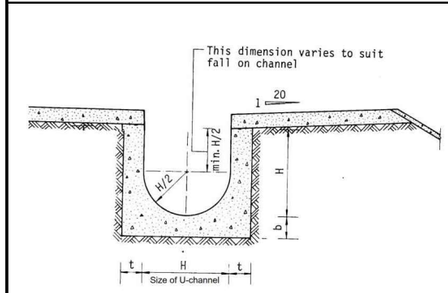


TYPICAL DETAILS OF CATCHPIT
(REFER TO CEDD'S STANDARD DWG. C2405/1)

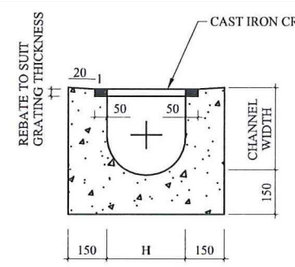




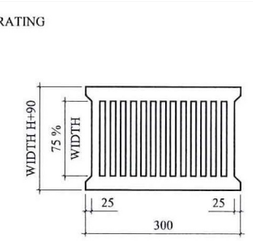
DETAILS OF CATCHPIT WITH TRAP
(REFER TO CEDD'S STANDARD DWG. C2406/1)



TYPICAL DETAILS OF U-CHANNEL
(Refer to DSD'S technical note to prepare a drainage submission)



TYPICAL SECTION OF U-CHANNEL WITH COVER
(N.T.S.)



CAST IRON CRATING
(HEAVY DUTY)

N.T.S	**Drainage Proposal** **Lots 681 RP(part), 682 RP(part) and 683 RP(part) in DD.106 and adjoining Government Land**	**Goldrich Planners & Surveyors Ltd.**
March 2026		**Plan 5.2a** **(P 22068B)**

1 For Catchment Area A

Ref.

Area, A = 1115 m^2
Average slope, H = 0.1 m per 100m
Distance on the line of natural flow, L = 17 m

Time of concentration, t_o = $0.14465L / (H^{0.2}A^{0.1})$ = 0.14465 (17) / (0.1^0.2*1115^0.1) — SDM 7.5.2 (d)
= 1.9 min

2 For Proposed UC in Catchment Area A

	From	To
Ground level (mPD)	7.60	7.60
Invert level (mPD)	6.03	5.52

Width of u-channel, w = 400 mm
Length of u-channel, L_c = 102 m
Depth of vertical part of u-channel, d = 1880 mm
Gradient of u-channel, S_f = (6.03-5.52)/102 = 0.005

Cross-Section Area, a = $0.5\ \pi r^2 + w\ d$ = 0.5 x 3.14 x 200^2 + 400 x 1880
= 0.815 m^2
Wetted Perimeter, p = $\pi\ r + 2\ d$ = 3.14 x 200 + 2 x 1880
= 4.388 m
Hydraulic radius, R = a / p — SDM 8.2.1
= 0.186 m

3 Use Manning Equation for estimating velocity of stormwater

Take n = 0.016 for concrete lined channels:- — SDM Table 13
Allowable velocity, v = $R^{1/6} x (RS_f)^{1/2}/n$ = (0.186)^1/6 x (0.186 x 0.005)^1/2 / 0.016 — SDM Table 12
= 1.44 m/s
Time of flow, t_f = 1.2 min

4 Use "Rational Method" for calculation of design flow

Design intensity, i = $a / (t_o + t_f + b)^c$ — SDM 4.3.2
= 505.5 / (1.9+1.2+3.29)^0.355 for return period T = 50 years — Corrigendum 1/2024
= 261 — SDM Table 3a

Type of surface	Runoff Coefficient C	Catchment Area A (m^2)	C x A
Flat Glassland(heavy soil)	0.25	0.0	0.0
Concrete Paving	0.95	1115.0	1059.3
		SUM =	1059.3

SDM 7.5.2 (b)

Upstream flow, Q_u = 0 m^3/s

Design flow, Q_d = $1.16 \times 0.278 i \Sigma C_j A_j + Q_u$ where A_j is in km^2 — SDM 7.5.2 (a)
= 1.16 x 0.278 x 261 x 1059.25 / 1000000 + 0 — Corrigendum 1/2022
= 0.089 m^3/s

Allowable flow, Q_a = a x v
= 0.815 x 1.44
= 1.172 m^3/s

> Q_d (O.K.)

Reference was made to Stormwater Drainage Manual (SDM) by DSD

1 For Catchment Area B

Ref.

Area, A = 1143 m^2
Average slope, H = 0.1 m per 100m
Distance on the line of natural flow, L = 16 m

Time of concentration, t_o = $0.14465L / (H^{0.2}A^{0.1})$ = 0.14465 (16) / (0.1^0.2*1143^0.1) — SDM 7.5.2 (d)
= 1.8 min

2 For Proposed UC in Catchment Area B

	From	To
Ground level (mPD)	7.60	7.60
Invert level (mPD)	5.93	5.52

Width of u-channel, w = 400 mm
Length of u-channel, L_c = 82 m
Depth of vertical part of u-channel, d = 1880 mm
Gradient of u-channel, S_f = (5.93-5.52)/82 = 0.005

Cross-Section Area, a = $0.5\ \pi r^2 + w\ d$ = 0.5 x 3.14 x 200^2 + 400 x 1880
= 0.815 m^2
Wetted Perimeter, p = $\pi\ r + 2\ d$ = 3.14 x 200 + 2 x 1880
= 4.388 m
Hydraulic radius, R = a / p — SDM 8.2.1
= 0.186 m

3 Use Manning Equation for estimating velocity of stormwater

Take n = 0.016 for concrete lined channels:- — SDM Table 13
Allowable velocity, v = $R^{1/6} x (RS_f)^{1/2}/n$ = (0.186)^1/6 x (0.186 x 0.005)^1/2 / 0.016 — SDM Table 12
= 1.44 m/s
Time of flow, t_f = 1.0 min

4 Use "Rational Method" for calculation of design flow

Design intensity, i = $a / (t_o + t_f + b)^c$ — SDM 4.3.2
= 505.5 / (1.8+1+3.29)^0.355 for return period T = 50 years — Corrigendum 1/2024
= 267 — SDM Table 3a

Type of surface	Runoff Coefficient C	Catchment Area A (m^2)	C x A
Flat Glassland(heavy soil)	0.25	0.0	0.0
Concrete Paving	0.95	1143.0	1085.9
		SUM =	1085.9

— SDM 7.5.2 (b)

Upstream flow, Q_u = 0 m^3/s

Design flow, Q_d = $1.16 \times 0.278i \Sigma C_jA_j + Q_u$ where A_j is in km^2 — SDM 7.5.2 (a)
= 1.16 x 0.278 x 267 x 1085.85 / 1000000 + 0 — Corrigendum 1/2022
= 0.093 m^3/s

Allowable flow, Q_a = a x v
= 0.815 x 1.44
= 1.172 m^3/s

> Q_d (O.K.)

Reference was made to Stormwater Drainage Manual (SDM) by DSD

1 For Connection between CP5 to Existing Public Catchpit

Ref.

Area, A = **0** m^2
Average slope, H = **0.1** m per 100m
Distance on the line of natural flow, L = **0** m

Time of concentration, t_o = $0.14465L / (H^{0.2}A^{0.1})$ = 0.14465 (0) / (0.1^0.2*0^0.1) — SDM 7.5.2 (d)
= 0.0 min

2 For Pipe after CP5

Size(Diameter) w = **400** mm
Length of Pipe = **5.5** m
Design the pipe to 9/10 full bore capactity, then
Area of ventilated portion = 0.1 of pipe area
$½ r^2 \theta - ½ r^2 \sin(\theta) = 0.1 \pi r^2$
$\theta - \sin(\theta) = 0.2 \pi$
θ = 1.63 rad = 93.4^O (By trial and error)

Area A = $0.9 \pi r^2$
= 0.9 x 3.14 x 400^2 — SDM 8.2.1
= 452160 mm^2
= 0.452 m^2

Wetted Perimeter P = $2 \pi r - r \theta$ = 1861 mm
Hydralic radius R = A/P
242.9 mm

3 Use Manning Equation for estimating velocity of stormwater

Fall S = 1: **80**
Take n = 0.016 for concrete lined channels:- — SDM Table 13
Allowable velocity, v = $R^{1/6} x (RS_f)^{1/2}/n$ = (242.9)^1/6 * (242.9/80)^1/2 / 0.016 — SDM Table 12
= 2.61 m/s
Time of flow, t_f = 0.04 min

4 Use "Rational Method" for calculation of design flow

Design intensity, i = $a / (t_o + t_f + b)^c$ — SDM 4.3.2
= 505.5 / (0.0+0.04+3.29)^0.355 for return period T = 50 years — Corrigendum 1/2024
= 330 — SDM Table 3a

Type of surface	Runoff Coefficient C	Catchment Area A (m^2)	C x A
Flat Glassland(heavy soil)	0.25	**0.0**	0.0
Concrete Paving	0.95	**0.0**	0.0
Macadam Roadways	0.425	**0.0**	0.0
Wooded Areas	0.105	**0.0**	0.0
		SUM =	0.0

— SDM 7.5.2 (b)

Upstream flow, Q_u = **0.182** m^3/s

Design flow, Q_d = $0.278i \Sigma C_j A_j + Q_u$ where A_j is in km^2 — SDM 7.5.2 (a)
= 1.16 x 0.278 x 330 x 0 / 1000000 + 0.182 — Corrigendum 1/2022
= 0.182 m^3/s

Allowable flow, Q_a = a x v
= 0.3974 x 1.35
= 1.179 m^3/s

> Q_d (O.K.)

Reference was made to Stormwater Drainage Manual (SDM) by DSD

1 For Connection between Existing Public Catchpit (SCH1026300) to Existing Local Drain

Ref.

Area, A = **0** m^2
Average slope, H = **0.1** m per 100m
Distance on the line of natural flow, L = **0** m

Time of concentration, t_o = $0.14465L / (H^{0.2}A^{0.1})$ = 0.14465 (0) / (0.1^0.2*0^0.1) — SDM 7.5.2 (d)
= 0.0 min

2 For Existing 450 pipe (SWD1061360) before Existing Local Drain

Size(Diameter) w = **450** mm
Length of Pipe = **21** m
Design the pipe to 9/10 full bore capactity, then
Area of ventilated portion = 0.1 of pipe area
$½ r^2 \theta - ½ r^2 \sin(\theta) = 0.1 \pi r^2$
$\theta - \sin(\theta) = 0.2 \pi$
θ = 1.63 rad = 93.4^O (By trial and error)

Area A = $0.9 \pi r^2$
= 0.9 x 3.14 x 450^2 — SDM 8.2.1
= 0.572 m^2

Wetted Perimeter P = $2 \pi r - r \theta$ = 2094 mm
Hydralic radius R = A/P
273.3 mm

3 Use Manning Equation for estimating velocity of stormwater

Fall S = 1: **90**
Take n = 0.016 for concrete lined channels:- — SDM Table 13
Allowable velocity, v = $R^{1/6} x (RS_f)^{1/2}/n$ = (273.3)^1/6 * (273.3/90)^1/2 / 0.016 — SDM Table 12
= 2.46 m/s
Time of flow, t_f = 0.14 min

4 Use "Rational Method" for calculation of design flow

Design intensity, i = $a / (t_o + t_f + b)^c$ — SDM 4.3.2
= 505.5 / (0.0+0.14+3.29)^0.355 for return period T = 50 years — Corrigendum 1/2024
= 326 — SDM Table 3a

Type of surface	Runoff Coefficient C	Catchment Area A (m^2)	C x A
Flat Glassland(heavy soil)	0.25	**0.0**	0.0
Concrete Paving	0.95	**0.0**	0.0
Macadam Roadways	0.425	**0.0**	0.0
Wooded Areas	0.105	**0.0**	0.0
		SUM =	0.0

SDM 7.5.2 (b)

Upstream flow, Q_u = **0.182** m^3/s

Design flow, Q_d = $0.278i \Sigma C_j A_j + Q_u$ where A_j is in km^2 — SDM 7.5.2 (a)
= 1.16 x 0.278 x 326 x 0 / 1000000 + 0.182 — Corrigendum 1/2022
= 0.182 m^3/s

Allowable flow, Q_a = a x v
= 0.3974 x 1.35
= 1.407 m^3/s

> Q_d (O.K.)

Reference was made to Stormwater Drainage Manual (SDM) by DSD