

寄件者: Tang Lok San <[REDACTED]>
寄件日期: 2026年08月25日星期二 15:18
收件者: tpbpd/PLAND
主旨: Re: S. 16 Planning Application No. A/YL-KTN/1246 - Departmental Comments
附件: AYL-KTN 1246 20260807.pdf

To whom may concern,

I would like to supersede the email that was sent on 14:18 today with this email. Please see the attachment for the further information on the comment from EPD and DSD. Please contact Mr. Tang via email to [REDACTED] if you have any questions regarding to the captioned planning application.

Yours Sincerely,
Mr. Tang

漁農自然護理署及城市規劃委員會：

有關漁農自然護理署對 A/YL-KTN/1246 的查詢

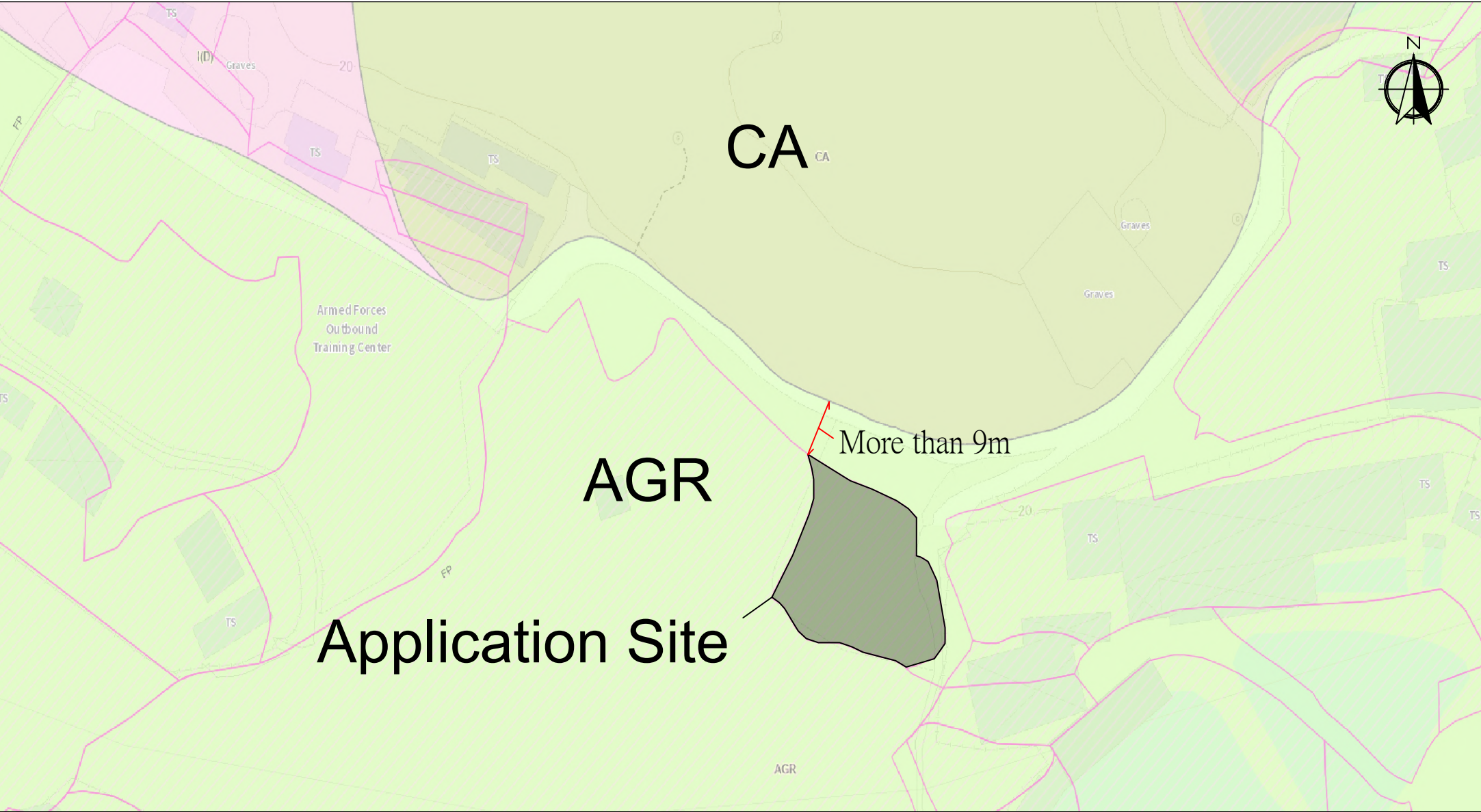
收悉 貴署對 A/YL-KTN/1246 申請的意見，現以書面回覆。

保護附近環境是在本規劃申請的重點。本申請範圍與自然保育區至少相距超過 9 米，與本申請有一定的距離，相信申請的用途不會為該區帶來負面影響。位置請參考 Appendix 7。

此外，當申請獲批後，本申請範圍亦會使用金屬實心物料圍起，例如「鋅」金屬物料。

再者，本申請用作貨倉，少量的車流量亦不會對自然保育區造成負面影響。

希望此附加文件能釋除 貴署的查詢，並支持本申請。



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Captured from ozp.gov.hk on 7th August 2026

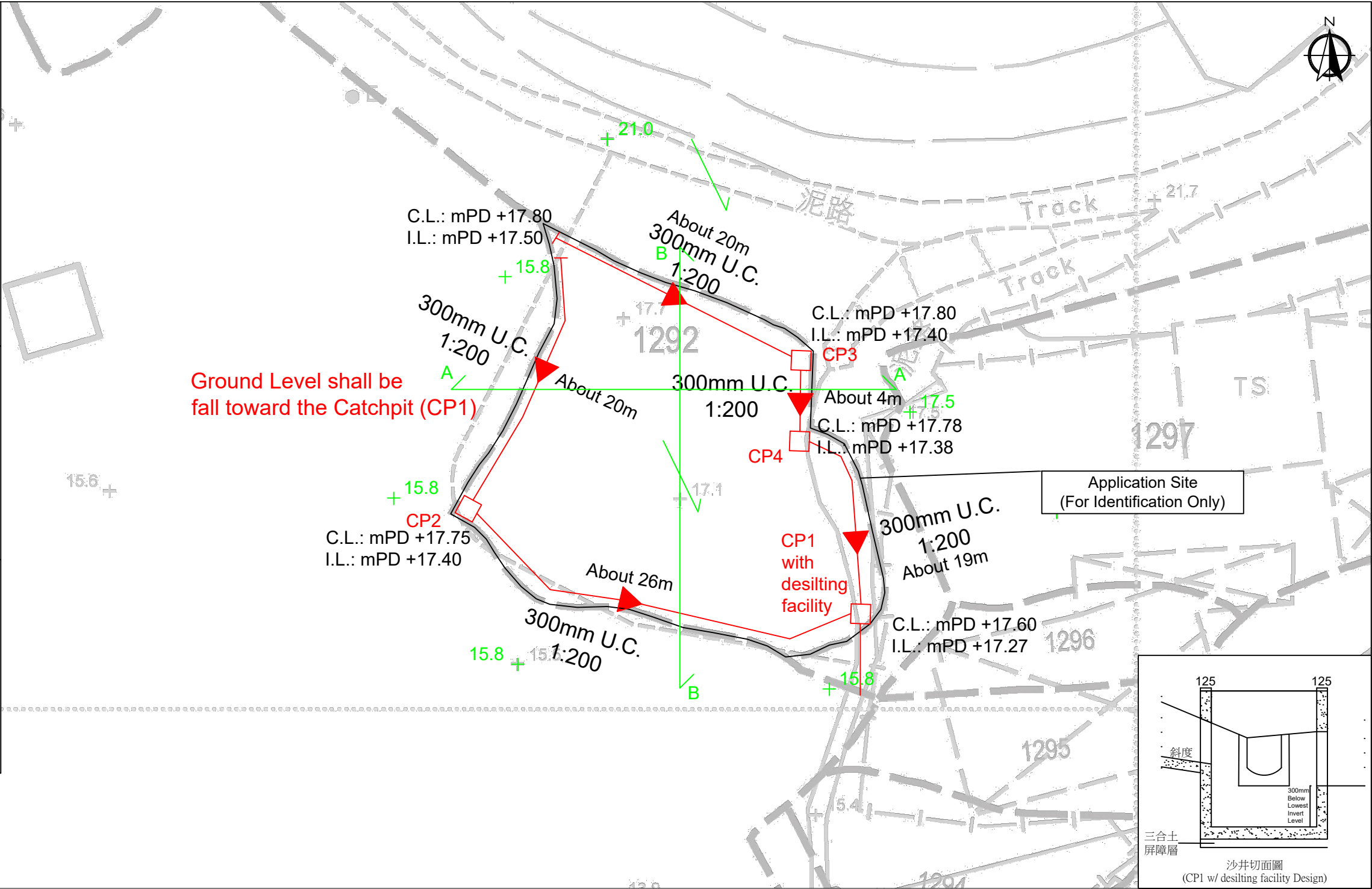
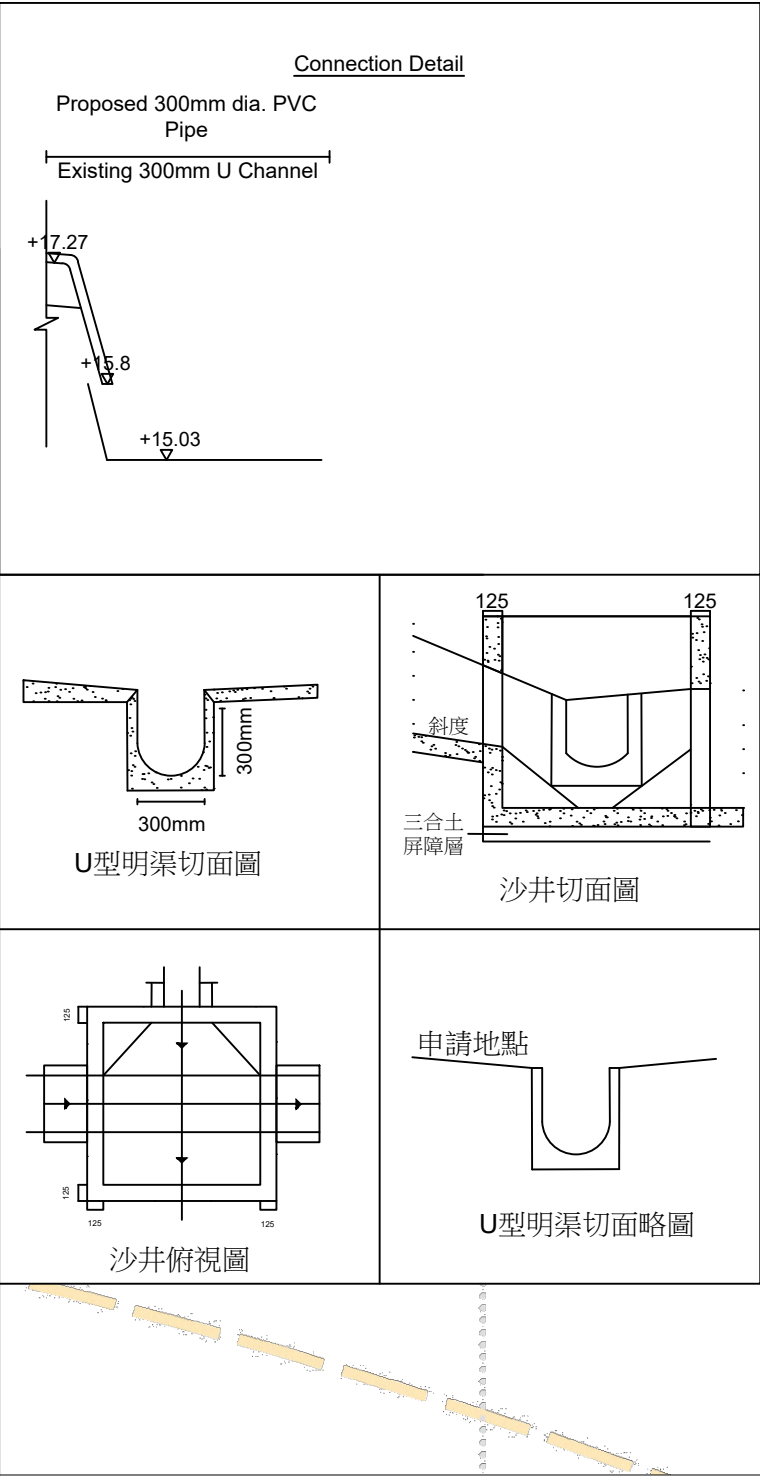
Appendix 7 Statutory Plans	Location: D.D. 107 Lot 1292 OZP: S/YL-KTN/11 District: Kam Tin North Zoning: Agriculture	Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land For a Period of 3 Years		Drawing No.: 7
				For Identification Only Date: 07/08/2026

Responses on DSD's Requirements and RemindersPlanning Application No.: A/YL-KTN/1246Location: Lot No. 1292in D.D. 107Site Area: 647.5 m²Land filling works involved? Yes / NoMaximum increase in formation level: 0.6 mMaximum level difference with adjoining lot: 0 mFilling of pond(s) involved? Yes / NoEstimated size of pond to be filled: NA m³

No.	(A) DSD's Requirements	Fulfilled in the submission? (Yes / No)
1	For sites considered complex (those 1 hectare or larger, in flood-prone areas, or involving pond filling or major earthworks), you should hire a qualified engineer (Registered Professional Engineer in the Civil Engineering discipline) to follow DSD Advice Note No. 1 and submit a proposal signed and certified by the engineer. For other sites, it is also advisable to hire a qualified engineer to prepare your drainage proposal.	Yes
2	The proposed development should neither obstruct overland flow nor adversely affect any existing natural streams, village drains, ditches and the adjacent areas, etc., unless there is proper diversion.	Yes
3	Adequate surface channels shall be provided to collect and convey the surface runoff accrued on the application site.	Yes
4	If there is existing surface runoff flowing from the adjoining lots towards the application site, peripheral surface channels with sufficient drainage capacity, set at a level lower than the adjoining lots, should be constructed to collect and convey the runoff (See Sketch A).	Yes
5	Where boundary walls or hoarding are erected, adequate openings should be provided to allow existing overland flow from the adjoining lots to pass through (see Sketch A).	Yes
6	The applicant shall be required to place all the proposed works 3m away from the top of the bank of any existing watercourses or natural streams. All the proposed works in the vicinity of the watercourses should not create any adverse drainage impacts, both during and after construction. Adequate measures should be provided by the applicant to DSD's satisfaction in order to prevent the subject site from being eroded and flooded and to ensure that the capacity of watercourses and the flooding susceptibility of the adjoining areas would not be adversely affected by the proposed development.	Yes
7	The applicant should indicate the proposed and existing ground levels of the application site and ground levels of adjacent areas on the drainage plan.	Yes
8	Cross sections showing the proposed drainage facilities and existing and proposed ground levels of the application site with respect to the adjacent areas should be given.	Yes
9	The proposal should indicate how the runoff (the flow direction) within the site and from the adjacent areas would be discharged to the proposed drainage system.	Yes
10	Sand trap or provision alike should be clearly indicated on the proposed drainage plan and provided before the collected runoff is discharged to the existing drainage facilities.	Yes

11	The applicant should clearly indicate the full alignment of the discharge path from the application site all the way down to the ultimate discharge point (e.g. a well-established stream course/public drainage system).	Yes
12	The applicant should clearly indicate the existing drainage facilities on the proposed drainage plan. Site photos of existing drainage facilities including the discharge point (e.g. existing local village drain and its downstream drainage facilities) should be provided in order to demonstrate the presence and reflect condition of the existing drainage system. Also, the applicant should provide site photo(s) to demonstrate size of the existing drainage facilities.	Yes
13	Cover levels and invert levels of the proposed and existing drainage facilities should be shown on the drainage plan. Invert levels of drainage facilities at the upstream should be higher than that at the downstream. Also, gradients and sizes of the proposed and existing drainage facilities should be shown on the drainage plan.	Yes
14	The applicant should demonstrate with hydraulic calculation that the proposed drainage facilities are adequate to collect, convey and discharge the surface runoff accrued on the application site and the overland flow intercepted from the adjacent lands. External catchment shall be properly considered	Yes
15	Connection to existing drainage facilities should be designed and constructed to prevent back flows at the drainage outlet when water level at the existing drainage facilities is high.	Yes
16	Stormwater Drainage Manual (SDM) and the newly promulgated SDM - Corrigendum published by DSD shall be considered in the hydraulic calculation. Also, storm constants of HKO Headquarters shall be adopted. In general, a 10-year design return period is sufficient for village drainage systems.	Yes
17	Deposition of sediment in stormwater drainage system should be considered in the hydraulic calculation as per the requirement in Stormwater Drainage Manual (Section 9.3).	Yes
18	The applicant should check flow velocity of the proposed drainage facilities. The flow velocity is suggested to be within a range, i.e. 0.75 m/s to 3.0 m/s.	Yes
19	Catchpit should be provided at where a proposed surface channel changes direction / gradient.	Yes
20	The applicant should provide construction details of the proposed drainage facilities.	Yes
21	The applicant should provide details for connection of the proposed and existing drainage facilities.	Yes
22	Grating should be provided for the surface channels.	Yes
23	Precast concrete pipe should generally be used for stormwater connection.	No, PVC tube is provided for flexibility.
24	Connection of the proposed and existing drainage facilities shall be designed and constructed such that there is no water leakage at the proposed connection.	Yes
25	For the construction details of the proposed drainage facilities, reference should be made to current CEDD's standard drawings.	Yes
	(B) DSD's Reminders	Fulfilled in the submission? (Yes / No)
1	Any existing drainage facilities within/outside the application site should not be disturbed or interfered with until any necessary diversion works, which have been accepted by the owner of the existing drainage facilities, have been satisfactorily completed. Such diversion works should be carried out by the applicant at his/her own cost. Moreover, sufficient allowance for future maintenance of the existing drainage facilities should be provided.	Yes

2	No construction debris, silt and sediments, or cementitious materials should be discharged into or deposited inside any existing natural streams, watercourses, drains, ditches or sewers from the application site without prior approval. Any blockage or damage arising from the proposed development shall be made good at the cost of the applicant and to DSD's satisfaction. The applicant shall also be liable for and shall indemnify against all claims and demands arising out of or in connection with this regard.	Yes
3	The applicant should be reminded to minimize the possible adverse environmental impacts on any existing watercourses in his design and during construction. EPD and AFCD should be consulted on possible environmental and/or ecological impacts of the proposed development which is in the vicinity of any existing watercourses.	Yes
4	The applicant is required to rectify/modify the drainage system if they are found to be inadequate or ineffective during operation. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system.	Yes
5	For any proposed connection to DSD's drainage facilities, the applicant should submit form HBP1 to this Division for application of technical audit. Upon our acceptance of the connection application, the applicant shall carry out the proposed connection works in accordance with DSD's Standard Drawings at the resources of the applicant.	Yes
6	If the existing drainage facilities, to which the applicant proposed to discharge the stormwater from the application site was not maintained by this office, the applicant should identify the owner of the existing drainage facilities and seek agreement from the owner prior to commencement of the proposed works. In the case that it is a local village drains, DO/YL should be consulted.	Yes
7	The applicant should consult DLO/YL and seek consent from the relevant owners for any drainage works to be carried out outside his lot boundary before commencement of the drainage works.	Yes
8	Comments from HyD, TD and RMO shall be sought if drainage works are proposed to be carried out within highway polygon or on carriageway.	Yes



Note:

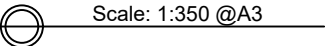
1. Adequate opening will be provided around the application site.
2. Catchpit design shall follow CEDD standard drawing No. C2406I.
3. All proposed U-channel and Catchpit must maintain in good shape (i.e. Inspection and maintenance regularly).
4. Grating Cover is provided to reduce the irregular road surface from entering the site.

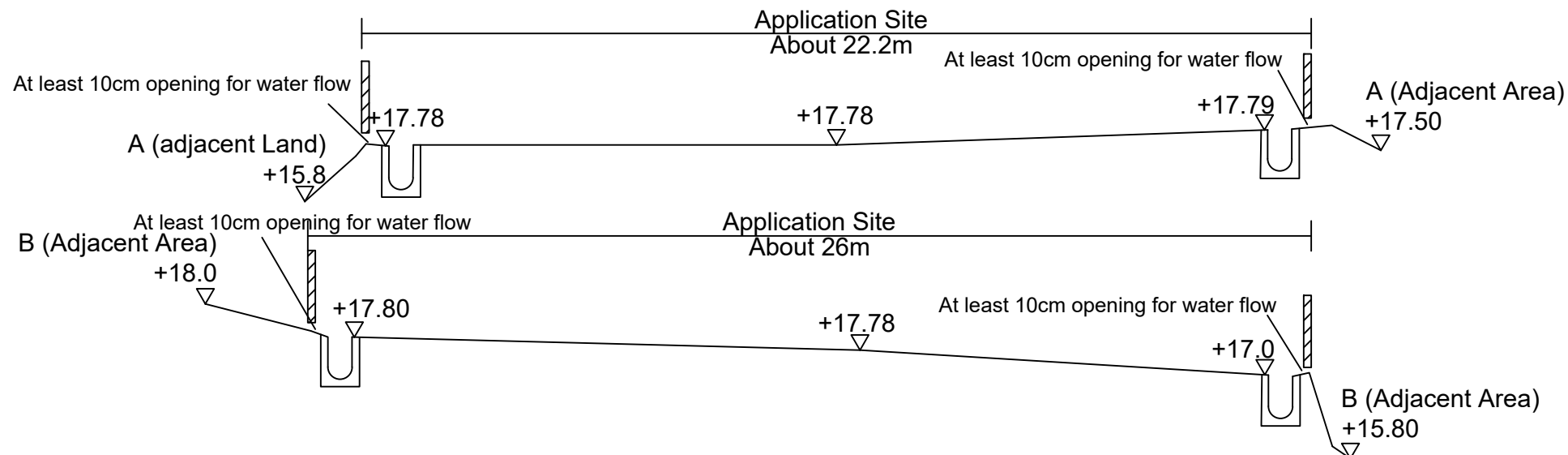
The Proposal for planning application no. A/YL-KTN/1004 has already included the runoff of this application area.

Legend:

-  Proposed Catchpit
-  Proposed U-Channel
-  Water Flow

*Invert Level of Connection Point Should Be Verified On Site Before Construction.
*Cover Level Are Indicative Only Which Should Be Verified On Site.

Appendix 5	Location: DD 107 Lot 1292 App. No.: A/YL-KTN/1246	Project: Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of 3 Years	Proposed Drainage Plan		Drawing No.
	OZP: S/YL-KTN/11 District: Kam Tin North Zoning: Agriculture				8
					For Identification Only
					Date: 10 August 2026



Appendix 8.2 Cross Section A-A B-B	Location: D.D. 107 Lot 1292 OZP: S/YL-KTN/11 District: Kam Tin North Zoning: Agriculture	Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land For a Period of 3 Years		Drawing No.: 8.2
				For Identification Only
				Date: 10/08/2026

Catchment Area	=	647.5 m ² (About)	C:	0.95 (Covered with Concrete)
	=	646.0 m ² (About)	C:	0.25 (Covered with Grassland (heavy soil))
	=	1,293.5 m ² (About)		

Calculation of Design Runoff of the Proposed Development,
For the design of drains inside the site, For Catchment (Concrete)

$$Q_p = 0.278 C I A$$

$$\begin{aligned} A &= 647.5 \text{ m}^2 \\ &= 647.5 \text{ m}^2 \\ &= 0.0006475 \text{ km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L / H^{0.2} A^{0.1} \\ &= 0.14465 * 39 / 0.51^{0.2} * 647.5^{0.1} \\ &= 3.293 \text{ min} \end{aligned}$$

$$\begin{aligned} i &= 1.16 * a / (t + b)^c \\ &= 1.16 * 505.5 / (3.293 + 3.29)^{0.355} \\ &= 300.35988 \end{aligned}$$

(50 years return period, Table 3a, Corrigendum 2024, SDM) and (16% increase due to climate change)

$$\begin{aligned} Q &= 0.278 * 0.95 * 300 * 647.5 / 1000000 \\ &= 0.051363 \text{ m}^3/\text{sec} \\ &= 3082 \text{ lit/min} \end{aligned}$$

Catchment Area	=	647.5 m ² (About)	C:	0.95 (Covered with Concrete)
	=	646.0 m ² (About)	C:	0.25 (Covered with Grassland (heavy soil))
	=	1,293.5 m ² (About)		
Calculation of Design Runoff of the Proposed Development,				
For the design of drains inside the site, For Catchment (Grassland)				
	Q _p	= 0.278C I A		
	A	= 646.0 m ²		
		= 646.0 m ²		
		= 0.0006460 km ²		
	t	= 0.14465L/H ^{0.2} A ^{0.1}		
		= 0.14465*75/22.4 ^{0.2} *646 ^{0.1}		
		= 6.334 min		
	i	= 1.16*a/(t+b) ^c		(50 years return period, Table 3a,
		= 1.16*505.5/(6.334+3.29) ^{0.355}		Corrigendum 2024, SDM) and
		= 262.47599		(16% increase due to climate change)
	Q	= 0.278*0.25*266*646/1000000		
		= 0.0117844 m ³ /sec		
		= 707 lit/min		
Total Rainfall lit/min	=	3082 + 707	lit/min	
(A) + (B)	=	3789	lit/min	

Check 300mm Uchannel by Colebrook-White Equation

By Colebrook White Equation

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

where:

V	=	mean velocity (m/s)	
g	=	gravitational acceleration (m/s ²)	
D	=	internal pipe diameter (m)	
k _s	=	hydraulic pipeline roughness (m)	(Table 14, from DSD SDM 2018, concrete pipe)
v	=	kinematic viscosity of fluid (m ² /s)	(Transitional flow and water at 15 degree celcius)
s	=	hydraulic gradient (energy loss per unit length due to friction)	
g	=	9.81	m/s ²
D	=	0.3	m
k _s	=	0.00015	m
v	=	1.14E-06	m/s ²
s	=	0.005	

Therefore, design V of pipe capacit = 1.276198 m/s

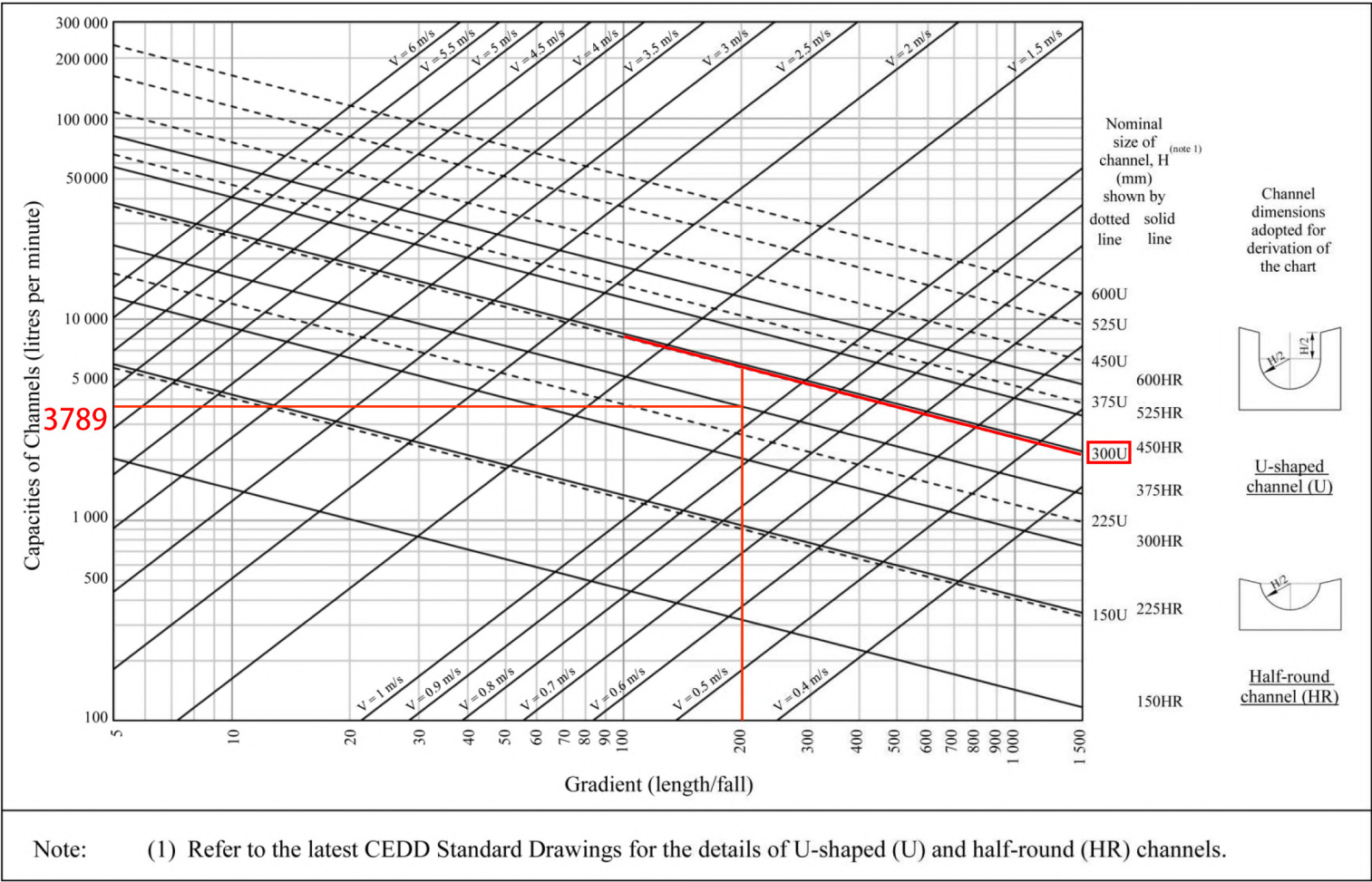
$$\begin{aligned} Q &= 0.9VA && (0.9 \text{ factor for sedimentation}) \\ &= 0.09228 \text{ m}^3/\text{s} \\ &= 5536.809 \text{ lit/min} \\ &> 3789 \text{ lit/min} \end{aligned}$$

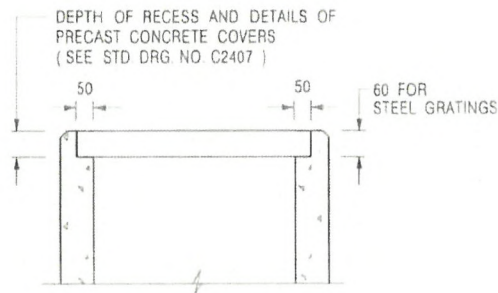
Provide 300mm uchannel (1:200) has enough capacity to accomend the runoff of the Catchment.

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

Issue No.: 1 | Revision: - | Date: 05.06.2014 | Page: 3 of 3

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





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

DATE JAN 1991

DRAWING NO.

C2406 / 2A

卓越工程 建設香港

We Engineer Hong Kong's Development

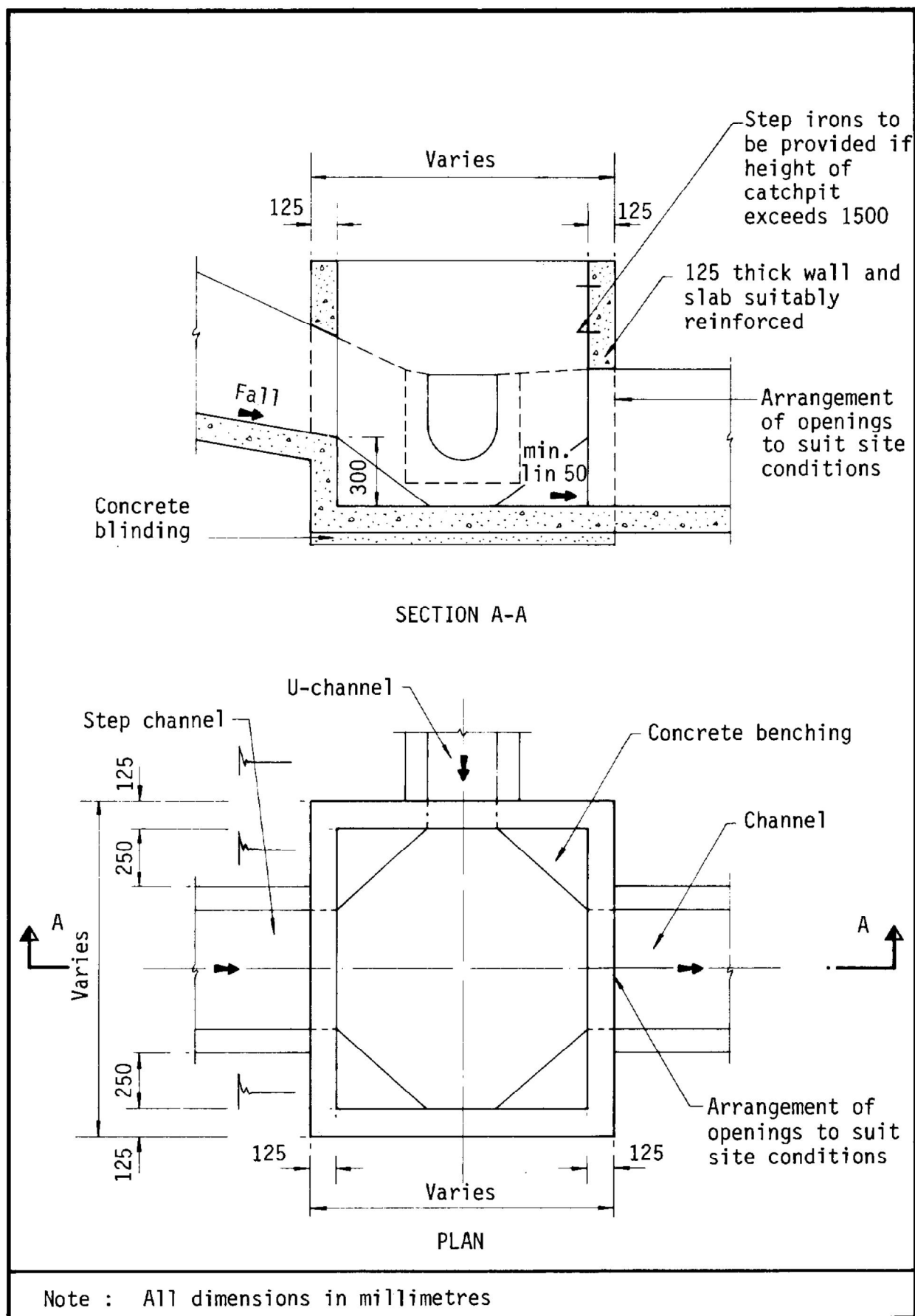
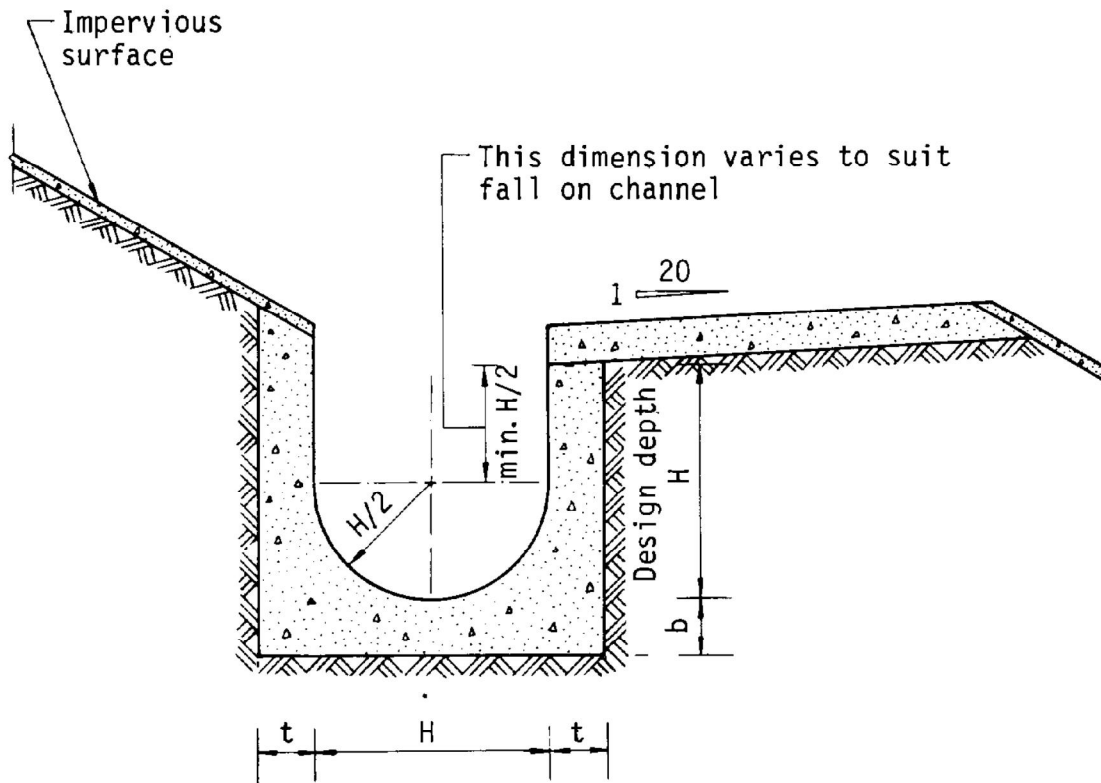


Figure 8.10 - Typical Details of Catchpits



Dimensions of U - channel

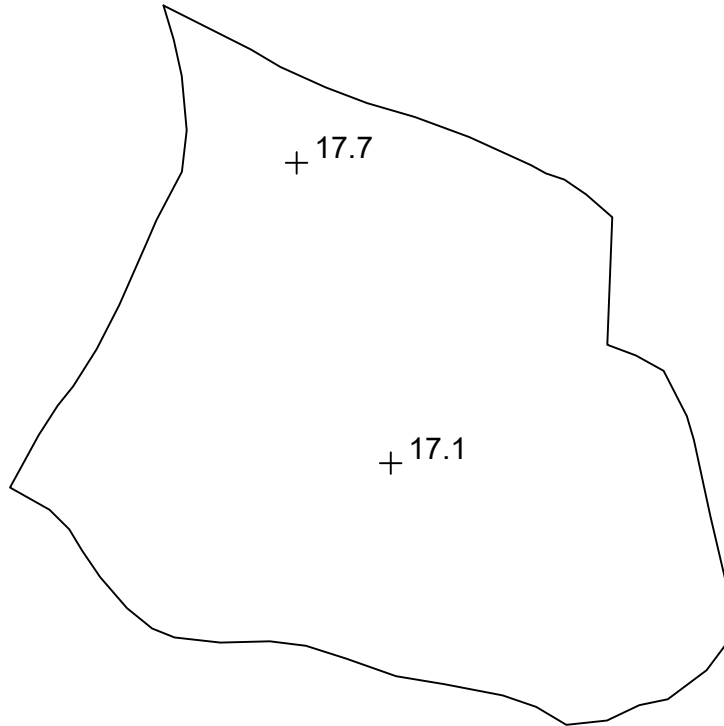
Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
225 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

Existing Condition of the Application Site

Application Site Area: 647.5 m²(About)

Existing Site Levels: +17.1 mPD - +17.7 mPD (About)



SITE LEVELS ARE FOR REFERENCE ONLY.

Proposed Filling of Land

Application Site Area: 647.5 m²(About)

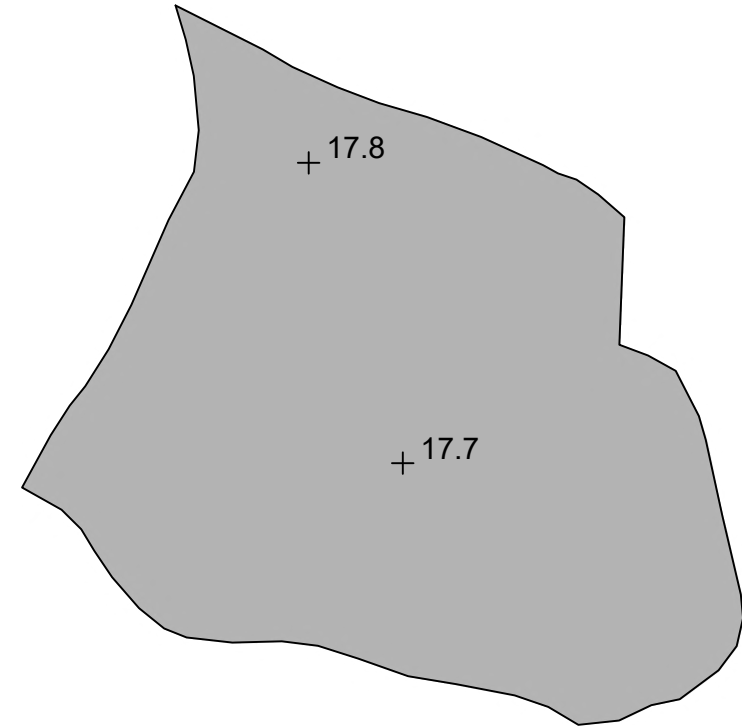
Proposed of Land Filling: 647.5 m² (About)

Depth of Land Filling: About 0.1 - 0.6 m

Proposed Site Levels: +17.7 mPD - +17.8 mPD (About)

Material of Filling: Concrete

Proposed Use: Structures Building Ancillary Open Storage Area, Loading and Unloading Space and Circulation Space



SITE LEVELS ARE FOR REFERENCE ONLY.

Scale: 1:350 @A4

Appendix 4

Paved Area

Location: D.D. 107 Lot 1292

OZP: S/YL-KTN/11

District: Kam Tin North

Zoning: Agriculture

Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land For a Period of 3 Years

Map Legend:

-  Application Site
-  Paved Area
-  +17.1 Site Level
-  Ingress / egress

Drawing No.:
4

For Identification Only

Date: 01/06/2026

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.

Drainage Appraisal

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.

Drainage Appraisal

April 2024

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Figure 4 – Catchment Plan

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Appendix B - Development Layout Plan
Appendix C – Reference Drawings for UChannel and Catchpit

1. Introduction

1.1 Background

- 1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) to use Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kam Tin, Yuen Long, New Territories (the Site) for 'Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond' (Proposed Development).
- 1.1.2 This Drainage Proposal is to support the planning application for the proposed use.

1.2 The Site

- 1.2.1 The Application Site at Kam Tin North has an area of about 6,968 m². The site is currently an unused grassland with temporary structures and a small dried pond. The site location plan is shown in **Figure 1**.
- 1.2.2 The existing ground level of the site is approx. +12.4 mPD to 15.6 mPD and it is intended to fill to +12.8 mPD to +15.8 mPD. The ground level is gently falling from east to west.
- 1.2.3 There is an existing approx. 7m width channel about 50m at the south of the site. Existing Drainage Plan and Site Photo of existing 7m width channel are shown in **Figure 2** for reference.
- 1.2.4 Proposed Development Layout plan is shown in **Appendix B** for reference.

2. Development Proposal

2.1 The Proposed Development

- 2.1.1 The total site area is approximately 6,968 m². The indicative development schedule is summarized in **Table 1** below for technical assessment purpose. Catchment plan with external catchment is shown in **Figure 4**.

Proposed Development	
Total Site Area (m ²)	6,968
Paved Area (m ²)	6,968
Assume all proposed site area as paved area after development for assessment purpose	

Table 1 - Key Development Parameters

3. Assessment Criteria

- 3.1.1 The Recommended Design Return Period based on Flood Level from SDM (Table 10) is adopted for this DIA. The recommendation is summarized in **Table 2** below.

Description	Design Return Periods
Intensively Used Agricultural Land	2 – 5 Years
Village Drainage Including Internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

Table 2– Design Return Periods under SDM

- 3.1.2 The proposed village drainage system intended to collect runoff from the internal site and upper catchment to discharge to existing approx. 7m width channel at the south of the site. 1 in 10 years return period is adopted for the drainage design.

3.1.3 Stormwater drainage design will be carried out in accordance with the criteria set out in the Stormwater Drainage Manual published by DSD. The proposed design criteria to be adopted for design of this stormwater drainage system and factors which have been considered are summarised below.

1. Intensity-Duration-Frequency Relationship – The Recommended Intensity-Duration-Frequency relationship is used to estimate the intensity of rainfall. It can be expressed by the following algebraic equation.

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

The site is located within the HKO Headquarters Rainfall Zone. Therefore, for 10 years return period, the following values are adopted.

a	=	471.9
b	=	3.02
c	=	0.397

2. The peak runoff is calculated by the Rational Method
i.e. $Q_p = 0.278CiA$

where	Q_p	=	peak runoff in m ³ /s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km ²

3. The run-off coefficient (C) of surface runoff are taken as follows:

- Paved Area: C = 0.95
- Unpaved Area: C = 0.35

4. Manning's Equation is used for calculation of velocity of flow inside the channels:

$$\text{Manning's Equation: } v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$$

Where,

V = velocity of the pipe flow (m/s)

S_f = hydraulic gradient

n = manning's coefficient

R = hydraulic radius (m)

5. Colebrook-White Equation is used for calculation of velocity of flow inside the pipes:

$$\text{Colebrook-White Equation: } \frac{v}{\sqrt{32gRS}} = -\log \log \left(\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRS}} \right)$$

where,

V	=	velocity of the pipe flow (m/s)
S _f	=	hydraulic gradient
k _r	=	roughness value (m)
v	=	kinematics viscosity of fluid
D	=	pipe diameter (m)
R	=	hydraulic radius (m)

4. Proposed Drainage System

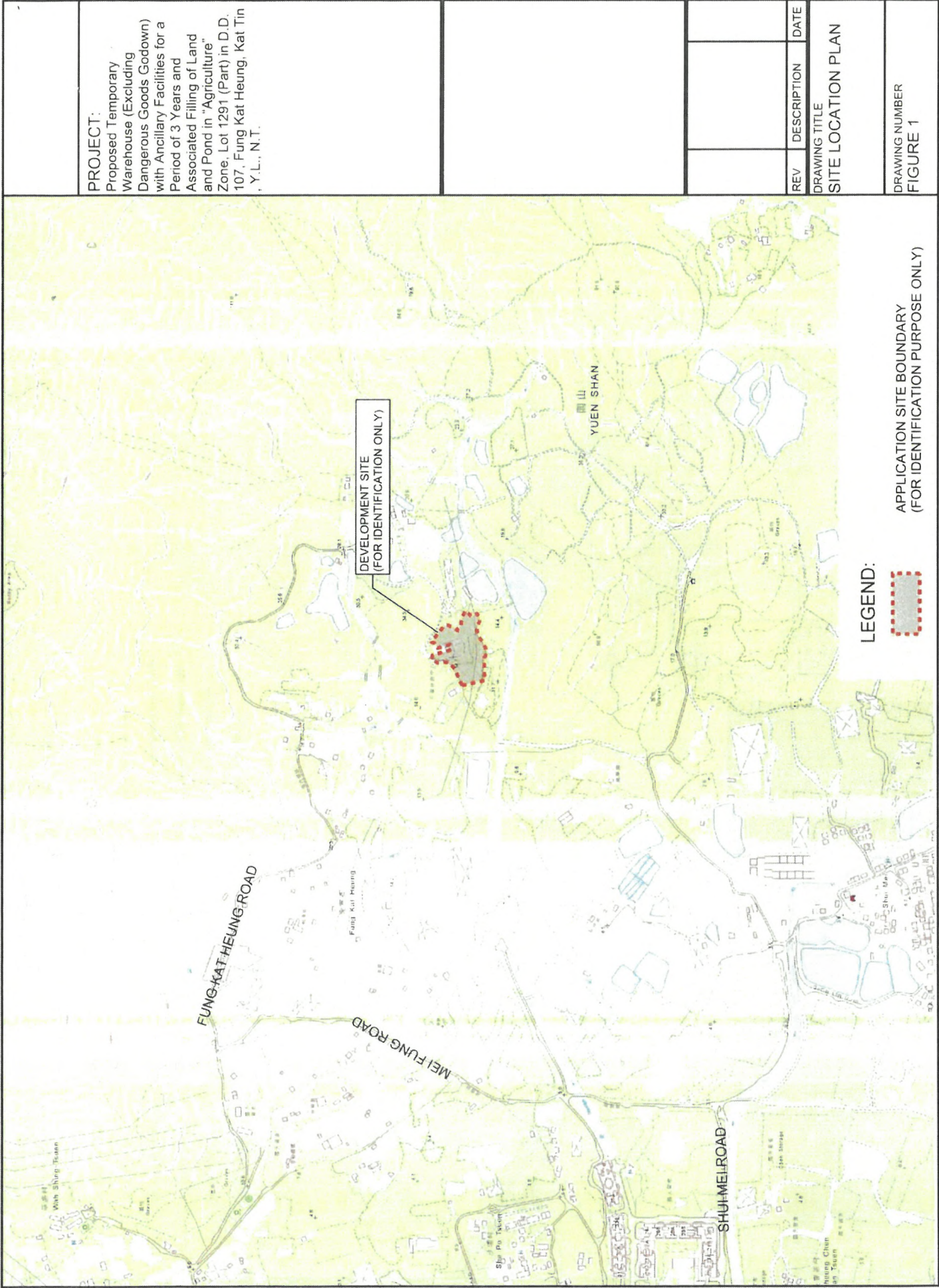
- 4.1.1 Proposed drainage system are designed for collection of runoff from the application site and external catchment at the north-east. It is proposed to discharge to existing approx.. 7m channel at south of the development. The alignment, size and gradient of the proposed drains are shown in **Figure 3**. The catchment plan is shown in **Figure 4**.
- 4.1.2 The design calculations of proposed drains are shown in **Appendix A**.
- 4.1.3 The reference standard drawings of drains are shown in **Appendix C**.

5. Conclusion

- 5.1.1 A drainage appraisal has been conducted for the Proposed Development. The surface runoff from the Application Site will be collected by the proposed drains and discharged to the existing channel at south.
- 5.1.2 With the proposed drainage system, it is anticipated that there will be no significant drainage impact to the area after the implementation of the development.

- End of Text -

FIGURES



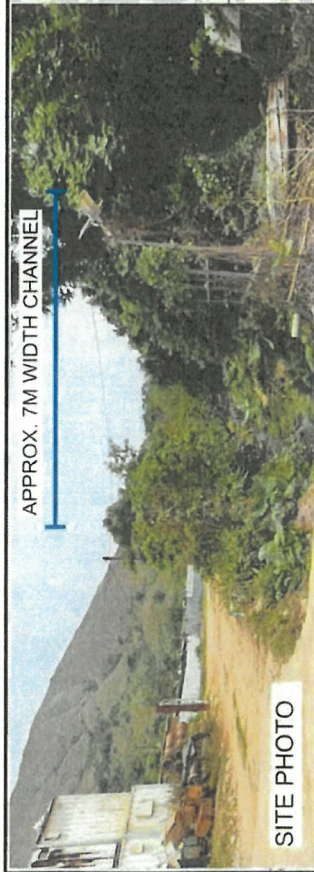
PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.

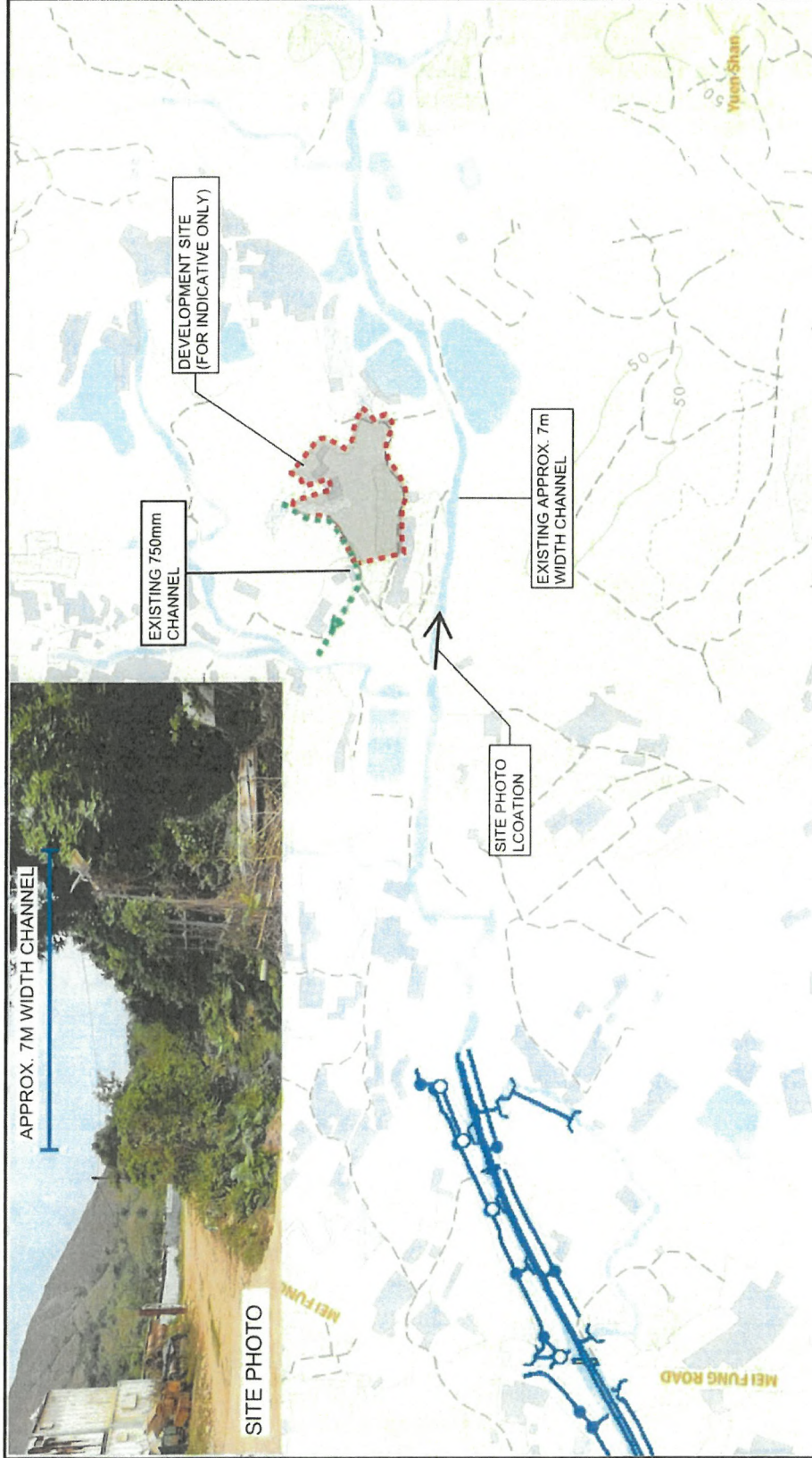
REV DESCRIPTION DATE

DRAWING TITLE
SITE LOCATION PLAN

DRAWING NUMBER
FIGURE 1



SITE PHOTO



LEGEND:

	Combined Manhole		Tapping Point (Storm)
	Overflow (Combined)		Storm Water Terminal Manhole
	Pipe (Combined)		Tunnel Protection Zone (100m / 200m)
	Interface Valve Chamber		Tunnel Protection Zone (General Range)
	Sewer Manhole		Tunnel / Box Culvert (Sewer)
	Oil / Petrol Interceptor		Tunnel / Box Culvert (Storm)
	Overflow (Sewer)		EXISTING U CHANNEL
	Pipe (Sewer)		
	Tapping Point (Sewer)		
	Sewer Terminal Manhole		
	Catchpit		
	Inlet		
	Storm Water Manhole		
	Outlet		
	Pipe (Storm)		
	Sand Trap		

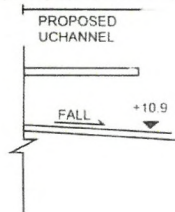
PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.

REV DESCRIPTION DATE

DRAWING TITLE
EXISTING DRAINAGE
PLAN

DRAWING NUMBER
FIGURE 2



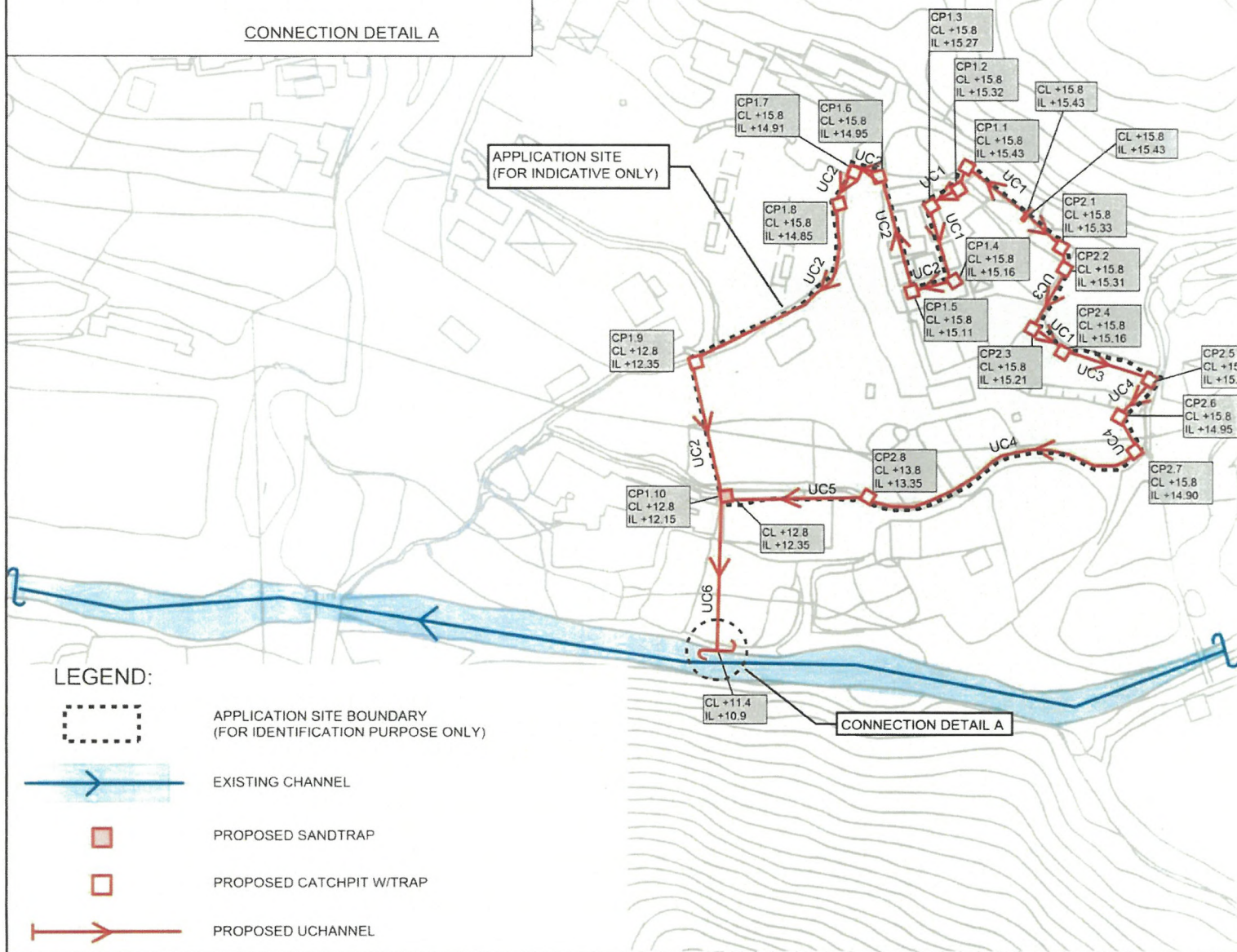
CONNECTION DETAIL A

UCHANNEL TYPE

- UCHANNEL 1 (UC1) - 300mm, MIN. 1 IN 200
- UCHANNEL 2 (UC2) - 450mm, MIN. 1 IN 200
- UCHANNEL 3 (UC3) - 300mm, MIN. 1 IN 200
- UCHANNEL 4 (UC4) - 450mm, MIN. 1 IN 200
- UCHANNEL 5 (UC5) - 450mm, MIN. 1 IN 100
- UCHANNEL 6 (UC6) - 600mm, MIN. 1 IN 200

PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.



REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE
SYSTEM

DRAWING NUMBER
FIGURE 3

PROJECT:

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land and Pond in "Agriculture" Zone, Lot 1291 (Part) in D.D. 107, Fung Kat Heung, Kat Tin, Y.L., N.T.

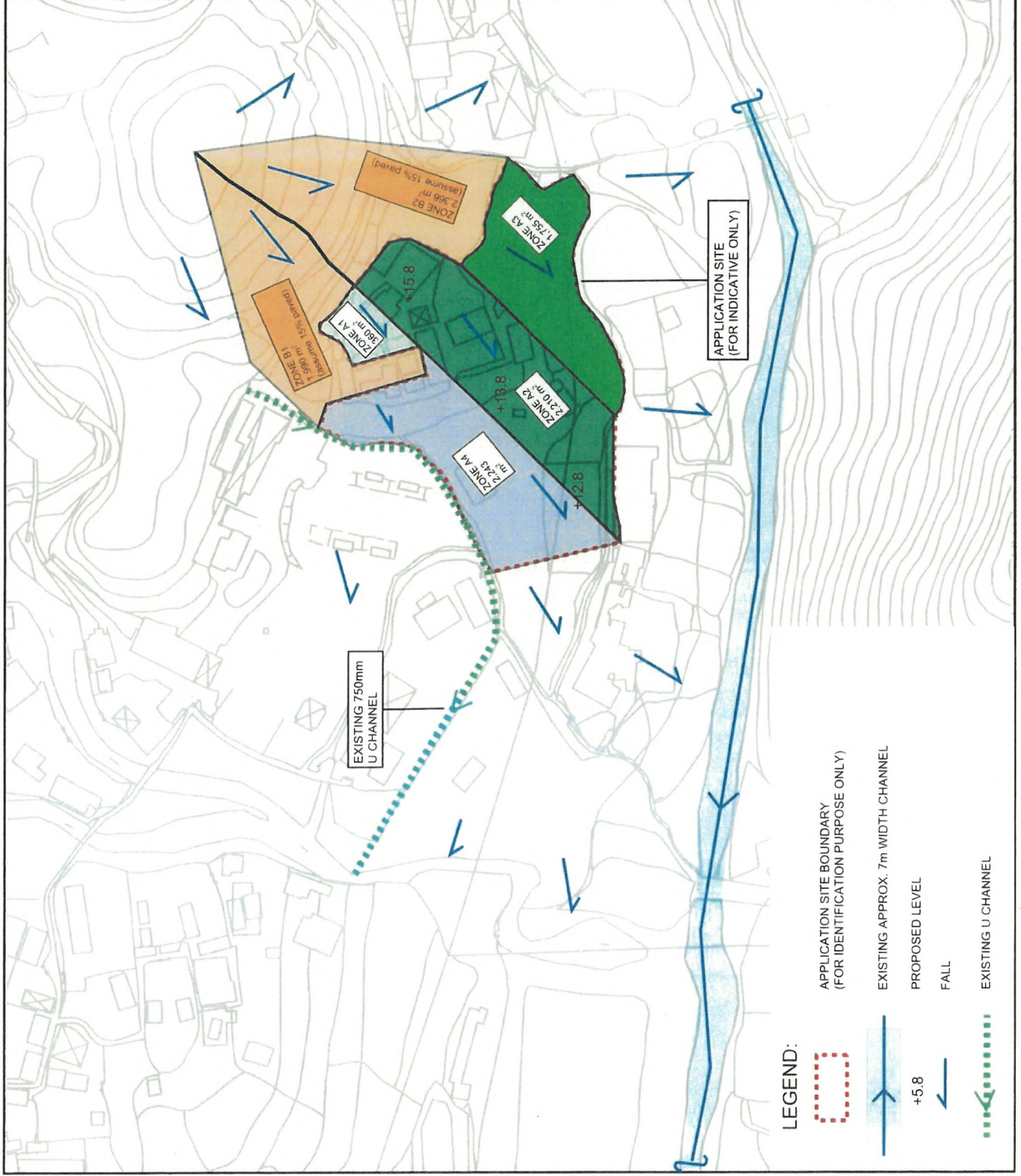
REV	DESCRIPTION	DATE

DRAWING TITLE

CATCHMENT PLAN

DRAWING NUMBER

FIGURE 4



Appendix

Appendix A - Design Calculation

U Channel 1 (Zone A1 + B1)

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	$360 + 1990 \times 0.15 =$		659	(m ²)
Unpaved Area	$1990 \times 0.85 =$		1692	(m ²)
Total Equivalent Area	$659 \times 0.95 + 1692 \times 0.35 =$		1218	(m ²)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	$0.278 \times 1218 \times 206 / 1000000 =$		0.070	m ³ /s

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

U Channel

Channel Size		1 in	300	(mm)
Gradient			200	
Velocity			1.12	m/s
Capacity			0.090	m ³ /s

Utilization $0.07 / 0.09 = 77.80\%$ OK (less than 90%, for 10% siltation allowance)

U Channel 2 (Zone [A1 + B1] + A4)

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	$659 + 2243 \times 1 =$		2902	(m ²)
Unpaved Area	$1692 =$		1692	(m ²)
Total Equivalent Area	$2902 \times 0.95 + 1692 \times 0.35 =$		3348	(m ²)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	$0.278 \times 1692 \times 206 / 1000000 =$		0.192	m ³ /s

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

U Channel

Channel Size		1 in	450	(mm)
Gradient			200	
Velocity			1.47	m/s
Capacity			0.265	m ³ /s

Utilization $0.192 / 0.265 = 72.57\%$ OK (less than 90%, for 10% siltation allowance)

U Channel 3 (Zone B2)

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	$2366 \times 0.15 =$		355	(m ²)
Unpaved Area	$2366 \times 0.85 =$		2011	(m ²)
Total Equivalent Area	$355 \times 0.95 + 2011 \times 0.35 =$		1041	(m ²)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	$0.278 \times 1041 \times 206 / 1000000 =$		0.060	m ³ /s

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

U Channel (Half round to U)

Channel Size		1 in	300	(mm)
Gradient			200	
Velocity			1.12	m/s
Capacity			0.090	m ³ /s

Utilization $0.06 / 0.09 = 66.52\%$ OK (less than 90%, for 10% siltation allowance)

U Channel 4 (Zone A3 + B2)

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	$355 + 1755 =$		2110	(m ²)
Unpaved Area	$2011 =$		2011	(m ²)
Total Equivalent Area	$2110 \times 0.95 + 2011 \times 0.35 =$		2708	(m ²)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	$0.278 \times 2708 \times 206 / 1000000 =$		0.155	m ³ /s

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

U Channel

Channel Size		1 in	450	(mm)
Gradient			200	
Velocity			1.47	m/s
Capacity			0.265	m ³ /s

Utilization $0.155 / 0.265 = 58.69\%$ OK (less than 90%, for 10% siltation allowance)

U Channel 5 (Zone A2 + [A3 + B2])

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	2110 + 2210 x 1 =		4320	(m2)
Unpaved Area	2011 =		2011	(m2)
Total Equivalent Area	4320 x 0.95 + 2011 x 0.35 =		4808	(m2)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	0.278 x 4808 x 206 / 1000000 =		0.276	m3/s

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

U Channel

Channel Size		1 in	450	(mm)
Gradient			100	
Velocity			2.07	m/s
Capacity			0.375	m3/s

Utilization 0.276 / 0.375 = **73.67** % OK (less than 90%, for 10% siltation allowance)

U Channel 6 (Combined: Zone [A1 + A4 + B1] + [A2 + A3 + B2])

Runoff Estimation

Design Return Period		1 in	10	years
Paved Area	4320 + 2902 =		7221	(m2)
Unpaved Area	2011 + 1692 =		3703	(m2)
Total Equivalent Area	7221 x 0.95 + 3703 x 0.35 =		8156	(m2)
Rainfall Intensity, I *			206	mm/hr
Design Discharge Rate, Q	0.278 x 8156 x 206 / 1000000 =		0.570	m3/s

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

U Channel

Channel Size		1 in	600	(mm)
Gradient			200	
Velocity			1.78	m/s
Capacity			0.468	m3/s

Utilization 0.57 / 0.468 = **82.07** % OK (less than 90%, for 10% siltation allowance)

Appendix B - Proposed Development Layout Plan

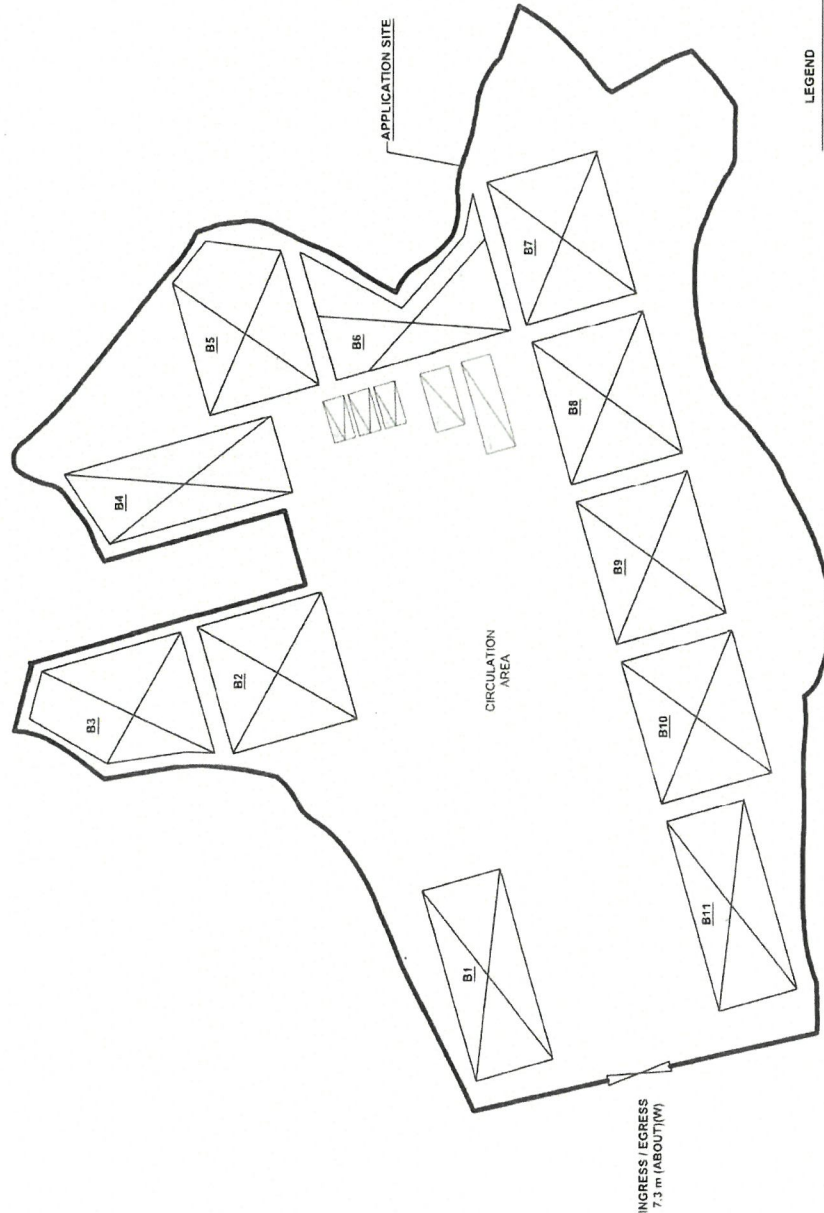
DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	6,968 m ² (ABOUT)
COVERED AREA	2,407 m ² (ABOUT)
UNCOVERED AREA	4,561 m ² (ABOUT)
PLOT RATIO	0.35 (ABOUT)
SITE COVERAGE	35 % (ABOUT)
NO. OF STRUCTURE	11
DOMESTIC GFA	NOT APPLICABLE
NON-DOMESTIC GFA	2,407 m ² (ABOUT)
TOTAL GFA	2,407 m ² (ABOUT)
BUILDING HEIGHT	6 m (ABOUT)
NO. OF STOREY	1

STRUCTURE

B1	WAREHOUSE (EXCLUDING D.G.G.)	211 m ² (ABOUT)	211 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B2	WAREHOUSE (EXCLUDING D.G.G.)	221 m ² (ABOUT)	221 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B3	WAREHOUSE (EXCLUDING D.G.G.)	216 m ² (ABOUT)	216 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B4	WAREHOUSE (EXCLUDING D.G.G.)	212 m ² (ABOUT)	212 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B5	WAREHOUSE (EXCLUDING D.G.G.)	228 m ² (ABOUT)	228 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B6	WAREHOUSE (EXCLUDING D.G.G.)	212 m ² (ABOUT)	212 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B7	WAREHOUSE (EXCLUDING D.G.G.)	224 m ² (ABOUT)	224 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B8	WAREHOUSE (EXCLUDING D.G.G.)	224 m ² (ABOUT)	224 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B9	WAREHOUSE (EXCLUDING D.G.G.)	224 m ² (ABOUT)	224 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B10	WAREHOUSE (EXCLUDING D.G.G.)	224 m ² (ABOUT)	224 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
B11	WAREHOUSE (EXCLUDING D.G.G.) AND OFFICE	211 m ² (ABOUT)	211 m ² (ABOUT)	6 m (ABOUT)(1-STORY)
TOTAL		2,407 m ² (ABOUT)	2,407 m ² (ABOUT)	

*D.G.G. - DANGEROUS GOODS GODOWN

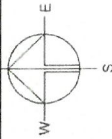


LEGEND

	APPLICATION SITE
	STRUCTURE
	OPEN STORAGE AREA
	PRIVATE CAR PARKING SPACE
	LOADING / UNLOADING SPACE FOR LGV
	LOADING / UNLOADING SPACE FOR MGW
	INGRESS / EGRESS

PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	3
DIMENSION OF U/L SPACE	5 m (L) x 2.5 m (W)
NO. OF U/L SPACE FOR LIGHT GOODS VEHICLE	1
DIMENSION OF U/L SPACE	7 m (L) x 3.5 m (W)
NO. OF U/L SPACE FOR MEDIUM GOODS VEHICLE	1
DIMENSION OF U/L SPACE	11 m (L) x 3.5 m (W)



PROJECT
PROPOSED
WAREHOUSE
(EXCLUDING
DANGEROUS
GOODS GODOWN)
WITH 11 BAY
FOR A PERIOD OF 3 YEARS AND
ASSOCIATED FILLING OF LAND
AND POND

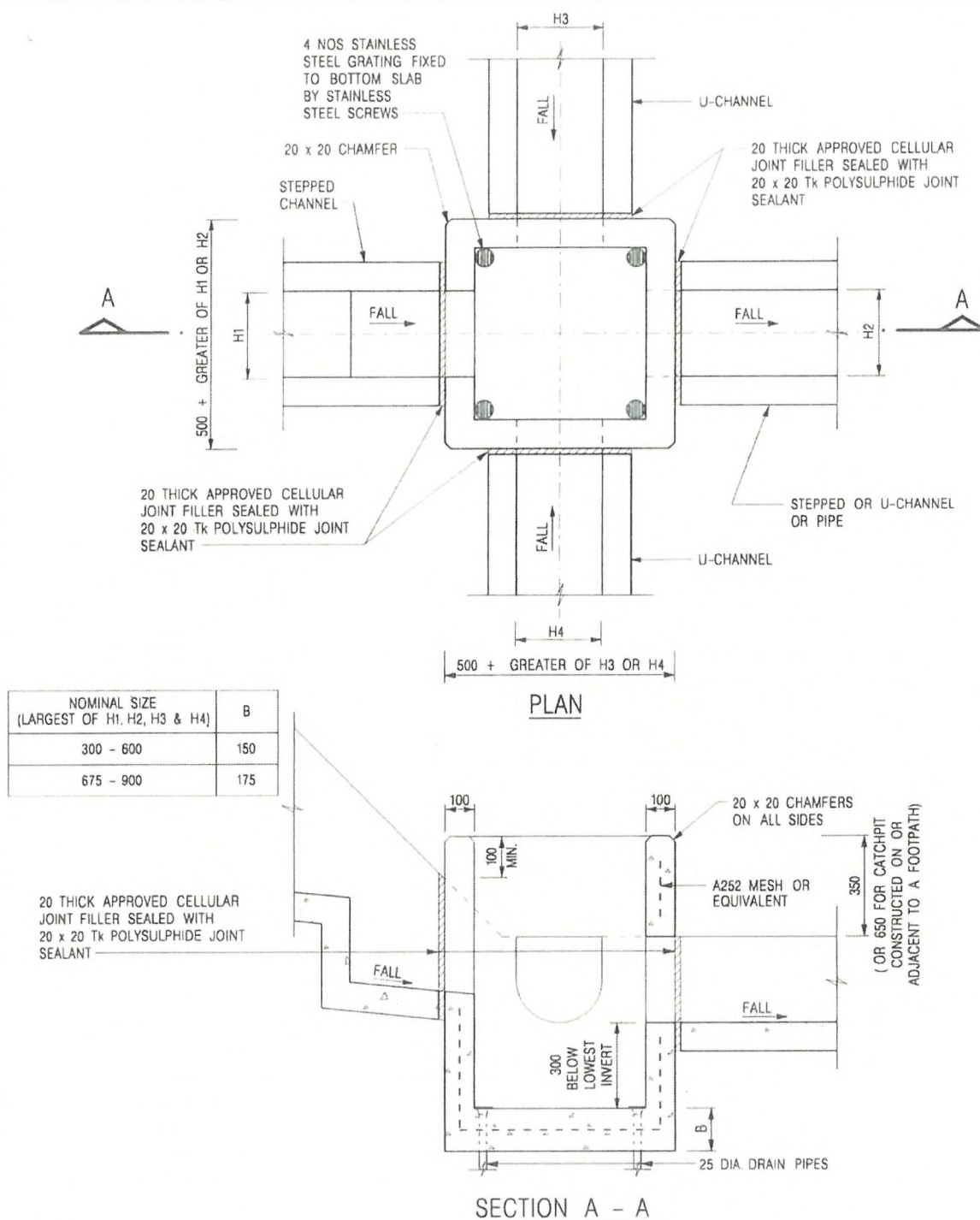
DATE LOCATION
LOT 1291 (PART) IN D.D. 107,
FUNG KAT (HEUNG KAM) TRAIL,
YUEN LONG, NEW TERRITORIES

SCALE
1 : 800 @ A4

DRAWN BY	DATE
MN	11.1.2024
REVISED BY	DATE
APPROVED BY	DATE

DATE TIME	DATE
LAYOUT PLAN	
PLAN 4	
SCALE	00' "

Appendix C - Reference Drawings



NOTES:

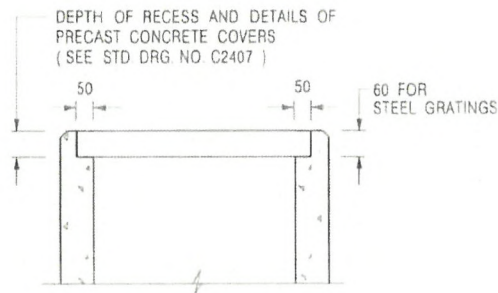
- 1 ALL DIMENSIONS ARE IN MILLIMETRES
- 2 REFER TO SHEET 2 FOR OTHER NOTES

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

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FORMER DRG NO. C2406J	Original Signed	03 2015
REF.	REVISION	SIGNATURE DATE
 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		
SCALE 1 : 20	DRAWING NO. C2406 /1	
DATE JAN 1991		

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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.

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

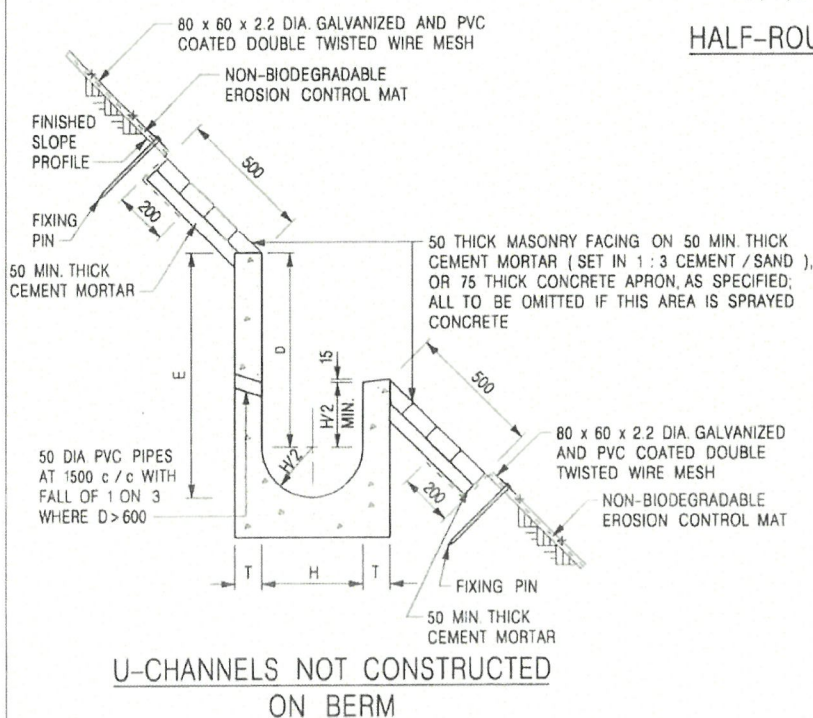
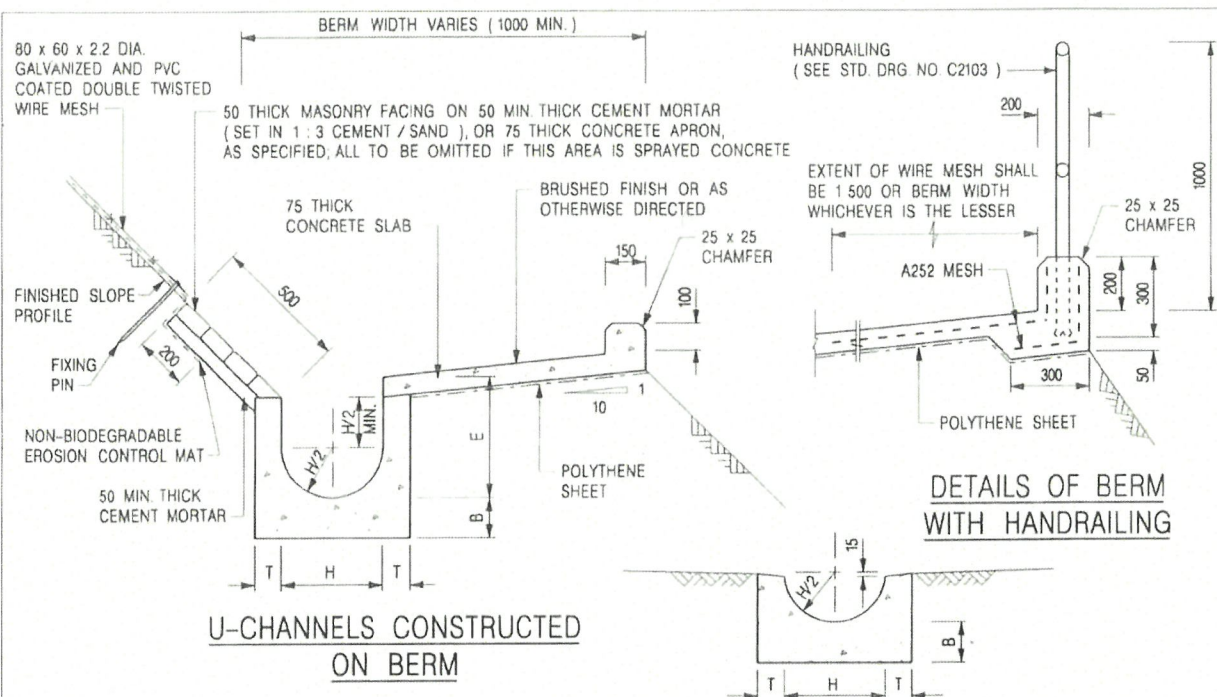
DATE JAN 1991

DRAWING NO.

C2406 / 2A

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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)

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

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
E	DRAWING TITLE AMENDED.	Original Signed	11.2001
D	MINOR AMENDMENT.	Original Signed	08.2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6.99
B	MINOR AMENDMENTS.	Original Signed	3.94
REF.	REVISION	SIGNATURE	DATE

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



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SCALE 1 : 25

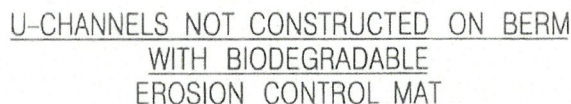
DRAWING NO.

DATE JAN 1991

C2409I

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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

6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW
7. FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO C25112
8. MINIMUM SIZE OF 25 x 50 x 300mm SHALL BE PROVIDED FOR WOODEN PEG

9. MINIMUM SIZE OF 10mm DIAMETER WITH 200mm LONG SHALL BE PROVIDED FOR BAMBOO STICK.
10. THE FIXING DETAILS OF NON-BIODEGRADABLE AND BIODEGRADABLE EROSION CONTROL MATS ON EXISTING BERM SHALL REFER TO STD DRG NO C2511.

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650
375 - 500	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

I	MINOR AMENDMENT.	Original Signed	07/2018
H	FIXING DETAILS OF BIODEGRADABLE EROSION CONTROL MAT ADDED	Original Signed	12/2018
G	DIMENSION TABLE AMENDED.	Original Signed	01/2005
F	MINOR AMENDMENT	Original Signed	01/2004
E	GENERAL REVISION	Original Signed	12/2002
D	MINOR AMENDMENT.	Original Signed	08/2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6/99
B	MINOR AMENDMENT	Original Signed	3/94
A	MINOR AMENDMENT.	Original Signed	10/92
REF.	REVISION	SIGNATURE	DATE

DETAILS OF HALF-ROUND AND
U-CHANNELS (TYPE B - WITH
EROSION CONTROL MAT APRON)

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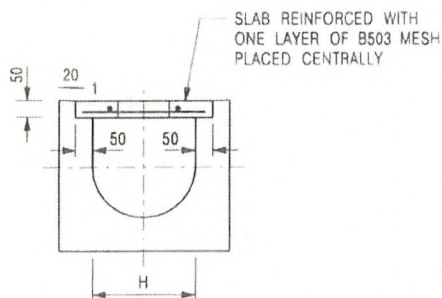
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DATE JAN 1991

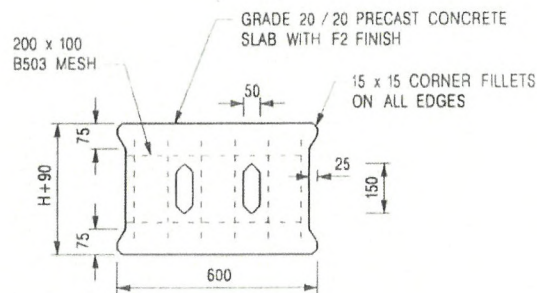
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C24101

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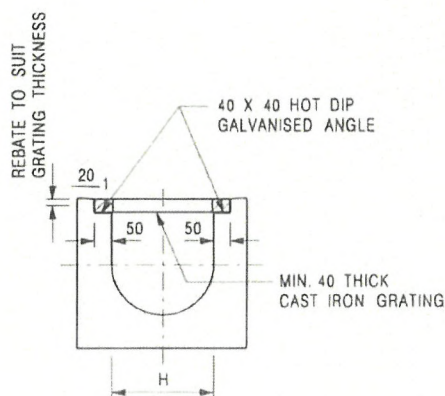
TYPICAL SECTION



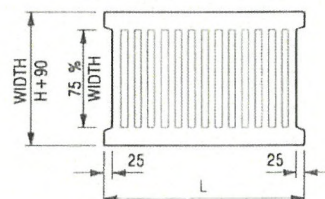
PLAN OF SLAB

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

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
REF.	REVISION	SIGNATURE	DATE

COVER SLAB AND CAST IRON
GRATING FOR CHANNELS



CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT

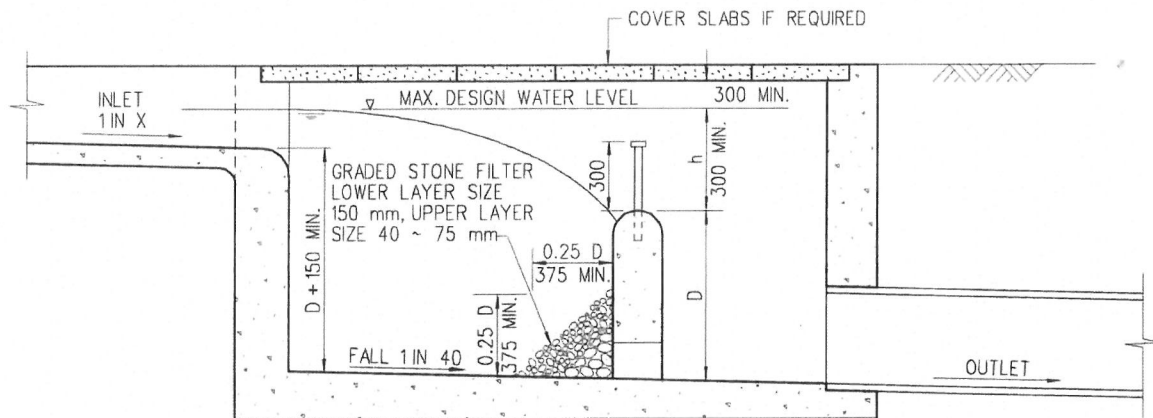
SCALE 1 : 20

DATE JAN 1991

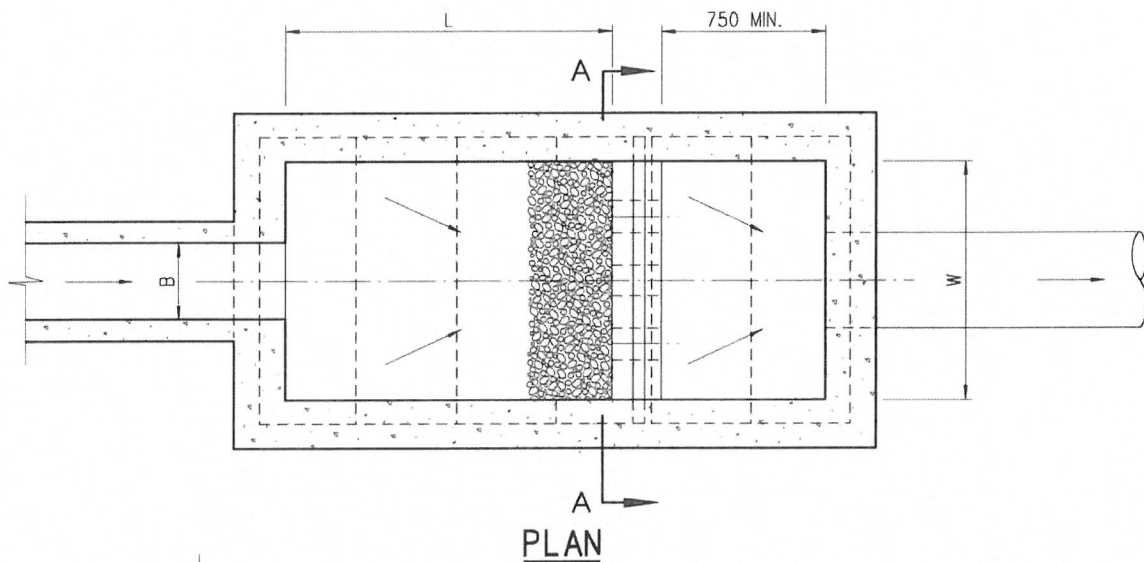
DRAWING NO.
C2412E

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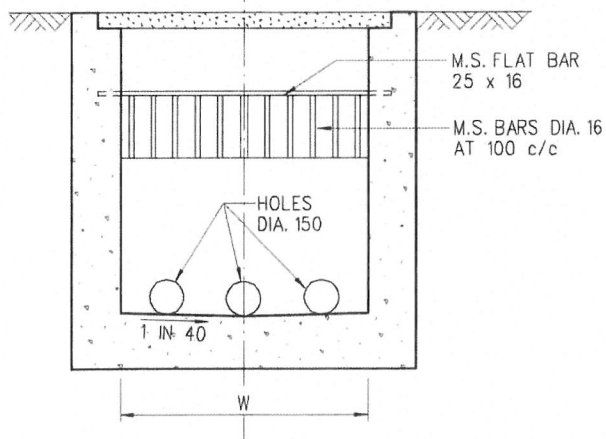
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LONGITUDINAL SECTION



PLAN



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NORMALLY FOR DRAINS OF 900 mm DIA. AND BELOW. FOR BIGGER DRAINS AND STEEP TERRAIN, SAND TRAP SHOULD BE SPECIALLY DESIGNED.
3. SIZE
DEPTH : $D \leq 750$
WIDTH : $W \geq 3B$
LENGTH : $4.8D^{0.67} H^{0.5} X^{0.5} \geq 4B$
4. GRADED STONE FILTER SHALL BE CRUSHER RUN GRANITE AGGREGATE.
5. CAPACITY D W L TO BE ACCORDING TO SIZE AND NATURE OF CATCHMENT, PROVIDING DETENTION TIME NOT LESS THAN 5 MINUTES FOR MAX. DESIGN FLOW OF INLET.

B	REDRAWN BY CAD	ORIGINAL SIGNED	8.8.2001
A	GENERAL REVIEW	ORIGINAL SIGNED	2.2.2001
REV.	DESCRIPTION	SIGNATURE	DATE

DRAINAGE SERVICES DEPARTMENT

SAND TRAP

REFERENCE

DRAWING No.

SCALE

DIAGRAMMATIC

DS 1025B