規 劃 署

沙田、大埔及北區規劃處
香港新界沙田上禾輋路一號
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十三樓 1301-1314 室

Planning Department

Sha Tin, Tai Po & North
District Planning Office
Rooms 1301-1314, 13/F,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin ,
N.T., Hong Kong

來函檔號	Your Reference	DD87 Lots 357 & 359
本署檔號	Our Reference	( ) in TPB/A/NE-FTA/246
電話號碼	Tel. No. :	2158 6220
傳真機號碼	Fax No. :	2691 2806

By Email
[redacted]

6 November 2025

R-riches Property Consultants Ltd.
Block D, The Richfield
236 Kat Hing Wai, Kam Tin
Yuen Long, New Territories
(Attn.: Christian Chim)

Dear Sir/Madam,

Proposed Temporary Open Storage of Construction Material and Machinery for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D. 87, Hung Lung Hang (Compliance with Approval Condition (a) for Planning Application No. A/NE-FTA/246)

I refer to your submission received by this Office on 12.8.2025 and our interim reply dated 22.9.2025 for compliance with approval condition (a) in relation to the implementation of the accepted drainage proposal to the satisfaction of the Director of Drainage Services or of the Town Planning Board under the captioned planning application.

The Chief Engineer/Mainland North, Drainage Services Department (Contact person: Mr. Samuel WANG; Tel.: 2300 1135) has been consulted and considered that approval condition (a) has been complied with. Her advisory comments are attached at **Appendix I**.

Should you have any queries related to planning matters, please contact Ms. Shirley CHAN of this Office at 2158 6241.

Yours faithfully,

(Rico TSANG)
for Director of Planning

Appendix I

Comments of the Chief Engineer/Mainland North, Drainage Services Department (Contact person: Mr. WANG Xing, Samuel; Tel. No.: 2300 1135):

1. The Mainland North Division of the Drainage Services Department inspected the drainage facilities at the application site (the Site) on 21.8.2025 and considered that the implementation of drainage facilities on site was acceptable at the time of site inspection. The applicant is reminded that the use and the drainage facilities implemented on site shall not obstruct overland flow/surface runoff and any existing drainage facilities.

2. The applicant shall make sure that rain water falling onto the Site shall be connected by a drainage system and conveyed to a proper discharge point(s). The applicant shall maintain such system properly and rectify the system if it is found to be inadequate or ineffective during operation at his/her own cost. Particularly, the applicant shall carry out regular clearance works to drainage facilities under the use. The applicant shall also be liable for and shall indemnify the Government against claims and demands arising out of damage or nuisance caused by a failure of the drainage system.

R-Riches
Property Consultants Ltd.

盈卓物業
顧問有限公司

Our Ref.: DD 87 Lots 357 & 359
Your Ref.: TPB/A/NE-FTA/246

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

By E-mail

12 August 2025

Dear Sir,

Compliance with Planning Condition (a)

Proposed Temporary Open Storage of Construction Material and Machinery for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D. 87, Hung Lung Hang, New Territories

(S.16 Planning Application No. A/NE-FTA/246)

We write to make submission with a response-to-comment table and a set of photographic records *(enclosed)* for compliance with planning condition (a) of the captioned application, i.e. *the implementation of the accepted drainage proposal*.

Should you require more information regarding the application, please contact our Mr. Danny NG at [redacted] or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Property Consultants Limited

Christian CHIM
Town Planner

cc DPO/STN, PlanD (Attn.: Ms. Shirley CHAN email: skkchan@pland.gov.hk)
(Attn.: Ms. Audrey SOO email: ahtsoo@pland.gov.hk)

[redacted]

Compliance with Planning Condition (a)

Proposed Temporary Open Storage of Construction Material and Machinery for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D. 87, Hung Lung Hang, New Territories

(S.16 Planning Application No. A/NE-FTA/246)

	Departmental Comments	Applicant's Responses
Comments of Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) (Contact Person: Mr. Samuel WANG; Tel.: 2300 1135)		
1.	The connection pipe from the 600 mm U-channel to the 2 m open channel was at height and the rain water would be free-falling to the channel. Please extend the connection pipe at the direction to the downstream open channel as appropriate. Also, please ensure the discharged water would fall to the downstream open channel rather than the upstream natural watercourse.	The applicant has extended the connection pipe at the direction to the downstream open channel. Please refer to the enclosed site photos.
2.	The construction of catch-pit covers was not completed in the Site, please follow up.	Catch-pit cover has been installed. Please refer to the enclosed site photos.

Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “Agriculture” Zone, Lots 357 (Part) and 359 (Part) in D.D.87, Hung Lung Hang, N.T.

Drainage Proposal

August 24

Table of Content

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1. Introduction

1.1 Background

1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) to use Lots 357 (Part) and 359 (Part) in D.D. 87, Hung Lung Hang, New Territories (the Site) for 'Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land'

1.1.2 This Drainage Proposal aim to support the development in drainage aspect.

1.2 The Site

1.2.1 The Site has a total area of about 3,110 m^2. The site is partially cover by vegetation and partially paved. The site location plan is shown in **Figure 1**.

1.2.2 The existing site ground level is around +25.5 to +25.9 mPD. The site is proposed to all paved with not more than 200mm hard pavement from +25.7 to +26.1 mPD.

1.2.3 An existing channel is running from southwest to northeast by the side of the site. Existing Drainage Plan 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 3,110 m^2. The indicative development schedule is summarized in **Table 1** below for technical assessment purpose. The catchment plan is shown in **Figure 4**.

Proposed Development	
Total Site Area (m^2)	3,110
Paved Area (m^2) Assume all proposed site area as paved area for assessment purpose	3,110

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 drainage system intended to collect runoff from internal site and external catchment. 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 North District Zone. Therefore, for 10 years return period, the following values are adopted.

a	=	454.9
b	=	3.44
c	=	0.412

(Corrigendum_No.1_2024)

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:

   1. Paved Area: C = 0.95
   2. Unpaved Area: C = 0.35

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

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:

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

where,

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

4. Proposed Drainage System

4.1. Proposed UChannel

4.1.1 Proposed U-channels are designed for collection of runoff within and near the Development Site. Please refer to the **Figure 4** for proposed catchment plan. The U-channels are proposed to be connected to existing stream at the east. The design calculations of proposed UChannels are shown in **Appendix A**.

4.1.2 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3**.

4.1.3 Further to the discussion with DSD, the following improvement works are proposed.

i. additional 2m width channel at critical section of the existing channel.

ii. additional 600mm width channel along the site boundary at south (connection to 2m channel at item i)..

iii. additional 600mm width channel along the site boundary at the east (connection to 2m channel at item i).

4.1.4 The increase in capacity due to the proposed 2m width and 600mm channel are shown in **Appendix A**. The proposed channels alignment are shown in **Figure 3**.

4.1.5 The reference standard drawings of drains are shown in **Appendix C**.

5. Conclusion

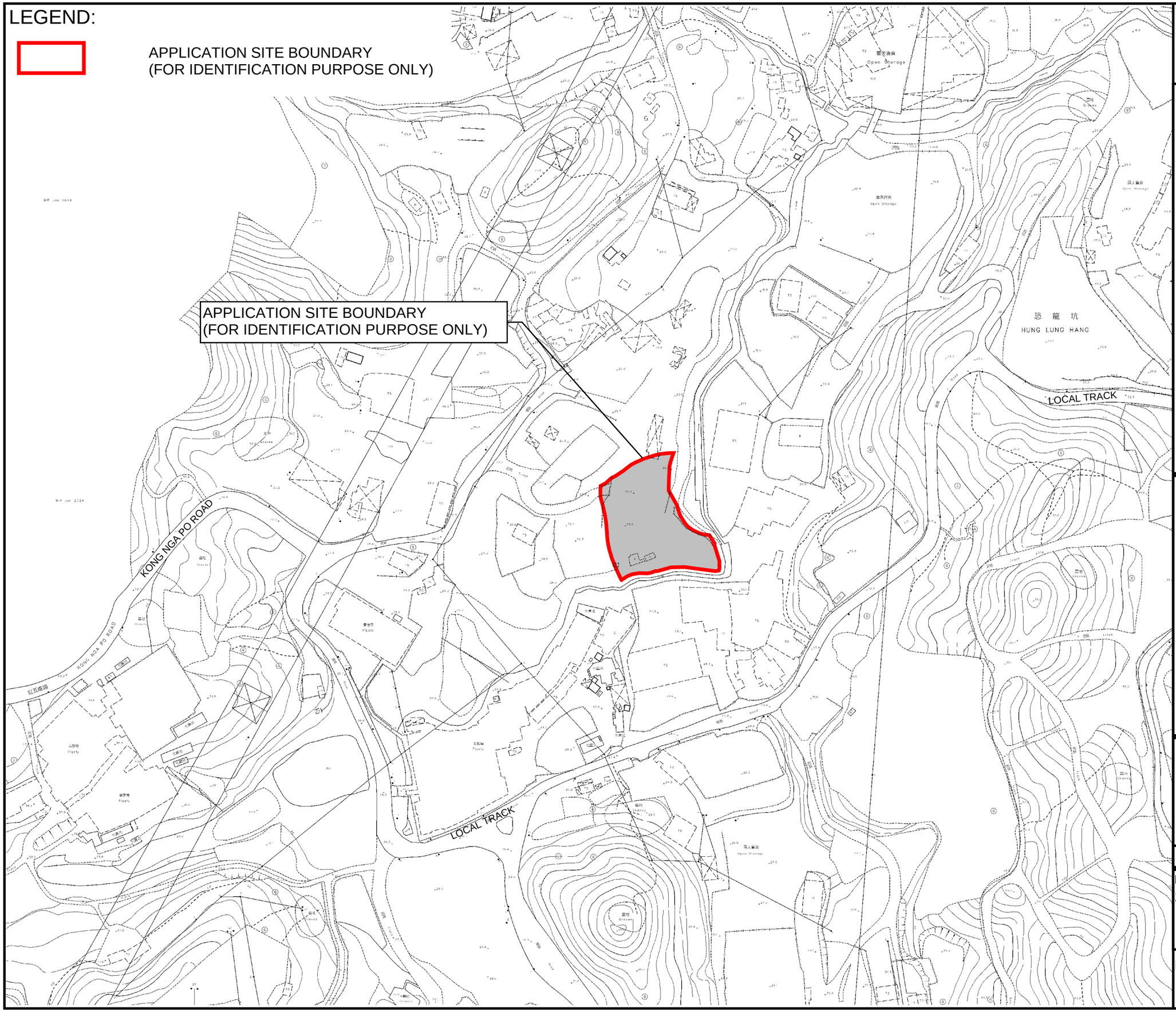
5.1.1 Drainage study has been conducted for the Proposed Development. With implementation of proposed drainage system, no significant drainage impact is anticipated.

- End of Text -

FIGURES

LEGEND:

APPLICATION SITE BOUNDARY
(FOR IDENTIFICATION PURPOSE ONLY)

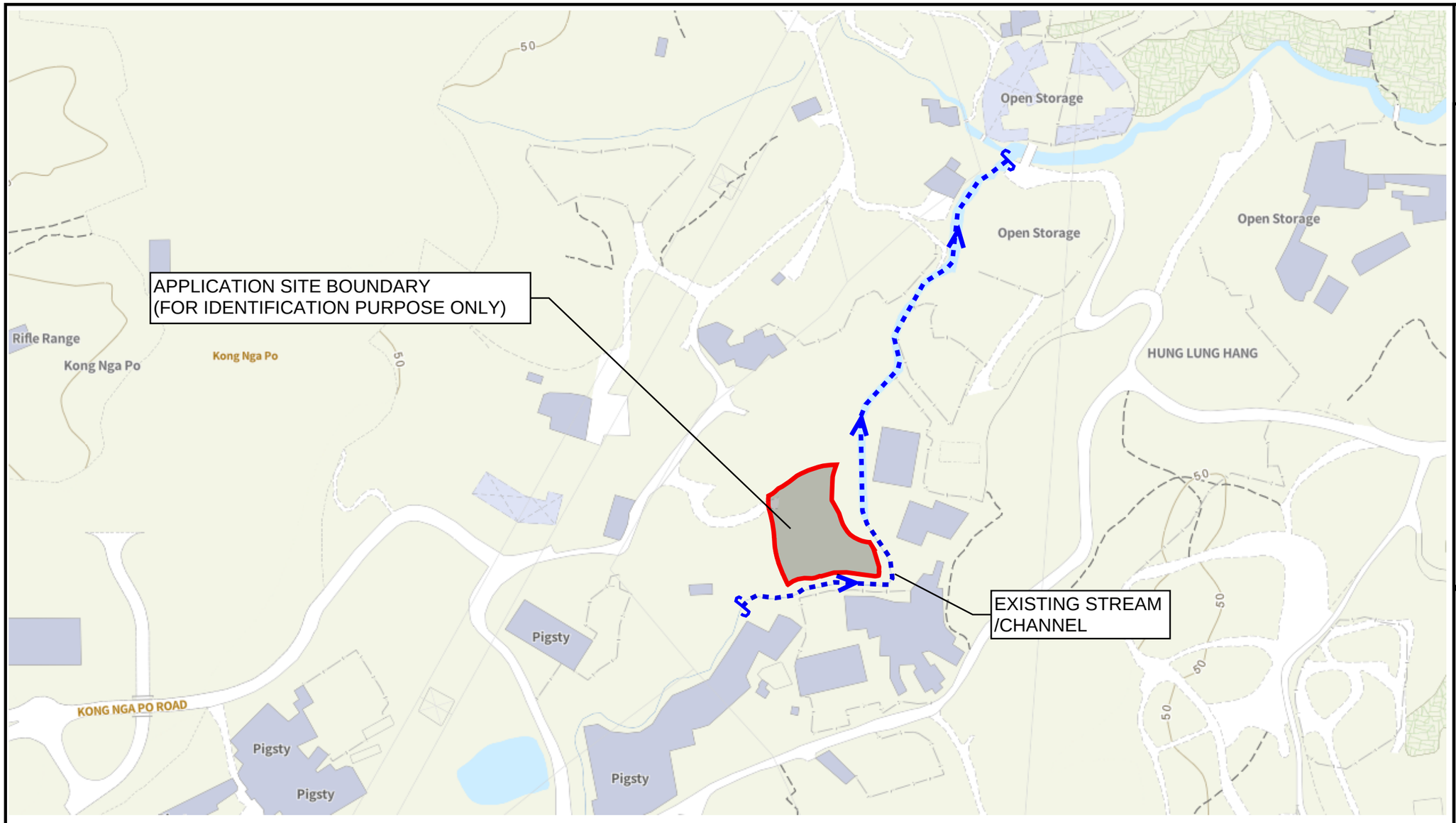


PROJECT:
Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D.87, Hung Lung Hang, N.T.

REV	DESCRIPTION	DATE

DRAWING TITLE
SITE LOCATION PLAN

DRAWING NUMBER
FIGURE 1



LEGEND:

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

PROJECT:
Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D.87, Hung Lung Hang, N.T.

REV	DESCRIPTION	DATE

DRAWING TITLE
EXISTING DRAINAGE PLAN

DRAWING NUMBER
FIGURE 2

LEGEND:

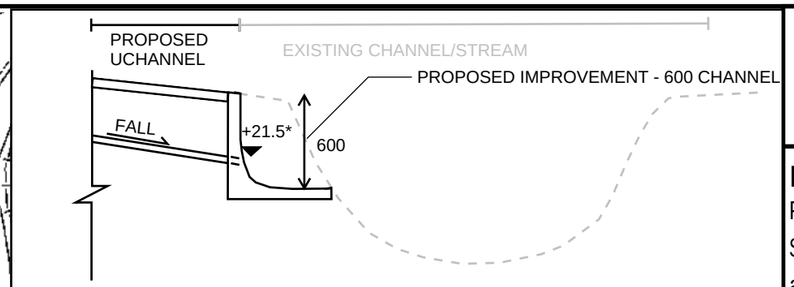
APPLICATION SITE BOUNDARY
(FOR IDENTIFICATION PURPOSE ONLY)

PROPOSED CATCHPIT

PROPOSED UCHANNEL

PROPOSED UCHANNEL 2m FOR IMPROVEMENT WORKS

PROPOSED UCHANNEL 600mm FOR IMPROVEMENT WORKS



CONNECTION DETAIL A

*CONNECTION LEVEL TO BE VERTIFY ON SITE

PROPOSED IMPROVEMENT - 600 CHANNEL

CONNECTION DETAIL A

IL +21.5

CP2.2
CL +25.7
IL +24.34

UC3

UC2

CP2.1
CL +25.7
IL +24.53

IL +24.49

PROPOSED 2m WIDTH CHANNEL
BESIDE THE EXISTING CHANNEL

UC1

CONNECT TO THE IL OF THE
EIXSTING CHANNEL

CONNCETION TO 2m Channel

CP1.2
CL +25.5
IL +24.74

UC1

CL +25.5
IL +24.72

CP1.1
CL +25.5
IL +24.82

CL +25.5
IL +24.75

APPLICATION SITE BOUNDARY
(FOR IDENTIFICATION PURPOSE ONLY)

UC1

IL +24.98

IL +25.05

IL +24.98

PROPOSED IMPROVEMENT - 600 CHANNEL
(ALONG AND OUTSIDE BOUNDARY LINE)

UCHANNEL TYPE
UCHANNEL 1 (UC1) - 375mm, MIN. 1 IN 250
UCHANNEL 2 (UC2) - 450mm, MIN. 1 IN 250
UCHANNEL 3 (UC3) - 525mm, MIN. 1 IN 250

NOTES:

1. INVERT LEVEL OF CONNECTION POINT SHOULD BE VERIFIED ON SITE BEFORE CONSTRUCTION.

PROJECT:
Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D.87, Hung Lung Hang, N.T.

REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM

DRAWING NUMBER
FIGURE 3

LEGEND:

APPLICATION SITE BOUNDARY
(FOR IDENTIFICATION PURPOSE ONLY)

FALL

ZONE A2
1,410 m²

ZONE A1
1,700 m²

ZONE B1
2,291 m²
(ASSUME 80% UNPAVED)

ZONE B2
176 m²
(ASSUME 100% UNPAVED)

PROJECT:
Proposed Temporary Open Storage of Construction Material and Machinery with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "Agriculture" Zone, Lots 357 (Part) and 359 (Part) in D.D.87, Hung Lung Hang, N.T.

REV	DESCRIPTION	DATE

DRAWING TITLE
CATCHMENT PLAN

DRAWING NUMBER
FIGURE 4

Appendix

Appendix A - Channel Design Calculation

(n = 0.016)

U Channel 1 (Zone A1 + B2)

Runoff Estimation				
Design Return Period		1 in	10	years
Paved Area	1700 + 176 x 0		1700	(m2)
Unpaved Area	176 x 1 =		176	(m2)
Total Equivalent Area	1700 x 0.95 + 176 x 0.35 =		1677	(m2)
Time of Concentration			5	min
Rainfall Intensity, I *			189	mm/hr
Design Discharge Rate, Q	0.278 x 1677 x 189 / 1000000 =		0.088	m3/s

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

U Channel				
Channel Size			375	(mm)
Gradient		1 in	250	
Area	π x 0.38^2 /8 + 0.38 x 0.38/2 =		0.126	(m2)
Wetted Perimeter	π x 0.38 / 2 + 0.38/2 x 2 =		0.964	(m)
R	0.126 / 0.964 =		0.208	(m)
Velocity $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$			1.02	m/s
Capacity			0.127	m3/s

Utilization 0.088 / 0.127 = **69.07** % OK (less than 90%, for 10% siltation allowance)

U Channel 2 (Zone A2 + B1)

Runoff Estimation				
Design Return Period		1 in	10	years
Paved Area	1410 + 2291 x 0.2 =		1868	(m2)
Unpaved Area	176 + 2291 x 0.8 =		2009	(m2)
Total Equivalent Area	1868 x 0.95 + 2009 x 0.35 =		2478	(m2)
Time of Concentration			5	min
Rainfall Intensity, I *			189	mm/hr
Design Discharge Rate, Q	0.278 x 2009 x 189 / 1000000 =		0.130	m3/s

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

U Channel				
Channel Size			450	(mm)
Gradient		1 in	250	
Area	π x 0.45^2 /8 + 0.45 x 0.45/2 =		0.181	(m2)
Wetted Perimeter	π x 0.45 / 2 + 0.45/2 x 2 =		1.157	(m)
R	0.181 / 1.157 =		0.156	(m)
Velocity $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$			1.15	m/s
Capacity			0.207	m3/s

Utilization 0.13 / 0.207 = **62.77** % OK (less than 90%, for 10% siltation allowance)

U Channel 3 (Zone [A1 + B2] + [A2 + B1])

Runoff Estimation				
Design Return Period		1 in	10	years
Paved Area	1700 + 1868 =		3568	(m2)
Unpaved Area	176 + 2009 =		2185	(m2)
Total Equivalent Area	3568 x 0.95 + 2185 x 0.35 =		4154	(m2)
Time of Concentration			5	min
Rainfall Intensity, I *			189	mm/hr
Design Discharge Rate, Q	0.278 x 4154 x 189 / 1000000 =		0.218	m3/s

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

U Channel				
Channel Size			525	(mm)
Gradient		1 in	250	
Area	π x 0.53^2 /8 + 0.53 x 0.53/2 =		0.246	(m2)
Wetted Perimeter	π x 0.53 / 2 + 0.53/2 x 2 =		1.350	(m)
R	0.246 / 1.35 =		0.182	(m)
Velocity $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$			1.27	m/s
Capacity			0.313	m3/s

Utilization 0.218 / 0.313 = **69.77** % OK (less than 90%, for 10% siltation allowance)

2m Channel (Checking Capacity for Additional 2m width Channel at critical section of Existing Channel)

U Channel				
Channel Size			2000	(mm)
Gradient		1 in	250	
Area	π x 2^2 /8 + 2 x 2/2 =		3.571	(m2)
Wetted Perimeter	π x 2 / 2 + 2/2 x 2 =		5.142	(m)
R	3.571 / 5.142 =		0.694	(m)
Velocity			3.10	m/s
Capacity			11.069	m3/s

>> flow from site (0.218 m3/s)

600mm Channel at Connection Point along Existing Channel/Stream

U Channel				
Channel Size			600	(mm)
Gradient		1 in	250	
Area	π x 0.6^2 /8 + 0.6 x 0.6/2 =		0.321	(m2)
Wetted Perimeter	π x 0.6 / 2 + 0.6/2 x 2 =		1.542	(m)
R	0.321 / 1.542 =		0.208	(m)
Velocity			1.39	m/s
Capacity			0.446	m3/s

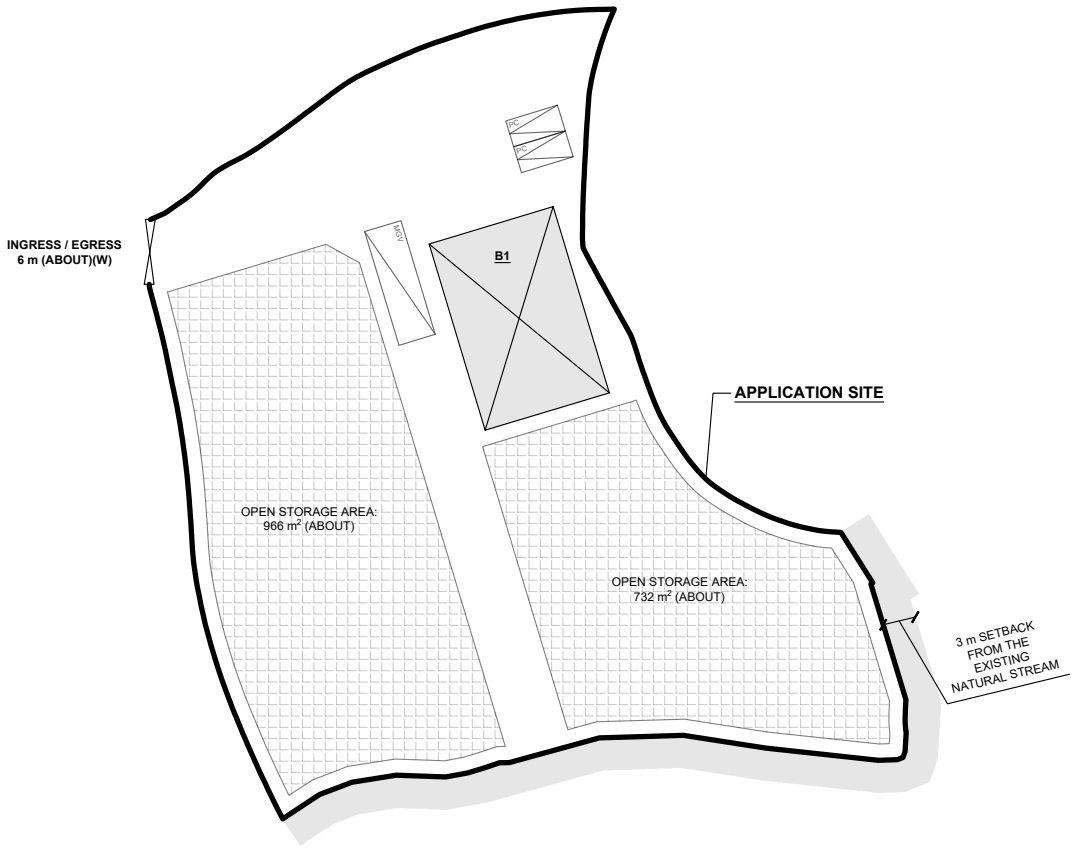
>> flow from site (0.218 m3/s)

Appendix B - Proposed Development Layout Plan

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 3,110 m^2	(ABOUT)
COVERED AREA	: 216 m^2	(ABOUT)
UNCOVERED AREA	: 2,894 m^2	(ABOUT)
PLOT RATIO	: 0.07	(ABOUT)
SITE COVERAGE	: 7 %	(ABOUT)
NO. OF STRUCTURE	: 1	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 216 m^2	(ABOUT)
TOTAL GFA	: 216 m^2	(ABOUT)
BUILDING HEIGHT	: 5 m	(ABOUT)
NO. OF STOREY	: 1	

S		AREA		HEIGHT
B1	STORAGE OF CONSTRUCTION MATERIAL AND MACHINERY, SITE OFFICE AND WASHROOM	216 m^2 (ABOUT)	216 m^2 (ABOUT)	5 m (ABOUT)(1-STOREY)
	TOTAL	**216 m^2 (ABOUT)**	**216 m^2 (ABOUT)**	



PARKING AND LOADING/UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 2
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 1
DIMENSION OF L/UL SPACE	: 11 m (L) X 3.5 m (W)

LEGEND

- APPLICATION SITE
- STRUCTURE
- OPEN STORAGE AREA
- PARKING SPACE (PRIVATE CAR)
- L/UL SPACE (MEDIUM GOODS VEHICLE)
- INGRESS / EGRESS

W — E
S

PLANNING CONSULTANT

R-Riches Property Consultants Ltd.

PROJECT

PROPOSED TEMPORARY OPEN STORAGE OF CONSTRUCTION MATERIAL AND MACHINERY WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND

SITE LOCATION

LOTS 357 (PART) AND 359 (PART) IN D.D. 87, HUNG LUNG HANG, NEW TERRITORIES

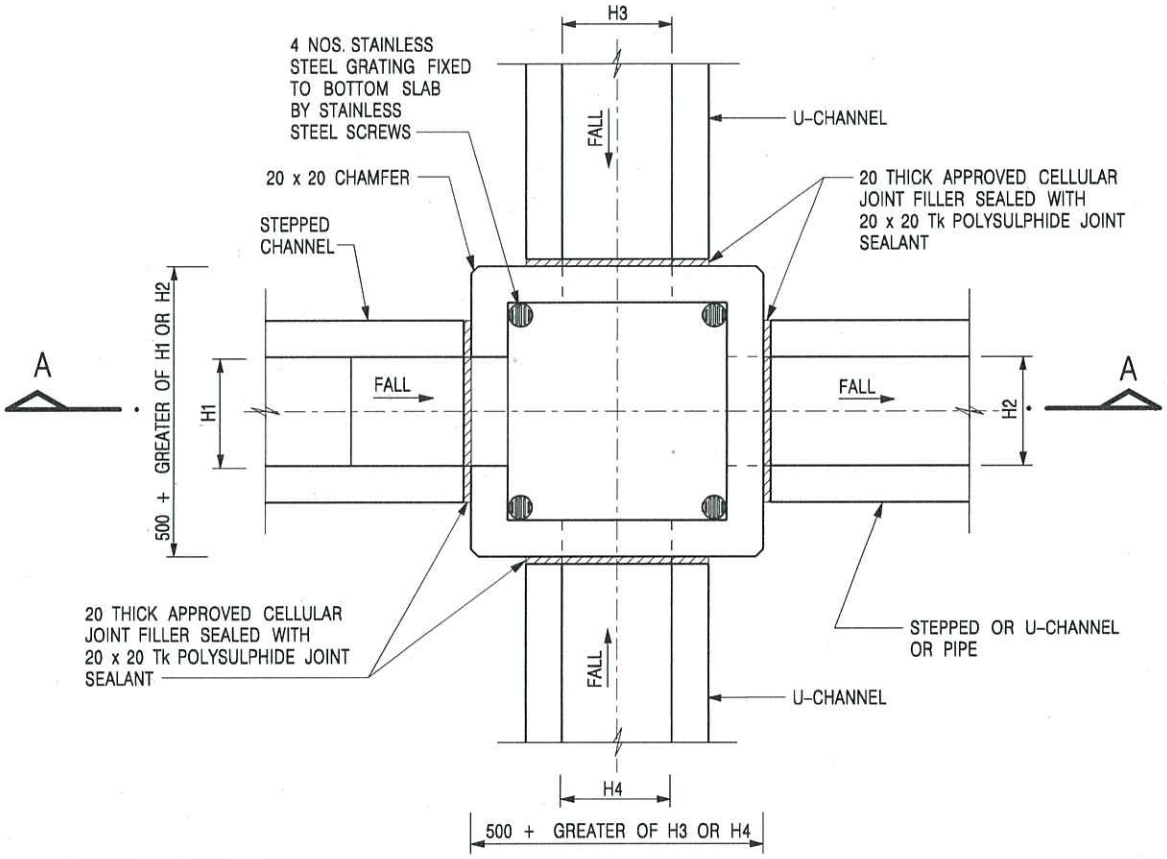
SCALE: 1 : 700 @ A4

DRAWN BY	DATE
MN	16.5.2024
CHECKED BY	DATE
APPROVED BY	DATE

DWG. TITLE: LAYOUT PLAN

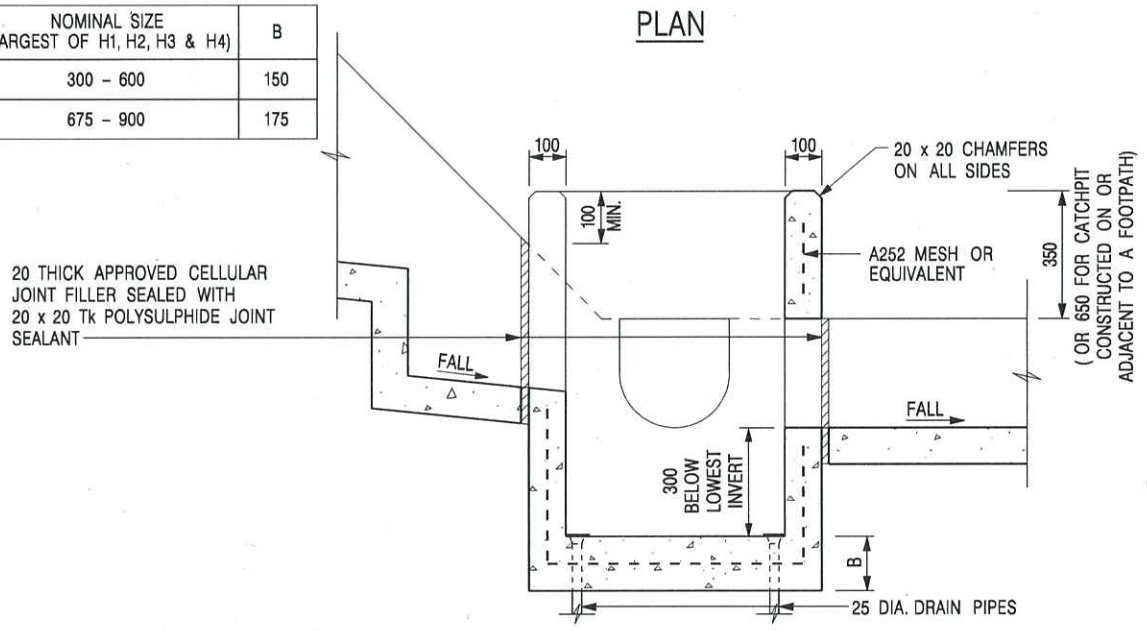
DWG NO.	VER.
PLAN 5	001

Appendix C - Reference Drawings



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)

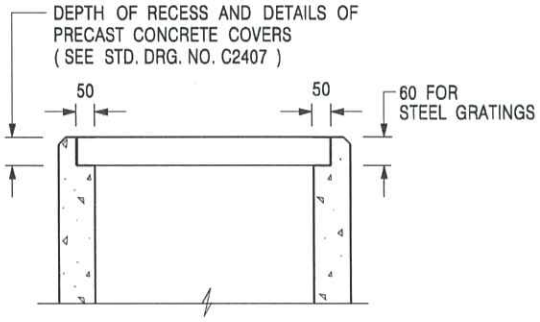
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1

卓越工程 建設香港 We Engineer Hong Kong's Development



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.

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

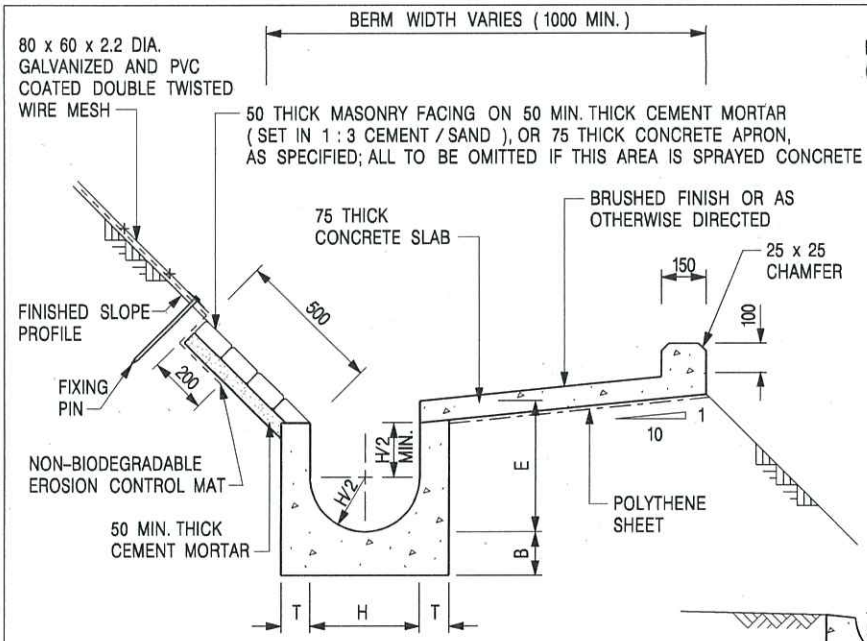
CATCHPIT WITH TRAP (SHEET 2 OF 2)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

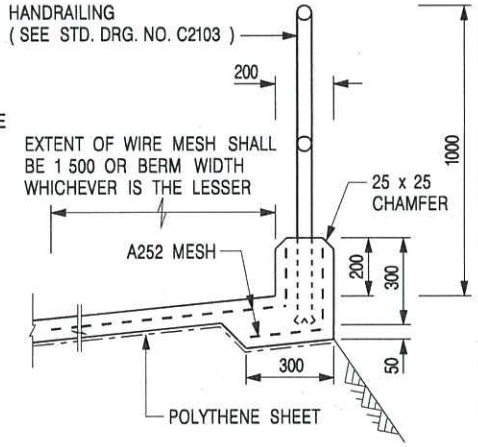
SCALE 1 : 20

DATE JAN 1991

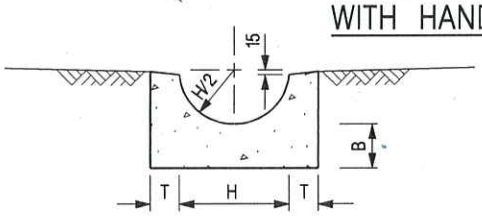
DRAWING NO. C2406 /2A



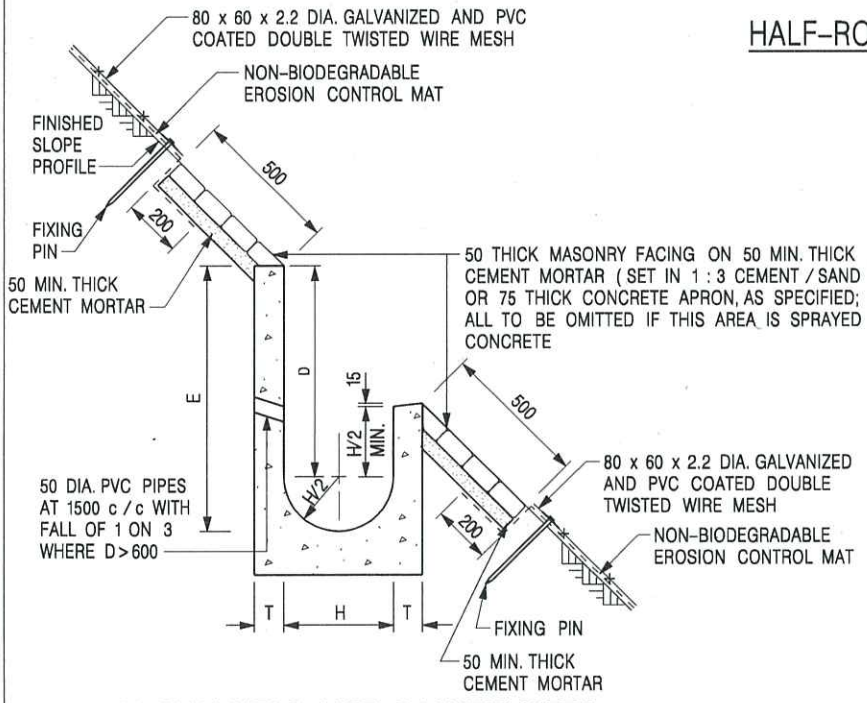
U-CHANNELS CONSTRUCTED ON BERM



DETAILS OF BERM WITH HANDRAILING



HALF-ROUND CHANNEL



U-CHANNELS NOT CONSTRUCTED ON BERM

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. C2511/1E.
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. C2511/1E)

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

REF.	REVISION	SIGNATURE	DATE
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

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

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

SCALE 1 : 25

DATE JAN 1991

DRAWING NO. C2409I

卓越工程 建設香港

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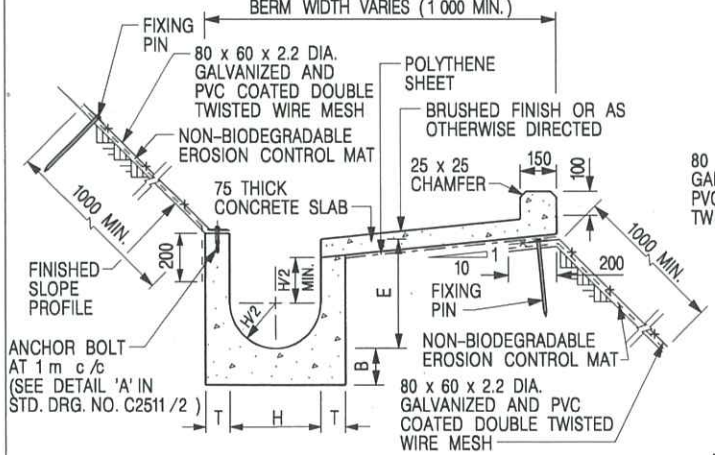
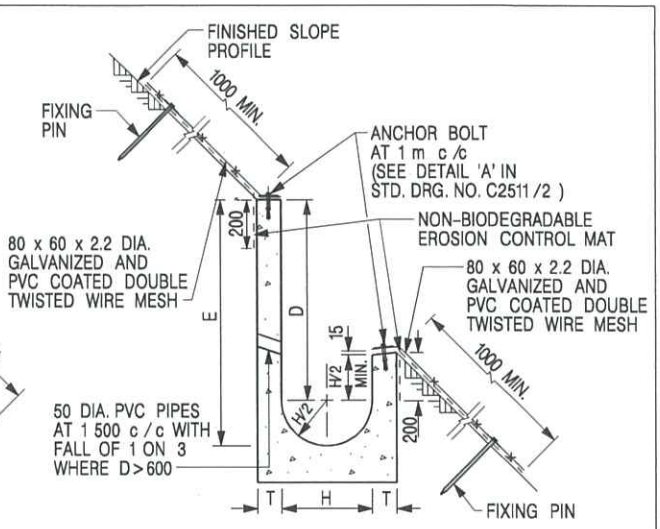
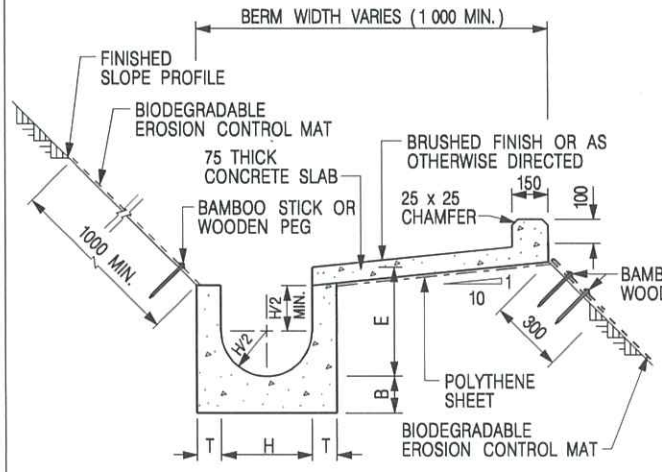


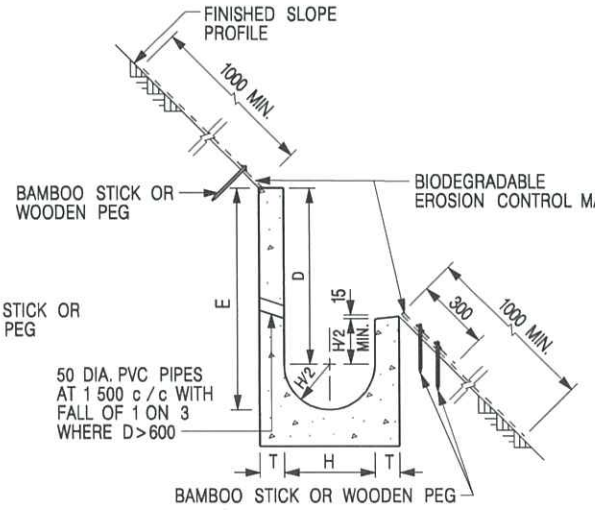
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



U-CHANNELS NOT CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



U-CHANNELS CONSTRUCTED ON BERM WITH BIODEGRADABLE EROSION CONTROL MAT



U-CHANNELS NOT CONSTRUCTED ON BERM WITH BIODEGRADABLE EROSION CONTROL MAT

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. FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO. C2511/2.
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. C2511/1.

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

REF.	REVISION	SIGNATURE	DATE
I	MINOR AMENDMENT.	Original Signed	07.2018
H	FIXING DETAILS OF BIODEGRADABLE EROSION CONTROL MAT ADDED.	Original Signed	12.2017
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

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

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE DIAGRAMMATIC

DATE JAN 1991

DRAWING NO. C2410I

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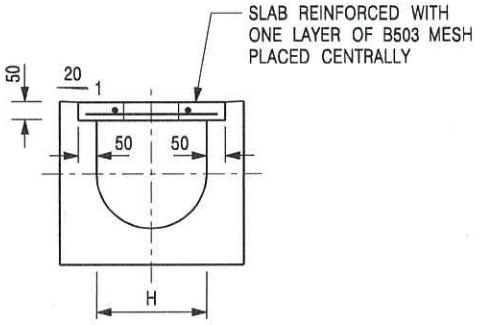
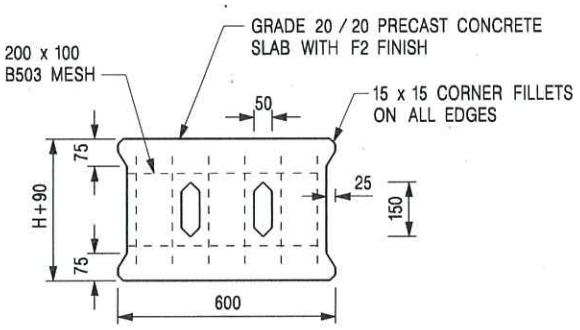


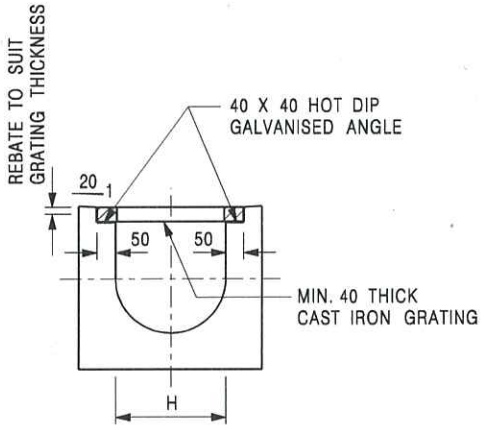
TYPICAL SECTION



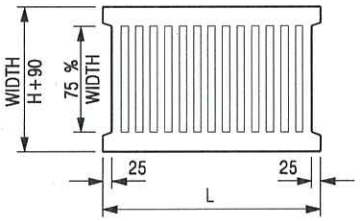
PLAN OF SLAB

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.

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