ISSUE 2

TEMPORARY DRAINAGE PROPOSAL (FINAL)

APPLICATION SITE OF THE PROPOSED TEMPORARY PUBLIC VEHICLE PARK FOR PRIVATE CARS & MEDIUM GOODS VEHICLE FOR A PERIOD OF 3 YEARS AT LOTS 692(PART), 693(PART), 694(PART), 695(PART), 697(PART), 698(PART), 897(PART), 898(PART), 900(PART), 901(PART), 942(PART), 943(PART), 944 AND 946(PART) IN D.D. 122, PING SHAN, 946(PART) IN D.D. 122, PING SHAN, YUEN LONG, N.T.

PROJECT NO. AGLA/TDM/003

PREPARED FOR

APPLICATION NO. A/YL-PS/708

9 APRIL 2024

Table of Contents

LIST OF APPENDICES

LIST OF TABLES

1 Introduction

1.1 Background

1.1.1 This report presents the Drainage Proposal for supporting the proposed Temporary Public Vehicle Park for Private Cars & Medium Goods Vehicle for a Period of 3 Years at Lots 692(Part), 693(Part), 694(Part), 695(Part), 697(Part), 698(Part), 897(Part), 898(Part), 900(Part), 901(Part), 942(Part), 943(Part), 944 and 946(Part) in D.D. 122, Ping Shan, 946(Part) in D.D. 122, Ping Shan, Yuen Long, N.T. For the site location plan, please refer to the **Appendix A.**

1.2 Objectives of the Report

1.2.1 This report shall be prepared to include the following:

- Identify the potential drainage impact assessment from the proposed Application Site
- recommend and implement all necessary measures to mitigate adverse drainage impacts arising from the application site

1.3 Report Structure

1.3.1 The report contains the following sections:

- Section 1 on Introduction;
- Section 2 on Development Proposal;
- Section 3 on Assessment Criteria;
- Section 4 on Potential Drainage Impact; and
- Section 5 on Conclusion.

2 Development Proposal

2.1 Location of the Application Site

2.1.1 The application Site is located within the Ping Shan Ping Shan, New Territories, with an area of around 6,000 m^2 and ground level varying between + 8.8mPD and + 7.2mPD. The layout plan is provided in **Appendix B.**

2.1.2 This application site is "Comprehensive Development Area" zoning, the type of application is the Temporary Use/Development in Rural Areas for a Period of 3 Years.

2.1.3 The applied use/development is the Proposed Temporary Public Vehicle Park for Private Cars and Medium Goods Vehicles for a Period of 3 Years.

3 Assessment Criteria

3.1 Design Return Periods

3.1.1 The drainage system in the Application site is to collect surface flows and convey to downstream village drain. The recommended design return periods based on the flood levels for the various drainage systems depend on the drainage system, land use, hazard to public safety and community expectations. The recommended design return period is reproduced in Table 3-1 below:

Table 3-1 Recommended Design Return Periods based on Flood Levels

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

3.1.2 As per Storm Drainage Manuel (SDM) Section 6.6.2 Urban Drainage Branch and Urban Drainage Trunk Systems *"An 'Urban Drainage Branch System' is defined as a group or network of connecting drains collecting runoff from the urban area and conveying stormwater to a trunk drain, river or sea. For a simple definition, the largest pipe size or the equivalent diameter in case of a box culvert in a branch system will normally be less than 1.8m.*

3.1.3 *An 'Urban Drainage Trunk System' collects stormwater from branch drains and/or river inlets, and conveys the flow to outfalls in river or sea. Pipes with size or diameter equal to or larger than 1.8m are normally considered as trunk drains."*

3.1.4 As per SDM, since the proposed U-channels are sized smaller than 1.8m, the drainage system would be defined as an urban drainage branch with recommended design return period of 50 years.

3.1.5 The 50 years design return period will be considered to ensure adequacy of the stormwater drainage system.

3.2 Calculation Methodology for Runoff

3.2.1 Peak instantaneous runoff values before and after the development were calculated based on the Rational Method and with recommended physical parameters including runoff coefficient (C) and storm constants for different return periods referred to the SDM, based on the following equation:

$$\mathbf{Q_p = 0.278\ C\ i\ A}$$

where

Q_p	=	Peak Runoff, m^3/s
C	=	Runoff Coefficient
i	=	Rainfall Intensity, mm/hr
A	=	Catchment Area, km^2

3.2.2 The paved area of the site will account for 6000 m^2. The runoff coefficient of 1 is assumed.

3.2.3 Based on the storm constants for 50-year return period recommended in the SDM, the appropriate rainfall intensities (i) are calculated as detailed in **Appendix D**

3.3 Calculation Methodology for Pipe Capacity Checking

3.3.1 Because the catchment areas are less than 1ha, U-channels are recommended to be constructed to collect the stormwater runoff within the site. The collected stormwater should finally be diverted to the proposed 450mm drainpipes via the proposed U-channel system.

3.3.2 For the worst-case scenario, bad condition of concrete pipe is assumed for the Manning's roughness coefficient (coefficient value is 0.016) for calculating capacities of concrete U-channel using Manning's Equation.

3.3.3 Manning's Equation for calculating the channel and pipe capacities is adopted.

4 Potential Drainage Impact

4.1 Existing Site Condition

4.1.1 The application Site is located within the Ping Shan, Yuen Long, New Territories, with an area of around 6,000 m^2 and ground level varying between + 7.2mPD and + 8.8mPD.

4.1.2 There is no specific drainage provision for the current site, the collected stormwater would be discharged as surface runoff and infiltration leading to the natural stream or river.

4.1.3 Only the application site with a projected area of 6,000m^2 is considered as part of the catchment.

4.2 Changes in Drainage Characteristics

4.2.1 The characteristics of the sub-catchment areas are remained unchanged due to the temporary development for the application site, which are paved area.

4.2.2 The application site is fully covered by concrete surface currently. This application does not propose adding any additional concrete area, the difference in surface runoff that can be attributed to this application is negligible. The change in sub-catchment is summarized in **Table 4-1.**

Table 4-1 Change in sub-catchment within the site

	BEFORE	AFTER
Grassland (m^2)	0	0
Unpaved Area (m^2)	0	0
Paved Area (m^2)	6,000	6,000
Total Site Area (m^2)	6,000	6,000

4.2.3 Since there are no changes in Drainage Characteristics, it is considered that the drainage discharge from the Application Site will not cause adverse impact to the entire downstream drainage system.

4.3 Potential Drainage Impact

4.3.1 The details of the proposed drainage works are illustrated in **Appendix C**.

4.3.2 To effectively convey stormwater away from the application site and minimize the potential impact to the drainage infrastructure of the village area, drainage works consists of U-channels, are proposed to convey the flow to the terminate catch pit.

4.3.3 The runoff from the Application site is collected by U-channels along the boundary and discharged to the terminate Catch pit, which is connected to the further downstream leading to the U-channel (by others) at the south of the application site, and eventually lead to the existing village river.

4.3.4 The 450mm U-channel receives stormwater from the surface and the upstream catchment. For Conservative, the critical scenario is considered for collecting all the flow leading to the 450mm U-channel. The design calculation of the proposed drainage is provided in **Appendix D**. The design calculation is summarized in Table 4-2.

Table 4-2 Design calculation of the proposed drainage work

DRAINAGE SYSTEM	ESTIMATED FLOW (M^3/S)	CAPACITY (M^3/S)	RESERVE CAPACITY
450mm UC	0.351	0.392	10%

Note:

[1] Rainfall increase due to climate change at the end of 21st century is considered according to stormwater drainage manual Table 28.

[2] The reserve capacity is calculated by assuming that the 450mm U-channel reach its full capacity for conservative.

4.3.5 The design runoff arise from the proposed Application Site is to be discharged into the proposed 450mm u-channel with the runoff anticipated to be 0.351m^3/s, which is within the drainage capacity of the proposed 450mm u-channel of 0.392 m^3/s with gradient 1:70 with reserve capacity 10%.

4.3.6 All u-channels, catch pits will be constructed according to the CEDD's standard drawings, please refer to the **Appendix E.**

5 Construction Stage

5.1 Temporary Drainage Arrangements

5.1.1 Proper measures shall be taken to maintain the existing drainage characteristics of the catchment areas and to minimize drainage impacts associated with the construction works. The principal drainage impacts which are associated with construction of the works have been identified as follows:
(a) Erosion of ground materials;
(b) Sediment transportation to existing downstream drainage system; and
(c) Obstruction to drainage systems.

5.1.2 Regular inspections shall be carried out to ensure integrity of the works. These inspections shall cover works under construction as well as recently completed areas.

5.1.3 To ensure proper operation of the site drainage channels and desilting facilities, inspection of the perimeter drains shall be carried out on a weekly basis and the desilting facilities shall be cleaned on a daily basis.

5.1.4 If excavated materials are not possible to transport away the excavated material within the same day, the material should be covered by tarpaulin/impervious sheets. Stockpiles of construction materials (for examples aggregate, fill materials) of more than 50 m^3 in an open area shall also be covered with tarpaulin or similar fabric during rainstorms.

5.1.5 All runoff discharged into the existing drainage system will be settled in a silt trap to ensure no sediment will be discharged into the channel. Silt traps will normally be provided along the site drainage immediately upstream of the proposed discharge point to the existing Site. The silt traps will be inspected daily and immediately after each rainstorm.

5.1.6 Liaison will be carried out with relevant parties regarding temporary drainage arrangements to ensure that the drainage system is functioning adequately.

6 Conclusions

6.1 Conclusion

6.1.1 The analysed catchment area of 6,000 m^2 consists of the site area of the proposed Application Site only.

6.1.2 U-channels are proposed to convey runoff from the application site for collection. The proposed U-channels are located along the site boundary which is subject to change to suit the building layout.

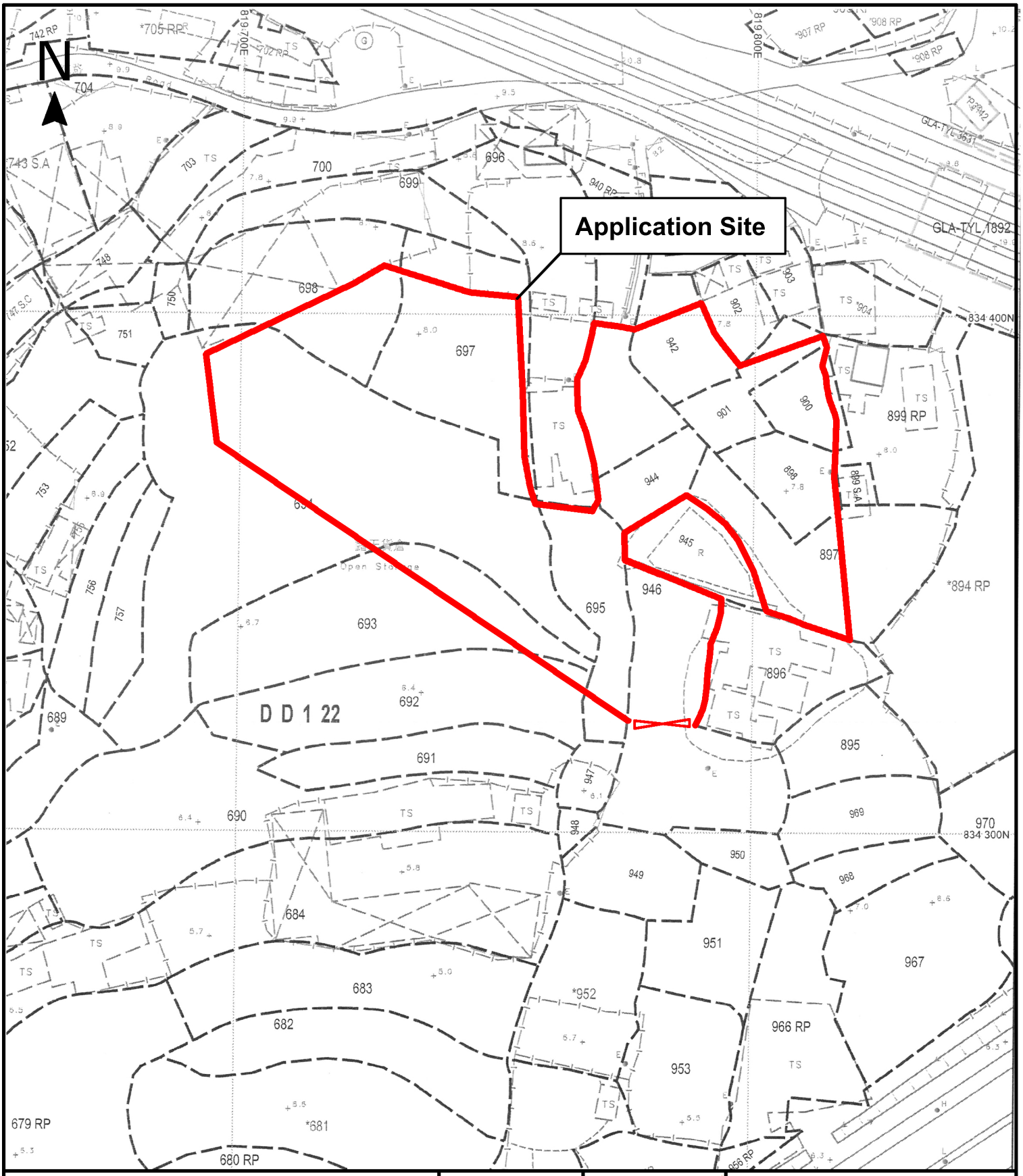
6.1.3 The assessment reviews and demonstrates the drainage pipe have the sufficient capacity to cater for the drainage flow from the Application Site.

6.1.4 Mitigation measures are proposed during the application site proposed Application Site and to ensure that the existing drainage system within the site will not be affected during the construction stage.

END OF TEXT

APPENDIX A

SITE LAYOUT PLAN



Project 項目名稱:

Proposed Temporary Public Vehicle Park for Private Cars & Medium Goods Vehicle for a Period of 3 Years at Lots 692(Part), 693(Part), 694(Part), 695(Part), 697(Part), 698(Part), 897(Part), 898(Part), 900(Part), 901(Part), 942(Part), 943(Part), 944 and 946(Part) in D.D. 122, Ping Shan, Yuen Long, N.T.

Drawing Title 圖紙標題:

Site Plan

Drawing No. 圖號:

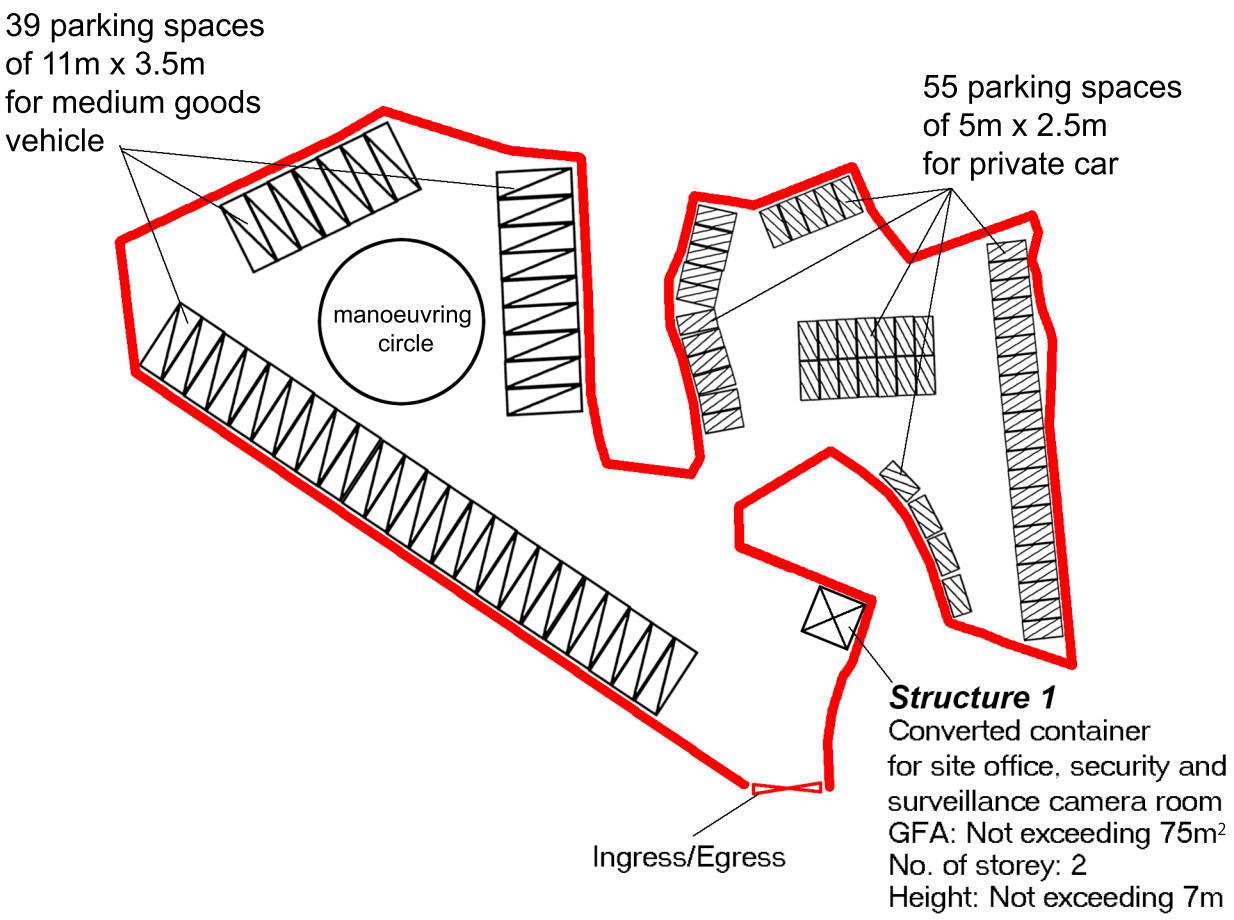
Remarks 備註:

Scale 比例:

APPENDIX B

LAYOUT PLAN

N



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Drawing Title 圖紙標題:

Layout Plan

Allgain Land Planning
全堅土地規劃

Drawing No. 圖號:

Remarks 備註:

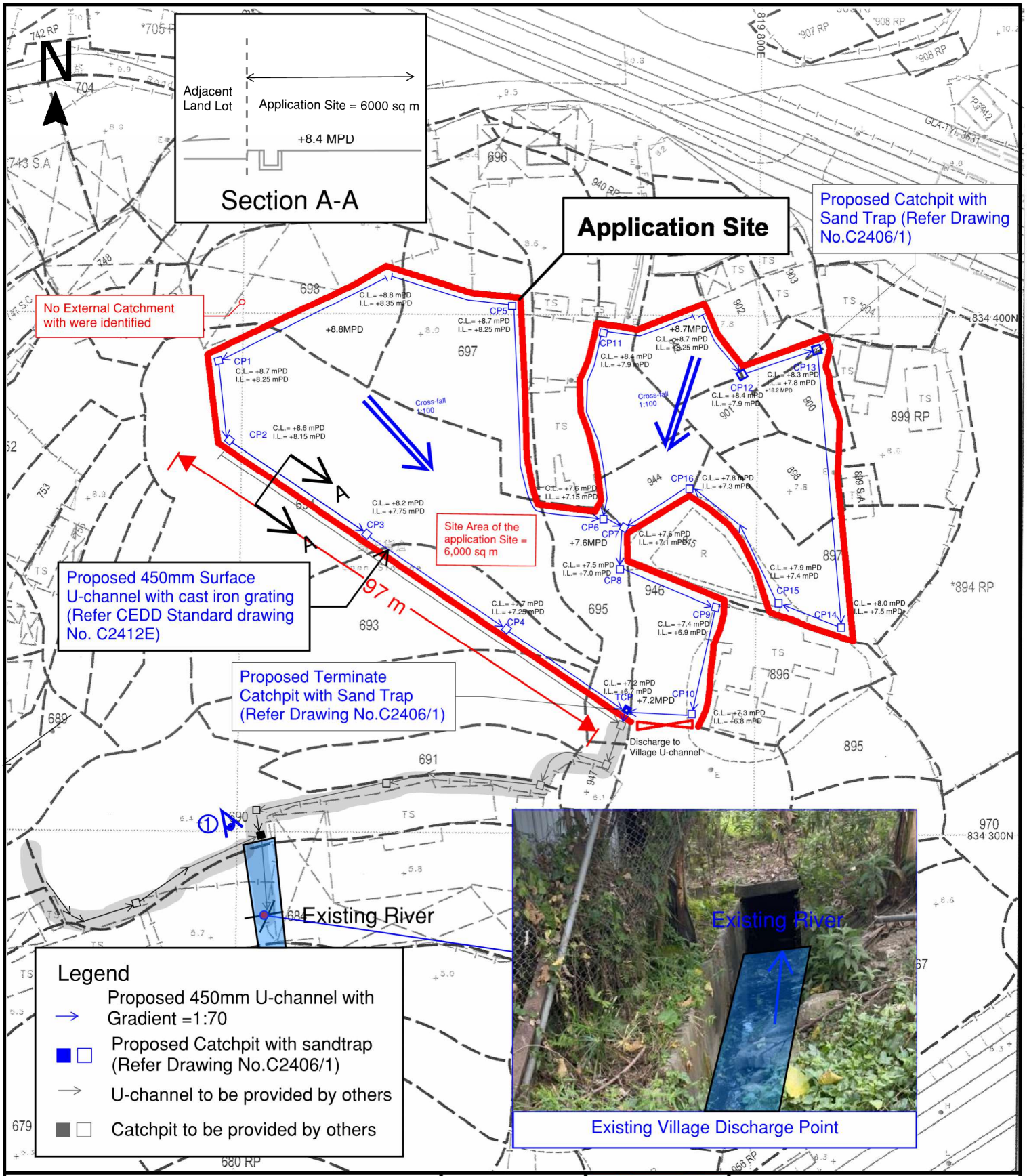
Private Car

Medium Goods Vehicle

Scale 比例:

APPENDIX C

PROPOSED DRAINAGE PLAN



Project 項目名稱:

Proposed Temporary Public Vehicle Park for Private Cars & Medium Goods Vehicle for a Period of 3 Years at Lots 692(Part), 693(Part), 694(Part), 695(Part), 697(Part), 698(Part), 897(Part), 898(Part), 900(Part), 901(Part), 942(Part), 943(Part), 944 and 946(Part) in D.D. 122, Ping Shan, Yuen Long, N.T.

Drawing Title 圖紙標題:

Site Plan

AGA 全堅 9720-3663

Remarks 備註:

Drawing No. 圖號:

Appendix C - Proposed Drainage Plan

Scale 比例:

NTS

APPENDIX D

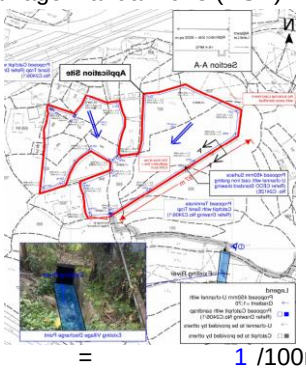
DESIGN CALCULATION OF THE PROPOSED DRAINAGE

Project

Subject Application Site

Design Data

1. Design follows the Rational Method in accordance with Stormwater Drainage Manual 2018 (DSD)
2. Runoff coefficient for paved land is 1.
3. Design return period is 50 years.
4. For manning's equation coeffient n is 0.016.



Check for Hydraulic Capacity:

Catchment	K	Area (A)
Hard Paved	1.00	6000.0 m^2

Runoff estimation

	Average slope, H		=	1	/100m
	Catchment area, A		=	6000	m^2
	Distance between summit and point under consideration, L		=	30	m
SDM 7.5.2	Time of concentration of natural catchment, t_o		=	0.14465 x L / ($H^{0.2}$ x $A^{0.1}$)	
			=	1.82	min.
	Length of drain, L_j		=	100	m
	Velocity, V_j		=	2.167	m/s
SDM 7.5.2	Flow time, t_f		=	Σ (L_j / V_j)	
			=	0.7690439	min.
	Time of concentration, t_c		=	t_o + t_f	
			=	2.59	min.
SDM Table 3	Storm constants for 50-year return period:	a	=	1167.6	
		b	=	16.76	
		c	=	0.561	
SDM 4.3.2	Extreme mean intensity, i_{50yr}		=	a / (t_d + b)^c	
			=	210.6778	mm/hr
GMS Fig 8.2			<	405.000	mm/hr
SDM 7.5.2	Design flow, Q		=	0.278 i Σ K A	
			=	0.351	m^3/s

450mm u-channel capacity

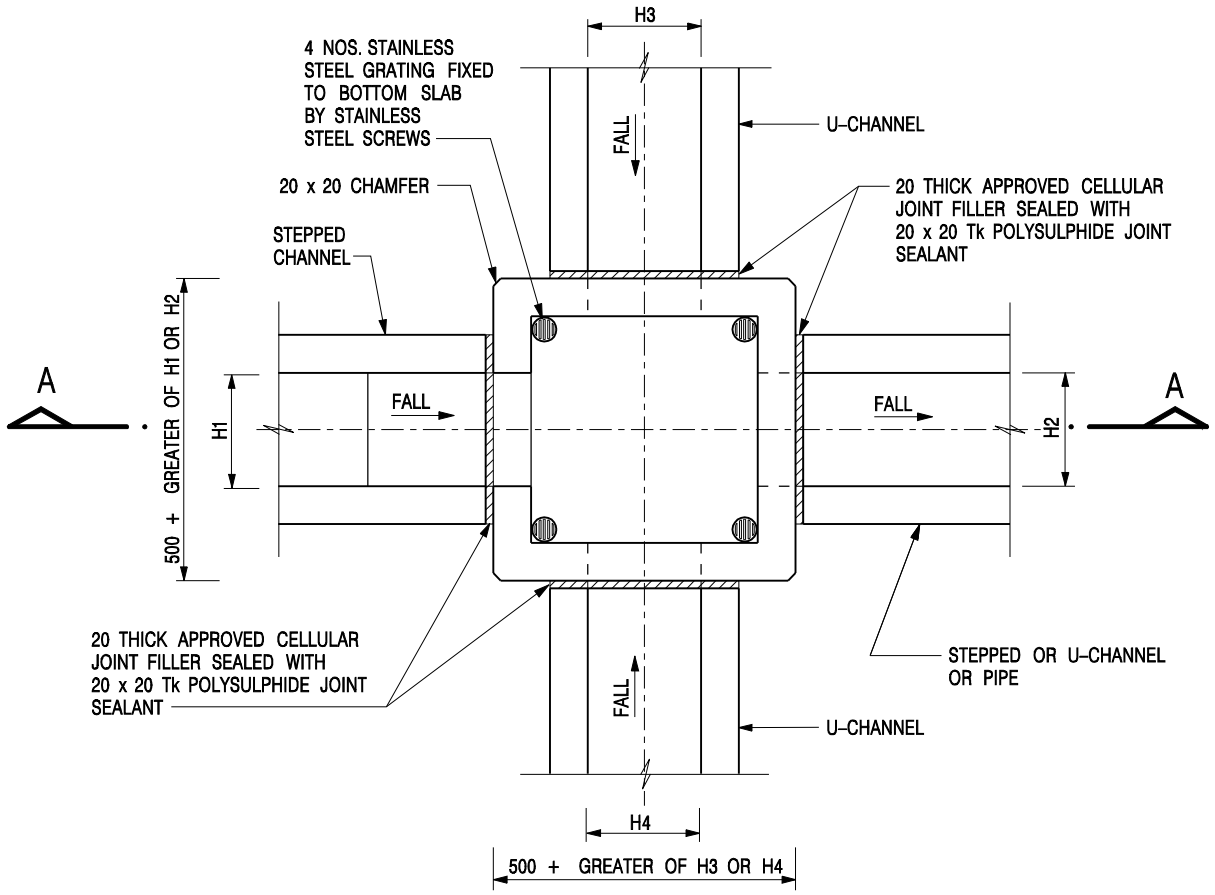
	Diameter		=	450	mm
	Cross-sectional area of 450mm U-channel		=	. 0.1808	m^2
	Gradient		=	0.01	
Manning's Eq.	flow velocity		=	2.167	m/s
	Design Capacity		=	0.392	m^3/s
			>	0.351	m^3/s OK
	Reserve capacity		=	10%	

For conservative, all the U-channel along the site boundary shall be 450mm.

APPENDIX E

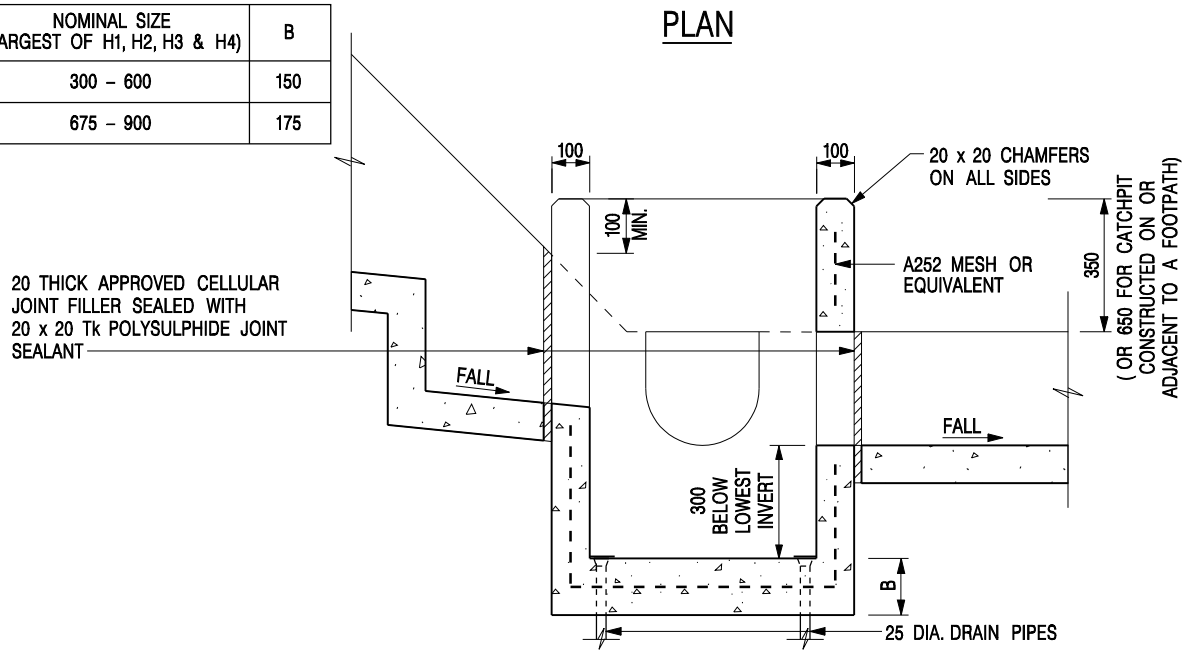
TYPICAL STANDARD DRAWINGS OF U-CHANNEL AND CATCHPIT

(EXTRACTED FROM CEDD, FOR REFERNCE ONLY)



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)

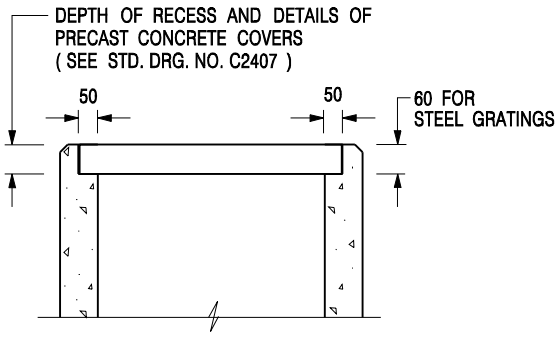
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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

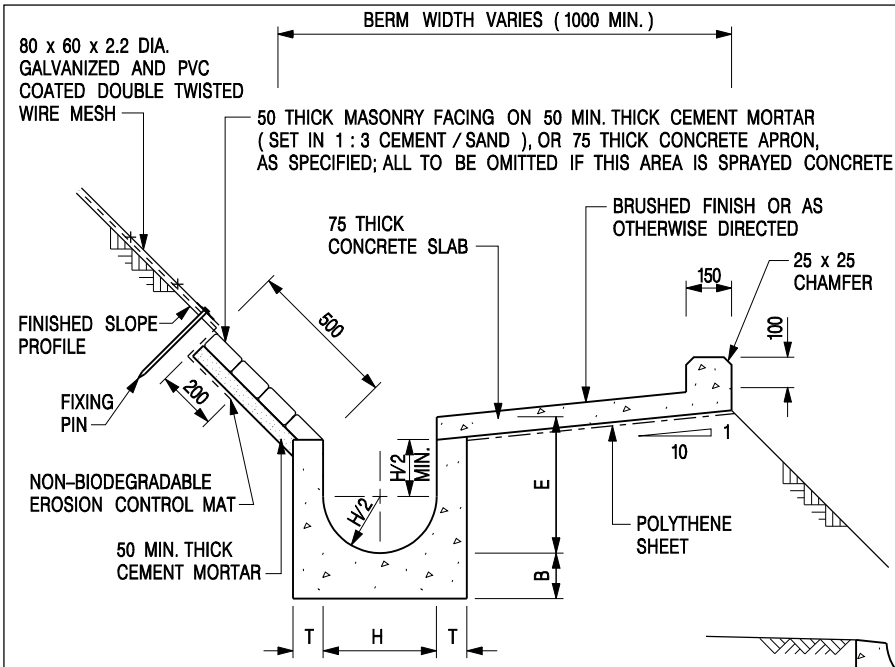
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

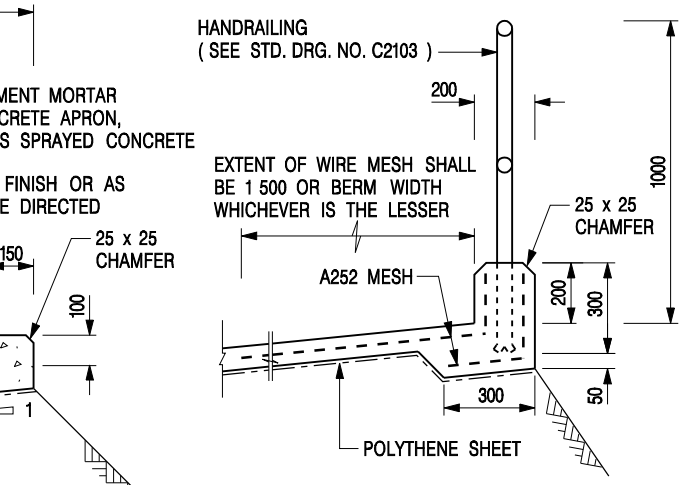
SCALE 1 : 20

DATE JAN 1991

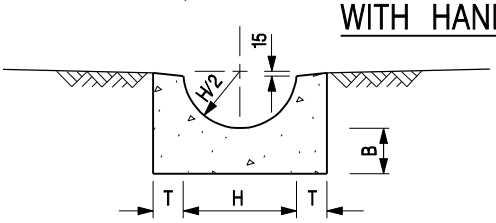
DRAWING NO. C2406 /2A



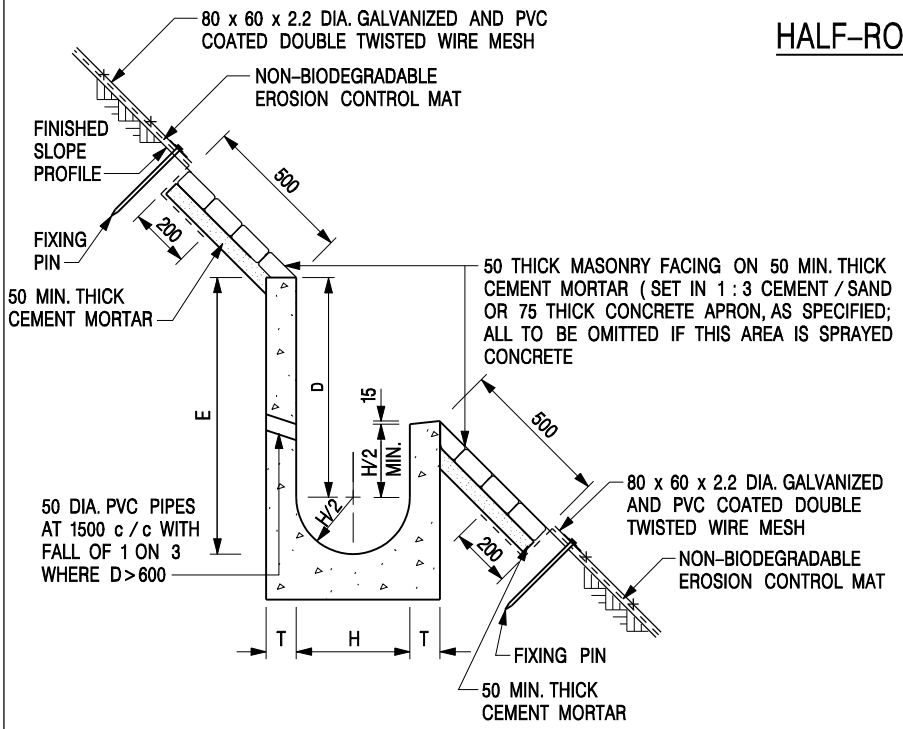
U-CHANNELS CONSTRUCTED ON BERM



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

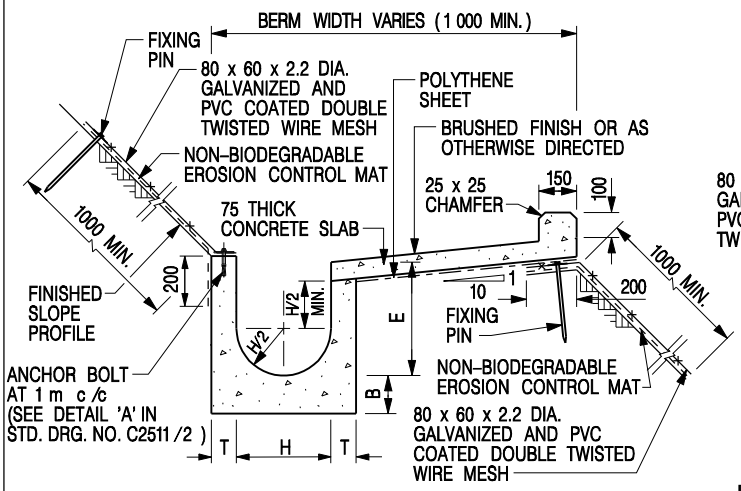
DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

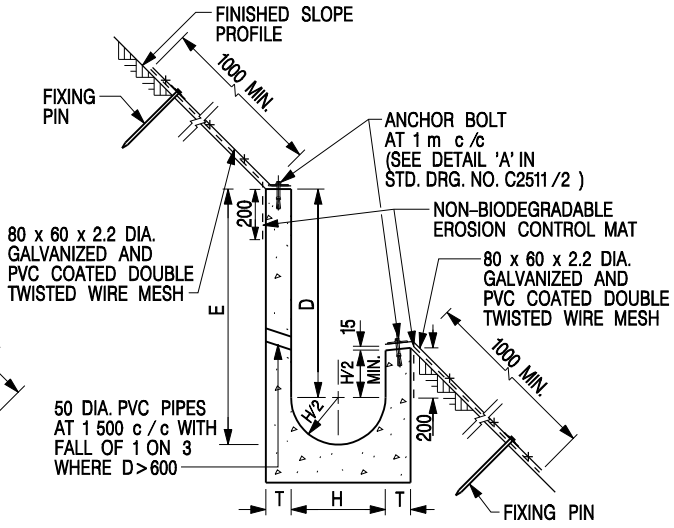
SCALE 1 : 25

DATE JAN 1991

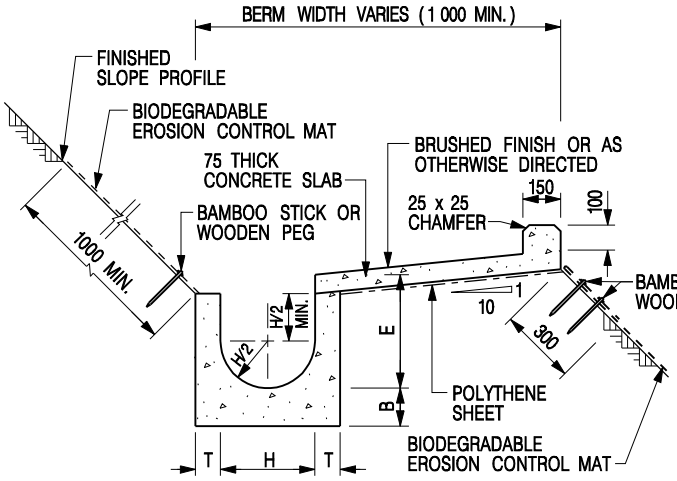
DRAWING NO. C2409I



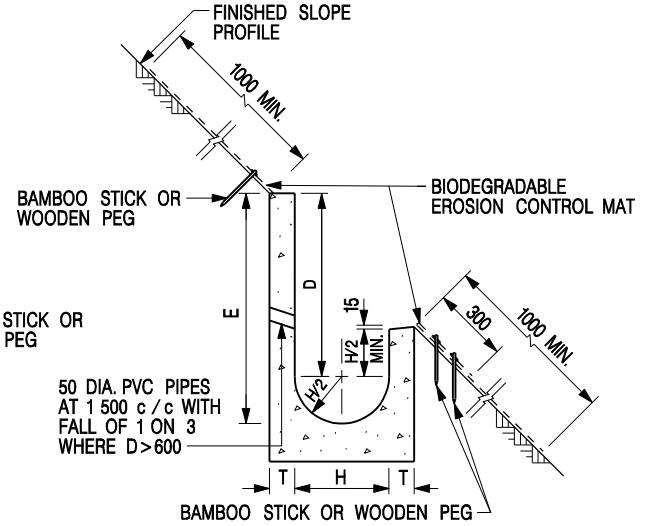
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



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

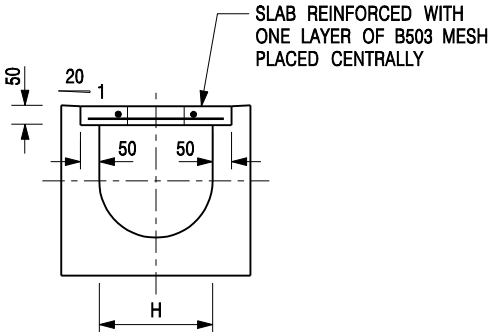
DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE B - WITH EROSION CONTROL MAT APRON)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

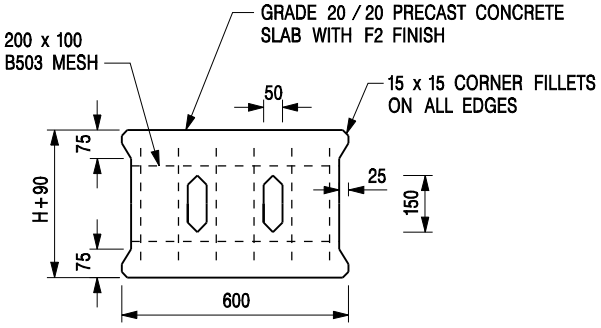
SCALE DIAGRAMMATIC

DATE JAN 1991

DRAWING NO. C2410I



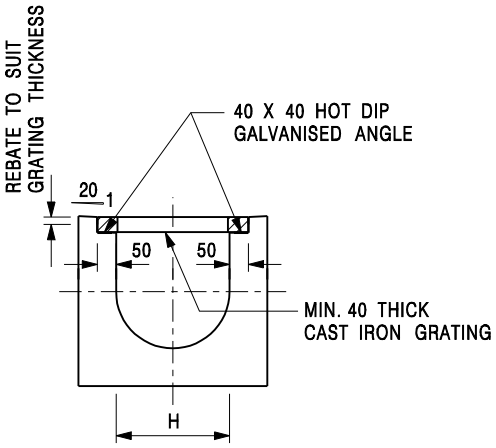
TYPICAL SECTION



PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



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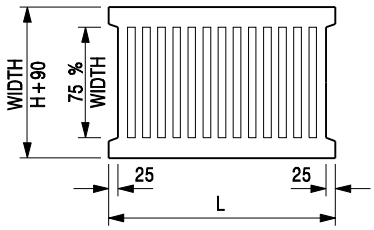

L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

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

APPENDIX F

RESPONSE TO COMMENTS

Response to Comments on Temporary Drainage Proposal (Issue 1)

1. Comments from DSD/MN

No.	Comments	Response
1.	The existing channel and watercourse, to which the applicant proposed to discharge the stormwater from the subject site was-not maintained by this office. The applicant should identify the owner of the existing drainage facilities and obtain consent 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.	Noted with thanks. The owner of the existing drainage and District officer / Yuen Long will be consulted separately.
2.	Further to (ii) above, since there is no record of the said discharge path, please provide site photos to demonstrate its presence and existing condition.	Noted and provided. The site photo showing the existing discharge point is shown in Appendix C.
3.	The gradients and the sizes of the proposed U-channels should be shown on the drainage plan	The gradients and the sizes of the proposed U-channels is shown in Appendix C.
4.	Consideration should be given to provide grating for the surface channel	Noted and the grating were provided for the surface channel. Please refer to the Appendix C.
5.	The cover levels and invert levels of the proposed u-channels, catchpits/sand traps should be shown on the drainage plan.	Noted and provided. Please refer to the Appendix C.
6.	Cross sections showing the existing and proposed ground levels of the captioned site with respect to the adjacent areas should be given.	Noted and provided. Please refer to the Appendix C.
7.	Where walls or hoarding are erected are laid along the site boundary, adequate opening should be provided to intercept the existing overland flow passing through the	Noted. Adequate opening should be provided.
8.	The development should neither obstruct overland flow nor adversely affect existing natural streams, village drains, ditches and the adjacent areas, etc.	Noted.
9.	he 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	Noted. The owner of the existing drainage and District officer / Yuen Long will be consulted separately.