Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "OU(CDWRA)" Zone, Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

Drainage Impact Assessment

February 2025

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Marvellous Construction & Design Company Limited

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1 Introduction

1.1 Background

1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) under Section (S.) 16 of the Town Planning Ordinance (Cap. 131) (the Ordinance) to use Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and adjoining Government Land (GL), Yuen Long, New Territories (the Site) for 'Proposed Temporary Warehouse (excluding Dangerous Goods Godown (D.G.G.)) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land'

1.1.2 This report aims to support the development in drainage aspect.

1.2 Application Site and Existing Site Conditions

1.2.1 The application site is situated beside Chung Yim Road. It has an area of approx. 11,770 m^2. The site location is shown in **Figure 1**.

1.2.2 The existing site is fully hard paved with level various from approx. +4.2mPD to + 4.8mPD. The proposed site intent to fill not more than 0.2m concrete for formation of structures, parking, L/UL spaces and circulation.

1.2.3 There is a 2500(W) x 2000(H) Box Culvert near Lau Yip Road, which would eventually discharge to Shan Pui River. **Figure 2** indicate the existing drainage system of the area.

2 Development Proposal

2.1 The Proposed Development

2.1.1 The total site area is approximately 11,770 m^2. After the development the site would be fully paved. The catchment plan is shown in **Figure 4-2**.

Proposed Development	
Total Site Area (m^2)	11,770
Paved Area after Development (m^2)	11,770

Table 1 – Site Development Area

3 Assessment Criteria

3.1.1 The Recommended Design Return Period based on Flood Level from SDM (Table 10) is adopted for this report. 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 50 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 Zone. Therefore, for 50 years return period, the following values are adopted.

a	=	505.5
b	=	3.29
c	=	0.355

(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 Channels

4.1.1 Proposed channels are designed for collection of runoff for internal. They are proposed to connect to existing box culvert near Lau Yip Road.

4.1.2 The ground level fall of existing site is similar to the proposed site levels. Existing catchments has been discharged to existing box culvert via Lau Yip Road road drain and existing channel at the east of the site (**Figure 6**). The existing catchment area is similar to proposed catchment A1 and A4 (1776 +5860 = 7636m^2). It is assumed the catchment is only half of the total site area (5885m^2) for conservative purpose. According to the checking in **Appendix A**, the increase in utilization due to the proposed development would not more than 5.5% of existing box culvert. The site is proposed to remain fully hard paved, there is no unacceptable drainage impact anticipated.

4.1.3 The design calculations of proposed UChannels and pipes are shown in **Appendix A**.

4.1.4 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3**. The catchment plan is shown in **Figure 4**.

4.1.5 Reference Drawings are shown in **Appendix C** for reference.

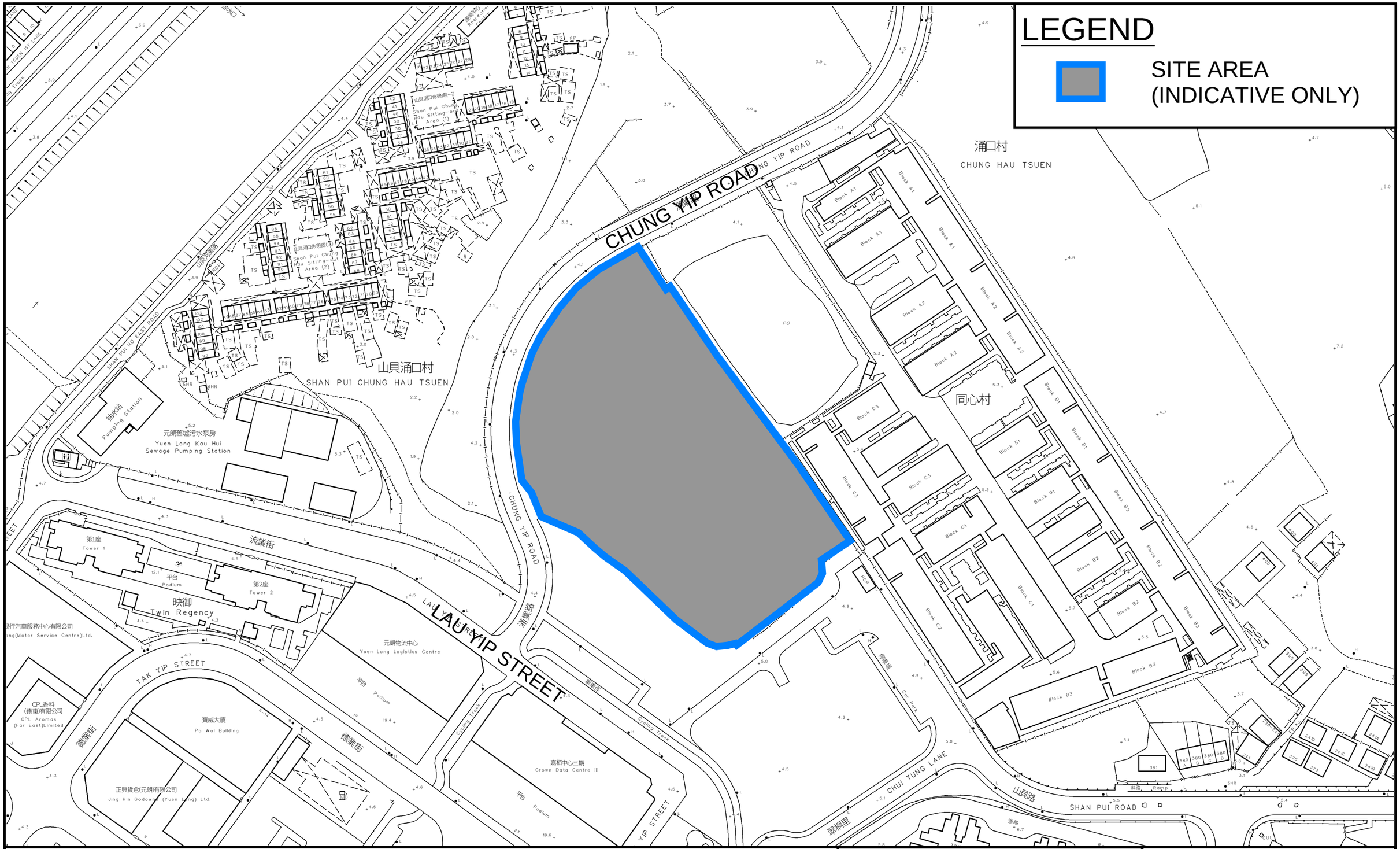
5 Conclusion

5.1.1 Drainage review has been conducted for the Proposed Development. U Channels are proposed to collect the runoff from internal catchment and discharge to existing box culvert near Lau Yip Road.

5.1.2 With implementation of the above drainage system, the no unacceptable drainage impact is anticipated.

- End of Text -

FIGURES



PROJECT:

Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

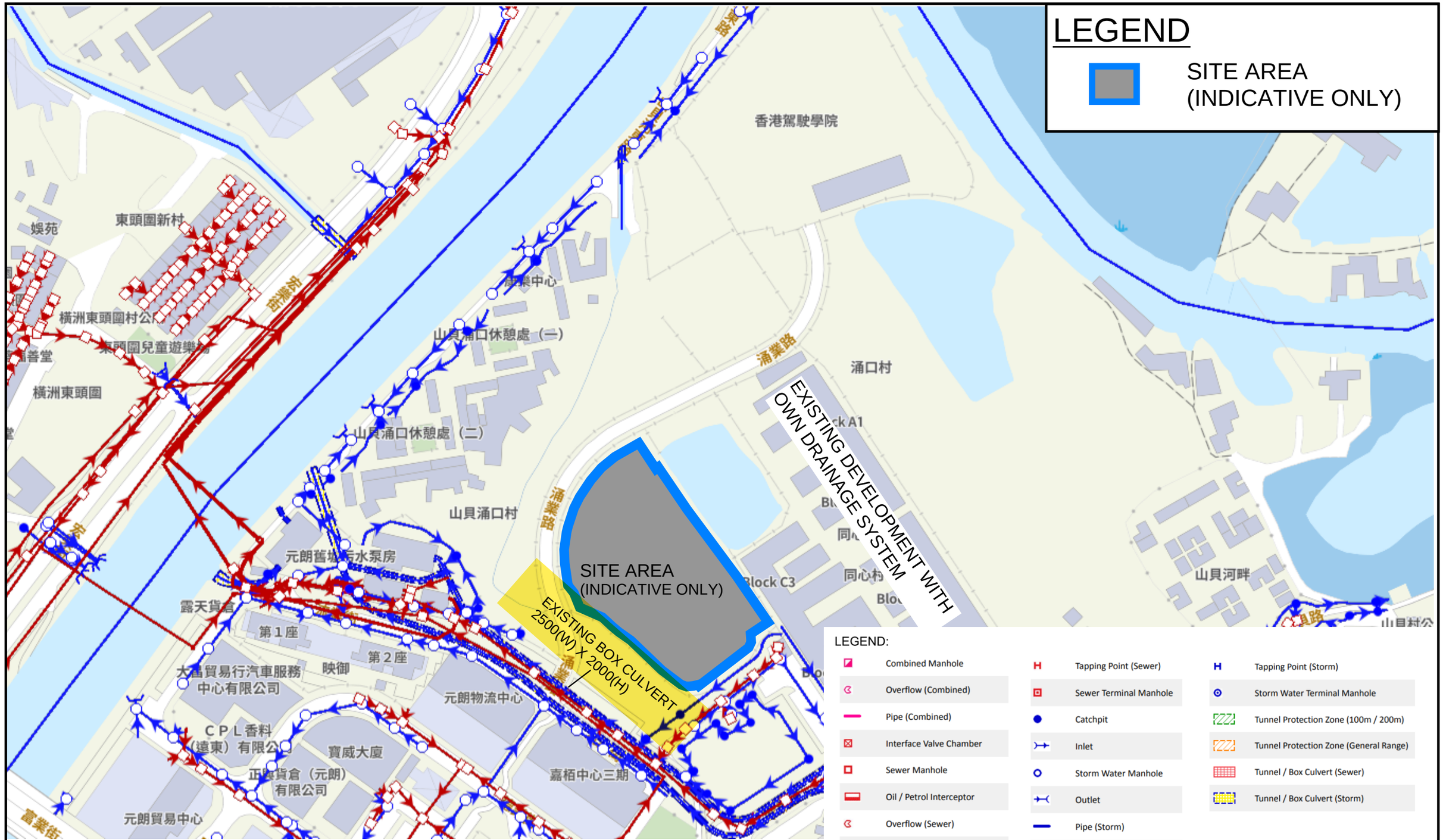
TITLE
SITE LOCATION PLAN

FIGURE NUMBER
FIGURE 1

LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE



PROJECT:

Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

TITLE
EXISTING DRAINAGE PLAN

FIGURE NUMBER
FIGURE 2

LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

LEGEND

- SITE AREA (INDICATIVE ONLY)
- EXISTING STREAM
- PROPOSED CHANNEL
- PROPOSED CONCRETE PIPE
- EXISTING CHANNEL
- PROPOSED CATCHPIT
- PROPOSED CATCHPIT W/TRAP
- PROPOSED MANHOLE E1 AS PER DSD STANDARD DRAWING NO. DS 1080

NOTES:

1.ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2.ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
3.LOCATION OF CATCHPITS ARE APPROX. ONLY.
4.CONNECTION LEVELS ARE APPROX. ONLY AND SHALL BE VERFIED ON SITE.

DRINAGE SCHEDULE

US MH/PIT	DS MH/PIT	US GL	DS GL	Size mm	Gradient 1 in	Type	US IL	DS IL	U/S MH/PIT TYPE #	Remark
SP01	CP1.01	4.8	4.7	375	200	UC	4.43	4.33	SP	#SP: Start Point
CP1.01	CP1.02	4.7	4.6	375	200	UC	4.33	4.23	CP	
CP1.02	CP1.03	4.6	4.2	375	200	UC	4.23	3.83	CP	
CP1.03	CP2.05	4.2	4.4	525	200	UC	3.68	3.26	CP	
SP02	CP2.01	4.8	4.3	450	200	UC	4.35	3.75	SP	
CP2.01	CP2.02	4.3	4.3	450	200	UC	3.75	3.73	CP	
CP2.02	CP2.03	4.3	4.2	450	200	UC	3.73	3.64	CP	
CP2.03	CP2.04	4.2	4.2	600	200	UC	3.60	3.21	CP	
CP2.04	CP2.05	4.2	4.2	600	200	UC	3.21	2.98	CP	
CP2.05	MH1.01	4.2	4.2	675	105	PIPE	2.39	2.31	CP	
MH1.01	MH1.02	4.2	4.4	675	105	PIPE	2.31	2.06	E1	
MH1.02	MH1.03	4.4	4.4	675	105	PIPE	2.06	1.91	E1	
MH1.03	Existing Box Culvert	4.4	4.4	675	105	PIPE	1.81	1.79	E1	

CP2.03
CP2.01
CP2.02
CP2.04
CP2.05
MH1.01
MH1.02
MH1.03
SP02
SP01
CP1.01
CP1.02
CP1.03
EXISTING BOX CULVERT
2500 X 2000
(1 IN 2036)
EXISTING CHANNEL
DETAIL A
CONNECTION TO EXISTING BOX CULVERT (STRUCTURAL DETAIL UNDER SEPARATE SUBMISSION)

PROPOSED PIPE
EXISTING BOX CULVERT

DETAIL A
CONNECTION TO EXISTING BOX CULVERT (STRUCTURAL DETAIL UNDER SEPARATE SUBMISSION)

PROJECT:

Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

TITLE
PROPOSED DRAINAGE SYSTEM

FIGURE NUMBER
FIGURE 3

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

LEGEND:

FALL

+4.2

+4.3

A4: 5,860 m²

+4.5

+4.4

A3: 2,144 m²

+4.2

+5.0

+4.8

A2: 1,990 m²

A1: 1,776 m²

+4.2

N

山貝涌口村
SHAN PUI CHUNG HAU TSUEN

涌口村
CHUNG HAU TSUEN

同心村

CHUNG YIP ROAD

涌業路

LAU YIP STREET

TAK YIP STREET

德業街

流業街

CHUI TUNG LANE

翠桐里

SHAN PUI ROAD

山貝路

SHAN PUI HO EAST ROAD

山貝涌休憩處(一)
Shan Pui Chung Hau Sitting-out Area (1)

山貝涌休憩處(二)
Shan Pui Chung Hau Sitting-out Area (2)

抽水站
Pumping Station

元朗舊墟污水泵房
Yuen Long Kau Hui Sewage Pumping Station

第1座
Tower 1

第2座
Tower 2

平台
Podium

映御
Twin Regency

元朗物流中心
Yuen Long Logistics Centre

寶威大廈
Po Wai Building

正興貨倉(元朗)有限公司
Jing Hin Godowns (Yuen Long) Ltd.

嘉栢中心三期
Crown Data Centre III

CPL香料(遠東)有限公司
CPL Aromas (Far East)Limited

易行汽車服務中心有限公司
ong(Motor Service Centre)Ltd.

Cycling Track

Car Park

Block A1

Block A2

Block B1

Block B2

Block B3

Block C1

Block C2

Block C3

PROJECT:

Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

TITLE
CATCHMENT PLAN

FIGURE NUMBER
FIGURE 4

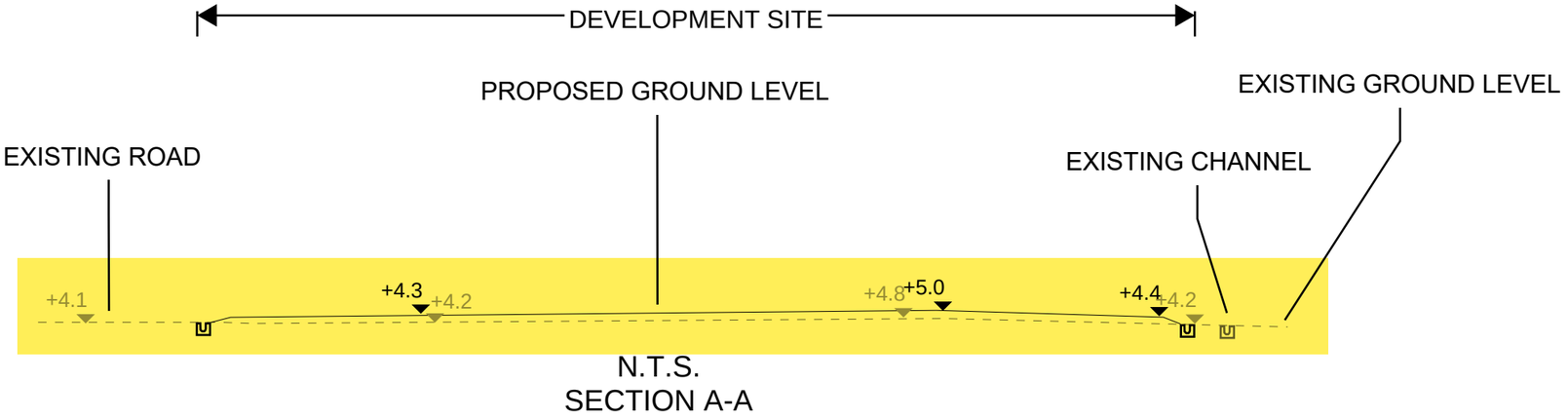
LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

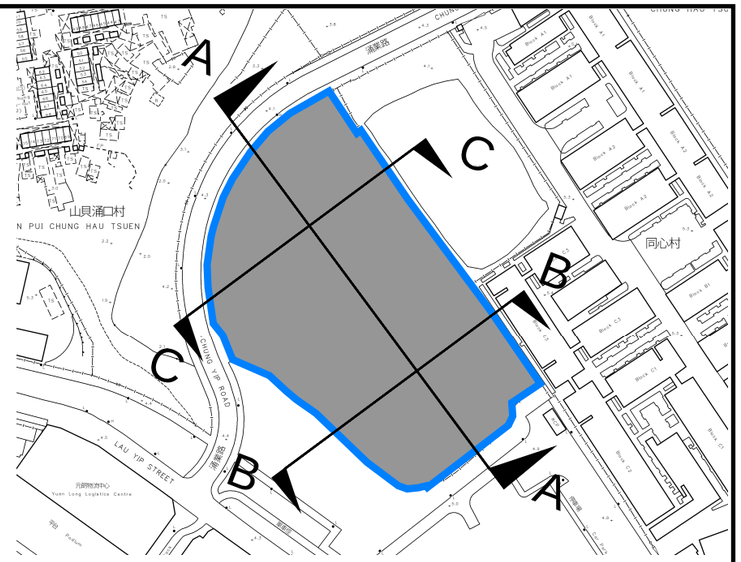
VER	DESCRIPTION	DATE

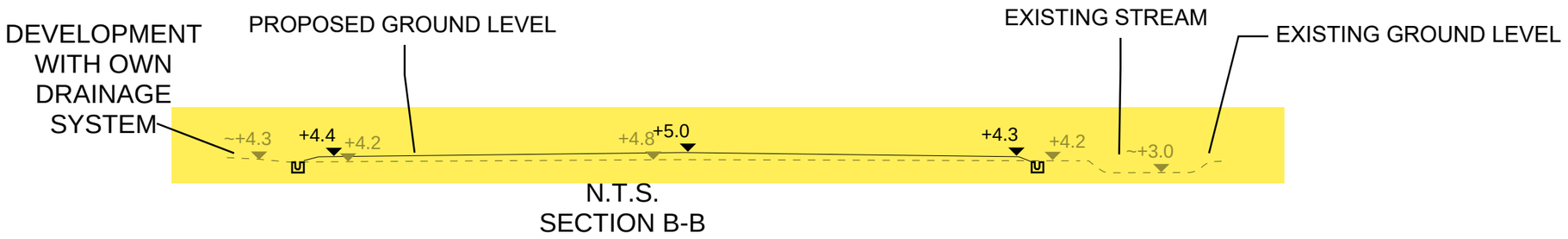
LEGEND

SITE AREA
(INDICATIVE ONLY)

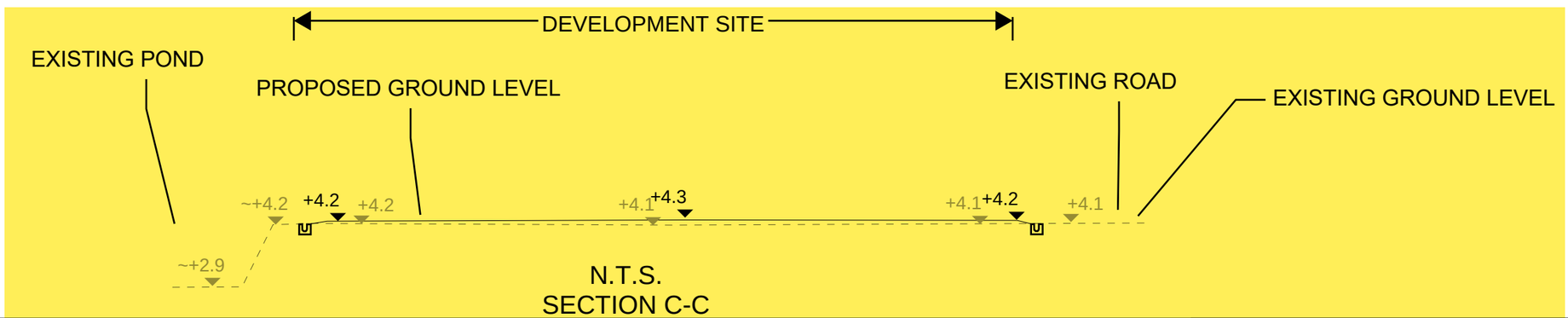


N.T.S.
SECTION A-A





N.T.S.
SECTION B-B



N.T.S.
SECTION C-C

PROJECT:
Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

TITLE
SECTION

FIGURE NUMBER
FIGURE 5

LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

LEGEND

SITE AREA
(INDICATIVE ONLY)

+4.1

+4.2

+4.1

+4.3

+4.1

+4.8

+4.2

+4.3

+4.2

EXISTING CATCHMENT DISHCARGE
TO EXISTING BOX CULVERT VIA
EXISTING ROAD DRAIN

EXISTING BOX CULVERT

EXISTING CATCHMENT DISHCARGE
TO EXISTING BOX CULVERT VIA
EXISTING CHANNEL

涌口村
CHUNG HAU TSUEN

山貝涌口村
SHAN PUI CHUNG HAU TSUEN

同心村

CHUNG YIP ROAD

浦業路

LAU YIP STREET

TAK YIP STREET

YIP STREET

CHUI TUNG LANE

SHAN PUI ROAD

SHAN PUI HO EAST ROAD

流業街

德業街

翠桐里

山貝路

抽水站
Pumping Station

元朗舊墟污水
Yuen Long
Sewage Pumpi

元朗物流中心
Yuen Long Logistics Centre

第1座
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CPL香料
(遠東)有限公司
CPL Aromas
(Far East)Limited

Cycling Track

Block A1

Block A2

Block B1

Block B2

Block B3

Block C1

Block C2

Block C3

PO

PROJECT: Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "OU(CDWRA)" Zone	TITLE EXISTING CATCHMENT
LOCATION: Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories	MARVELLOUS CONSTRUCTION & DESIGN COMPANY LIMITED

FIGURE NUMBER
FIGURE 6

VER	DESCRIPTION	DATE

APPENDIX

Appendix A: Design Calculation

Zone

HKO

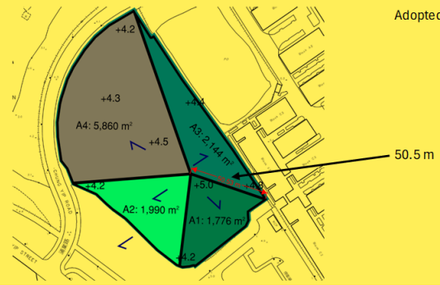
Return Period	1 in	50	years

n	0.014
Ks	0.15
Viscosity	0.000001

Storm Constant		
	HKO a	505.5
	HKO b	3.29
	HKO c	0.355

Time of Concentration Checking

Catchment	Flow Distance	Highest Level	Lowest Level	Gradient (per 100m) = (H1-H2)/L x 100	to (min) = $0.14465L/(H^{0.2}A^{0.1})$	tc = to + tf
A	L	H1	H2			
(m2)	(m)	(mPD)	(mPD)		(min)	(min)
1776	50.5	5	4.8	0.396	4.160	4.160



Adopted t_o = 4 min

Catchment Area Table (Area in m^2)

Catchment	A1	A2	A3	A4	Total Site Area	Half of Total Site Area
Total Area	1776	1990	2144	5860	11770	5885
Hard Paved Area	1776	1990	2144	5860	11770	5885
Unpaved Area	0	0	0	0	0	0
Equival. Area	1687.2	1890.5	2036.8	5567	11181.5	5590.75

Pavement Type	Hard Paved	Unpaved
Runoff Coefficient	0.95	0.35

Calculation Table of Drainage System

US MH/PIT	DS MH/PIT	US GL	DS GL	Size mm	Gradient 1 in	Type	US IL	DS IL	U/S MH/PIT TYPE #	Length m	V m/s	Capacity m^3/s	Catchment ID1	Catchment ID2	Catchment ID3	Catchment ID4	Catchment ID5	Total Equivalent Area m^2	ToC min	Intensity mm/hr	Total Discharge m^3/s	Utilitization	Remark
SP01	CP1.01	4.80	4.70	375	200	UC	4.43	4.33	SP	13.81	1.30	0.16	A1					1687.20	4.00	250	0.12	71.9%	
CP1.01	CP1.02	4.70	4.60	375	200	UC	4.33	4.23	CP	7.17	1.30	0.16	A1					1687.20	4.18	248	0.12	71.3%	
CP1.02	CP1.03	4.60	4.20	375	200	UC	4.23	3.83	CP	40.16	1.30	0.16	A1					1687.20	4.27	247	0.12	71.0%	
CP1.03	CP2.05	4.20	4.40	525	200	UC	3.68	3.26	CP	83.43	1.62	0.40	A1	A2				3577.70	4.79	241	0.24	59.9%	
SP02	CP2.01	4.80	4.25	450	200	UC	4.35	3.75	SP	120.23	1.47	0.26	A3					2036.80	4.00	250	0.14	53.4%	
CP2.01	CP2.02	4.25	4.25	450	200	UC	3.75	3.73	CP	2.92	1.47	0.26	A3					2036.80	5.37	235	0.13	50.2%	
CP2.02	CP2.03	4.25	4.20	450	200	UC	3.73	3.64	CP	19.83	1.47	0.26	A3					2036.80	5.40	235	0.13	50.2%	
CP2.03	CP2.04	4.20	4.20	600	200	UC	3.60	3.21	CP	78.17	1.78	0.57	A3	A4				7603.80	5.63	232	0.49	86.2%	
CP2.04	CP2.05	4.20	4.20	600	200	UC	3.21	2.98	CP	46.06	1.78	0.57	A3	A4				7603.80	6.36	226	0.48	83.8%	
CP2.05	MH1.01	4.20	4.20	675	105	PIPE	2.39	2.31	CP	7.8	2.95	1.06	A1	A2	A3	A4		11181.50	6.79	223	0.69	65.6%	
MH1.01	MH1.02	4.20	4.40	675	105	PIPE	2.31	2.06	E1	27	2.95	1.06	A1	A2	A3	A4		11181.50	6.84	222	0.69	65.5%	
MH1.02	MH1.03	4.40	4.40	675	105	PIPE	2.06	1.91	E1	15	2.95	1.06	A1	A2	A3	A4		11181.50	6.99	221	0.69	65.1%	
MH1.03	Existing Box Culvert	4.40	4.40	675	105	PIPE	1.81	1.79	E1	2.8	2.95	1.06	A1	A2	A3	A4		11181.50	7.07	220	0.69	64.9%	

	Size mm	Gradient 1 in		Flow Area m^2	Wetted Perimeter m	Hydraulic Radius m		V m/s	Capacity m^3/s									
Existing Box Culvert (Ks = 3) Proposed Conditions	2000 x 2500	2036	Box Culvert	4.75	6.30	0.75		1.31	6.23	A1	A2	A3	A4	11181.50	7.09	220	0.68	11.0%
Existing Box Culvert (Ks = 3) Existing Conditions	2000 x 2500	2036	Box Culvert	4.75	6.30	0.75		1.31	6.23	Half of Total Site Area				5590.75	7.09	220	0.34	5.5%

The utilitization of Existing Box Culvert due to the proposed development is only 11% - 5.5% = 5.5%.

#SP: Start Point

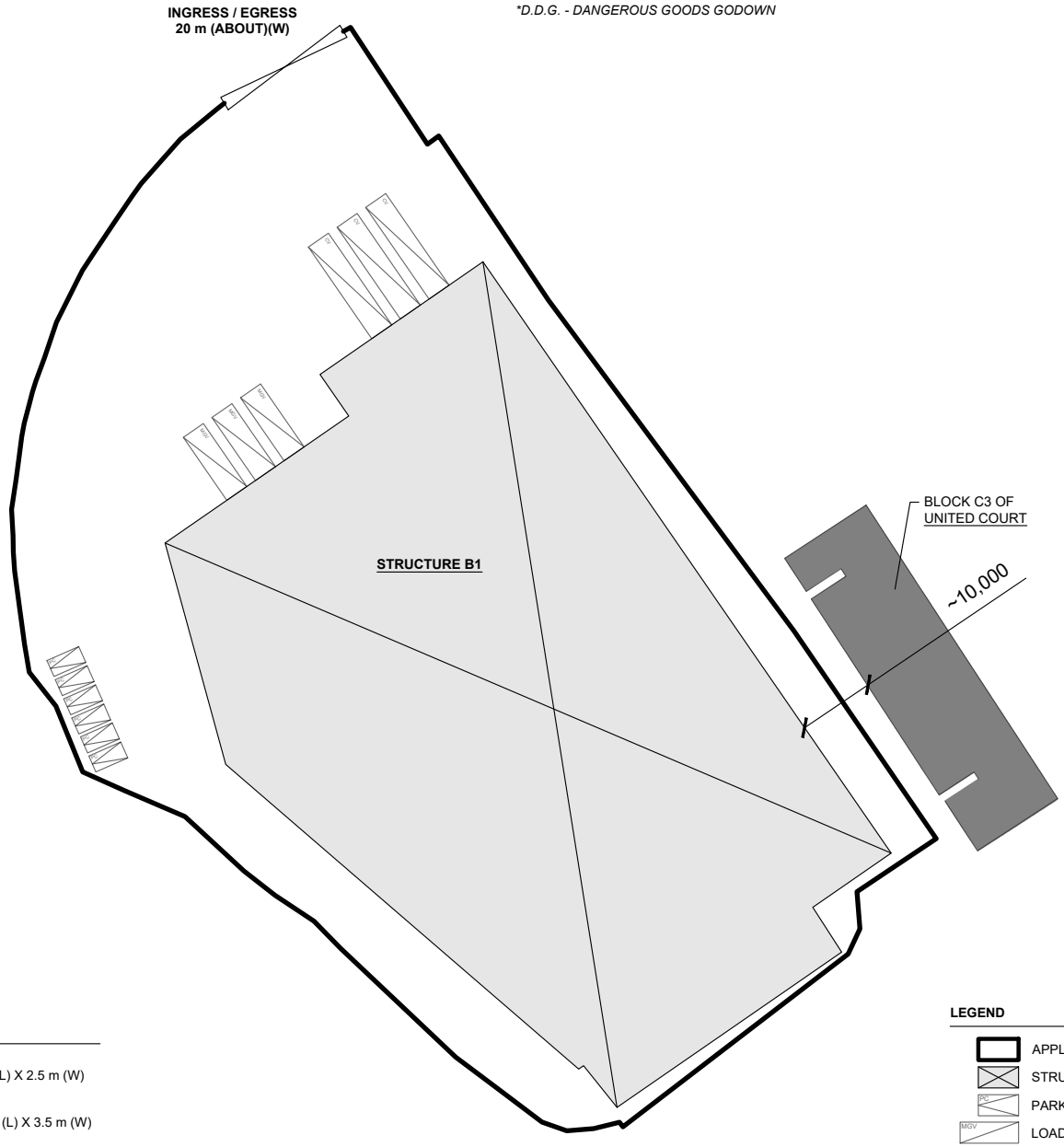
APPENDIX B - PROPOSED SITE LAYOUT PLAN

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 11,770 m^2	(ABOUT)
COVERED AREA	: 6,649 m^2	(ABOUT)
UNCOVERED AREA	: 5,121 m^2	(ABOUT)
PLOT RATIO	: 1.1	(ABOUT)
SITE COVERAGE	: 56 %	(ABOUT)
NO. OF STRUCTURE	: 1	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 13,298 m^2	(ABOUT)
TOTAL GFA	: 13,298 m^2	(ABOUT)
BUILDING HEIGHT	: 13 m	(ABOUT)
NO. OF STOREY	: 2	

B1	WAREHOUSE (EXCL. D.G.G.) SITE OFFICE, WASHROOM, FIRE SERVICE INSTALLATIONS	6,649 m^2 (ABOUT)	13,298 m^2 (ABOUT)	13 m (2-STOREY)
	TOTAL	**6,649 m^2** (ABOUT)	**13,298 m^2** (ABOUT)	

**D.D.G. - DANGEROUS GOODS GODOWN*



PARKING AND LOADING/UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 6
DIMENSIONS OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 11 m (L) X 3.5 m (W)
NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 16 m (L) X 3.5 m (W)

LEGEND

- APPLICATION SITE
- STRUCTURE
- PC — PARKING SPACE (PC)
- MGV — LOADING / UNLOADING SPACE (MGV)
- CV — LOADING / UNLOADING SPACE (CV)
- INGRESS / EGRESS

W — E — S

PLANNING CONSULTANT

R-Riches Property Consultants Ltd.

PROJECT

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS ABD ASSOCIATED FILLING OF LAND

SITE LOCATION

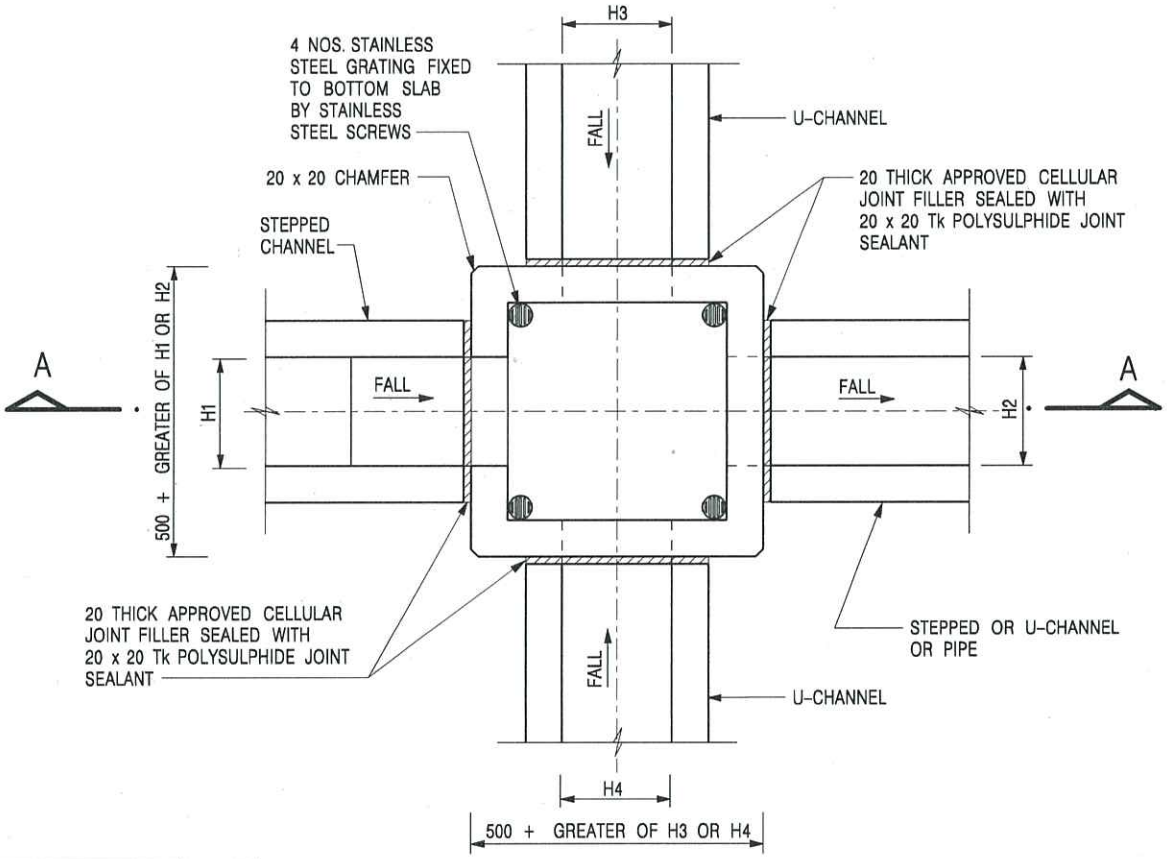
LOTS 1212 S.A ss.2 (PART) AND 1212 S.A ss.3 (PART) IN D.D. 115 AND ADJOINING GOVERNMENT LAND, YUEN LONG, NEW TERRITORIES

SCALE: 1 : 1000 @ A4

DRAWN BY	DATE
MN	28.12.2023
CHECKED BY	DATE
APPROVED BY	DATE

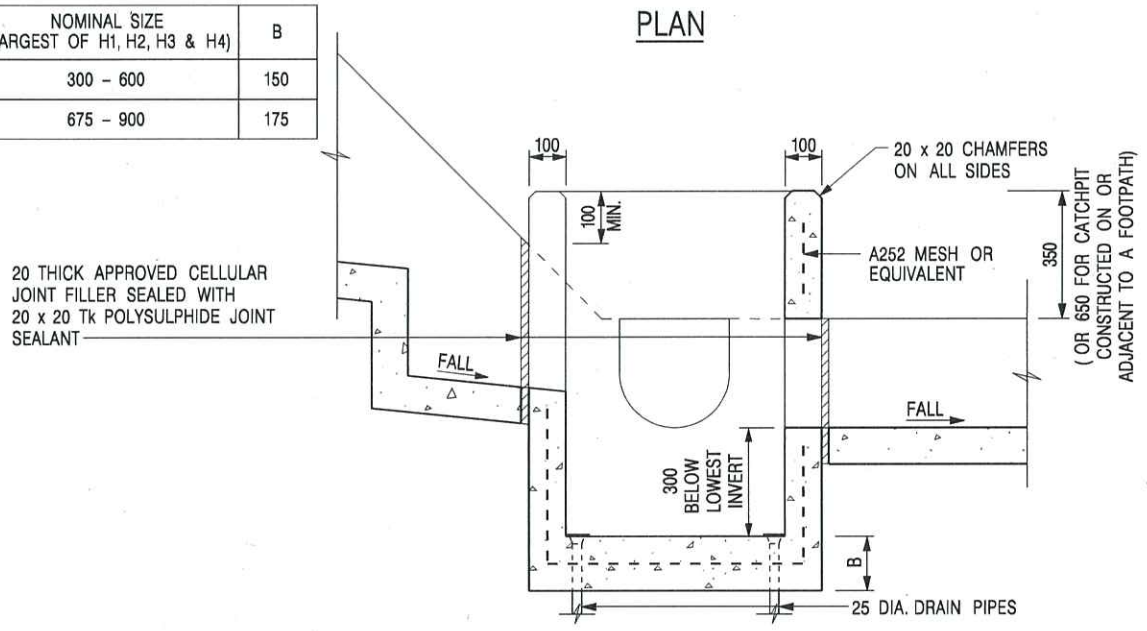
DWG. TITLE: LAYOUT PLAN

DWG NO.	VER.
PLAN 8	001



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)

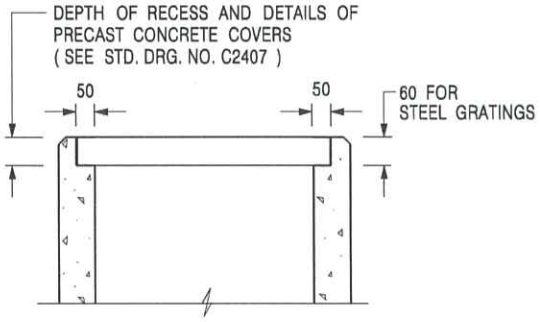
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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

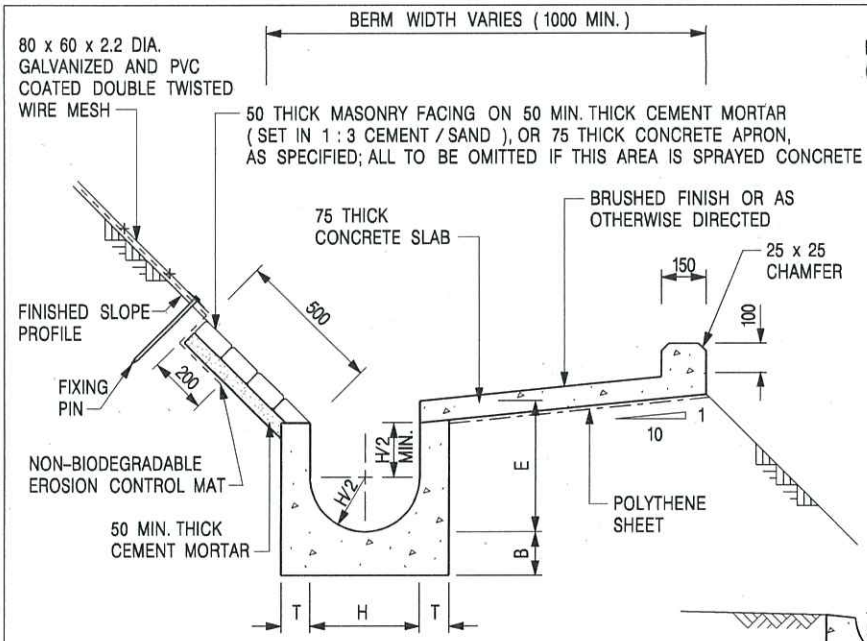
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

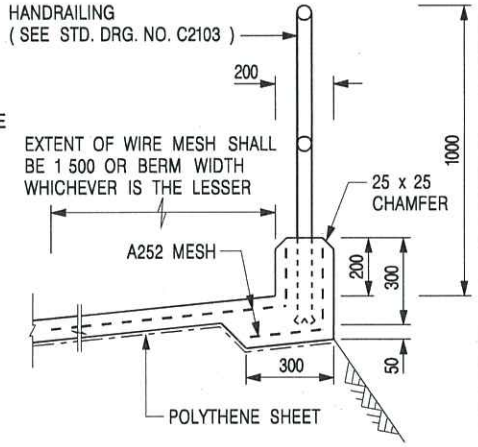
SCALE 1 : 20

DATE JAN 1991

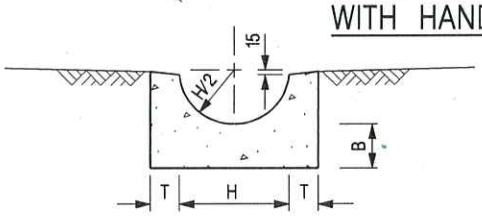
DRAWING NO. C2406 /2A



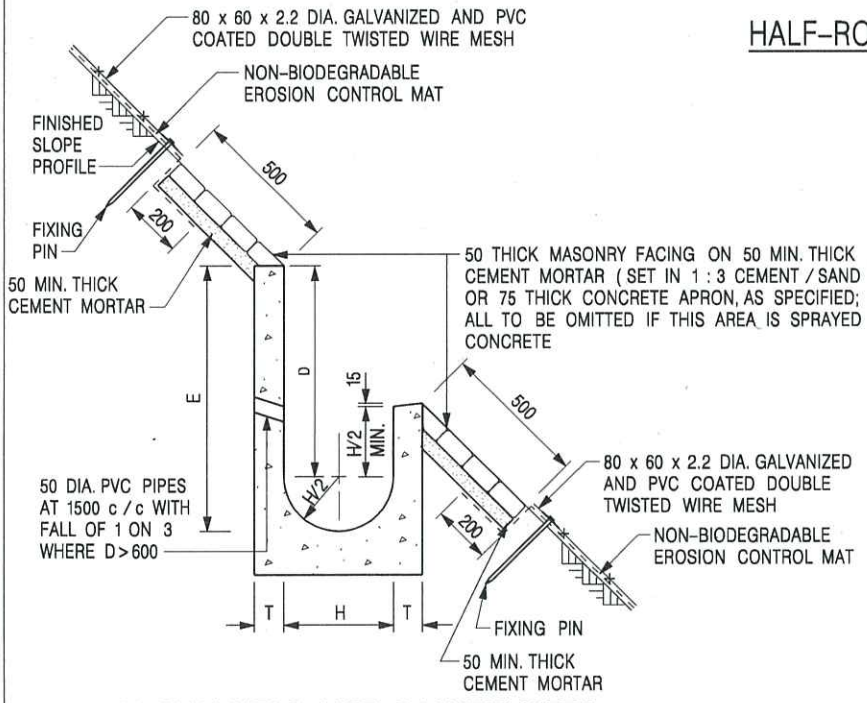
U-CHANNELS CONSTRUCTED ON BERM



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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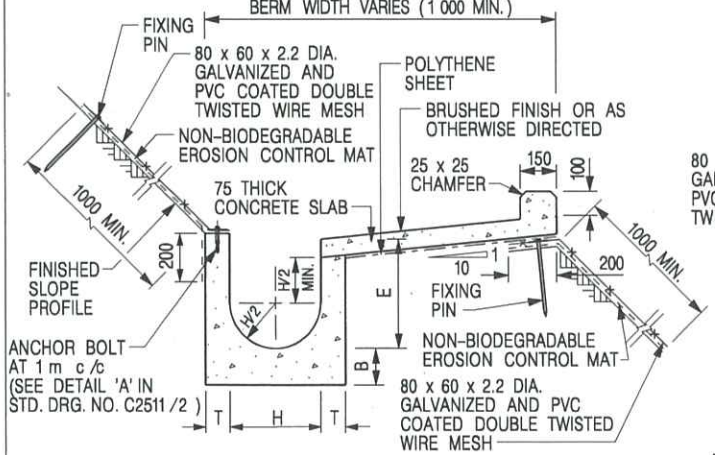
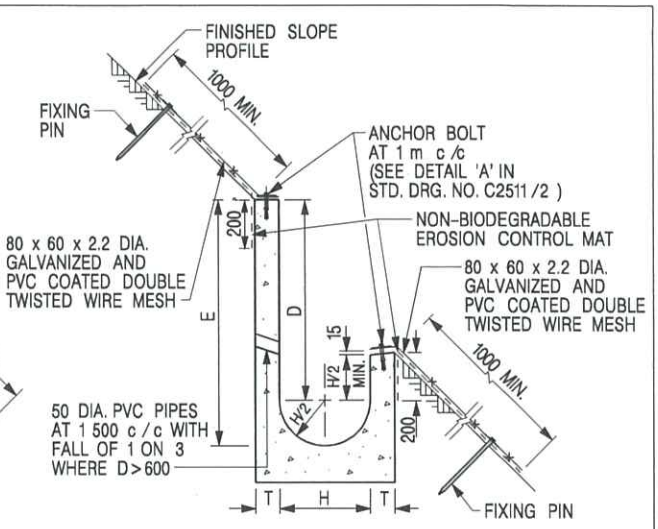
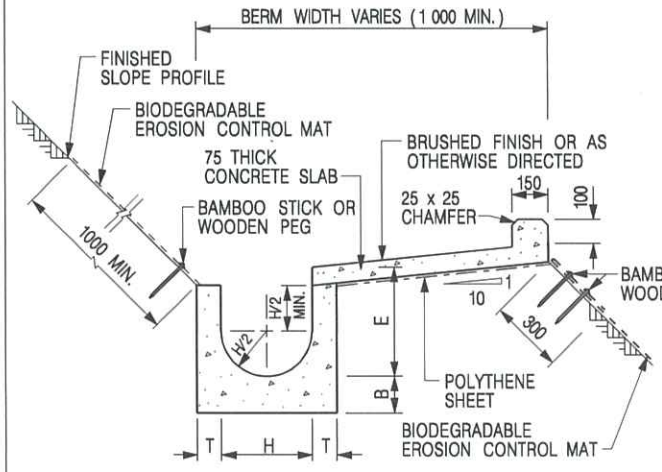


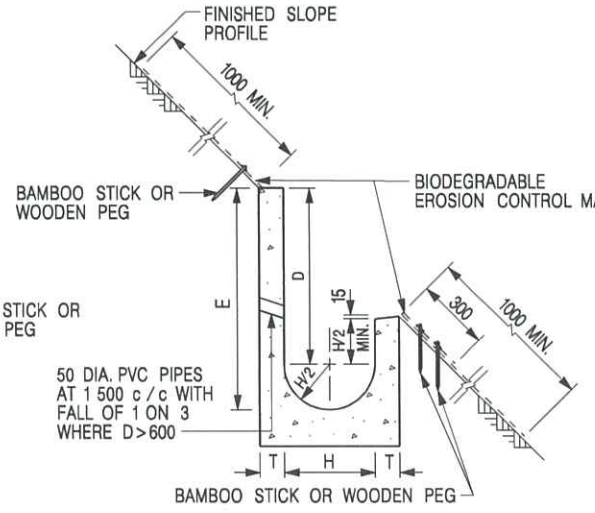
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



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

卓越工程 建設香港

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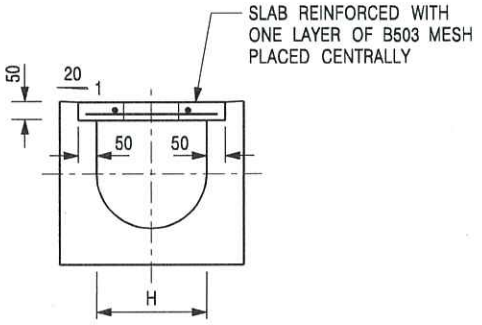
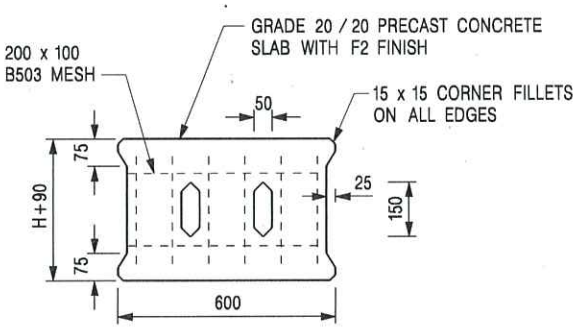


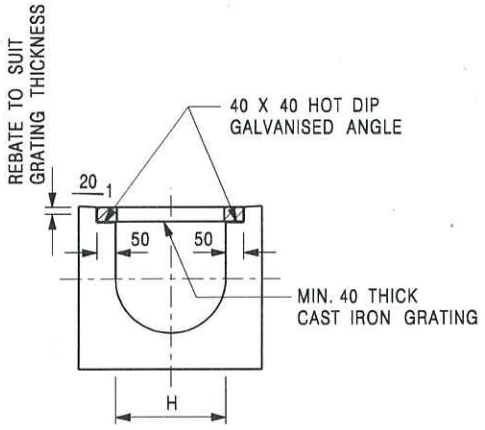
TYPICAL SECTION



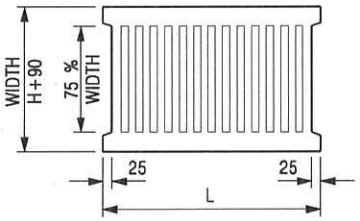
PLAN OF SLAB

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

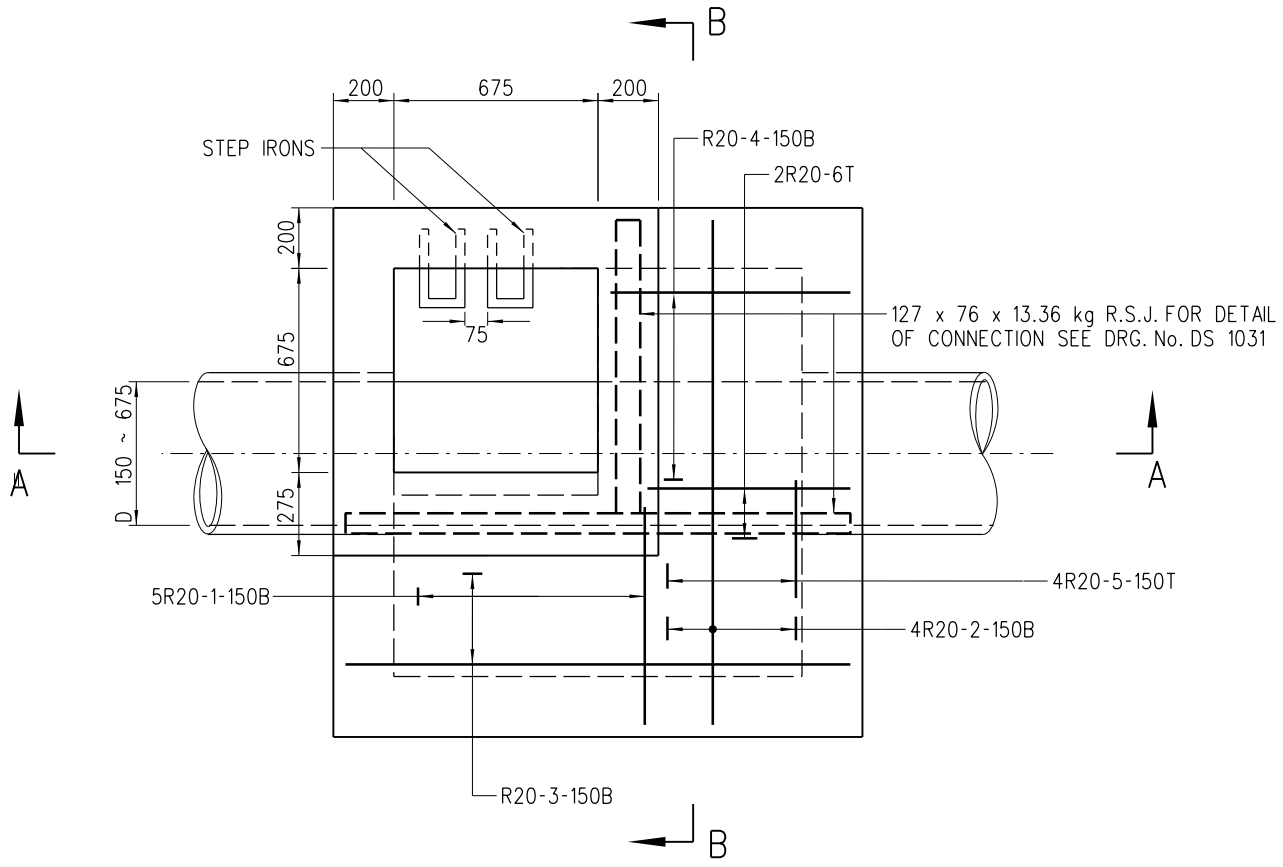
COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E



PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NOTATION OF REINFORCEMENT : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
3. B DENOTES GRADE 500B RIBBED REINFORCEMENT.
4. R DENOTES GRADE 250 PLAIN REINFORCEMENT.
5. PIPE DIAMETER : 150 TO 675 mm
6. NORMAL RANGE OF DEPTH : 2 500 TO 3700 mm (MEASURED FROM ROAD LEVEL TO LOWEST INVERT)
7. USED IN : STORMWATER DRAIN AND SEWER
8. JUNCTION : POSITION OF JUNCTION TO BE DETERMINED IN EACH INDIVIDUAL CASE. CHANNELS IMMEDIATELY UNDER ACCESS TO MANHOLE SHOULD BE AVOIDED.
9. TOP TREATMENT : SEE DRG. No. DS 1032
10. FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
11. CONCRETE : GRADE 30/20
12. ALL BAR MARKS APPEARED HEREON ARE USED FOR REFERENCE IN THIS DRAWING ONLY.
13. MINIMUM COVER AT END OF BARS 40 mm
14. COVER AND FRAME NOT SHOWN ON PLAN FOR CLARITY.
15. RECESS WITH SQUARE STEEL ROD SHALL BE PROVIDED AT TOP OF MANHOLE CHAMBER FOR INSTALLING MONITORING DEVICE(S). DETAILS REFER TO DSD STANDARD DRAWING NO. DS 1099.

REV.	DESCRIPTION	SIGNATURE	DATE
C	NOTE 15 ADDED	ORIGINAL SIGNED	2.8.2022
B	NOTE 11 DELETED NOTES 2, 3 & 4 ADDED	ORIGINAL SIGNED	29.4.2015
A	NOTE 11 REVISED	ORIGINAL SIGNED	24.11.2014
	NEW ISSUE	ORIGINAL SIGNED	15.8.2007

STANDARD MANHOLE TYPE F1

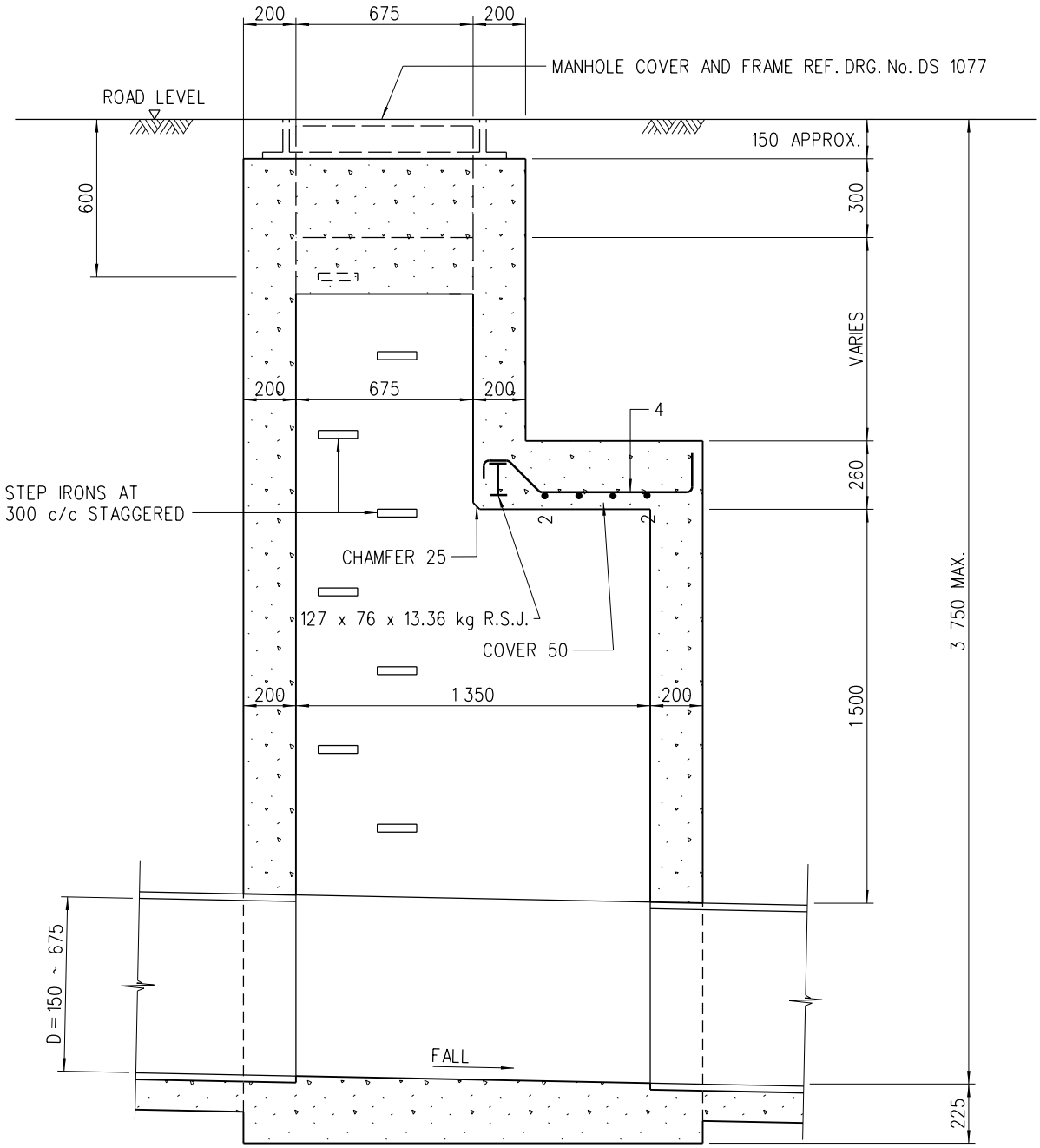
DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 25

DRAWING No. DS 1081C

(SHEET 1 OF 3)



SECTION A-A

BAR MARKS	SHAPE CODE ○
5 & 6	20
2 & 3	35
1 & 4	99

REV.	DESCRIPTION	SIGNATURE	DATE
C	NOTE 15 ADDED	ORIGINAL SIGNED	2.8.2022
B	NOTE 11 DELETED NOTES 2, 3 & 4 ADDED	ORIGINAL SIGNED	29.4.2015
A	NOTE 11 REVISED	ORIGINAL SIGNED	24.11.2014
	NEW ISSUE	ORIGINAL SIGNED	15.8.2007

STANDARD MANHOLE
TYPE F1

DRAINAGE SERVICES DEPARTMENT

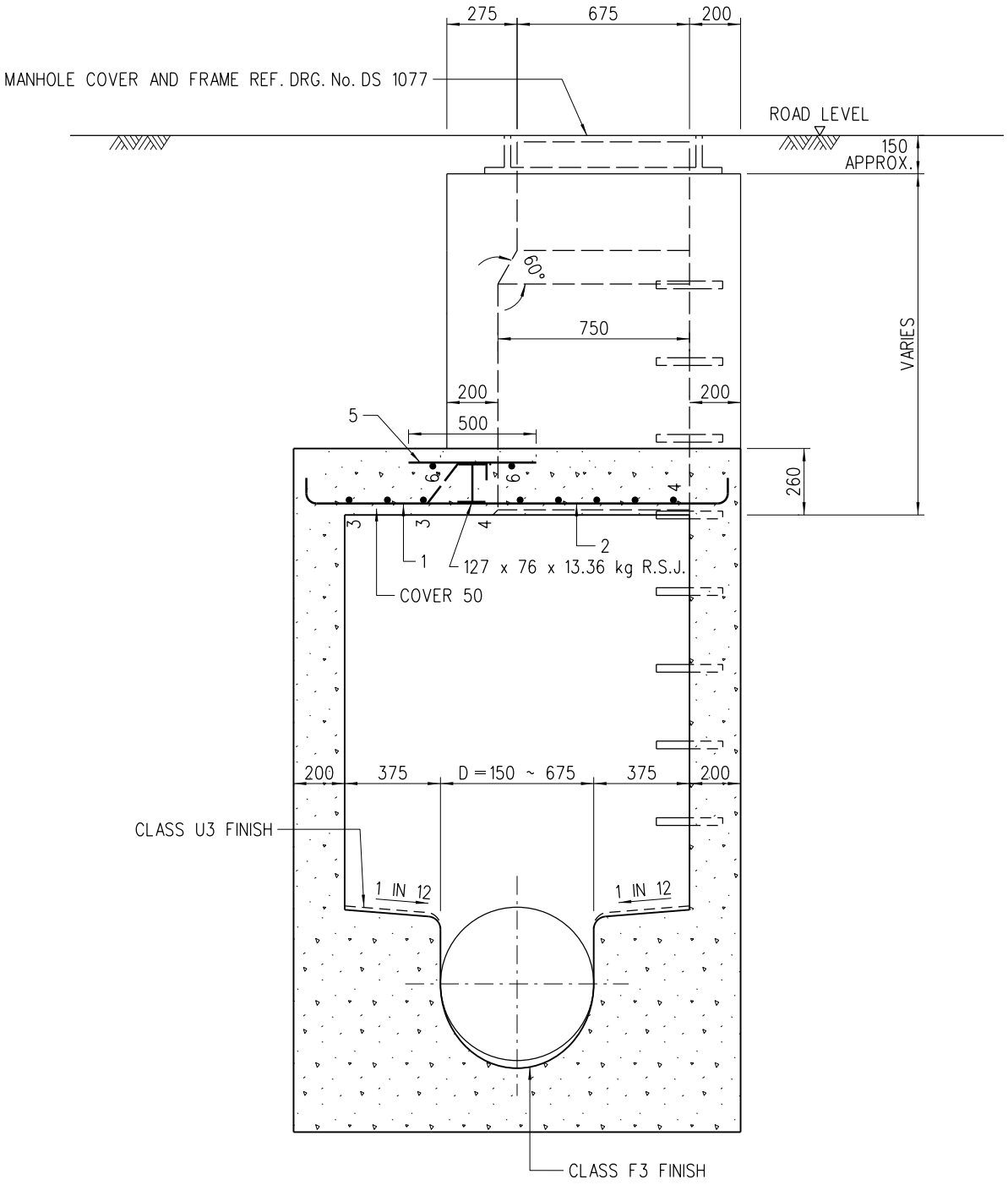
REFERENCE

SCALE 1 : 25

DRAWING No.

DS 1081C

(SHEET 2 OF 3)



SECTION B-B

REV.	DESCRIPTION	SIGNATURE	DATE
C	NOTE 15 ADDED	ORIGINAL SIGNED	2.8.2022
B	NOTE 11 DELETED NOTES 2, 3 & 4 ADDED	ORIGINAL SIGNED	29.4.2015
A	NOTE 11 REVISED	ORIGINAL SIGNED	24.11.2014
	NEW ISSUE	ORIGINAL SIGNED	15.8.2007

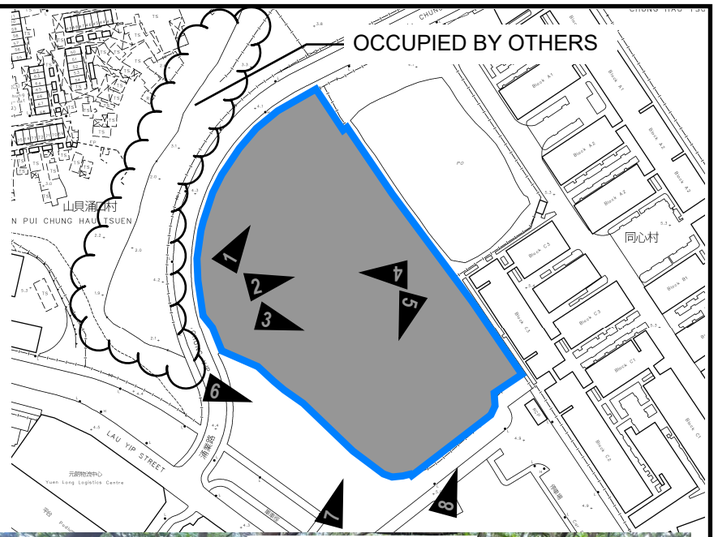
STANDARD MANHOLE
TYPE F1

DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 25

DRAWING No.
DS 1081C
(SHEET 3 OF 3)



PROJECT:
Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in “OU(CDWRA)” Zone

SITE PHOTOS

APPENDIX D

LOCATION:
Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

Annex 3b

Checklist to Requirements in Appendix I and II of DSD Advice Note No 1

1) Description of Project

Project title	Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land in "OU(CDWRA)" Zone, Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and Adjoining GL, Yuen Long, New Territories
Proponent	Extensive Novel Limited
Contact Person (name/telephone)	Matthew NG (Tel. No.: 2339 0884)
Nature and description of the project	Proposed Temporary Warehouse (Excluding D.G.G.) with Ancillary Facilities for a Period of 3 Years and Associated Filling of Land
Location	Lots 1212 S.A ss.2 (Part) and 1212 S.A ss.3 (Part) in D.D. 115 and adjoining Government Land, Yuen Long, New Territories Please refer to the location plan.
Area of project site and % paved/unpaved (existing and proposed)	Fully paved before and after development
Level to be filled up	Not more than 0.2m from existing levels. Please refer to Plan 9 in "extract of planning statement".
Whether planning permission application is required	Section 16 planning permission application (application no: A/YL-NSW/334) is in process and the DIA report is a supporting study for the application.
Whether lease modification application is required	Not applicable
Statutory land use zoning	"Other Specified Uses" annotated "Comprehensive Development to include Wetland Restoration Area"
Recent and dated photographs to shown a panoramic view of the site	Please refer to Appendix D of the report. The photos are taken in December 2024.

2) Planning and Implementation Programme

Explain how the project will be planned and implemented	R-riches Property Consultants Limited has been commissioned by Extensive Novel Limited (the applicant) to make submission on their behalf. Marvellous Construction & Design Co. Ltd. is appointed as the drainage design consultant for planning application.
Project timetable	A DIA study is supporting the current planning application (application no: A/YL-NSW/334). The applicant is intent the commence the implementation of the proposed temporary warehouse 12 months after the approval of planning application.
Identify any interactions with other projects which should be considered.	The proposed development is for proposed temporary warehouse with ancillary facilities. There is no increase in pavement ratio and only minor site formation works, the interaction with other project is minor/ignorable.

3) Existing Drainage

Catchment plan	Please refer to Figure 4 of the DIA report
Layout Plan	Please refer to Plan 8 and Plan 9 in "extract of planning statement" and Figure 4 of the DIA report
General description of the existing drainage	There is an existing stream at the south of the application site. According to DSD record, there are also existing public drains, box culvert under Lau Yip Street. Please refer to section 1.2 and Figure 2 of the DIA report.

4) Other Information

Potential drainage impacts	The site is fully paved before and after the development. There is no additional runoff generated. According to the DIA study, there is no unacceptable drainage impact to the existing drainage system.

A general description of the proposed drainage impact mitigation measures	U channels and pipes are proposed to collect runoff from proposed catchments and discharge to existing drainage system. Please refer to section 4 and Figure 3 of the DIA report.
A general description of the proposed drainage system.	U channels and pipes are proposed to collect runoff from proposed catchments and discharge to existing drainage system. Please refer to section 4 and Figure 3 of the DIA report.
A general statement on the flooding situation upon completion of the project.	The site is fully paved before and after the development and there is only minor site formation works. Channels are proposed around the proposed site. No impact to the flooding situation is anticipated.

5) <u>Flooding Susceptibility</u>

A general statement on the flooding situation upon completion of the project.	The site is fully paved before and after the development and there is only minor site formation works. Channels are proposed around the proposed site. No impact to the flooding situation is anticipated.

6) <u>The change to drainage characteristics</u>

The change to the drainage characteristics and potential drainage impacts which might arise from the proposed project	There is only minor change in site formation levels. In addition, the site is fully paved before and after the development. There is only minor change to the drainage characteristics. As per the impact assessment, there is no unacceptable drainage impact anticipated.
Details of temporary drainage during construction including hydraulic capacities.	There is no major site formation works in the proposed site. The site is fully paved before and after the development. The proposed drainage system is intended to be constructed before the site formation works. Therefore, no temporary drainage system is required.

7) Drainage impact mitigation measures and any further drainage impact implications

Drainage impact mitigation measures and any further drainage impact implications	Drainage system with channels and pipes are proposed to collect runoff and discharge to existing drainage system. No further drainage impact is anticipated. Please refer to proposed drainage layout at Figure 3 and calculation in Appendix A.

8) Monitoring Requirement

Monitoring Requirement during Construction	The applicant to monitor construction site during rainfall event. Sand bag or equivalent to be provided in the works area such that the site runoff and drainage arising from the works area are to be properly intercepted and discharge to existing drainage system.