

ISSUE 3

TEMPORARY DRAINAGE PROPOSAL (Final)

APPLICATION SITE OF THE PROPOSED
TEMPORARY LOGISTICS CENTRE FOR A PERIOD
OF 3 YEARS AT LOTS 456 RP, 459, 460, 461, 462
AND 2229 RP IN D.D. 83, KWAN TEI, FANLING,
NEW TERRITORIES

PROJECT NO. AGLA/TDM/016

PREPARED FOR

APPLICATION NO. A/NE-TKL/773

16 December 2024

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1 Introduction

1.1 Background

1.1.1 This report presents the Drainage Proposal for supporting the application site of the proposed temporary logistics centre for a period of 3 years at Lots 456 RP, 459, 460, 461, 462 and 2229 RP in D.D. 83, Kwan Tei, Fanling, New Territories. 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 Kwan Tei, Fanling with an area of around 6,300m² and ground level varying between + 11.4mPD and + 10.8mPD. The layout plan is provided in **Appendix B**.

2.1.2 This application site is "Open Storage" and "Agriculture" zoning, the type of application is the Temporary Use/Development in Rural Areas 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 10 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 I and storm constants for different return periods referred to the SDM, based on the following equation:

$$Q_p = 0.278 C i A$$

- where
- Q_p = Peak Runoff, m³/s
 - C = Runoff Coefficient
 - i = Rainfall Intensity, mm/hr
 - A = Catchment Area, km²

3.2.2 The paved area of the site will account for 6,300 m². For conservative, the runoff coefficient of 0.95 is assumed, such that the all the run-off would be collected from the catchment area without any infiltration as the critical scenario.

3.2.3 Based on the storm constants for 10-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 downstream 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 Kwan Tei, Fanling with an area of around 6,300m² and ground level varying between + 11.4mPD and + 10.8mPD.

4.1.2 Only the application site with a projected area of 6,300 m² is considered as part of the catchment. There is no external catchment were identified as the application site is generally higher than the adjacent land.

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 4-2.

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)	6,300	6,300
Total Catchment Area (m ²)	6,300	6,300

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 catchpit with trap (TCP).
- 4.3.3 The runoff from the Application site is collected by 600mm U-channels along the boundary and discharged to the catchpit with trap (TCP), which is connected to the further downstream leading to the discharge point of a well-established Existing Village via 600mm U-Channel at the southern direction of the application site.
- 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 village drainage. The design calculation of the proposed drainage is provided in **Appendix D**.

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 UC with gradient 1:100 and Ng Tung River.
- 4.3.6 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.
- 4.3.7 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 m³ 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.

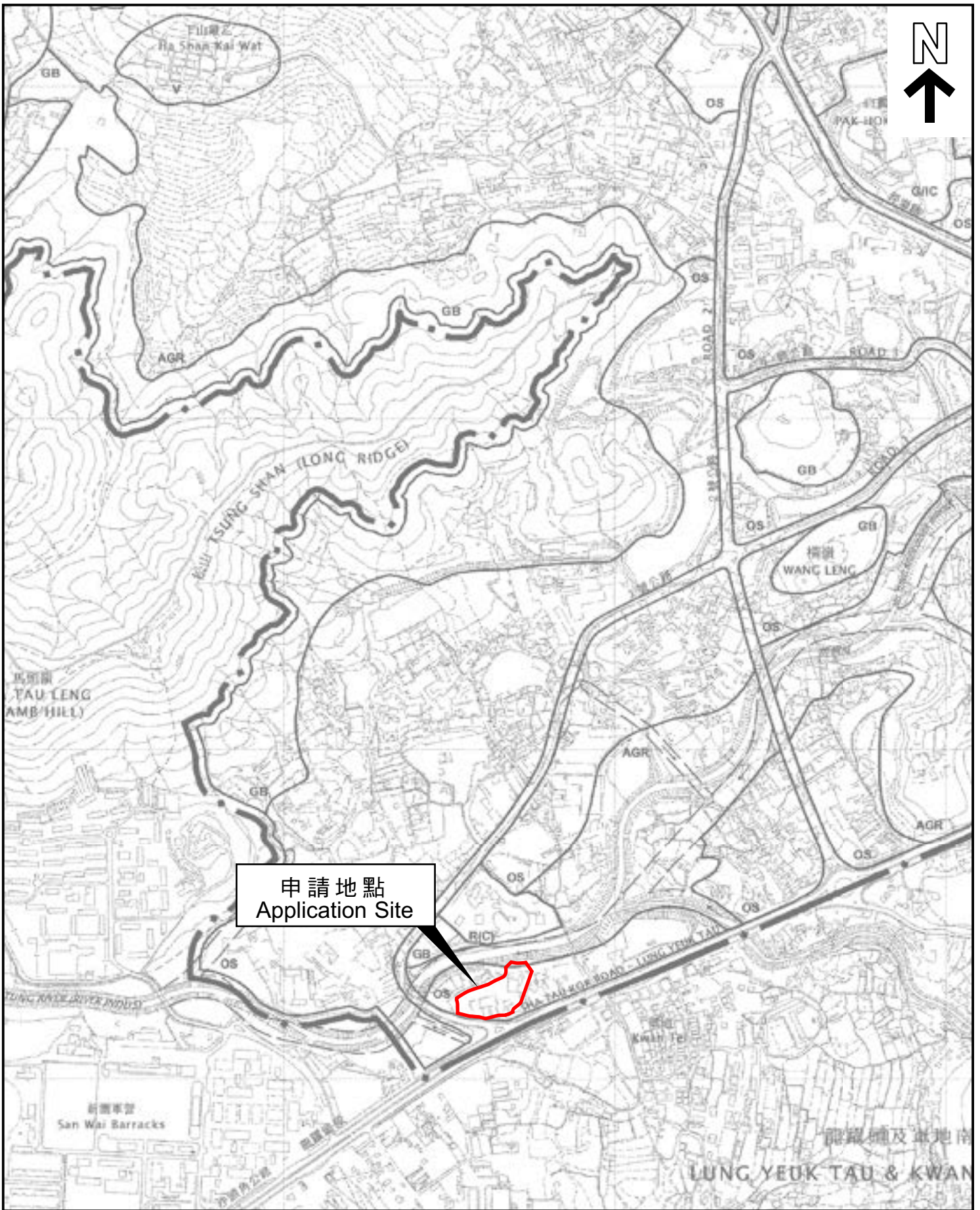
6 Conclusions

6.1 Conclusion

- 6.1.1 The analysed catchment area of 6,300 m² consists of the site area of the proposed Application Site , with no external attachment area.
- 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 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

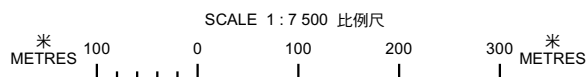


申請地點
Application Site

位置圖 LOCATION PLAN

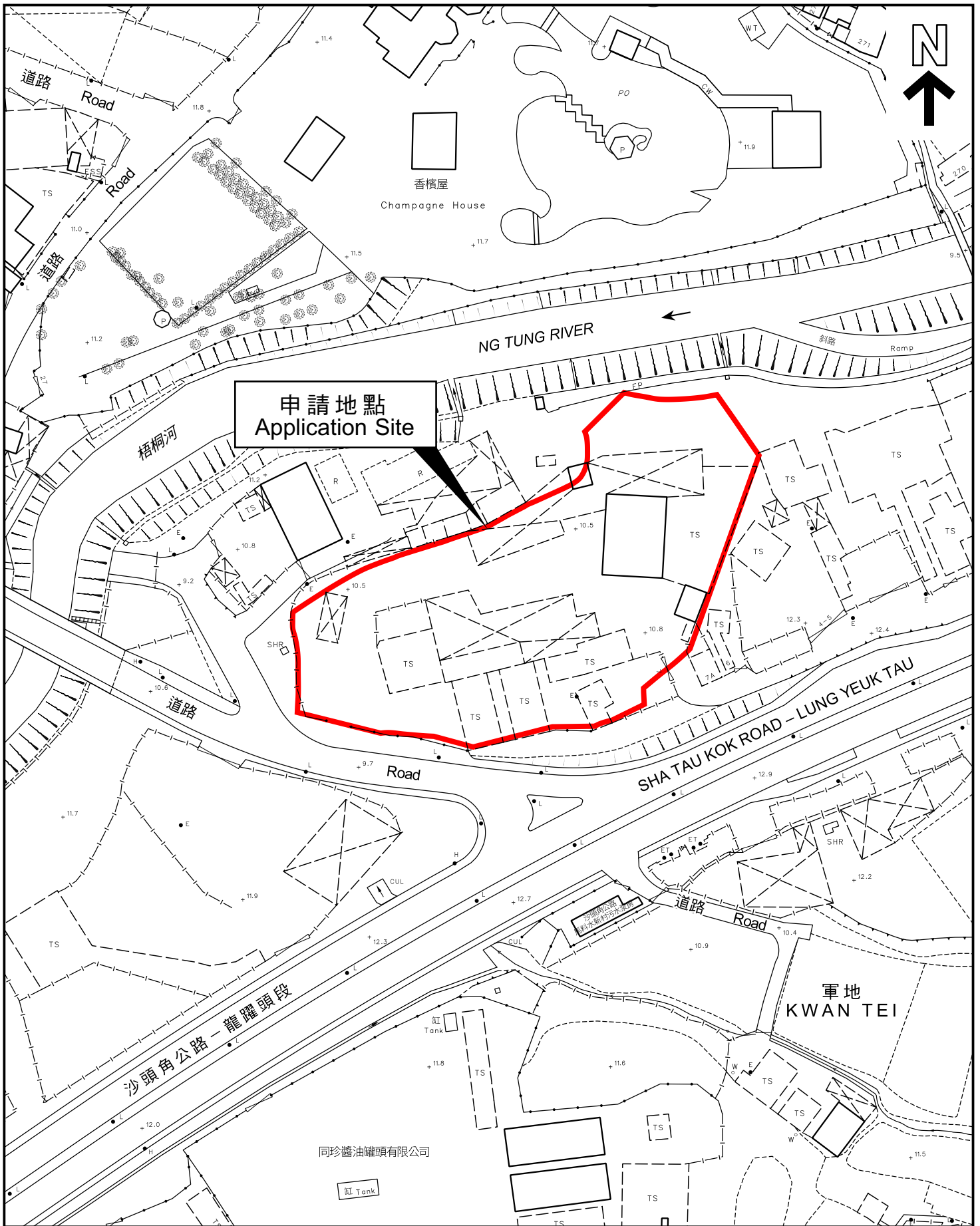
本摘要圖於2022年9月14日擬備，
所根據的資料為於2010年2月2日
核准的分區計劃大綱圖編號S/NE-TKL/14
EXTRACT PLAN PREPARED ON 14.9.2022
BASED ON OUTLINE ZONING PLAN No.
S/NE-TKL/14 APPROVED ON 2.2.2010

申請地點界線只作識別用
APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY



參考編號
REFERENCE No.
A/NE-TKL/708

APPENDIX B
LAYOUT PLAN



申請地點
Application Site

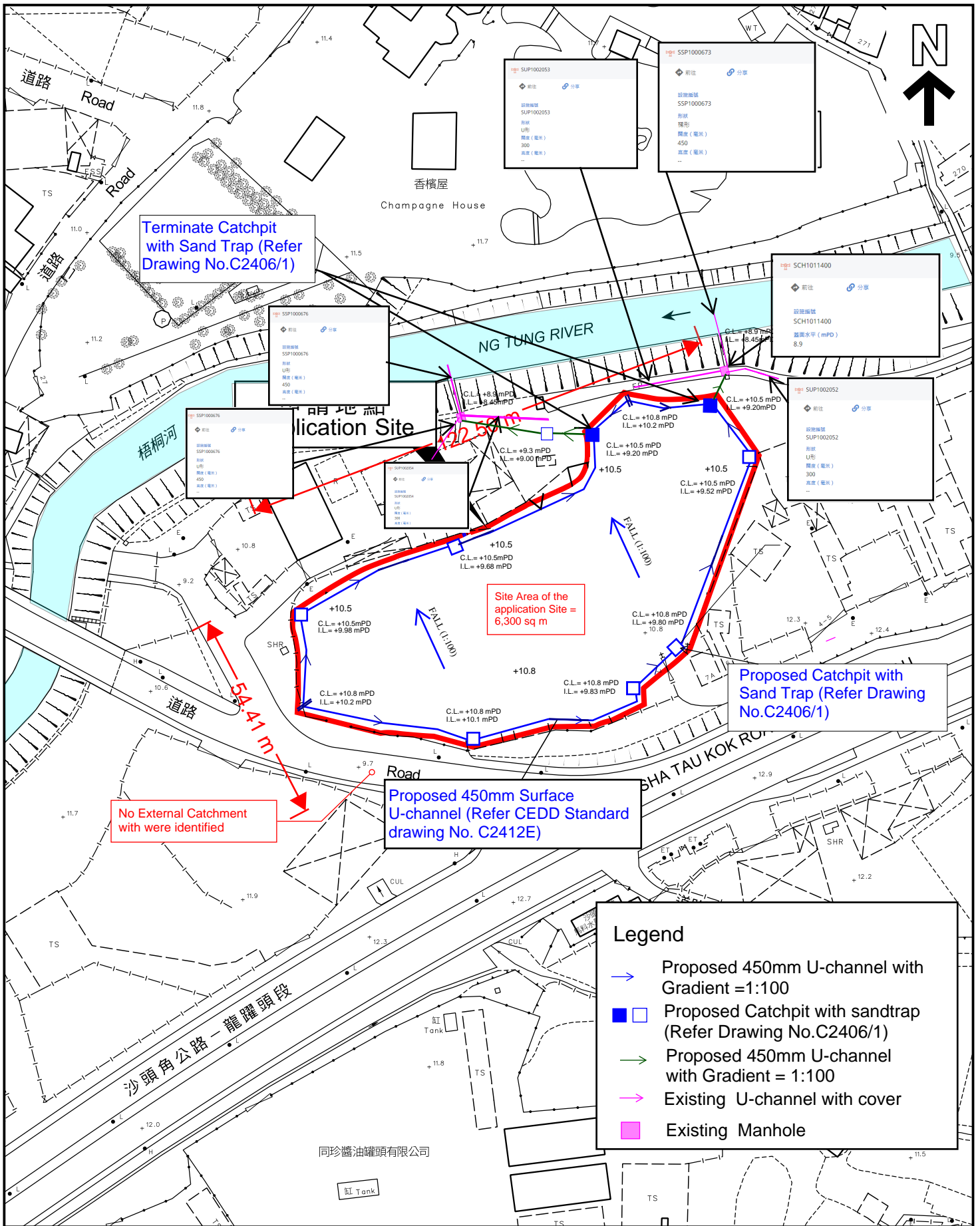
平面圖 SITE PLAN

本摘要圖於2022年9月14日擬備，
所根據的資料為測量圖編號
3-SW-3D
EXTRACT PLAN PREPARED ON 14.9.2022
BASED ON SURVEY SHEET No.
3-SW-3D

申請地點界線只作識別用
APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY

參考編號
REFERENCE No.
A/NE-TKL/708

APPENDIX C
PROPOSED DRAINAGE PLAN



Terminate Catchpit with Sand Trap (Refer Drawing No.C2406/1)

Site Area of the application Site = 6,300 sq m

Proposed Catchpit with Sand Trap (Refer Drawing No.C2406/1)

No External Catchment with were identified

Proposed 450mm Surface U-channel (Refer CEDD Standard drawing No. C2412E)

Legend

- Proposed 450mm U-channel with Gradient =1:100
- Proposed Catchpit with sandtrap (Refer Drawing No.C2406/1)
- Proposed 450mm U-channel with Gradient = 1:100
- Existing U-channel with cover
- Existing Manhole

平面圖 SITE PLAN

本摘要圖於2022年9月14日擬備，
所根據的資料為測量圖編號
3-SW-3D
EXTRACT PLAN PREPARED ON 14.9.2022
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3-SW-3D

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APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY

參考編號
REFERENCE No.
A/NE-TKL/708

APPENDIX D
DESIGN CALCULATION OF THE PROPOSED DRAINAGE

Company:
Project :

Date: 20/8/2024

Site Area = 6300 m² (C = 0.95, hard-paved)
 Outside Catchment Area = 0 m² (C = 0.6, Grassland, heavy soil, Steep Slope) (Ratio of concrete paved: ratio of soil paved = 1:2)
 Total Catchment Area = 6300 m²

$$t_c = \frac{0.1446L}{H^{0.5} A^{0.1}}$$

where t_c = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

$$t_c = \frac{0.14475 \times 100 \times 1.5^{0.2} \times 38338^{0.1}}{0.6} = 4.646 \text{ min}$$

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

where i = extreme mean intensity in mm/hr,
 t_c = duration in minutes ($t_c \leq 240$), and
 a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d.

Assume 10 yrs return period

$$a = 1157.7$$

$$b = 19.04$$

$$c = 0.597$$

$$i = 174.996504 \text{ mm/hr}$$

Therefore, take $i = 180 \text{ mm/hr}$

Company:
Project :

Date: 20/8/2024

Calculation for channels:

Catchment Area of site

$$\begin{aligned} \text{Site Area} &= 6300 \text{ m}^2 \\ &= 0.0063 \text{ km}^2 \end{aligned}$$

$$\begin{aligned} \text{Peak runoff in m}^3/\text{s} &= 0.278 \times 0.95 \times 180 \text{ mm/hr} \times 0.0063 \text{ km}^2 \\ &= 0.299489 \text{ m}^3/\text{s} \\ &= 17969 \text{ liter/min} \end{aligned}$$

$$\begin{aligned} \text{Outside Area} &= 0 \text{ m}^2 \\ &= 0 \text{ km}^2 \end{aligned}$$

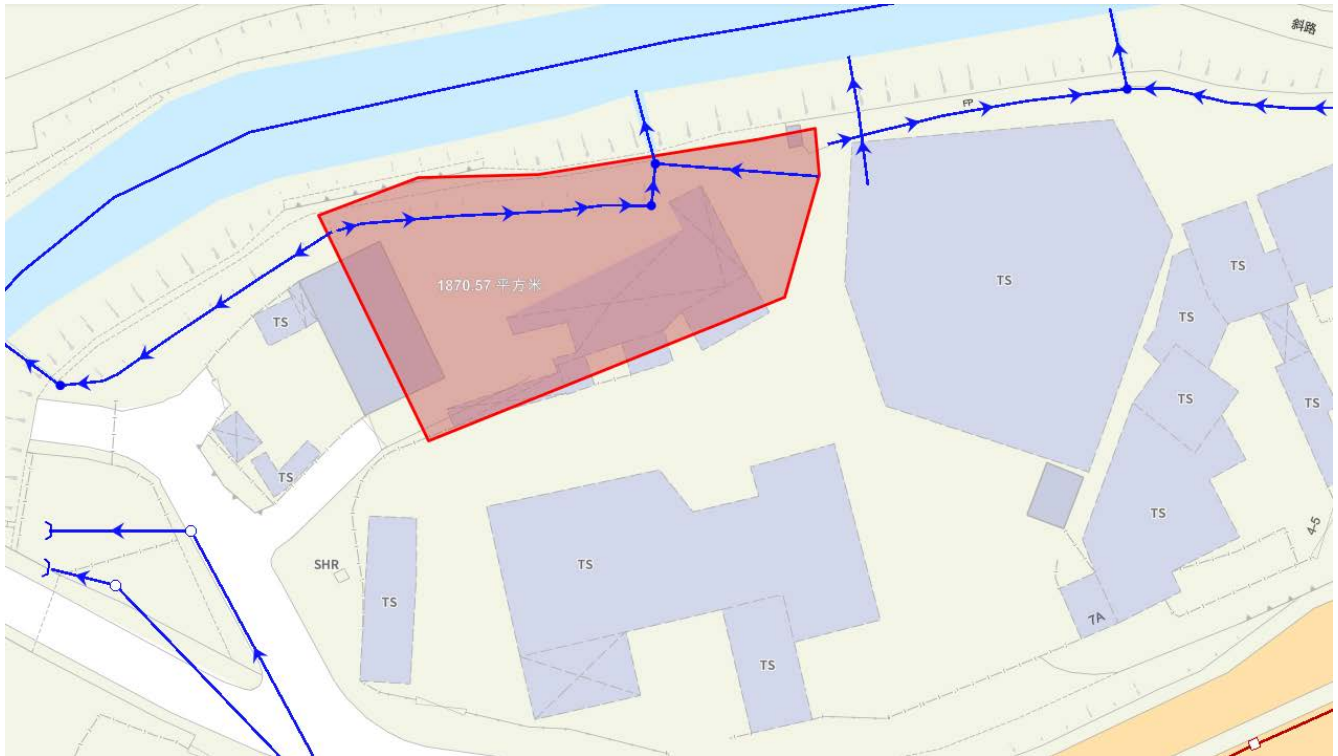
$$\begin{aligned} \text{Peak runoff in m}^3/\text{s} &= 0.278 \times 0.6 \times 180 \text{ mm/hr} \times 0 \text{ km}^2 \\ &= 0 \text{ m}^3/\text{s} \\ &= 0 \text{ liter/min} \end{aligned}$$

$$\text{Total Peak Runoff for Site} = 0.299489 \text{ m}^3/\text{s} = 17969.364 \text{ liter/min}$$

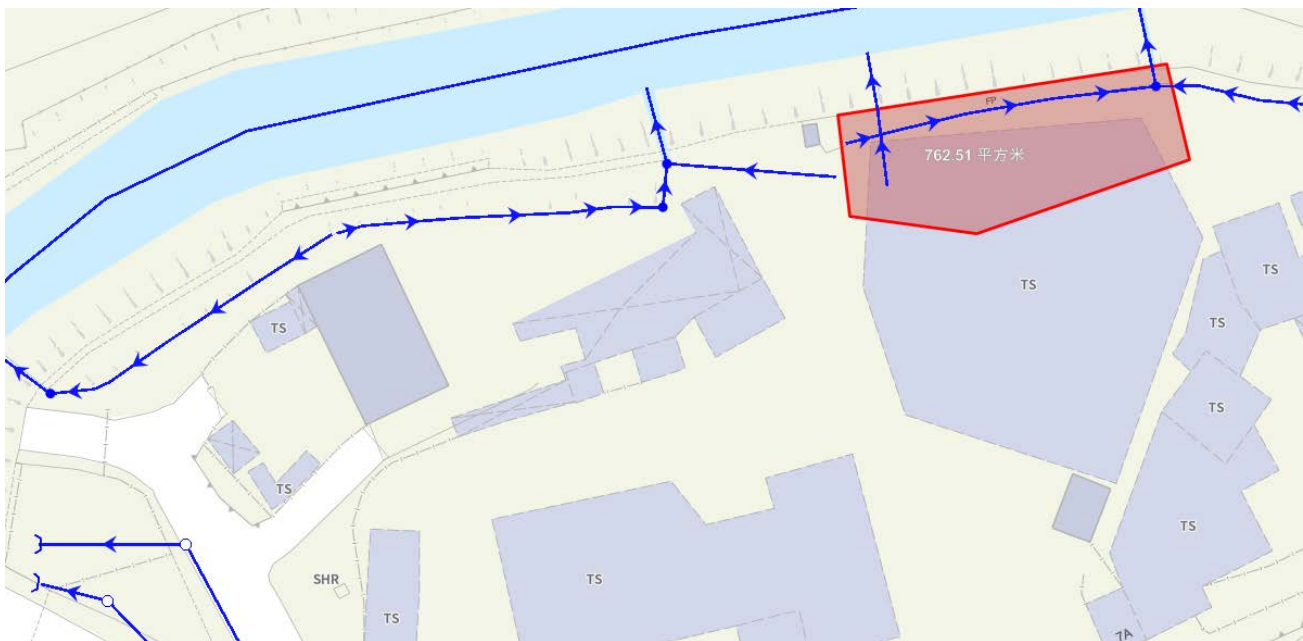
Collected Surface runoff will be divided into two paths and two independent drainage path in the site can collect half of catchment Area (site area)

Peak runoff for half area = $0.150 \text{ m}^3/\text{s} = 8985 \text{ liter/min}$

For checking existing 450UC



(i) Catchment Area = 1871m² for Existing 450 UC



(ii) Catchment Area = 763m² for Existing 450 UC

(i) Case is critical and adopted.

$$\begin{aligned} \text{Total Surface Runoff for Existing 450UC} &= 8985 + 0.278(180)(1871 \times 10^{-6})/60/1000 \\ &= 14602 \text{ lit/hr} \end{aligned}$$

utilisation of the proposed drainage :450UC = $14602 / 20000 = 73\%$

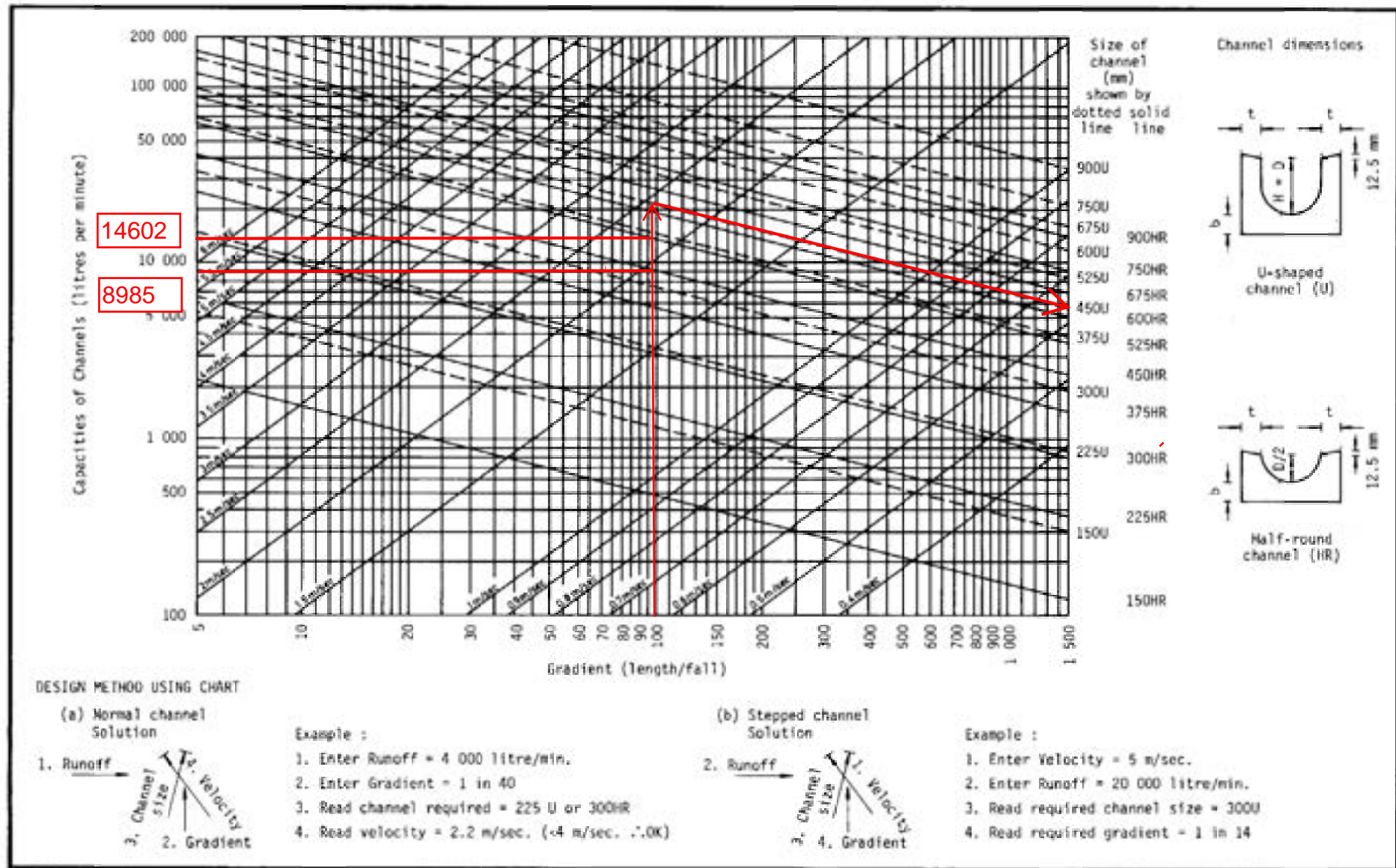
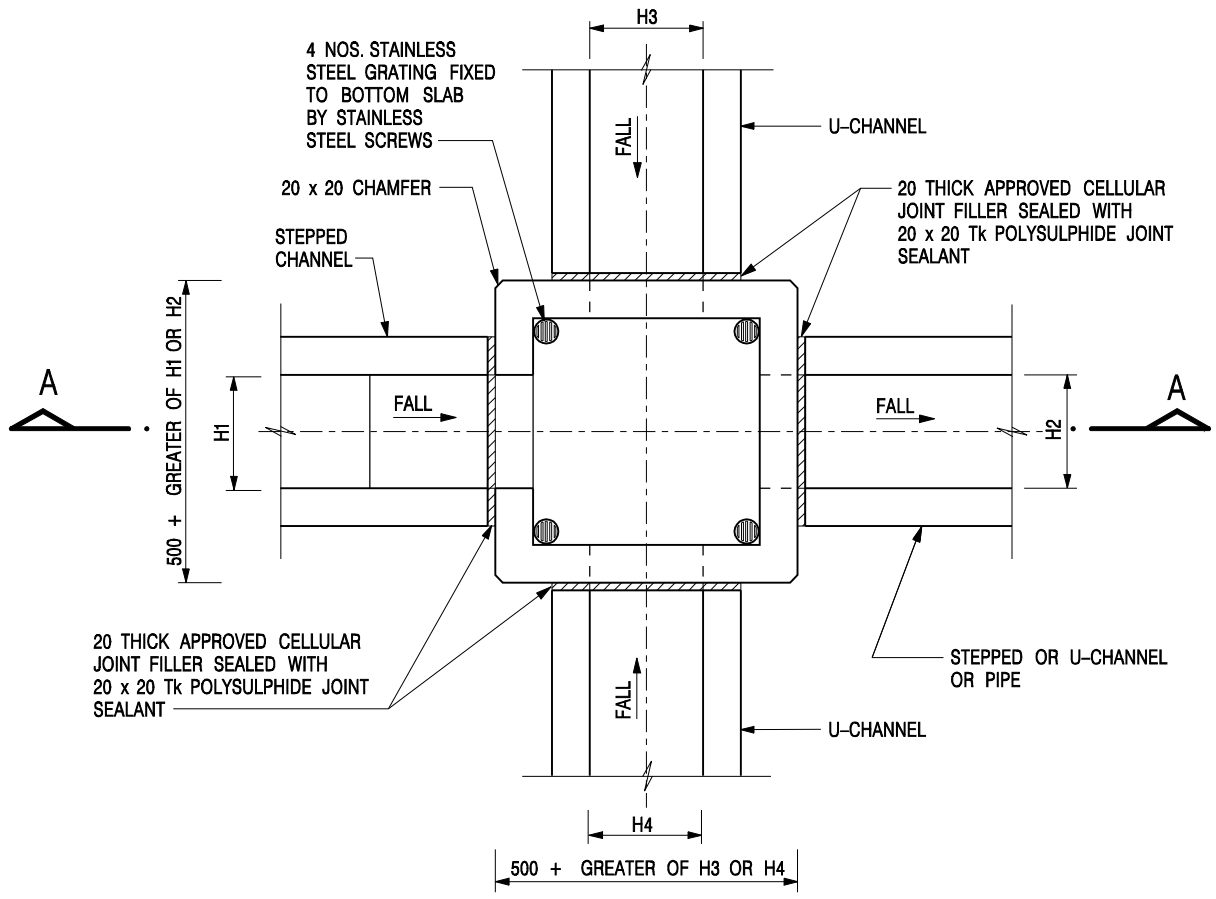


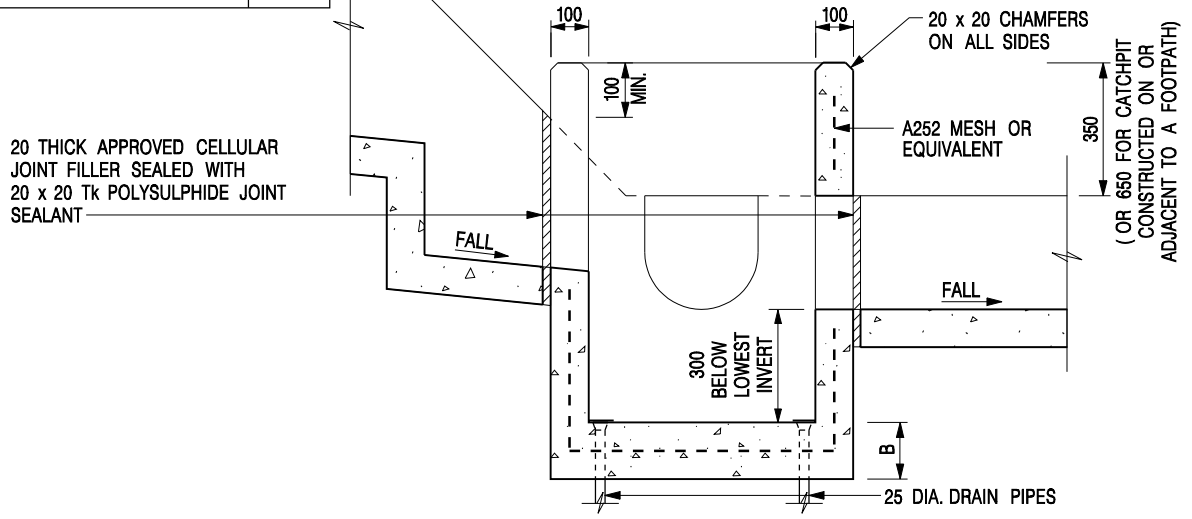
Figure 8.7 - Chart for the Rapid Design of Channels

As a result, 450UC in proposed site can cater the surface runoff and Existing 450UC can cater additional surface runoff from proposed development.

APPENDIX E
TYPICAL STANDARD DRAWINGS OF U-CHANNEL AND CATCHPIT
(EXTRACTED FROM CEDD, FOR REFERENCE ONLY)



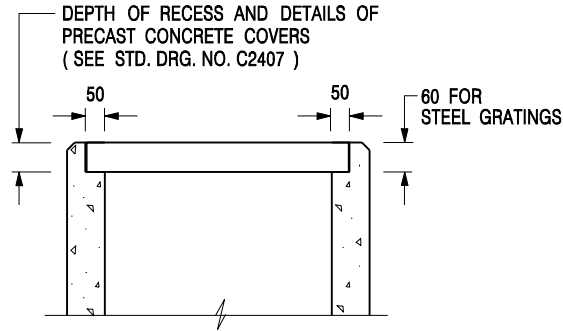
NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175



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

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		SCALE 1 : 20	
		DATE JAN 1991	
		DRAWING NO. C2406 /1	



**ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS**

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

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

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**



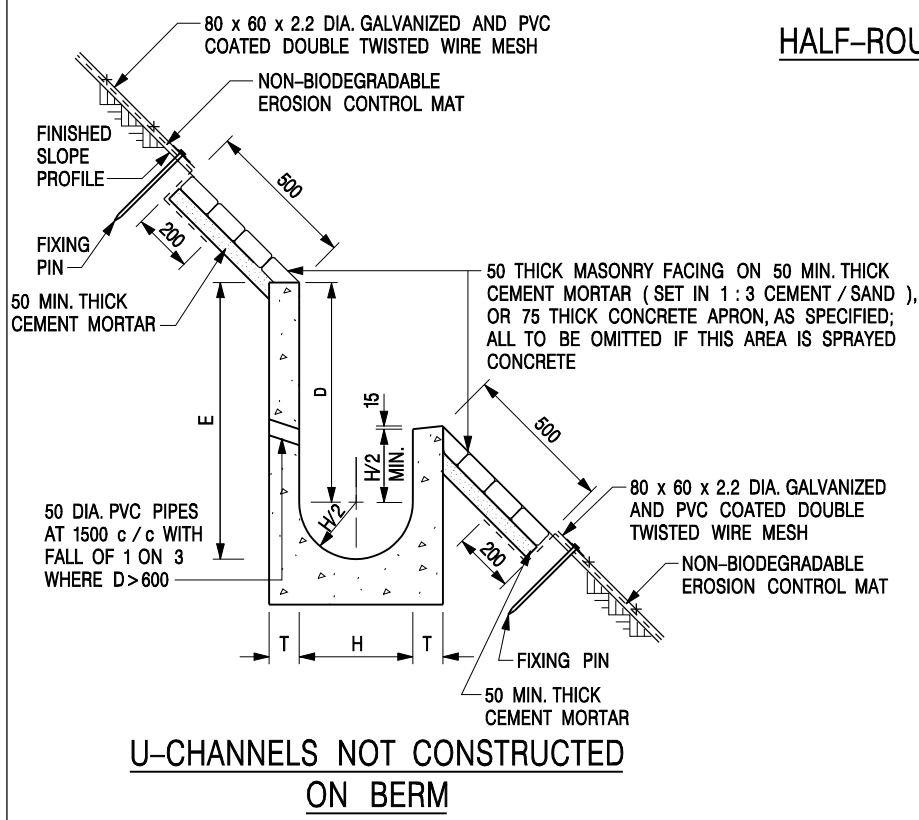
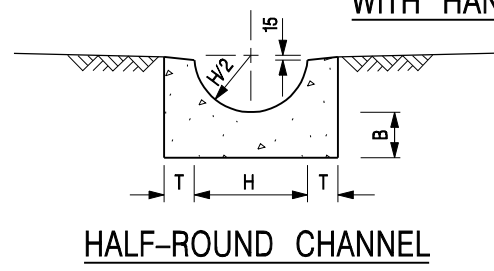
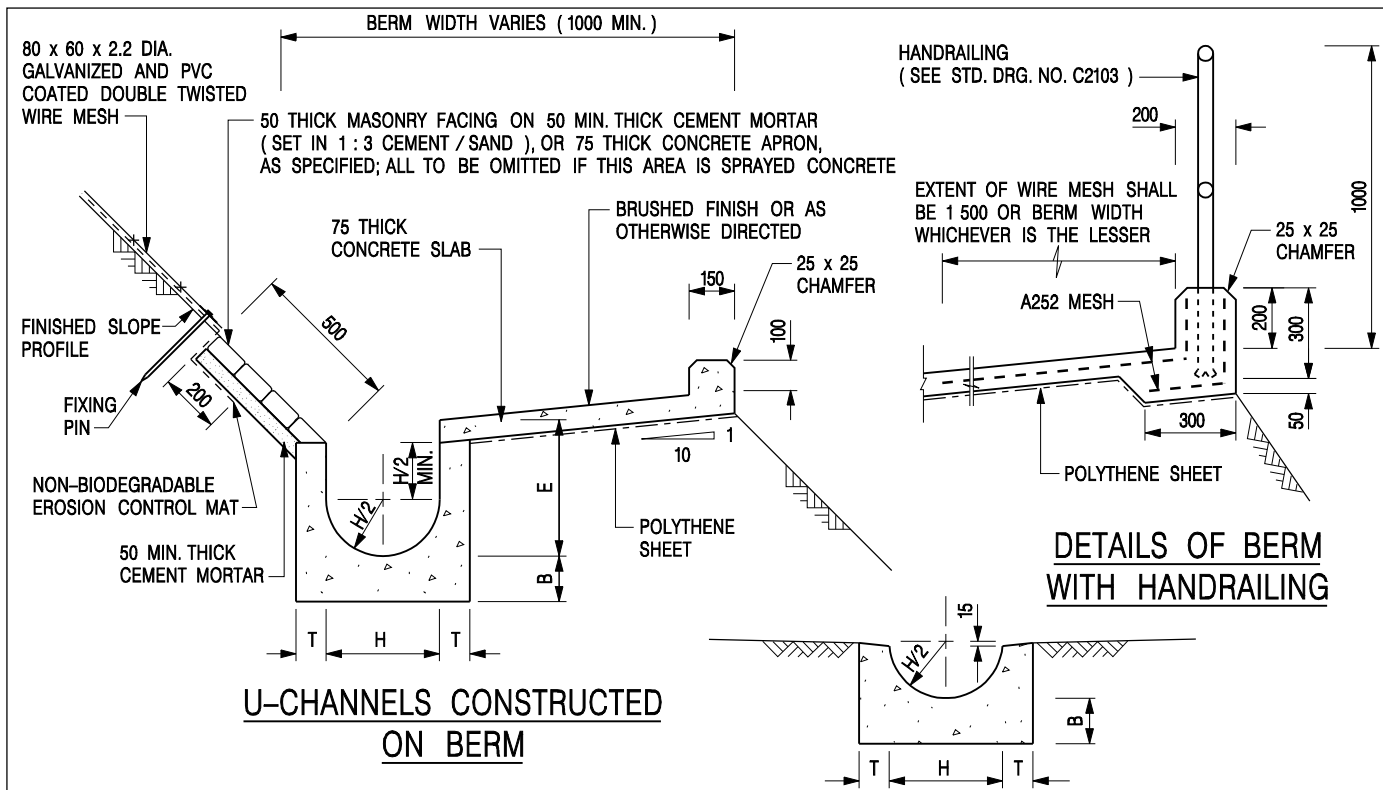
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DRAWING NO.

DATE JAN 1991

C2406 /2A



- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - ALL CONCRETE TO BE GRADE 20 / 20.
 - CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
 - SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
 - JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
 - FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
 - BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/E.
 - CONCRETE TO BE COLOURED AS SPECIFIED.
 - CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
 - DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/E)

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

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

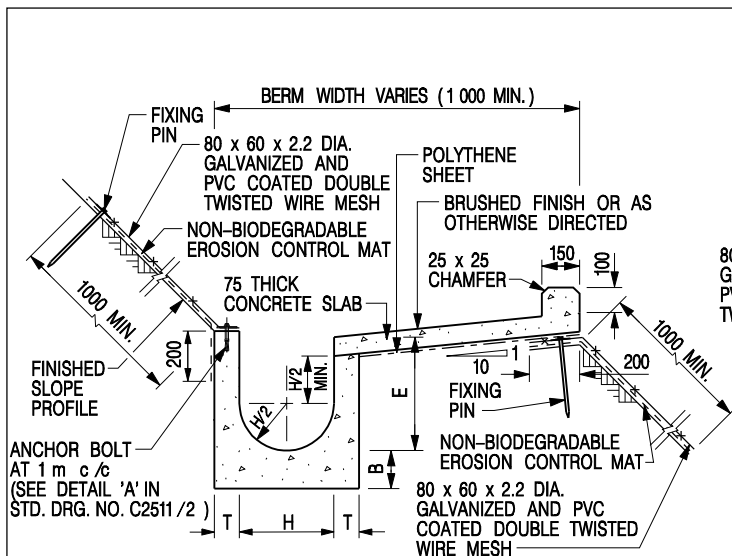
DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

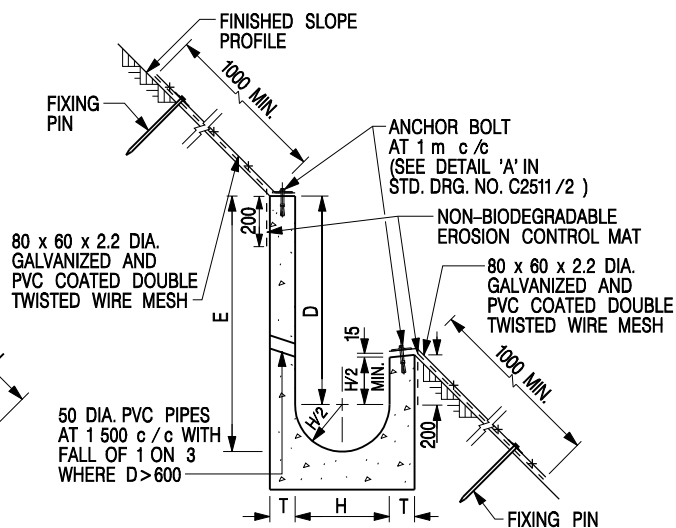
SCALE 1 : 25 DRAWING NO. C2409I

DATE JAN 1991

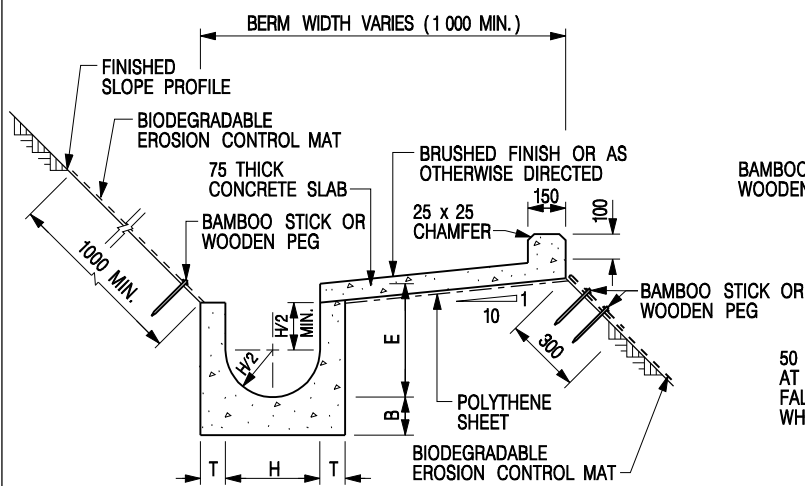
卓越工程 建設香港 We Engineer Hong Kong's Development



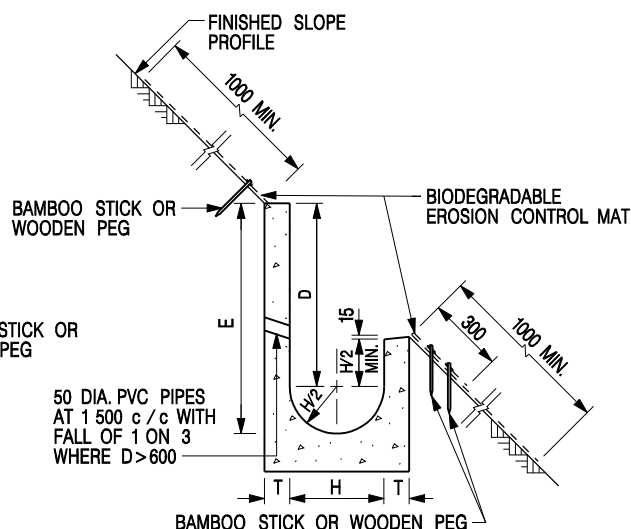
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



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:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CONCRETE TO BE GRADE 20 /20.
- CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
- SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
- JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
- FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
- FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO. C2511/2.
- MINIMUM SIZE OF 25 x 50 x 300mm SHALL BE PROVIDED FOR WOODEN PEG.
- MINIMUM SIZE OF 10mm DIAMETER WITH 200mm LONG SHALL BE PROVIDED FOR BAMBOO STICK.
- 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	

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)



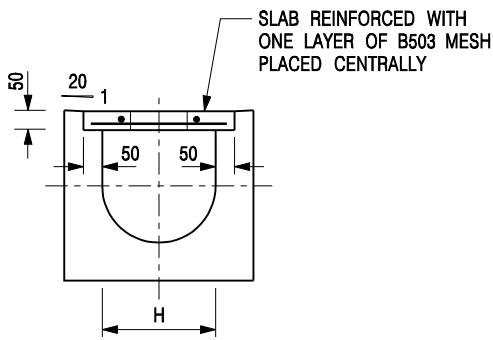
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE DIAGRAMMATIC

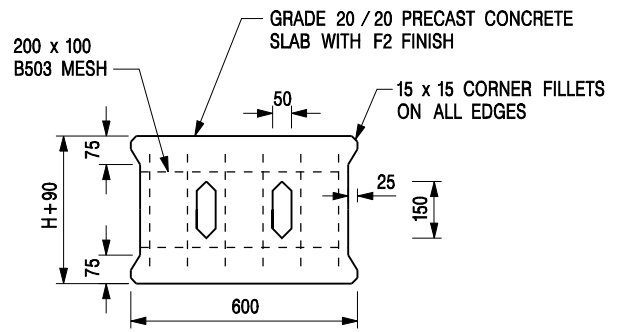
DRAWING NO.

DATE JAN 1991

C24101



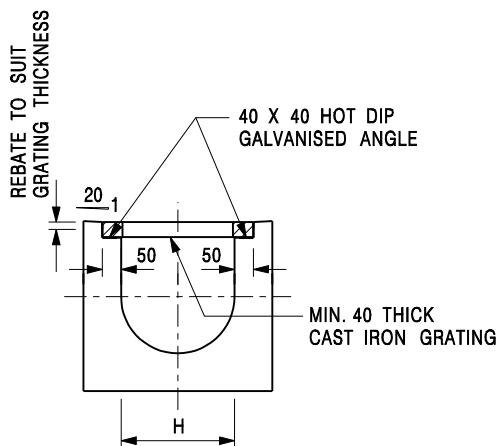
TYPICAL SECTION



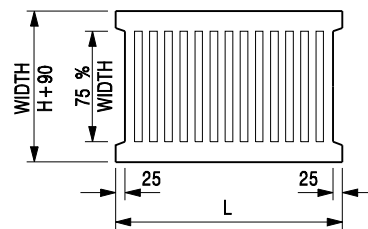
PLAN OF SLAB

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:

- ALL DIMENSIONS ARE IN MILLIMETRES.
- H=NOMINAL CHANNEL SIZE.
- ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
- FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

E	NOTES 3 & 4 AMENDED.	Original Signed	12.2014
D	NOTE 4 ADDED.	Original Signed	06.2008
C	MINOR AMENDMENT. NOTE 3 ADDED.	Original Signed	12.2005
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	CAST IRON GRATING AMENDED.	Original Signed	12.2002
REF.	REVISION	SIGNATURE	DATE

COVER SLAB AND CAST IRON GRATING FOR CHANNELS



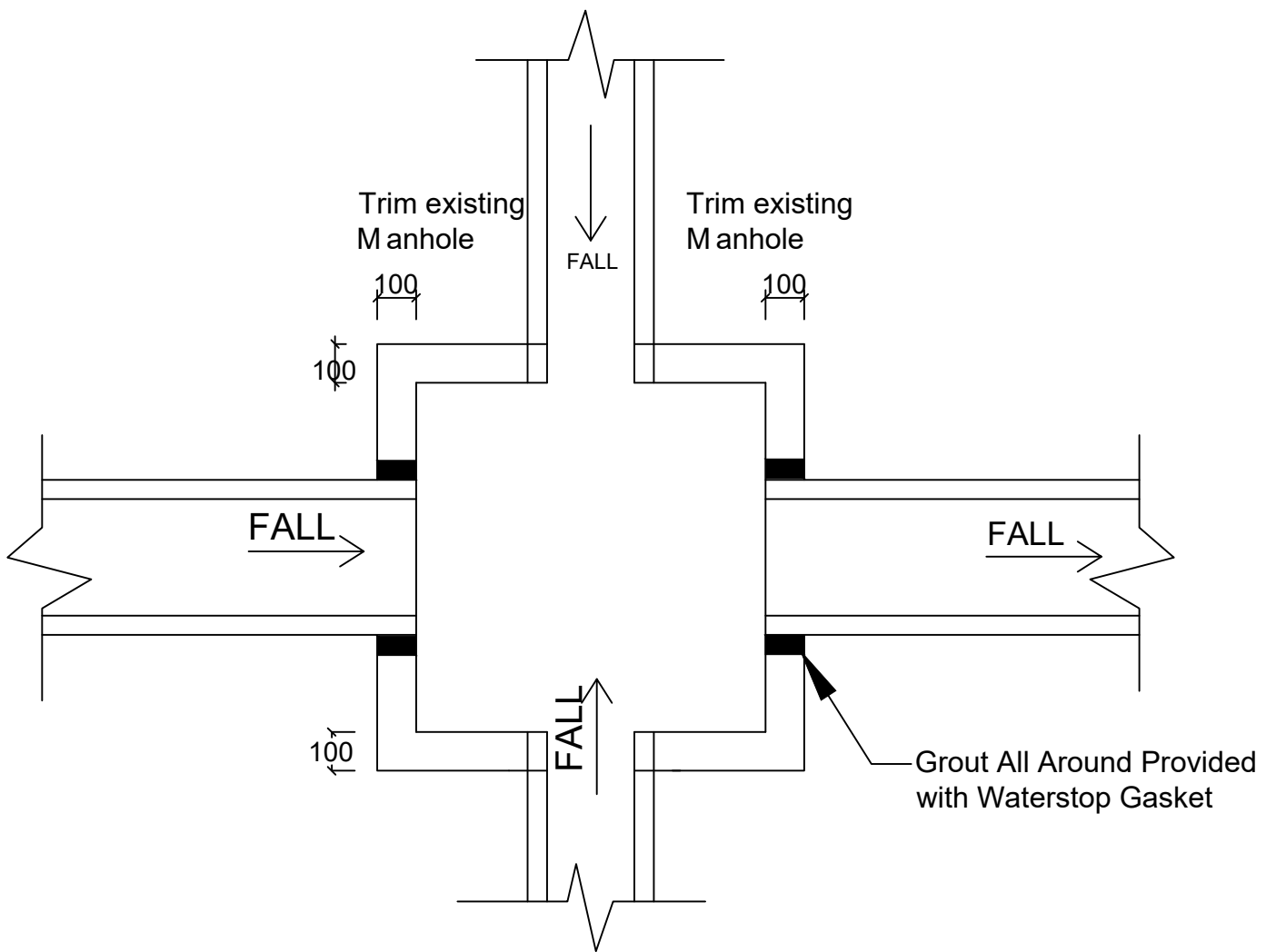
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DRAWING NO.

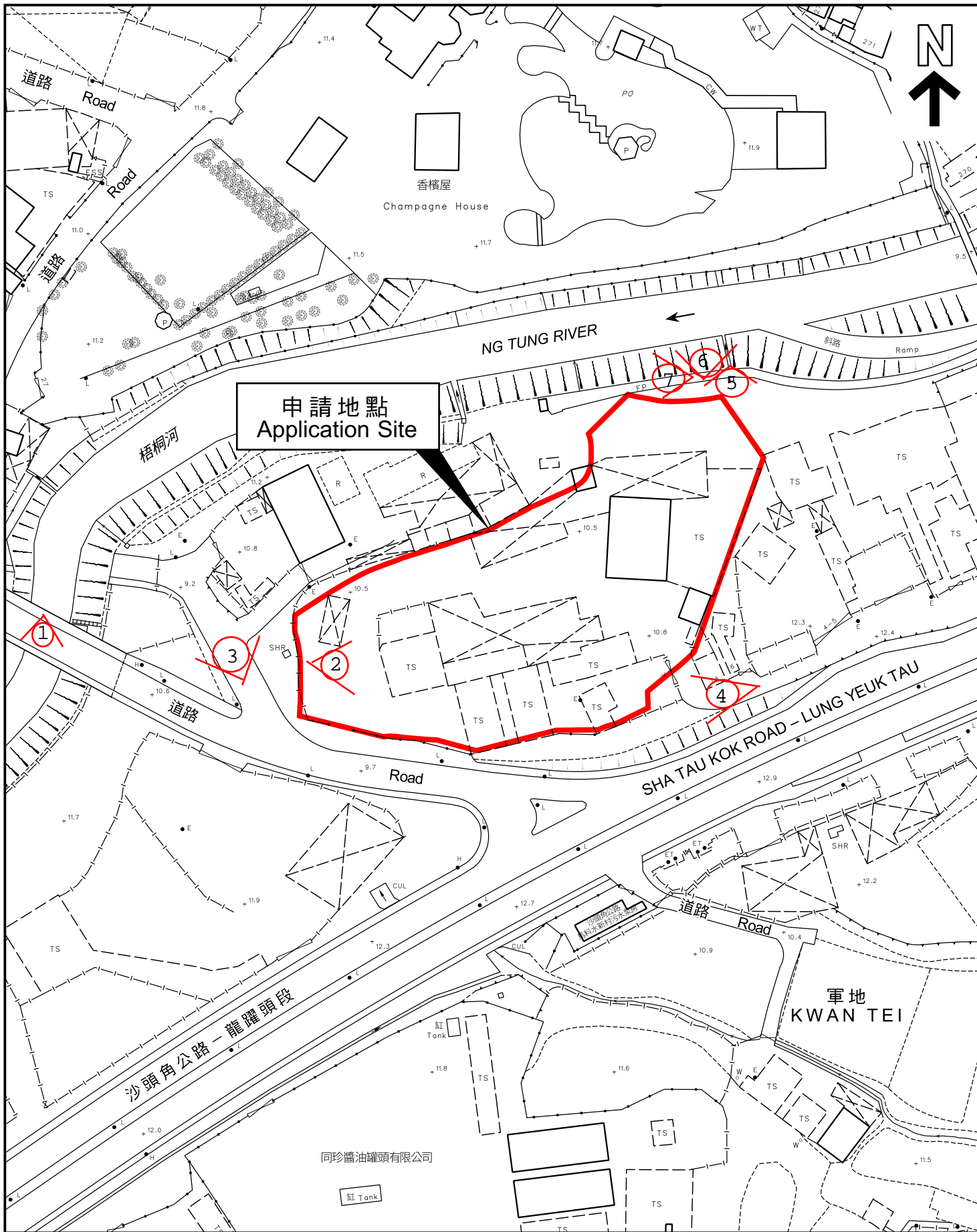
DATE JAN 1991

C2412E



Connection Detail of SCH1011400 and SCH1011402

APPENDIX F
SITE PHOTO



申請地點
Application Site

平面圖 SITE PLAN

本摘要圖於2022年9月14日擬備，
所根據的資料為測量圖編號
3-SW-3D
EXTRACT PLAN PREPARED ON 14.9.2022
BASED ON SURVEY SHEET No.
3-SW-3D

申請地點界線只作識別用
APPLICATION SITE BOUNDARY
FOR IDENTIFICATION PURPOSE ONLY

參考編號
REFERENCE No.

A/NE-TKL/708



VIEW 1: Existing Nullah Ng Tung River



VIEW 2: Entrance of the Site



VIEW 3: Entrance of the Site



VIEW 4: Outside of the Site



VIEW 5: Existing Final Discharge



VIEW 6: Existing UC



VIEW 7: Existing UC