

寄件者: Christian Chim [REDACTED]
寄件日期: 2026年09月30日星期三 18:00
收件者: tpbpd/PLAND
副本: Jason Sek Hei WONG/PLAND; Selena Yin Ni SIN/PLAND; Travis Tsz Ki KWOK/PLAND;
Athena Pui Yin LAI/PLAND; Bon Tang; Matthew Ng; Danny Ng; Grace Wong
主旨: RE: [SI] S.16 Application No. A/YL-SK/474 - Supplementary Information
附件: SI for A_YL-SK_474 (20260930)_supersede.pdf

Dear Sir,

We write to submit supplementary information in support of the captioned application. This is **to supersede** out previous submission in the preceding message.

Should you require more information, please do not hesitate to contact the undersigned. Thank you for your kind attention.

Kind Regards,

Christian CHIM | Town Planner
R-riches Group (HK) Limited

R-riches Property Consultants Limited | R-riches Planning Limited | R-riches Construction Limited

From: Christian Chim
Sent: Wednesday, September 30, 2026 9:17 AM
To: Town Planning Board <tpbpd@pland.gov.hk>
Cc: 'Jason Sek Hei WONG/PLAND' <jshwong@pland.gov.hk>; Selena Yin Ni SIN/PLAND <syysin@pland.gov.hk>; 'Travis Tsz Ki KWOK/PLAND' <ttkkwok@pland.gov.hk>; 'Athena Pui Yin LAI/PLAND' <apylai@pland.gov.hk>; Bon Tang [REDACTED]; Matthew Ng [REDACTED]; Danny Ng [REDACTED]; Grace Wong [REDACTED]
Subject: [SI] S.16 Application No. A/YL-SK/474 - Supplementary Information

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Should you require more information, please do not hesitate to contact the undersigned. Thank you for your kind attention.

Kind Regards,

Christian CHIM | Town Planner

R-riches Group (HK) Limited

R-riches Property Consultants Limited | R-riches Planning Limited | R-riches Construction Limited





盈卓
規劃
有限公司

Our Ref.: DD106 Lot 1002 & VL
Your Ref.: A/YL-SK/474

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

By E-mail

30 September 2026

Dear Sir,

Supplementary Information

Proposed Temporary Open Storage and Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land and Pond for a Period of 3 Years in "Agriculture" Zone, Various Lots in D.D. 106 and Adjoining Government Land, Shek Kong, Yuen Long, New Territories

(S.16 Planning Application No. A/YL-SK/474)

We write to submit supplementary information in support of the captioned application.

Should you require more information, please contact the undersigned at [REDACTED].
Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Planning Limited



Christian CHIM
Town Planner

cc DPO/FSYLE, PlanD

(Attn.: Mr. Jason WONG
(Attn.: Ms. Selena SIN
(Attn.: Ms. Athena LAI
(Attn.: Mr. Travis KWOK

email: jshwong@pland.gov.hk)
email: synsin@pland.gov.hk)
email: apylai@pland.gov.hk)
email: ttkkwok@pland.gov.hk)



Supplementary Information

**Proposed Temporary Open Storage and Warehouse (excluding Dangerous Goods Godown)
with Ancillary Facilities and Associated Filling of Land and Pond for a Period of 3 Years
in “Agriculture” Zone, Various Lots in D.D. 106 and Adjoining Government Land,
Shek Kong, Yuen Long, New Territories**

(Application No. A/YL-SK/474)

- (i) The applicant provides the drainage impact assessment report (**Annex 1**), tree survey report (**Annex 2**), and fire service installations proposal (**Annex 3**) in support of the captioned application.
- (ii) The applicant provides the following information in relation to the filling of land and pond:
 - the application site (the Site) comprises an area of 89,327 m² (about), in which the majority (i.e. 83,346 m² (about); 93.3% (about) of the Site) has been covered with existing filling materials:
 - the applicant intends to regularise the existing filling of land with an area of 83,346 m² (about) of not more than 2.2 m in depth; and
 - **beneath** the existing filling of land, the Site comprised several pre-existed ponds of about 0.5 m in depth with an area of 9,287m² (about), which had been filled to create a flat ground surface to the surrounding site levels before filling of land as mentioned above was carried out. The current application also serves to regularise the filling of pond; and
 - apart from the existing filling, the applicant proposes to carry out filling of land on the remaining area of the Site (i.e. 5,981 m² (about); 6.7% (about) of the Site) of not more than 2.2 m in depth.
- (iii) The applicant provides the following information in relation to the use of the proposed warehouses:
 - same as the proposed open storage operation, the proposed warehouse will serve to provide storage space of miscellaneous items including but not limited to construction materials, machinery, auto parts, etc. that require indoor storage space.

Annex 1

Drainage impact assessment report

**Section 16 Application – Proposed
Temporary Open Storage and
Warehouse (Excluding Dangerous
Goods Godown) with Ancillary
Facilities and Associated Filling of
Land and Pond in Shek Kong for a
Period of 3 Years**

**Drainage Impact Assessment
Report**

409985/SKOSWH/001/Issue 1

Binnies Hong Kong Limited



September 2026

***Drainage Impact Assessment Report
409985/SKOSWH /002/Issue 1***

*The Registered Recipient is responsible for destroying or marking as 'superseded' all superseded documents.

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Appendix A	Master Layout Plan and Proposed Development Layout
Appendix B	Existing and Proposed Topography Plan
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Appendix D	Hydraulic Calculation

	Name	Signature	Date
Prepared	Harry LAM		September 2026
Checked	Samuel CHAN		September 2026
Reviewed	Sylvia CHAN		September 2026

1. INTRODUCTION

- 1.1 Binnies Hong Kong Limited (Binnies) has been commissioned to carry out drainage impact assessment to support a Section 16 Application for proposed Temporary Open Storage and Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land and Pond in Shek Kong for a Period of 3 Years. The associated filling of land and pond at various lots in D.D. 106 and the adjoining government land at Shek Kong, Pat Heung, Yuen Long, New Territories (“Application Site”). This report presents the findings of the drainage impact assessment for the Proposed Development at the Application Site.
- 1.2 The Application Site has an area of about 89,327m² and it is currently occupied by the open space uses. 11 nos. of a 1- storey structure are proposed at the Site for offices and washrooms with total GFA of about 13,551 m². The general layout plan of the Site is shown in **Appendix A**.
- 1.3 This DIA report comprises the following sections after this introduction:
- **Chapter 2** discusses the existing drainage characteristics of the Application Site;
 - **Chapter 3** presents the methodology and assumptions of the drainage impact assessment;
 - **Chapter 4** presents the potential drainage impact arising from the Proposed Development and the proposed drainage system within the Application Site;
 - **Chapter 5** provides consideration on operation and maintenance of the drainage system; and
 - **Chapter 6** summarizes the conclusion and recommendations of this DIA report.

2. METHDOLOGY AND ASSUMPTIONS

Design Code

2.1 The design codes below are to be followed for this design assessment:

- Stormwater Drainage Manual (DSD) - Fifth Edition, January 2018;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 1/2022;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 1/2024;
- Stormwater Drainage Manual (DSD) - Corrigendum No. 2/2024;

Design Parameters

- 2.2 The assessment criteria are based on standards set out in the Stormwater Drainage Manual (SDM). Table 10 of the SDM, provides the recommended design return periods based on flood levels for the various drainage systems depending on the land use.
- 2.3 According to the SDM, 50-year design return period is recommended for the design of urban drainage branch system. This will be adopted for the design of the drainage works for the Application Site.
- 2.4 The storm constants for rainfall zone of HKO Headquarters, as stipulated in Table 3a of the SDM – Corrigendum No. 1/2024, is adopted for estimating the design rainfall intensity. The storm constants for 10-year and 50-year return period are shown in **Table 1**.

Table 1 – Storm Constants

Storm Constants	10-year	50-year
a	485	505
b	3.11	3.29
c	0.397	0.355

- 2.5 Climate change allowance would be considered according to the SDM – Corrigendum No. 1/2022. The climate change effects up to mid-21st century, with additional 11.1% of increases in design rainfall intensity would be considered in the drainage assessment.
- 2.6 The effect on sea level rise is not considered as the Application Site is not subject to tidal influence.
- 2.7 Rational Method is adopted for estimating the runoff for scenario before development and after the development. The runoff coefficients adopted for paved area and unpaved area are 0.95 and 0.3 respectively. The detailed methodology is shown in **Appendix D**.

2.8 Colebrook-White Equation is used in hydraulic design for pipe flow.

$$V = -\sqrt{(32gRs)} \log \left(\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}} \right)$$

Where:

V = mean velocity (m/s)

g = gravitational acceleration (m²/s)

R = hydraulic radius (m)

D = pipe diameter (m)

k_s = Surface roughness (m)

v = kinematic viscosity of fluid (m²/s)

s = frictional gradient

2.9 Manning Equation is used in hydraulic design for channel flow.

$$\bar{V} = \frac{R^{1/6}}{n} \sqrt{RS_f}$$

Where:

V = mean velocity (m/s)

R = hydraulic radius (m)

n = Manning Coefficient

S_f = frictional gradient

2.10 Based on the recommendation given in Section 9.3 of SDM, reduction of flow area due to siltation / sediment depth will be allowed in assessing the drainage performance of the pipe network :

- 5% reduction in flow area for gradients greater than 1 in 25
- 10% reduction in flow area for other cases

3. APPLICATION SITE & EXISTING DRAINAGE SYSTEM

Descriptions of the Application Site

- 3.1 The topography of the Application Site is generally flat and currently situated with levels ranging from +12.8 mPD to +16.8 mPD sloping generally northeast to southwest. Since the ground levels of the Application Site are generally higher than those of the existing surrounding area, flooding susceptibility of the Site is considered as low. The existing topography of the Application Site is shown in **Appendix B**.
- 3.2 Currently, the Application Site is mostly paved. The aerial photographs are presented in **Appendix C**. The paved / unpaved ratio of the catchments of the Application Site would be assigned based on the aerial photographs.

Existing Drainage Network and Catchment

- 3.3 The site survey result for the existing drainage system is illustrated in **Figure 1**, there is natural channels of size range from 1m x 1m to 2.5m x 1.2m, located at the north of the Application Site flowing from east to west and connecting to the Kam Tin River.
- 3.4 In addition, there are existing U-channels and underground pipes located at the south of the Application Site. These existing facilities discharge part of the storm drain of the Site's surface runoff into the stream at the south.
- 3.5 The catchment plan under existing condition is illustrated in **Figure 1**. The discharge arrangement is presented in **Table 2**.

Figure 1 – Existing Drainage Networks and Catchment Plan

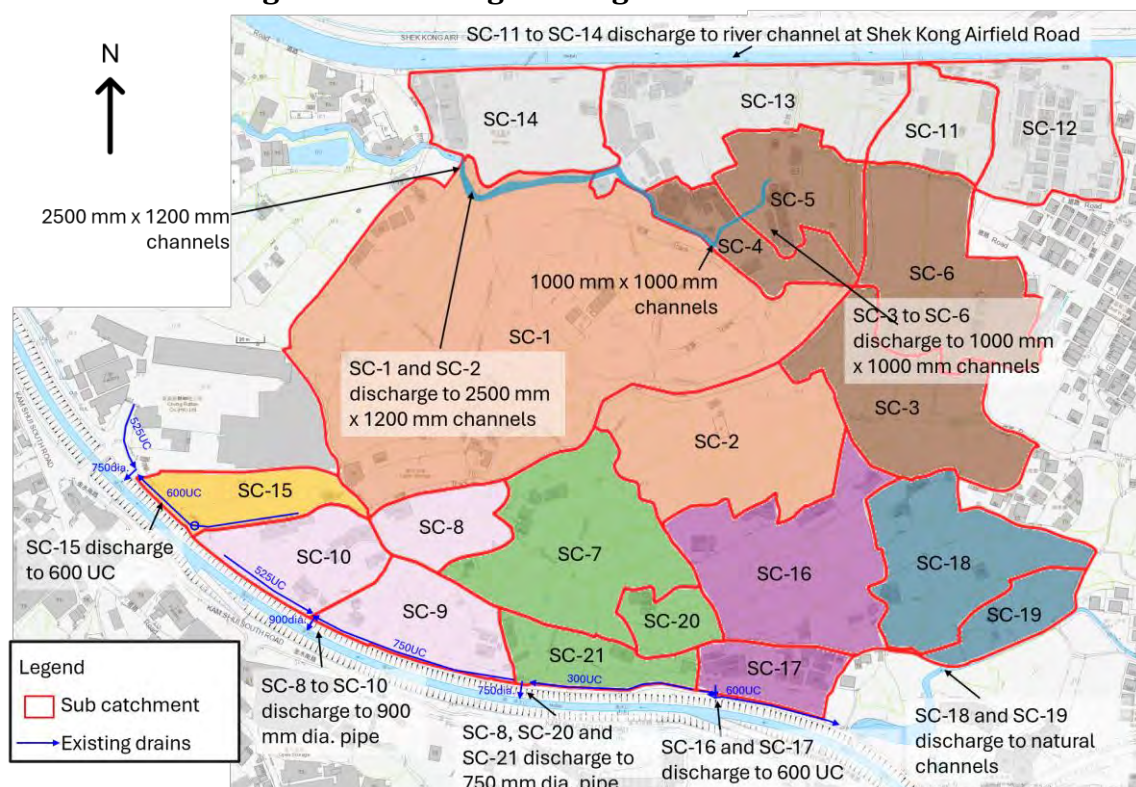


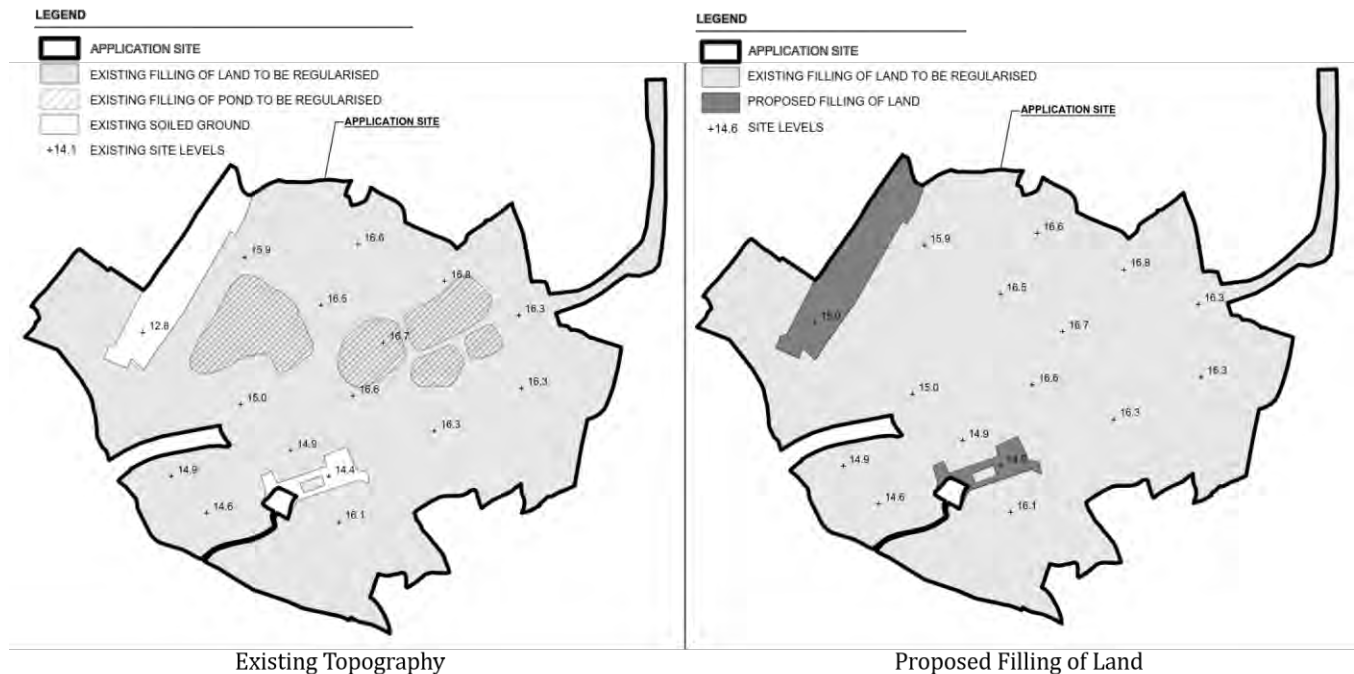
Table 2 – Existing Discharge Arrangement of Catchment

Catchment	Area (m ²)	Discharge Point
SC-1	53434	2500 mm x 1200 mm natural channels
SC-2	13346	
SC-3	11526	1000 mm x 1000 mm natural channels
SC-4	4662	
SC-5	6851	
SC-6	12475	
SC-7	13542	750 mm dia. outlet
SC-8	4157	900 mm dia. outlet
SC-9	6550	
SC-10	6178	
SC-11	4841	Open channels along Shek Kong Airfield Road
SC-12	8846	
SC-13	13218	
SC-14	8707	
SC-15	4699	600 mm U-channels
SC-16	13590	600 mm U-channels
SC-17	3954	
SC-18	10463	Natural channels
SC-19	3487	
SC-20	2648	750 mm dia. outlet
SC-21	4496	

4. DRAINAGE IMPACT ASSESSMENT

- 4.1 11 nos. of a 1-storey structure are proposed at the Application Site for warehouses and ancillary facilities as stated in Section 1.2. After completion of the project, the finished ground level of the Site will be approximately +14.6 mPD to +16.8 mPD. Part of the low-lying ground would be filled as illustrated in **Figure 2**.

Figure 2 – Proposed Filling of Land



- 4.2 As change in land use would affect the amount of surface runoff flowing into the existing drainage system, the paved / unpaved ratio of the Application Site before and after the Proposed Development were reviewed and summarized in **Table 3**. The Application Site is assumed to be 100% paved for conservative assessment.

Table 3 – Paved/Unpaved Ratio of the Application Site

	Before Development	After Development
Paved Area	68,727 m ² (77%)	89,327 m ² (100%)
Unpaved Area	20,600 m ² (23%)	0 m ² (0%)

Proposed Drainage System

- 4.3 Considering the drainage capacity of existing drainage system and the proposed topography of the Application Site, drainage system, as shown in **Figure 3** is proposed. The catchment plan after development is shown in **Figure 4**.

Figure 3 – Proposed Drainage System

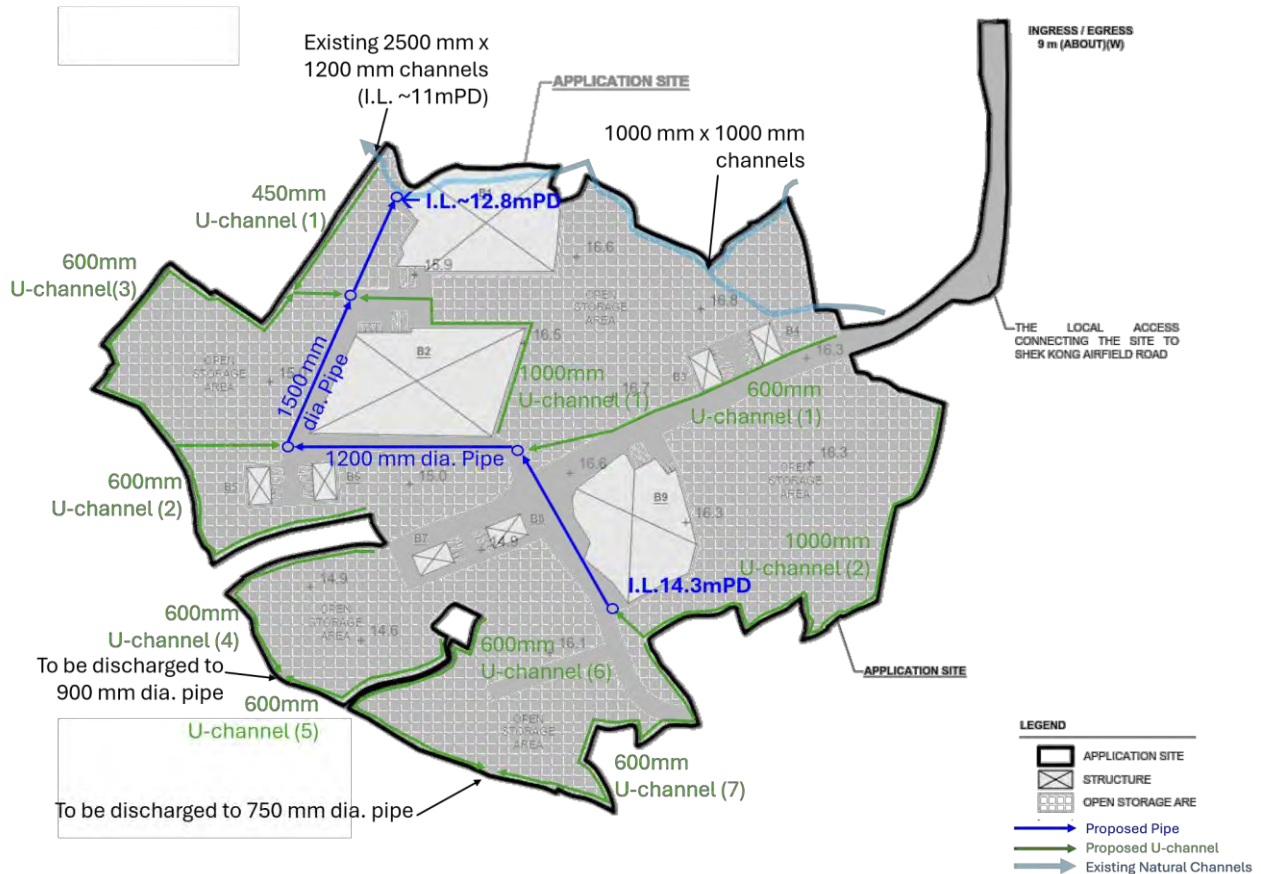
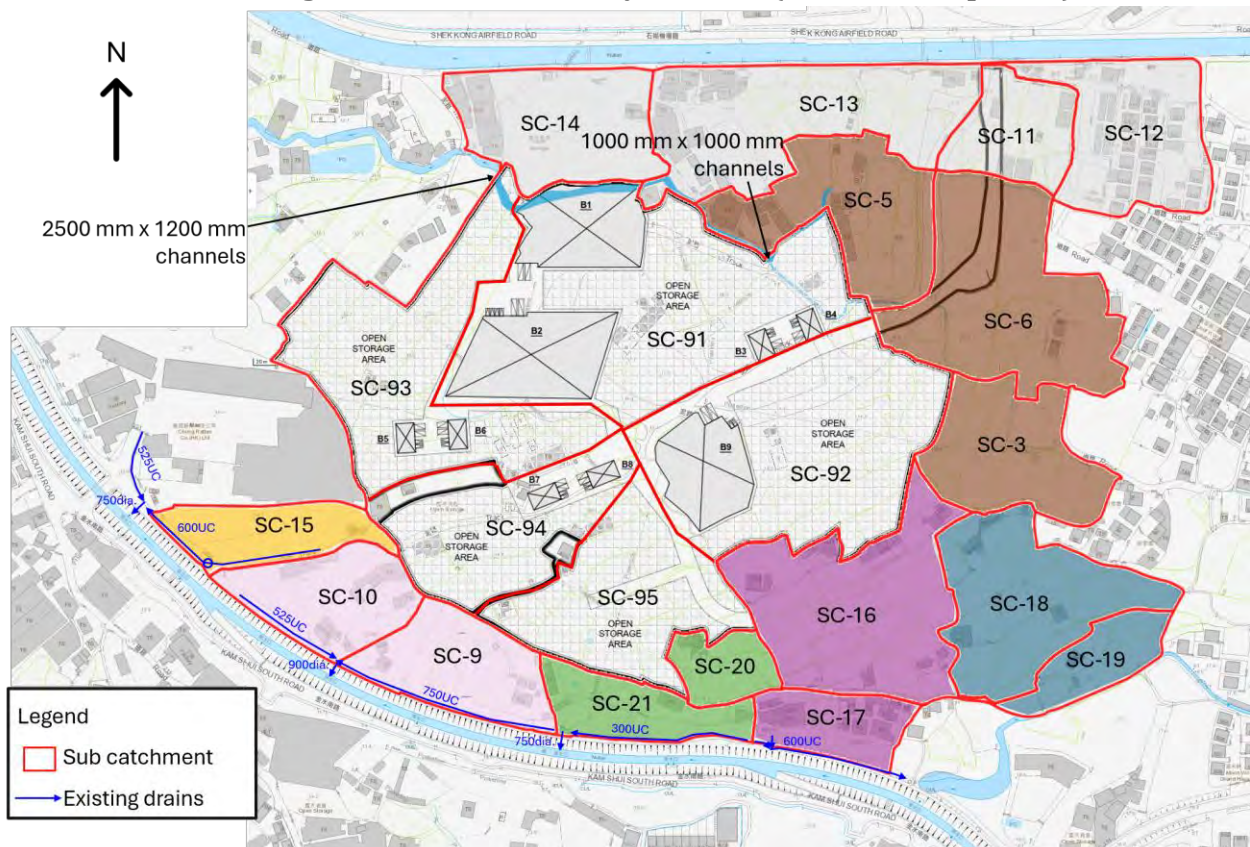


Figure 4 – Catchment Layout Plan (After Development)



- 4.4 The runoff in northeast portion of site (catchments SC-91 and SC-92) would be collected by proposed 1000 mm U-channels and discharged to the existing 2500mm x 1200mm channels via 1050 mm dia. pipe.
- 4.5 The runoff in northwest portion of site (catchments SC-93) would be collected by proposed 1000 mm U-channels and discharged to the existing 2500mm x 1200mm channels.
- 4.6 The runoff in southwest portion of site (catchments SC-94 and SC-95) would be collected by proposed 750 mm U-channels and discharged to the existing 900 mm dia. outlet and the existing 750 mm dia. outlet, respectively.
- 4.7 The discharge arrangement after development is presented in **Table 4**.

Table 4 –Discharge Arrangement of Catchment after Development

Catchment	Area (m ²)	Discharge Point
SC-91	26505	2500 mm x 1200 mm natural channels
SC-92	20734	
SC-93	18600	
SC-94	9922	900 mm dia. outlet
SC-95	10834	750 mm dia. outlet
SC-3	7942	1000 mm x 1000 mm natural channels (updated catchment size according to the Application Site Boundary)
SC-5	9439	
SC-6	13992	
SC-9	6550	900 mm dia. outlet
SC-10	6178	
SC-11	4841	Open channels along Shek Kong Airfield Road
SC-12	8846	
SC-13	13218	
SC-14	8707	
SC-15	4699	600 mm U-channels
SC-16	13590	600 mm U-channels
SC-17	3954	
SC-18	10463	Natural channels
SC-19	3487	
SC-20	2648	750 mm dia. outlet
SC-21	4496	

Drainage Impact Assessment

- 4.8 The drainage capacity of existing drainage system and drainage system after development have been assessed based on the methodology and assumption in Section 2, and the discharge arrangement in **Table 2** and **Table 4**, accordingly. The assessment result is presented in **Table 5**, details of the calculation are enclosed in **Appendix D**.
- 4.9 Based on the drainage assessment result, the drainage capacity of drainage system after development has sufficient capacities for the estimated runoff from the Application Site.

Table 5 – Drainage Assessment for Existing and Proposed Drainage System

Drainage System	Design Flow Capacity (m ³ /s)	Runoff from Catchment – Existing (m ³ /s)		Total Runoff – Existing (m ³ /s)	Runoff from Catchment – After Development (m ³ /s)		Total Runoff – After Development (m ³ /s)
1000 mm x 1000 mm natural channels	1.44	SC-3	0.389	1.11	SC-3	0.339	1.21
		SC-4	0.109		SC-5	0.363	
		SC-5	0.179		SC-6	0.511	
		SC-6	0.435				
2500 mm x 1200 mm natural channels	6.49	SC-1	2.477	3.81	SC-91	1.173	3.85
		SC-2	0.222		SC-92	0.795	
		SC-3	0.389		SC-93	0.666	
		SC-4	0.109		SC-3	0.339	
		SC-5	0.179		SC-5	0.363	
		SC-6	0.435		SC-6	0.511	
900 mm dia. outlet	1.56	SC-8	0.238	0.77	SC-94	0.543	1.13
		SC-9	0.228		SC-9	0.251	
		SC-10	0.305		SC-10	0.338	
750 mm dia. outlet	0.96	SC-7	0.726	0.94	SC-95	0.588	0.82
		SC-20	0.076		SC-20	0.085	
		SC-21	0.134		SC-21	0.149	

- 4.10 The proposed internal U-channels and drainage pipes are designed to have sufficient capacities for the estimated runoff from the Application Site. Details of the drainage information and calculation are enclosed in **Appendix D**.
- 4.11 The Application Site encroaches the existing 1000 mm x 1000 mm natural channels and 2500 mm x 1200 mm natural channels. Should any drainage diversion / re-provision be necessary, same sectional flow area should be provided for the affected channels.

5. OPERATION AND MAINTENANCE

Maintenance Responsibility

- 5.1 The drainage facilities provided as part of the proposed development inside the Application Site will be maintained by the developer or the management of the development after completion. No specific maintenance operations are envisaged but it is considered desirable that the facilities will be inspected annually before the commencement of the wet season to ensure that these drains can function properly.

Construction Consideration

- 5.2 The contractor is responsible for temporary drainage arrangement during construction and to ensure that the existing drainage system adjacent to the Application Site would not be affected at the construction stage.
- 5.3 Should any temporary blockage or diversion of the flow path be necessary for construction, the Contractor must have appropriate mitigation measures in place. Examples of appropriate mitigation measures include providing sandbags or similar to increase the in-channel capacity and to maintain flow through a given channel section through over-pumping.
- 5.4 Flow diversion should be designed in accordance with standards and recommendations established in the Drainage Service Department (DSD) Stormwater Drainage Manual (SDM), DSD Technical Circular No. 14/2000 - Temporary Flow Diversions and Temporary Works Affecting Capacity in Stormwater Drainage System, and DSD Practice Note No. 1/2004 - Design Rainfall Depth for Temporary Works within the Dry Season.
- 5.5 Proper measures shall be taken to maintain the existing drainage characteristics of the catchment areas and to minimise drainage impacts associated with the construction works. The principal drainage impacts which are associated with construction of the works have been identified as follows:
- Erosion of ground materials;
 - Sediment transportation to existing downstream drainage system; and
 - Obstruction to drainage systems.
- 5.6 Excavated slopes for the Application Site shall be well-compacted and protected to prevent any loose material being washed out during rainfall. Temporary protection may be in the form of placing layers of granular material and rock fill material or hard surface cover on the sloping faces of channel or tarpaulin covering.
- 5.7 Perimeter U-channels should be provided wherever possible at the crest of the excavated slope to intercept the runoff and hence avoiding erosion to the slope surfaces.
- 5.8 Regular inspection shall be carried out to ensure integrity of the works. These inspections shall cover works under construction as well as recently completed areas.

- 5.9 No excavated materials should be left on site. If it is not possible to transport away the excavated material within the same day, the material should be covered by tarpaulin/impervious sheets. Measures shall be taken to ensure that runoff from the Application Site is managed so that silts and other pollution are properly intercepted.
- 5.10 In the event of extreme weather including Landslip Warning, issuance of Amber/Red/Black Rainstorm Warning, Special Flood Announcement in the Northern New Territories, Typhoon Signal No. 3 or above and the like, site inspections and surveys shall be carried out by the contractor's emergency team as deemed practical and safe before and after the events to ascertain if there has been any siltation or erosion. If it is determined that any unacceptable siltation or erosion has occurred, the contractor shall rectify it immediately. An initial report needs to be submitted to the Resident Site Staff (RSS) within 1 day after the event and a full report within 4 working days of the event.

6. CONCLUSION

- 6.1 A Drainage Impact Assessment has been conducted for the proposed land use changes in Shek Kong. The downstream existing drainage systems are checked for the updated runoff from the catchments and they have adequate spare capacities to accommodate the runoff discharged from the development.
- 6.2 Internal drainage works are proposed to properly convey the surface runoff from the Application Site to the existing stream.

END OF TEXT

Appendix A

Master Layout Plan and Proposed Development Layout

LOCATION OF THE APPLICATION SITE

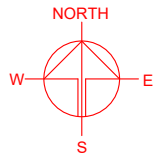
APPLICATION SITE AREA : 89,327 m² (ABOUT)

VEHICULAR ACCESS

ACCESSIBLE FROM SHEK KONG AIRFIELD ROAD VIA A LOCAL ACCESS

ACCESSIBLE FROM SHEK KONG AIRFIELD ROAD VIA A LOCAL ACCESS

APPLICATION SITE



PLANNING CONSULTANT



PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 106 AND ADJOINING GOVERNMENT LAND, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE
1 : 5000 @ A4

DRAWN BY
MN

DATE
15.8.2026

REVISED BY
DATE

APPROVED BY
DATE

DWG. TITLE
LOCATION PLAN

DWG NO.
PLAN 1

VER.
001

LEGEND

 APPLICATION SITE

*SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

ZONING OF THE APPLICATION SITE

APPLICATION SITE AREA : 89,327 m² (ABOUT)
OUTLINE ZONING PLAN : APPROVED SHEK KONG OZP
OZP PLAN NO. : S/YL-SK/11
ZONING OF THE SITE : "AGRICULTURE" ("AGR")

機場 (石崗軍營)
Air Field
(Shek Kong Barracks)

排水道
DRAINAGE CHANNEL

金錢圍
Kam Tsin Wai

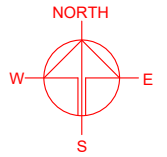
APPLICATION SITE

水流田
Shui Lau Tin

I(D)

AGR

錦上路



PLANNING CONSULTANT



PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 106 AND ADJOINING GOVERNMENT LAND, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE

1 : 5000 @ A4

DRAWN BY

MN

DATE

15.8.2026

REVISED BY

DATE

APPROVED BY

DATE

DWG. TITLE

ZONING OF THE SITE

DWG NO.

PLAN 2

VER.

001

LEGEND

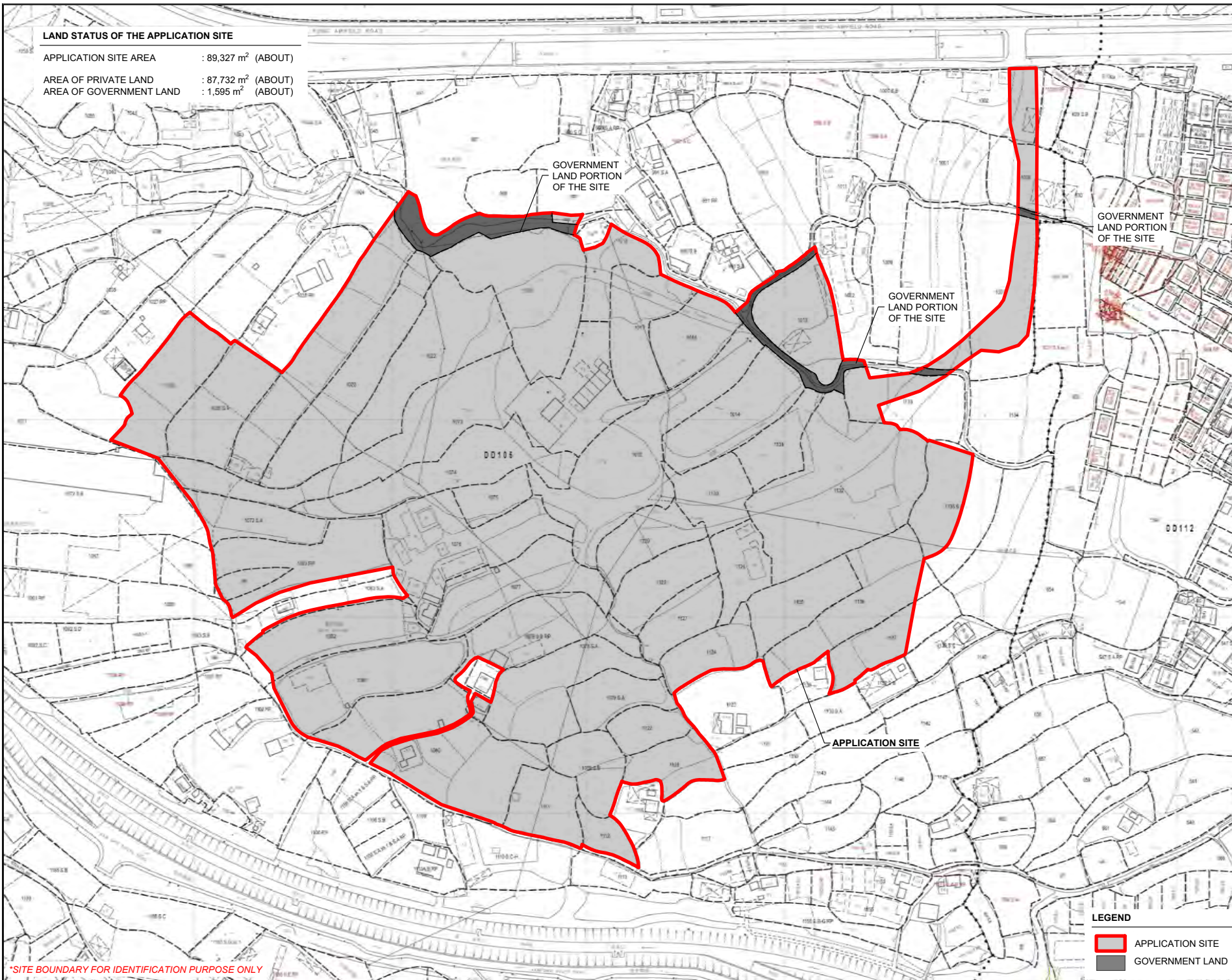
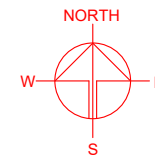


APPLICATION SITE

*SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

LAND STATUS OF THE APPLICATION SITE

APPLICATION SITE AREA : 89,327 m² (ABOUT)
 AREA OF PRIVATE LAND : 87,732 m² (ABOUT)
 AREA OF GOVERNMENT LAND : 1,595 m² (ABOUT)



LEGEND
 [Red outline] APPLICATION SITE
 [Grey fill] GOVERNMENT LAND

*SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

PLANNING CONSULTANT



PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 106 AND ADJOINING GOVERNMENT LAND, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE

1 : 2500 @ A4

DRAWN BY

MN

DATE

12.8.2026

REVISED BY

DATE

APPROVED BY

DATE

DWG. TITLE

LAND STATUS OF THE SITE

DWG NO.

PLAN 3

VER.

001

TOWN PLANNING BOARD GUIDELINES NO. 13G FOR
APPLICATION FOR OPEN STORAGE AND PORT BACK-UP USES
UNDER S.16 OF THE TOWN PLANNING ORDINANCE

APPLICATION SITE AREA : 89,327 m² (ABOUT)

CATEGORY OF SITE : CATEGORY 2 AREA AND
CATEGORY 3 AREA

Rifle Range

SHEK KONG AIRFIELD ROAD

Ivy House

Open Storage

enrichwoods

Man Chong Rattan
Co. (HK) Ltd

Chor Yik
Ancestral

APPLICATION SITE

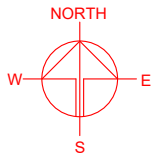
KAM SHUI SOUTH ROAD

Open Storage

TPB Guidelines No. 13G

-  Category 1 Areas
-  Category 2 Areas
-  Category 3 Areas
-  Category 4 Areas

*SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY



PLANNING CONSULTANT



PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 106 AND
ADJOINING GOVERNMENT
LAND, PAT HEUNG, YUEN LONG,
NEW TERRITORIES

SCALE

1 : 3000 @ A4

DRAWN BY

MN

DATE

12.8.2026

REVISED BY

DATE

APPROVED BY

DATE

LEGEND



APPLICATION SITE

DWG. TITLE

TPB PG-NO. 13G

DWG NO.

PLAN 4

VER.

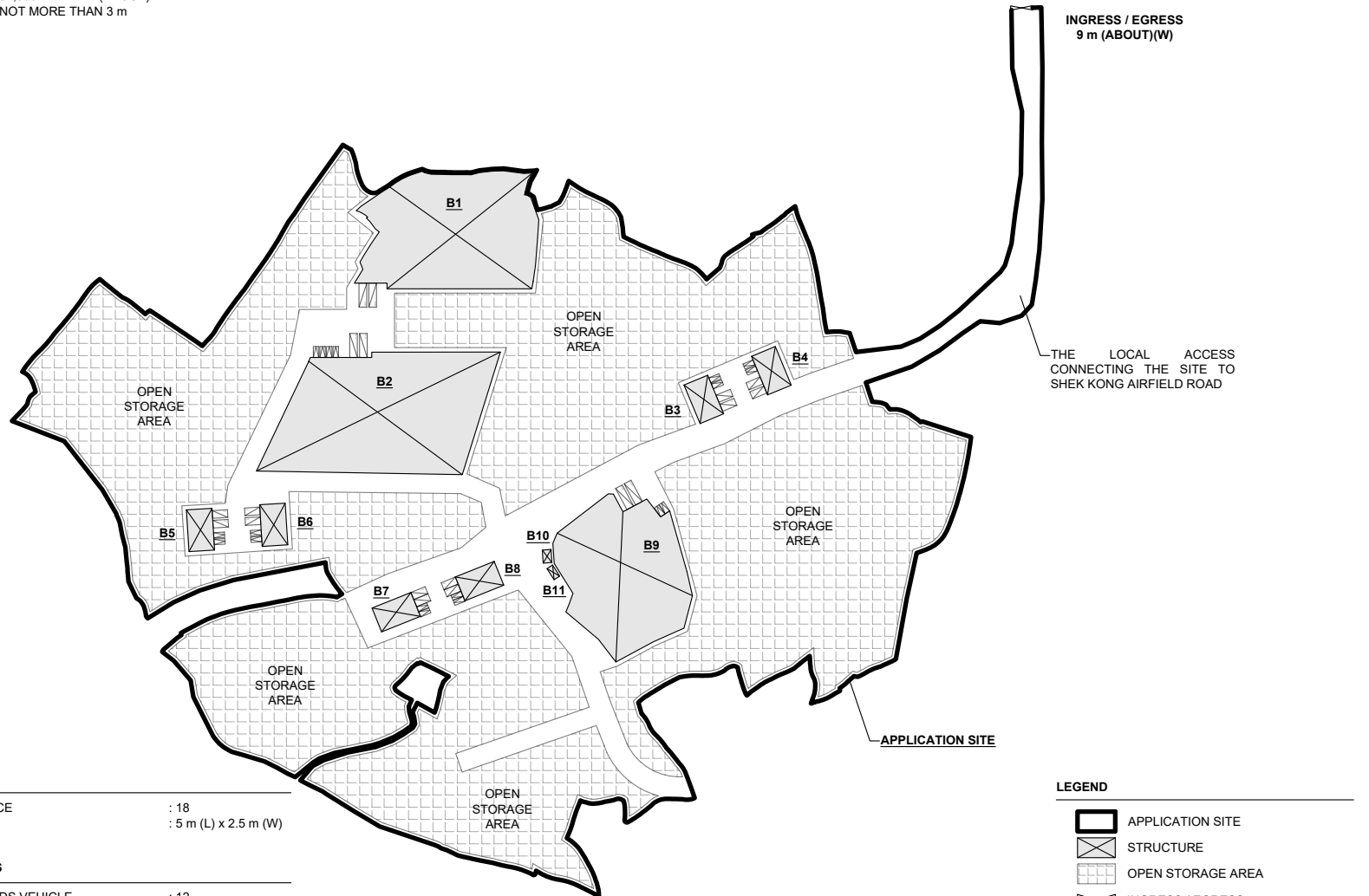
001

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 89,327 m ²	(ABOUT)
COVERED AREA	: 13,551 m ²	(ABOUT)
UNCOVERED AREA	: 75,776 m ²	(ABOUT)
PLOT RATIO	: 0.15	(ABOUT)
SITE COVERAGE	: 15 %	(ABOUT)
NO. OF STRUCTURE	: 11	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 13,551 m ²	(ABOUT)
TOTAL GFA	: 13,551 m ²	(ABOUT)
BUILDING HEIGHT	: 3 m - 9 m	(ABOUT)
NO. OF STOREY	: 1	
OPEN STORAGE AREA	: 57,598 m ²	(ABOUT)
STACKING HEIGHT	: NOT MORE THAN 3 m	

STRUCTURE	USE	COVERED AREA	GROSS FLOOR AREA	BUILDING HEIGHT
B1	WAREHOUSE (EXCLUDING D.G.G.)	3,908 m ² (ABOUT)	3,908 m ² (ABOUT)	9 m (ABOUT)(1-STOREY)
B2	WAREHOUSE (EXCLUDING D.G.G.)	4,918 m ² (ABOUT)	4,918 m ² (ABOUT)	9 m (ABOUT)(1-STOREY)
B3	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B4	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B5	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B6	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B7	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B8	WAREHOUSE (EXCLUDING D.G.G.)	225 m ² (ABOUT)	225 m ² (ABOUT)	4 m (ABOUT)(1-STOREY)
B9	WAREHOUSE (EXCLUDING D.G.G.)	3,333 m ² (ABOUT)	3,333 m ² (ABOUT)	9 m (ABOUT)(1-STOREY)
B10	FIRE SERVICE PUMP ROOM	24 m ² (ABOUT)	24 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B11	ELECTRICITY METER ROOM	18 m ² (ABOUT)	18 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
TOTAL		13,551 m ² (ABOUT)	13,551 m ² (ABOUT)	

*ANCILLARY OFFICE AND WASHROOM ARE PROVIDED AT ALL STRUCTURES



INGRESS / EGRESS
9 m (ABOUT)(W)

THE LOCAL ACCESS
CONNECTING THE SITE TO
SHEK KONG AIRFIELD ROAD

APPLICATION SITE

PARKING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 18
DIMENSION OF PARKING SPACE	: 5 m (L) x 2.5 m (W)

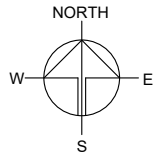
LOADING / UNLOADING PROVISIONS

NO. OF L/U SPACE FOR LIGHT GOODS VEHICLE	: 12
DIMENSION OF L/U SPACE	: 7 m (L) x 3.5 m (W)
NO. OF L/U SPACE FOR MEDIUM / HEAVY GOODS VEHICLE	: 6
DIMENSION OF L/U SPACE	: 11 m (L) x 3.5 m (W)

*SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

LEGEND

	APPLICATION SITE
	STRUCTURE
	OPEN STORAGE AREA
	INGRESS / EGRESS
	PARKING SPACE (PC)
	LOADING / UNLOADING SPACE (LGV)
	LOADING / UNLOADING SPACE (MHGV)



PLANNING CONSULTANT



PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 106 AND ADJOINING GOVERNMENT LAND, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE

1 : 3000 @ A4

DRAWN BY MN DATE 31.8.2026

REVISED BY DATE

APPROVED BY DATE

DWG. TITLE

LAYOUT PLAN

DWG NO. PLAN 5 VER. 001

Appendix B

Existing and Proposed Topography Plan

APPLICATION SITE AREA	: 89,327 m ²	(ABOUT)
EXISTING FILLING OF LAND AREA	: 83,346 m ²	(ABOUT)
EXISTING FILLING OF POND AREA	: 9,287 m ²	(ABOUT)
	(NO LONGER EXIST)	
EXISTING SITE SURFACE CONDITION	: SOILED GROUND, CONCRETE AND ASPHALT	
EXISTING SITE LEVELS	: +12.8 mPD - +16.8 mPD	(ABOUT)
EXISTING DEPTH OF FILLING	: 0.1 m - 2.5 m	(ABOUT)

A map of the study area, which is an irregularly shaped land parcel. The area is shaded light gray. A black outline represents the boundary. A line points to a specific location on the boundary, labeled "APPLICATION SITE". Several sampling points are marked with a "+" symbol and a numerical value. The values are: 12.8, 14.6, 14.9, 14.9, 15.0, 15.9, 16.1, 16.3, 16.3, 16.6, 16.6, 16.7, 16.8, and 16.8. There are also several areas with diagonal hatching, likely representing water bodies or specific land use types. A small white rectangular area with a black outline is located near the bottom center, possibly representing a building or a specific feature.

	APPLICATION SITE
	EXISTING FILLING OF LAND TO BE REGULARISED
	EXISTING FILLING OF POND TO BE REGULARISED
	EXISTING SOILED GROUND
+14.1	EXISTING SITE LEVELS

APPLICATION SITE AREA	: 89,327 m ²	(ABOUT)
AREA OF FILLING OF LAND TO BE REGULARISED	: 83,346 m ²	(ABOUT)
AREA OF FILLING OF LAND <u>PROPOSED</u>	: 5,981 m ²	(ABOUT)
DEPTH OF FILLING	: NOT MORE THAN 2.2 m	
PROPOSED SITE LEVELS	: +14.6 mPD - +16.8 mPD	(ABOUT)

USE	: OPEN STORAGE AREA, PARKING AND LOADING / UNLOADING SPACES, VEHICULAR CIRCULATION AREA AND SITE FORMATION OF STRUCTURE
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A map of the study area, which is an irregularly shaped landmass. A label 'APPLICATION SITE' with a line pointing to a specific location is at the top. The landmass is divided into several regions: a dark grey region on the left, a light grey region in the center, and a white region at the bottom. Sampling points are marked with '+' and numerical values: 15.0, 15.9, 16.6, 16.8, 16.3, 16.5, 16.7, 16.6, 16.3, 15.0, 14.9, 14.6, 14.9, 14.9, and 16.1. A small white rectangular area is located within the light grey region.



R-RICHES
PLANNING LIMITED

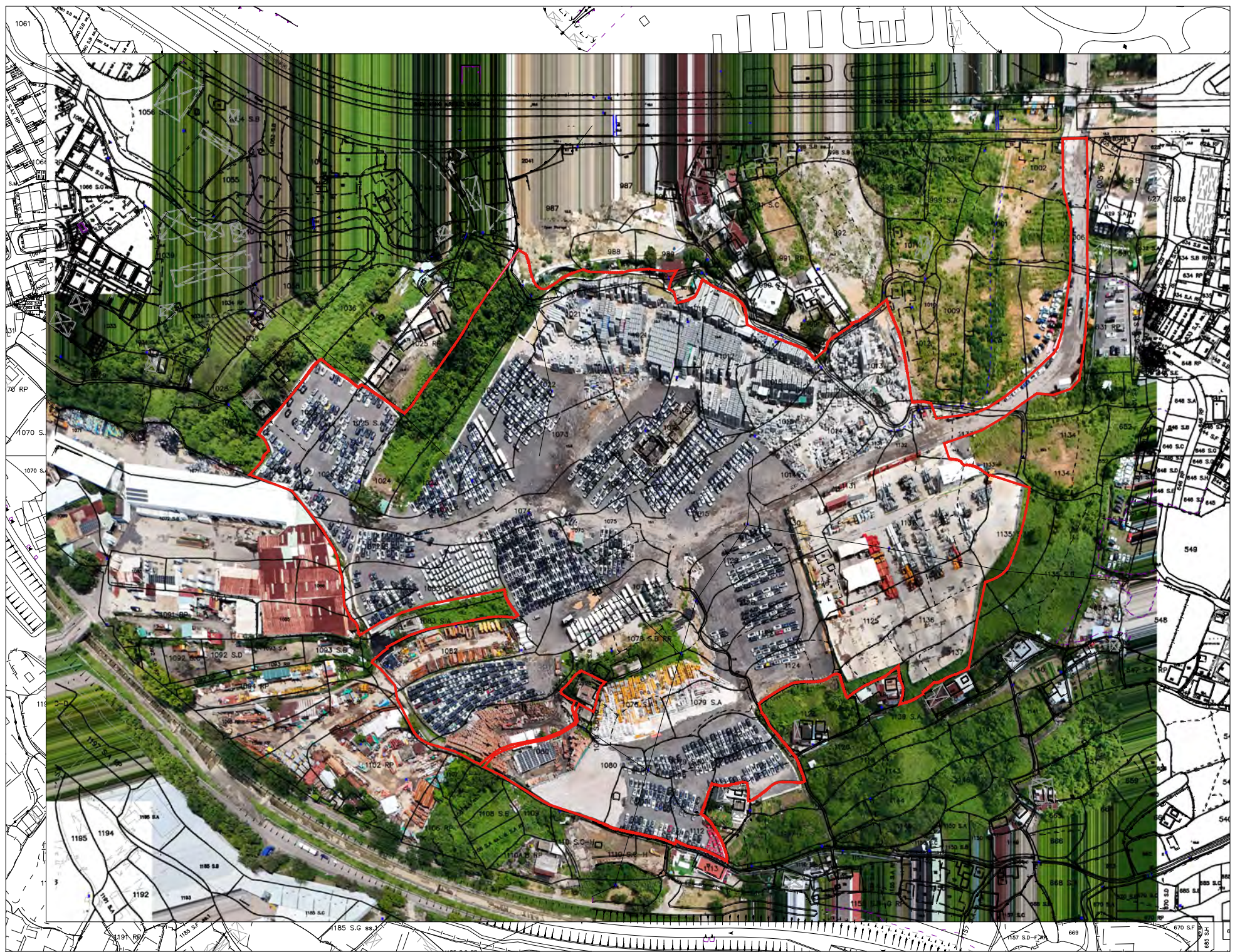
PROPOSED TEMPORARY OPEN
STORAGE AND WAREHOUSE
(EXCLUDING DANGEROUS
GOODS GODOWN) WITH
ANCILLARY FACILITIES AND
ASSOCIATED FILLING OF LAND
AND POND FOR A PERIOD OF 3
YEARS

VARIOUS LOTS IN D.D. 106 AND
ADJOINING GOVERNMENT
LAND, PAT HEUNG, YUEN LONG,
NEW TERRITORIES

DWG NO.	VER.
PLAN 6	001

Appendix C

Aerial Photographs



Appendix D

Hydraulic Calculation

Binnies Hong Kong Limited



Project: Section 16 Application – Proposed Temporary Open Storage and Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land and Pond in Shek Kong for a Period of 3 Years
Report: Drainage Impact Assessment
Subject: Runoff Calculation (Existing)

Rational method is to be adopted for calculation of the peak runoff. The formula is extracted from Section 7.5.2(a) of Stormwater Drainage Manual (SDM) which is to estimate the stormwater runoff as shown below:

$$Q_p = 0.278 C i A$$

Where Q_p = peak runoff in m³/s
 C = runoff coefficient (dimensionless)
 i = rainfall intensity in mm/hr
 A = catchment area in km²

The time of concentration used for determining the duration of the design storm is considered by the time of entry and the time of flow.

$$t_c = t_e + t_f \quad t_f = L/V$$

where t_e = inlet time (time taken for flow from the remotest point to reach the most upstream point of the urban drainage system)

Where t_f = flow time
 L = Length of drain
 V = flow velocity

The time of entry or time of flow in the hinterland is calculated using the Br William's Equation.

$$t_e = \frac{0.14465 L}{A^{0.1} H^{0.2}}$$

Where t_e = time of concentration (min)
 L = catchment length (m)
 A = catchment area (m²)
 H = average catchment slope (m/100m)

The rainfall intensity is extracted from the Section 4.3.2 of SDM which is to estimate the Intensity-Duration –Frequency (IDF) Relationship.

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

Where i = extreme mean intensity in mm/hr
 t_d = duration in minutes (td<240), and
 a, b, c = storm constants given in table 3 of SDM as below

	10-year	50-year
a	485	505
b	3.11	3.29
c	0.397	0.355

Runoff Estimation

Catchment	Area (m ²)	Longest flow path (m)	Highest (mPD)	Lowest (mPD)	Gradient (1 in 100)	To (min)	Length of drain path L (m)	Tf = L/v (min)	Tc = To + Tf (min)	Green (Unpaved) Area (m2)	Paved Ratio	Runoff Coefficient	10 year design rainfall intensity (mm/hr)	50 year design rainfall intensity (mm/hr)	10-year design runoff (m3/s)	50 year design runoff (m3/s)	Discharge to
SC-1	53,434	290	15.1	12.60	0.86	11.758	22	0.367	12.13	6,358	88%	0.873	164	191	2.131	2.477	2500x1200 Natural Stream
SC-2	13,346	244	15.4	14.80	0.25	15.120	-	-	15.12	12,658	5%	0.334	153	180	0.189	0.222	2500x1200 Natural Stream
SC-3	11,526	197	15.9	14.80	0.56	10.973	106	1.767	12.74	5,425	53%	0.644	162	189	0.334	0.389	1000x1000 Natural Stream
SC-4	4,662	186	14.7	13.80	0.48	11.807	158	2.633	14.44	3,492	25%	0.463	156	182	0.093	0.109	1000x1000 Natural Stream
SC-5	6,851	123	16.5	14.10	1.95	6.175	123	2.050	8.22	5,351	22%	0.442	123	185	0.156	0.179	1000x1000 Natural Stream
SC-6	12,475	194	15.6	14.80	0.41	11.426	153	2.550	13.98	5,120	59%	0.683	157	184	0.372	0.435	1000x1000 Natural Stream
SC-7	13,542	123	15.4	14.40	0.81	6.872	-	-	6.87	1,650	88%	0.871	195	222	0.637	0.726	750dia.Outlet
SC-8	4,157	100	14.7	14.30	0.40	7.551	-	-	7.55	-	100%	0.950	190	217	0.208	0.238	900dia.Outlet
SC-9	6,550	188	14.8	14.10	0.37	12.129	135	2.250	14.38	2,640	60%	0.688	156	182	0.195	0.228	900dia.Outlet
SC-10	6,178	196	14.3	13.30	0.51	11.844	72	1.200	13.04	-	100%	0.950	161	187	0.262	0.305	900dia.Outlet
SC-20	2,648	55	15.4	15.10	0.55	4.602	-	-	4.60	2,128	20%	0.428	216	243	0.068	0.076	750dia.Outlet
SC-21	4,496	175	15.1	14.50	0.34	12.090	125	2.083	14.17	2,516	44%	0.586	156	183	0.115	0.134	750dia.Outlet

Project: Section 16 Application – Proposed Temporary Open Storage and Warehouse
(Excluding Dangerous Goods Godown) with Ancillary Facilities and
Associated Filling of Land and Pond in Shek Kong for a Period of 3 Years

Report: Drainage Impact Assessment

Subject: Capacity Checking for Existing Drainage System

Hydraulic Checking for Natural Stream (2500 x 1200)

Width = 2.5 m
Height = 1.2 m

Max. Design Flow = 3.81 m³/s

Flow Capacity, Q = 7.21 m³/s

Design Flow Capacity, Q = 6.49 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A =	cross sectional area of flow	=	3 m ²
r =	hydraulic radius	=	0.61
P =	Wetted perimeter	=	4.90 m
s =	Slope	=	0.01 m/m
n =	Manning Coefficient	=	0.03 for natural stream

Hydraulic Checking for Natural Stream (1000 x 1000)

Width = 1 m
Height = 1 m

Max. Design Flow = 1.11 m³/s

Flow Capacity, Q = 1.60 m³/s

Design Flow Capacity, Q = 1.44 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A =	cross sectional area of flow	=	1 m ²
r =	hydraulic radius	=	0.33
P =	Wetted perimeter	=	3.00 m
s =	Slope	=	0.01 m/m
n =	Manning Coefficient	=	0.03 for natural stream

Hydraulic Checking for 900 dia. outlet

Dia., D = 0.9 m

Max. Design Flow = 0.77 m³/s

Flow Capacity, Q = 1.73 m³/s

Design Flow Capacity, Q = 1.56 m³/s (10% reduction for sediment)

Cross sectional area, A = 0.64 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRS_f)}} \right]$$

Mean velocity V = 2.72 m/s

Where ks =	Surface roughness	=	0.60 mm	Concrete Pipe (Poor Condition) in Table 14 SDM
v =	Kinematic viscosity	=	60.00	
Sf =	Frictional gradient	=	0.01	
R =	Hydraulic radius (D/4)	=	0.225 m	

Hydraulic Checking for 750 dia. outlet

Dia., D = 0.75 m

Max. Design Flow = 0.94 m³/s

Flow Capacity, Q = 1.06 m³/s

Design Flow Capacity, Q = 0.96 m³/s (10% reduction for sediment)

Cross sectional area, A = 0.44 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255 \nu}{R\sqrt{(32gRS_f)}} \right]$$

Mean velocity V = 2.40 m/s

Where ks = Surface roughness = 0.60 mm

v = Kinematic viscosity = 60.00

Sf = Frictional gradient = 0.01

R = Hydraulic radius (D/4) = 0.188 m

Concrete Pipe (Poor Condition)
in Table 14 SDM

Project: Section 16 Application – Proposed Temporary Open Storage and Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land and Pond in Shek Kong for a Period of 3 Years
Report: Drainage Impact Assessment
Subject: Runoff Calculation (After Development)

Rational method is to be adopted for calculation of the peak runoff. The formula is extracted from Section 7.5.2(a) of Stormwater Drainage Manual (SDM) which is to estimate the stormwater runoff as shown below:

$Q_p = 0.278 \ C i A$

Where Q_p = peak runoff in m³/s
 C = runoff coefficient (dimensionless)
 i = rainfall intensity in mm/hr
 A = catchment area in km²

The time of concentration used for determining the duration of the design storm is considered by the time of entry and the time of flow.

$t_c = t_e + t_f$ $t_f = L/V$

where t_e = inlet time (time taken for flow from the remotest point to reach the most upstream point of the urban drainage system)

Where t_f = flow time
 L = Length of drain
 V = flow velocity

The time of entry or time of flow in the hinterland is calculated using the Bransby William's Equation.

$t_e = \frac{0.14465 L}{A^{0.1} H^{0.2}}$

Where t_e = time of concentration (min)
 L = catchment length (m)
 A = catchment area (m²)
 H = average catchment slope (m/100m)

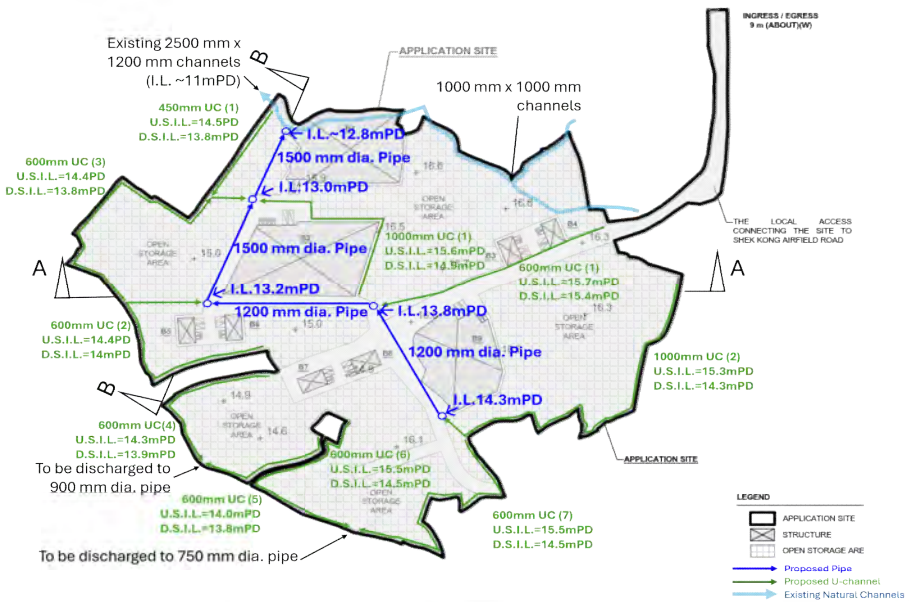
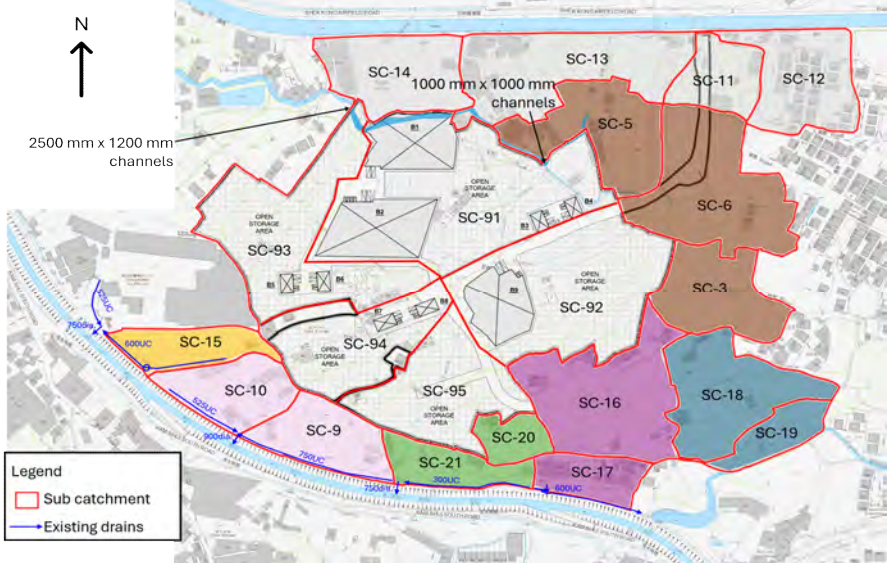
The rainfall intensity is extracted from the Section 4.3.2 of SDM which is to estimate the Intensity-Duration –Frequency (IDF) Relationship.

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

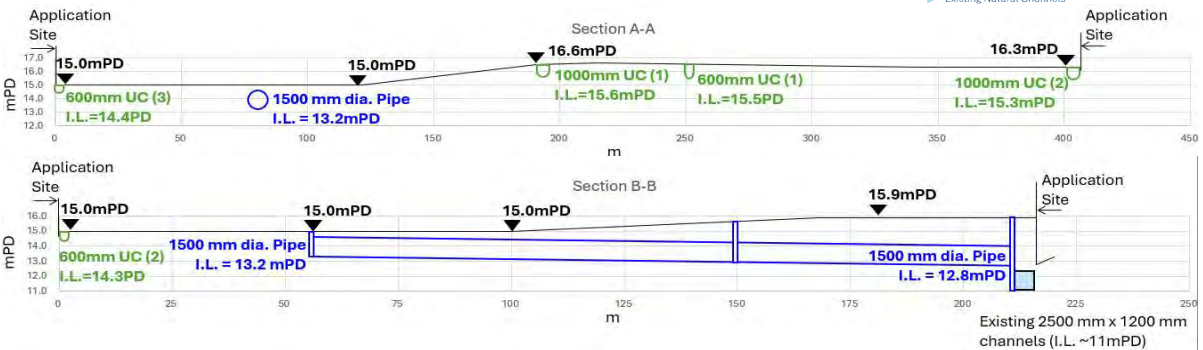
Where i = extreme mean intensity in mm/hr
 t_d = duration in minutes (td<240), and
 a, b, c = storm constants given in table 3 of SDM as below

	10-year	50-year
a	485	505
b	3	3
c	0	0

Runoff Estimation																			
Catchment	Area (m ²)	Longest flow path (m)	Highest (mPD)	Lowest (mPD)	Gradient (1 in 100)	To (min)	Length of drain path L (m)	Tf = L/v (min)	Tc = To + Tf (min)	Green Area (m2)	Paved Ratio	Runoff Coefficient	10 year design rainfall intensity (mm/hr)	50 year design rainfall intensity (mm/hr)	10-year design runoff (m3/s)	50 year design runoff (m3/s)	10 year runoff include 11.1% for Climate Change Effect (m3/s)	50 year runoff include 11.1% for Climate Change Effect (m3/s)	Discharge to
SC-91	26,505	416	16.8	15.90	0.22	22.194	272	4.533	26.73	-	100%	0.950	126	151	0.881	1.056	0.979	1.173	2500x1200 Natural Stream
SC-92	20,734	508	16.6	16.30	0.06	34.601	420	7.000	41.60	-	100%	0.950	107	131	0.587	0.716	0.652	0.795	2500x1200 Natural Stream
SC-93	18,600	513	15.0	14.90	0.02	44.003	428	7.133	51.14	-	100%	0.950	99	122	0.488	0.600	0.542	0.666	2500x1200 Natural Stream
SC-94	9,922	238	16.6	14.60	0.84	11.941	78	1.300	13.24	-	100%	0.950	160	187	0.419	0.488	0.465	0.543	900dia.Outlet
SC-95	10,834	209	16.6	15.10	0.72	11.009	156	2.600	13.61	-	100%	0.950	159	185	0.453	0.529	0.504	0.588	750dia.Outlet
SC-3	7,942	80	15.9	15.30	0.75	5.221	106	1.767	6.99	3,945	50%	0.627	194	221	0.268	0.306	0.298	0.339	1000x1000 Natural Stream
SC-5	9,328	123	16.5	14.10	1.95	5.987	123	2.050	8.04	5,155	45%	0.591	186	213	0.285	0.327	0.317	0.363	1000x1000 Natural Stream
SC-6	14,102	194	15.6	14.80	0.41	11.287	153	2.550	13.84	6,791	52%	0.637	158	184	0.393	0.460	0.437	0.511	1000x1000 Natural Stream
SC-9	6,498	188	14.8	14.10	0.37	12.139	135	2.250	14.39	2,640	59%	0.686	156	182	0.193	0.226	0.214	0.251	900dia.Outlet
SC-10	6,162	196	14.3	13.30	0.51	11.847	72	1.200	13.05	-	100%	0.950	161	187	0.261	0.305	0.290	0.338	900dia.Outlet
SC-20	2,648	55	15.4	15.10	0.55	4.602	-	-	4.60	2,128	20%	0.428	216	243	0.068	0.076	0.075	0.085	750dia.Outlet
SC-21	4,496	175	15.1	14.50	0.34	12.090	125	2.083	14.17	2,516	44%	0.586	156	183	0.115	0.134	0.127	0.149	750dia.Outlet



	50 year runoff include 11.1% for Climate Change Effect (m3/s)	Discharge to	Discharge to	Discharge to
SC-91	1.173	1000mm UC(1) - 75% of runoff 600mm UC(1) - 25% of runoff	1200 mm pipe then to 1500 mm pipe	Existing 2500 mm x 1200 mm channels
SC-92	0.795	1000mm UC(2)		
SC-93	0.666	600mm UC(2) - 40% of runoff 600mm UC(1) - 40% of runoff 450mm UC(1) - 20% of runoff	1500 mm pipe	
SC-94	0.543	600mm UC(4) - 50% of runoff 600mm UC(5) - 50% of runoff	Existing 900mm dia pipe	
SC-95	0.588	600mm UC(6) - 50% of runoff 600mm UC(7) - 50% of runoff	Existing 750mm dia pipe	



Project: Section 16 Application – Proposed Temporary Open Storage and Warehouse
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Report: Drainage Impact Assessment
Subject: Capacity Checking for Proposed Drainage System

Hydraulic Checking for Natural Stream (2500 x 1200)

Width = 2.5 m
Height = 1.2 m

Max. Design Flow = 3.85 m³/s

Flow Capacity, Q = 7.21 m³/s
Design Flow Capacity, Q = 6.49 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 3 m²
r = hydraulic radius = 0.61
P = Wetted perimeter = 4.90 m
s = Slope = 0.01 m/m
n = Manning Coefficient = 0.03 for natural stream Table 13 in SDM

Hydraulic Checking for Natural Stream (1000 x 1000)

Width = 1 m
Height = 1 m

Max. Design Flow = 1.21 m³/s

Flow Capacity, Q = 1.60 m³/s
Design Flow Capacity, Q = 1.44 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 1 m²
r = hydraulic radius = 0.33
P = Wetted perimeter = 3.00 m
s = Slope = 0.01 m/m
n = Manning Coefficient = 0.03 for natural stream Table 13 in SDM

Hydraulic Checking for 900 dia. outlet

Dia., D = 0.9 m

Max. Design Flow = 1.13 m³/sFlow Capacity, Q = 1.73 m³/sDesign Flow Capacity, Q = 1.56 m³/s (10% reduction for sediment)Cross sectional area, A = 0.64 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRS_f)}} \right]$$

Mean velocity V = 2.72 m/s

Where ks = Surface roughness = 0.60 mm Concrete (Poor Condition)

v = Kinematic viscosity = 60.00 in Table 14 SDM

Sf = Frictional gradient = 0.01

R = Hydraulic radius (D/4) = 0.225 m

Hydraulic Checking for 750 dia. outlet

Dia., D = 0.75 m

Max. Design Flow = 0.82 m³/sFlow Capacity, Q = 1.06 m³/sDesign Flow Capacity, Q = 0.96 m³/s (10% reduction for sediment)Cross sectional area, A = 0.44 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRS_f)}} \right]$$

Mean velocity V = 2.40 m/s

Where ks = Surface roughness = 0.60 mm Concrete (Poor Condition)

v = Kinematic viscosity = 60.00 in Table 14 SDM

Sf = Frictional gradient = 0.01

R = Hydraulic radius (D/4) = 0.188 m

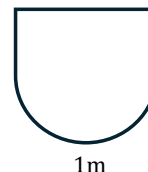
Hydraulic Checking for 1000 UC(1) (SC-91)

Width = 1 m

Height = 1 m

Max. Design Flow = 0.89 m³/sFlow Capacity, Q = 1.39 m³/sDesign Flow Capacity, Q = 1.25 m³/s (10% reduction for sediment)

75% of runoff from SC-91



$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.89 m²

r = hydraulic radius = 0.35

P = Wetted perimeter = 2.57 m

s = Slope = 0.0025 m/m

n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Hydraulic Checking for 600 UC(1) (SC-91)

Width = 0.6 m
 Height = 0.6 m 0.5m

Max. Design Flow = 0.22 m³/s 0.5m
 25% of runoff from SC-91

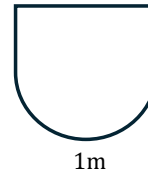
Flow Capacity, Q = 0.30 m³/s

Design Flow Capacity, Q = 0.27 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.32 m²
 r = hydraulic radius = 0.21
 P = Wetted perimeter = 1.54 m
 s = Slope = 0.0018 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

**Hydraulic Checking for 1000 UC(2) (SC-92)**

Width = 1 m
 Height = 1 m 0.5m

Max. Design Flow = 0.80 m³/s 0.5m

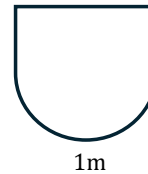
Flow Capacity, Q = 2.17 m³/s

Design Flow Capacity, Q = 1.96 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.89 m²
 r = hydraulic radius = 0.35
 P = Wetted perimeter = 2.57 m
 s = Slope = 0.0062 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

**Hydraulic Checking for 1200 dia. pipe (SC-92+SC-91)**

Dia., D = 1.50 m

Max. Design Flow = 1.97 m³/s

Flow Capacity, Q = 4.91 m³/s

Design Flow Capacity, Q = 4.42 m³/s (10% reduction for sediment)

Cross sectional area, A = 1.77 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRS_f}} \right]$$

Mean velocity V = 2.78 m/s

Where ks = Surface roughness = 0.15 mm

v = Kinematic viscosity = 32.32

Sf = Frictional gradient = 0.0046

R = Hydraulic radius (D/4) = 0.375 m

Concrete Pipe (Normal Condition)
 in Table 14 SDM

Hydraulic Checking for 1500 dia. pipe (SC-93+SC-92+SC-91)

Dia., D = 1.50 m

Max. Design Flow = 2.63 m³/sFlow Capacity, Q = 3.57 m³/sDesign Flow Capacity, Q = 3.21 m³/s (10% reduction for sediment)Cross sectional area, A = 1.77 m²

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{(32gRS_f)}} \right]$$

Mean velocity V = 2.02 m/s

Where ks = Surface roughness = 0.15 mm

v = Kinematic viscosity = 52.50

Sf = Frictional gradient = 0.0029

R = Hydraulic radius (D/4) = 0.375 m

Concrete Pipe (Normal Condition in Table 14 SDM)

Hydraulic Checking for 600 UC (2) (SC-93)

Width = 0.6 m

Height = 0.6 m

0.3m

Max. Design Flow = 0.27 m³/s

40% of runoff from SC-93

Flow Capacity, Q = 0.32 m³/sDesign Flow Capacity, Q = 0.29 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

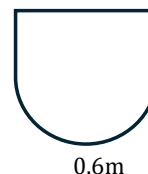
Where A = cross sectional area of flow = 0.32 m²

r = hydraulic radius = 0.21

P = Wetted perimeter = 1.54 m

s = Slope = 0.0021 m/m

n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

**Hydraulic Checking for 600 UC (3) (SC-93)**

Width = 0.6 m

Height = 0.6 m

0.3m

Max. Design Flow = 0.27 m³/s

40% of runoff from SC-93

Flow Capacity, Q = 0.36 m³/sDesign Flow Capacity, Q = 0.32 m³/s (10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

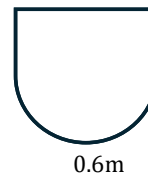
Where A = cross sectional area of flow = 0.32 m²

r = hydraulic radius = 0.21

P = Wetted perimeter = 1.54 m

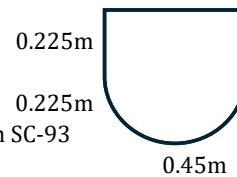
s = Slope = 0.0026 m/m

n = Manning Coefficient = 0.016 for concrete Table 13 in SDM



Hydraulic Checking for 450 UC (1) (SC-93)

Width = 0.45 m
 Height = 0.45 m



Max. Design Flow = 0.13 m³/s

20% of runoff from SC-93

Flow Capacity, Q = 0.25 m³/s

Design Flow Capacity, Q = 0.23 m³/s

(10% reduction for sediment)

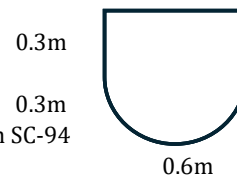
$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.18 m²
 r = hydraulic radius = 0.16
 P = Wetted perimeter = 1.16 m
 s = Slope = 0.0058 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Hydraulic Checking for 600 UC (4) (SC-94)

Width = 0.6 m
 Height = 0.6 m



Max. Design Flow = 0.27 m³/s

50% of runoff from SC-94

Flow Capacity, Q = 0.41 m³/s

Design Flow Capacity, Q = 0.37 m³/s

(10% reduction for sediment)

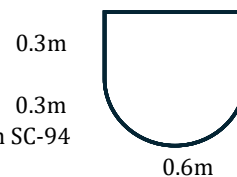
$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.32 m²
 r = hydraulic radius = 0.21
 P = Wetted perimeter = 1.54 m
 s = Slope = 0.0033 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Hydraulic Checking for 600 UC (5) (SC-94)

Width = 0.6 m
 Height = 0.6 m



Max. Design Flow = 0.27 m³/s

50% of runoff from SC-94

Flow Capacity, Q = 0.32 m³/s

Design Flow Capacity, Q = 0.29 m³/s

(10% reduction for sediment)

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.32 m²
 r = hydraulic radius = 0.21
 P = Wetted perimeter = 1.54 m
 s = Slope = 0.0020 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Hydraulic Checking for 600 UC95 (6) (SC-95)

Width = 0.6 m
 Height = 0.6 m

0.3m

Max. Design Flow = 0.29 m³/s

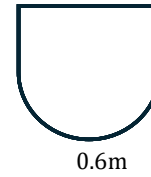
0.3m

50% of runoff from SC-95

Flow Capacity, Q = 0.57 m³/s

Design Flow Capacity, Q = 0.51 m³/s

(10% reduction for sediment)



$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.32 m²
 r = hydraulic radius = 0.21
 P = Wetted perimeter = 1.54 m
 s = Slope = 0.0064 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Hydraulic Checking for 600 UC95 (7) (SC-95)

Width = 0.6 m
 Height = 0.6 m

0.3m

Max. Design Flow = 0.29 m³/s

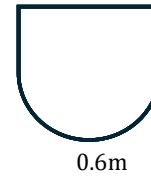
0.3m

50% of runoff from SC-95

Flow Capacity, Q = 0.49 m³/s

Design Flow Capacity, Q = 0.44 m³/s

(10% reduction for sediment)



$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

$$r = \frac{A}{P}$$

Where A = cross sectional area of flow = 0.32 m²
 r = hydraulic radius = 0.21
 P = Wetted perimeter = 1.54 m
 s = Slope = 0.0048 m/m
 n = Manning Coefficient = 0.016 for concrete Table 13 in SDM

Annex 2

Tree survey report

**Tree Survey Report
of
Various Lots in D.D. 106 and Adjoining Government
Land Shek Kong, Pat Heung, Yuen Long, New
Territories**

Prepared by:

**Wong Wai Chun
AA- Technician Member**

A handwritten signature in black ink, appearing to be 'Wai Chun' with a stylized flourish at the end.

Report Date: 8th September 2026

1) INTRODUCTION

We are commissioned to prepare a tree survey report to record the health condition of the existing trees at the proposed survey area at Various Lots in D.D. 106 and Adjoining Government Land Shek Kong, Pat Heung, Yuen Long, New Territories.

2) DATE OF INSPECTION

The inspections were conducted on 5th September 2026.

3) SITE ADDRESS AND LOCATIONS OF TREES

The inspected trees were located at the designated working area at Various Lots in D.D. 106 and Adjoining Government Land Shek Kong, Pat Heung, Yuen Long, New Territories Please find the Tree Location Plan in Appendix C.

4) METHODOLOGY OF TREE INSPECTION

The tree inspection basically adopted the Visual Tree Assessment (VTA) techniques. All vegetation present with a trunk diameter larger than 95mm when measured at a point 1300mm above ground level was considered as a ‘tree’. These have been surveyed and identified with the information recorded on the following pages. The tree assessment is undertaken in accordance with the ‘Development Bureau Technical Circular (Works) No. 4/2020 Tree preservation’ and ‘Guidelines for Tree Risk Assessment and Management Arrangement’ (2023 10th Edition) from the Greening, Landscape and Tree Management Section of Development Bureau.

- (A) Tree ID No.: The individual trees have been tagged on site using weatherproof labels with the abbreviated number T- which correspond with those in survey plans.
- (B) Species: The botanical and Chinese names of the trees have been used

for ease of reference. The botanical name takes precedence wherever there is any ambiguity.

(C) Tree Size:

- (1) Overall height : Height measured in meters from ground level to the top of the tallest branch.
- (2) Trunk Diameter : Diameter of the main trunk measured in millimeters at 1.3 m high above ground level.
- (3) Crown Spread : Average diameter of the foliage canopy.

(D) Form:

- (1) Good – Well-balanced crown and straight strong trunk(s);
- (2) Fair – Slightly unbalanced crown and non-straight trunk(s);
- (3) Poor – Misshapen or awkwardly forked trunk and/or unbalanced crown.

(G) Health: The health condition of each tree shall be evaluated according to the following criteria (Webb 1991):

- (1) Good - Trees of good form, moderate to large size and in good health are classified as *good*;
- (2) Fair - Trees of reasonable form, with few or no visible defects or health problems are classified as being *fair*;
- (3) Poor - Trees that are of poor form, badly damaged or clearly suffering from decay, dying back or the effects of very heavy vine growth are classified as *poor*.

(H) Amenity Value: The Amenity Value rating is the intrinsic value of each tree derived from the combination of the tree's health and form, cultural significance and the economic value contributed to the property owner/community. The following ratings are developed in conjunction with 'Development Bureau Technical Circular (Works) No.4/2020 Tree preservation'.

- (1) High - Trees included in the Register of Old and Valuable Trees (OVT) under the Works Branch of Development Bureau OR similar trees potentially registrable under the same criteria OR trees of particular value as specified under lease or property owner's consent
- (2) Moderate - Non-invasive, healthy trees with fair health and form which contribute to the local greenery and have a fair chance of surviving and growing if optimal conditions are favored
- (3) Low - Trees with poor health and form or with declining conditions OR invasive species which can potentially threaten other native species OR hazardous trees causing public safety concerns

Photographic record in JPEG format showing the overall view from the trunk base up to the canopy of each surveyed tree shall be attached at the end of the tree survey report.

All surveyed trees shall be marked on Tree Survey Plans with their tree ID.

The biographical information for the trees is as per attached Tree Assessment Schedule. Please refer to **Appendix A**.

The photographic record of individual trees are referred to **Appendix B**.

The location plan of surveyed trees is referred to **Appendix C**.

5) FINDINGS

There was total 4 trees observed at the designated working area at Various Lots in D.D. 106 and Adjoining Government Land Shek Kong, Pat Heung, Yuen Long, New Territories No Old and Valuable Tree (OVT) or rare tree species could be found. No tree failure was observed.

Dominant species were invasive species tree (*Leucaena leucocephala*).

Appendix A

Tree survey schedule

Location: Various Lots in D.D. 106 and Adjoining Government Land Shek Kong, Pat Heung, Yuen Long, New Territories

Date: 5-Sep-26

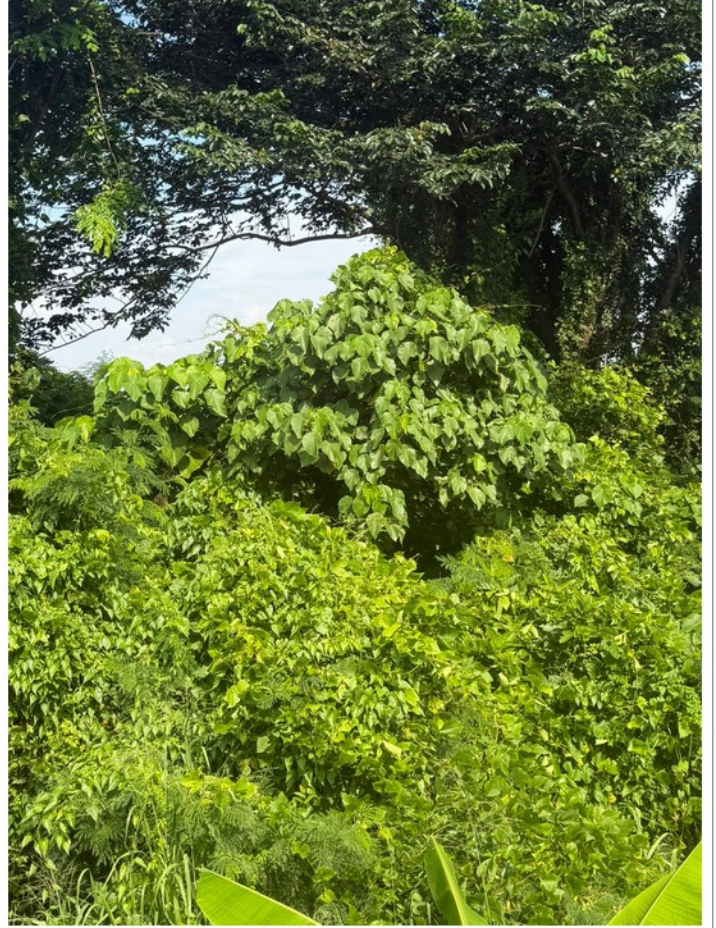
Tree No.	Species:		Size			Status		Amenity Value (High, Medium, Low)	Observable Defects /Damages of Trees	Remarks:
			OverLeucaena leucocephala Height(m)	Diameter (mm)	Average Crown Spread (m)	Condition (Good, Fair, Poor, Dead)	Form (Good, Fair, Poor)			
T1	<i>Leucaena leucocephala</i>	銀合歡	8	150	3	P	P	L	Invasive species, Climber	
T2	<i>Leucaena leucocephala</i>	銀合歡	8	150	3	P	P	L	Invasive species, Climber	
T3	<i>Dalbergia odorifera</i>	降香黃檀	16	410	10	P	P	L	Climber	
T4	<i>Leucaena leucocephala</i>	銀合歡	8	150	3	P	P	L	Invasive species, Climber	

Appendix B

Photographic record of trees



T1



T2



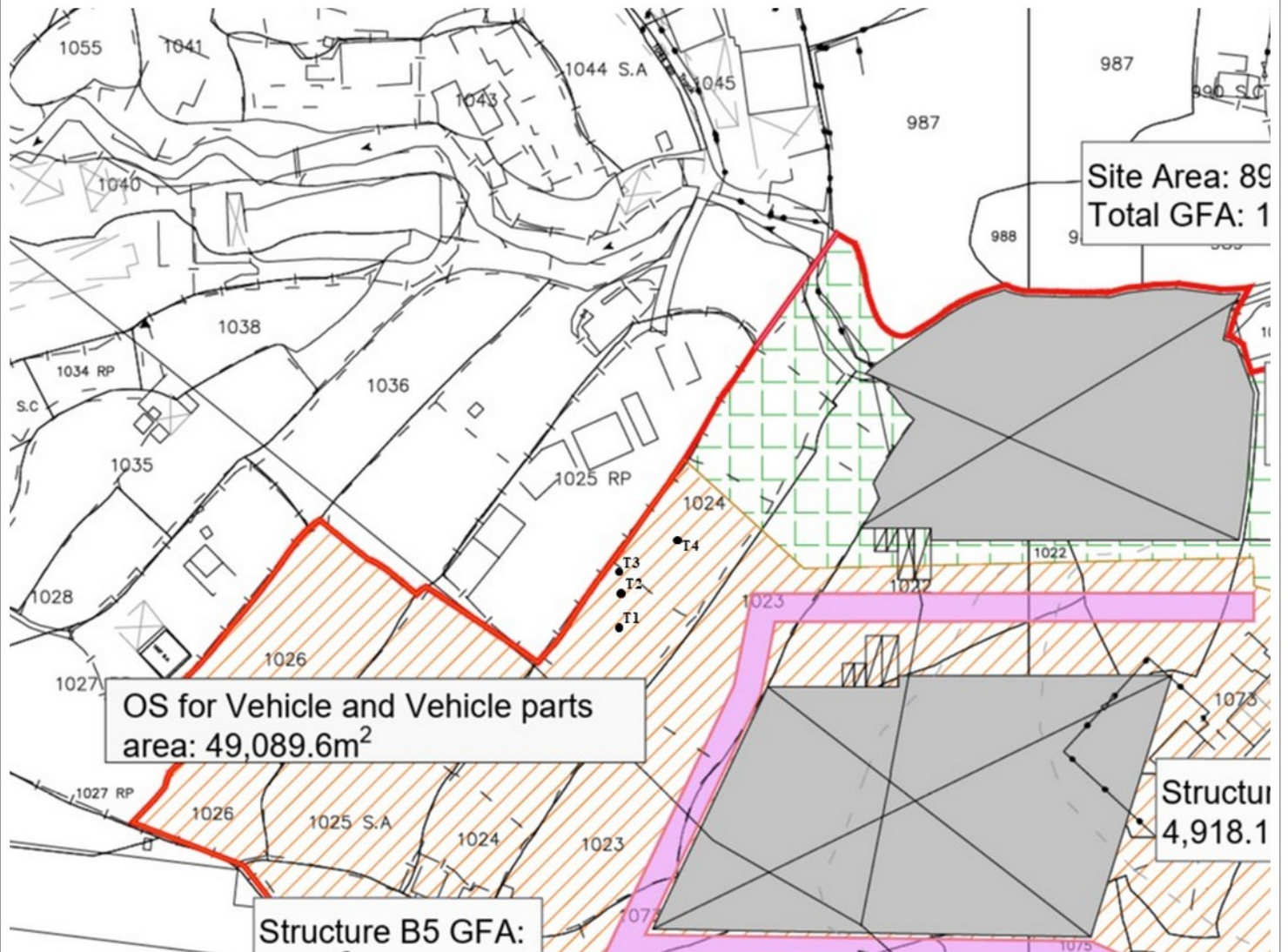
T3



T4

Appendix C

Tree location plan



Annex 3

Fire service installations proposal

1. GENERAL

- ## 2. AUTOMATIC SPRINKLER SYSTEM

- ### 3. FIRE DETECTOR SYSTEM

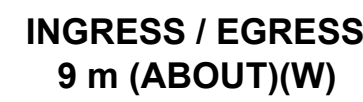
- #### 4. EMERGENCY LIGHTING

- ## 6. PORTABLE APPLIANCES

- ### LEGEND

 DIRECTIONAL SIGN

*ANCILLARY OFFICE AND WASHROOM ARE PROVIDED AT ALL STRUCTURES



THE LOCAL ACCESS
CONNECTING THE SITE TO
SHEK KONG AIRFIELD ROAD

APPLICATION SITE

[illegible]