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By Hand and Email (tpbpd@pland.gov.hk)
14 November 2025

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

Your ref TPB/Y/SK-HC/8
Our ref 295143/00/WSTY/MYNL/TYAL/NC/CHAC/05668

Dear Sir/Madam,

Application for Amendment of Plan Under Section 12A of the Town Planning Ordinance (Cap. 131) to Rezone the Application Site from "Green Belt" and Area shown as 'Road' to "Residential (Group C)5" for Proposed Residential Development at Various Lots in D.D. 210 and Adjoining Government Land, Pak Wai, Sai Kung (Planning Application No. Y/SK-HC/8)

Submission of Further Information – Responses to Departmental Comments

We refer to the comments received from various Government departments from 10 October to 4 November 2025 on the captioned Planning Application.

We are pleased to submit herewith a Responses-to-Comments Table (**Appendix A**) together with the Revised Geotechnical Planning Review Report (**Appendix B**) and the Revised Drainage Impact Assessment (**Appendix C**) in support of the Planning Application for your consideration.

We sincerely seek favourable consideration from the Town Planning Board to agree to the captioned s.12A Application.

Should you have any queries, please contact the undersigned or our Miss Natalie CHAN at [redacted] or Mr. Alex CHENG at [redacted].

Yours faithfully,

Natalie Leung
Associate Town Planner

d [redacted]
e

Enc - 4 Copies of **Appendices A to C**
cc - Sai Kung & Island District Planning Office – Ms. KONG Sze Nga, Tammy ([redacted])
- Sai Kung & Island District Planning Office – Mr. YIP Ho Yeung, Jackin ([redacted])
- Client

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Appendix A

Responses-to-Comments Table

Comments from Related Departments — Page No.

COMMENTS FROM RELATED DEPARTMENTS

No.	Comments	Responses
1.	**Civil Engineering and Development Department, Geotechnical Engineering Office, Planning and Development Division, Engineering Geology Section, dated 10 October 2025** Comments on the Geotechnical Planning Review Report (GPRR)	
	1. Section 6.3: A screening in respect of natural terrain hazards related to the developments, shall be carried out in accordance with GEO Report No. 138, as part of the GPRR. The extent of natural terrains affecting the site that will be studied shall also be demarcated on a plan and included in GPRR.	Noted. The screening in respect of natural terrain hazards related to the developments is provided in Sections 6.3.1 to 6.3.5 in the Revised Geotechnical Planning Review Report (**Appendix B** refers). The extent of natural terrain to be studied is demarcated in Figure 8 of the Report.
	Reminders to the applicant	
	2. It is noted that Feature Nos. 7SE-D/C154 and 7SE-D/F46 are located within and in the vicinity of the site. Please remind the applicant(s) to make necessary submissions to the District Land Office and/or the Building Authority for approval if the geotechnical feature(s) could affect or be affected by the proposed development (if any) in accordance with the provisions of the Buildings Ordinance at the development stage.	Noted.
2.	**Drainage Services Department, Operations & Maintenance Branch, Mainland South Division, Mainland South 6(Tseung Kwan O, Sai Kung and Yau Tong), dated 4 November 2025** Drainage Impact Assessment	
	1. Section 4.3 - Design Assumption - Please justify the ratio of concrete and grass land.	Noted. The areas of paved and grass land are reviewed and adopted as those shown in the new Figure D5 of the Revised Drainage Impact Assessment (DIA) (**Appendix C** refers).

No.	Comments	Responses
	2. Section 4.3 - Please verify whether the shape of existing watercourse match with your design assumption. Please request the applicant to select few critical sections to conduct assessment of capacity of the watercourse. Also, please present in elevation to prove there is sufficient freeboard of the river along your site.	Please note that the selected critical section of the existing watercourse is the narrowest section at the discharge point of the subject site and in front of the inlet of an existing twin 2500x2500mm box culvert (refer to Figure D4 and Plates 4, 5 and 6 under Section 3.4 of the Revised DIA). It is considered conservative to adopt a 5m (wide) x 2m (deep) section, i.e. smaller than the total cross-sectional area of the existing twin box culvert, in assessing capacity of the concerned watercourse. Since the existing box culvert is 2500mm deep, the adopted narrowest section of the existing watercourse is 2000mm deep and the section is capable to convey the design peak flow, the freeboard of the existing watercourse would be not less than 2500mm – 2000mm = 500mm (the proposed ground level of the subject site is higher than the top of the existing box culvert).
	3. Section 4.3 - It is observed the topography of the site will be altered due to your development and it may affect the drainage path adjacent to the site(s). Please evaluate whether there is any impact to the adjacent site(s) due to your development.	There would not be material change in the drainage paths of the concerned area. Peripheral channel is proposed to collect overland flow running across the subject site boundary and to convey the collected flow to the terminal manhole for discharge.
	4. Section 4.3 - It is noted that a sewerage treatment plant is proposed within the site and the treated water will be discharged to existing box culvert. Please take it into account in the hydraulic calculation.	Noted. Peak dry weather flow of 0.051111 m^3/s of the proposed sewage treatment plant (adopted in the Revised Sewage Treatment and Disposal Proposal Report under the Application) has been added into the hydraulic calculation under Section 4.3 of the Revised DIA.
	<u>Sewerage Impact Assessment</u> 5. The subject planning application needs to meet the full satisfaction of Environmental Protection Department (EPD), the planning authority of sewerage infrastructure. DSD's comments on the application are subject to views and agreement of EPD.	Noted.
3.	**Lands Department, Lands Administration Office, District Lands Office, Sai Kung, dated 4 November 2025** <u>Area of Application Site</u>	

No.	Comments	Responses
	1. As only portions of some private lots (i.e. Lot Nos. 13, 14, 15, 16, 19, 31, 40, 51 RP, 52 all in D.D. 210) and the adjoining Government land are involved under the captioned planning application, this office cannot verify the area of the application site at this stage. The applicant should ensure the areas stated in the submission are correct.	Noted.
	Existing Structures	
	2. The concerned private lots are old schedule agricultural lots held under Block Government Lease which contains the restriction that no structure is allowed to be erected without the prior approval of the Government. It is noted that the existing structure erected on one of the concerned private lots namely Lot No. 53 RP in D.D. 210 is not covered by any short term waivers and Squatter Survey numbers, and lease enforcement actions against such structure would be taken by this office according to case priority.	Noted.
	3. For the remaining existing structures within the application site, although they bear Squatter Survey numbers, they might not tally with the Squatter Survey records. Whether such existing structures are inconsistent with the Squatter Survey records would be subject to site inspection and survey. This office would take appropriate follow-up actions if irregularities are detected.	Noted.
	4. According to desktop checking, within the application site, there are no existing structures found on the sites of (i) 9 structures covered by the Modification of Tenancy ("MoT") No. S1479 and Letter of Approval ("LoA") No. SAS 603 bearing with Squatter Survey numbers, and (ii) 10 Squatter Survey numbers. In the connection, the concerned MoT, LoA and Squatter Survey numbers would be cancelled, if required, according to case priority.	Noted.
	Reprovision of Existing Footpath	

No.	Comments	Responses
	5. It is observed that the location of the proposed footpath to be reprovisioned involves Government land. Please be advised that whether such Government land would be granted to the applicant would be subject to the subsequent land exchange application if the planning permission is approved by the Town Planning Board.	Noted. Please be advised that the project proponent would make a land exchange application and liaise closely with relevant departments on the matter upon the agreement of this planning application by the Town Planning Board.
	Proposed Widening of Hing Keng Shek Road and Provision of Vehicular Access	
	6. According to the TIA and Supporting Flaming Statement, it is proposed to widen Hing Keng Shek Road and provide a vehicular access connecting the application site and Hing Keng Shek Road to be widen (as shown in figure no.5.1 of the TIA) outside the application site.	Noted.
	7. The applicant should (i) advise the land status of the proposed widening of Hing Keng Shek Road as well as the proposed vehicular access (collectively referred to as "the Proposed Road Works"); (ii) clarify if any private lot(s) would be affected by the Proposed Road Works; (iii) and identify and confirm with the appropriate government departments to take up the future management and maintenance of the Proposed Road Works. If no appropriate government department(s) can be identified, the applicant would be required to take up the future management and maintenance of the Proposed Road Works.	Please be advised that the land status of the Proposed Road Works is entirely Government land and no private lots would be affected. The project proponent would take up the management and maintenance responsibility for the road section within the site boundary. For the road section and proposed widening outside the site boundary, the applicant would clarify the future management and maintenance responsibility with the Lands Department during the lease modification stage.
	Others	
	8. If the subject application is approved by the Town Planning Board, the applicant will need to submit to this office a land exchange application with necessary information to effect the proposal. The applicant is reminded that every application submitted to LandsD will be considered on its own merit by LandsD at its absolute discretion acting in its capacity as a landlord and there is no guarantee that such application including the inclusion of government land will be approved by the Government. Such	Noted. The project proponent would make a land exchange application and liaise closely with the department on the matter should this planning application be agreed by the Town Planning Board.

No.	Comments	Responses
	application, if eventually approved, would be subject to such terms and conditions including payment of premium and administrative fee as the Government considers appropriate	

(Last updated 13 November 2025)

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Appendix B

Revised Geotechnical Planning Review Report

GEOTECHNICAL PLANNING REVIEW REPORT (GPRR)

FOR

APPLICATION FOR AMENDMENT OF PLAN

UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (Cap.131)

TO REZONE THE APPLICATION SITE

FROM "GREEN BELT" AND AREA SHOWN AS "ROAD"

TO "RESIDENTIAL (GROUP C) 5"

FOR

PROPOSED RESIDENTIAL DEVELOPMENT AT

VARIOUS LOTS IN D.D. 210 AND ADJOINING GOVERNMENT LAND

PAK WAI, SAI KUNG

CONTENTS

LIST OF FIGURES

APPENDICES

1. INTRODUCTION

This report presents the geotechnical planning review for the proposed development based on the available ground information in supplementary to the master layout plans.

The development involved the construction of four blocks of 3 to 4 storey residential building with carparking podium.

The geotechnical review is prepared under the supervision of Registered Geotechnical Engineer, Wong Wai Yi 0151939, in accordance with the requirement set out in PNAP-APP25 (PNAP 78). This report contains the following as listed.

- Impact and proposed investigation to the adjoining premises
- Conclusion and recommendation

2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

The captioned site locates in a valley opposing Pak Wai in Sai Kung, The total area of the site is about 12,692m^2. The elevation of the site is about +4.5 – 7.5mPD. A site location plan is attached in Figure 1.

2.2 Existing Features

According to the Slope Information System, features related to the Site are listed as follow:

1) Features within the Site:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
*7SE-D/C 154	Slope	West	DD210 Lot31 Lands D	4.0 m	35	40 m
*7SE-D/F 46	Slope	West	Lands D	5.0 m	40	40 m
7SE-D/FR 70	(Obsolete feature)					

2) Features within the scope of 10m from site boundary

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 153	Slope	West	Lands D	3.5 m	75	60 m
7SE-D/R 54	Wall	East	Lands D	4.4 m	30	85 m

3) Feature attached in the OH Catchment A1:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 163	Slope	West	Lands D	9.0 m	45	45 m

4) Feature attached in the OH Catchment A2:

Feature No.	Type	Location	Responsibility	Height	Angle	Length
7SE-D/C 370	Slope	West	DD210 Lot 11 Lands D	3.8 m	40	16 m

* Refer to Section 6.2.

Location plan & basic information of the features are attached in Appendix A. The available information indicates that the slope shall be in good condition.

A natural terrain is located at the west of the site.

3. THE PROPOSED DEVELOPMENT

The development involved the construction of residential development of four blocks of 3 to 4 storey residential building with one-level basement carpark. The schematic master layout plan and diagramatic section of the proposed new building are given in Figure 2 and Figure 3.

4. EXISTING INFORMATION

4.1 Ground Investigation Information

Two boreholes carried out by Enpack (HK) Ltd. In 2001 BH8 and BH9 were found within the site, information is given in Appendix B.

4.2 Layout of Existing Utilities

Enquiries shall be made to various utility companies for the layout of existing utilities adjacent to the site. A waterpipe laid along the existing footpath to be diverted before the site formation work.

4.3 Layout of Existing Building Structure

There is one temporary structure of concrete building in the lot and this will be demolished during the development. Abandoned

5. GROUND CONDITIONS

5.1 Topography

The elevation of site is about +4.5 – 7.5mPD. The site can be accessed via Access road from Hiram's Highway. The total area of the site is about 12,692m^2.

5.2 Geology

From the two boreholes information, the site would be covered by a layer of fill/ alluvium/ residual soil of 2m to 6m thick. Underneath the fill/ alluvium/ residual soil there would be a layer of grade V to IV TUFF. Grade III or better grade of Tuff be found at a depth of 3m to 6m below existing ground level.

Soil Properties

FILL
Fill generally consists of light brown, sandy silt.

ALLUVIUM
Alluvium generally consists of firm, greyish brown, silt or clayey sand, locally sandy or silty clay.

TUFF
Tuff was classified as weak to strong, light yellowish brown, highly to slightly decomposed, coarse ash crystal.

5.3 Groundwater Condition

Based on the available ground investigation information, highest water table may be at about 2m below existing ground level.

6. PROPOSED WORKS

6.1 Proposed Ground Investigation Works

The proposed Ground Investigation works for the site area at D.D.210, Sai Kung for the proposed development will include drilling of 7 vertical drillholes with installation of 3 standpipe / piezometer inside the site. Sampling of soil/rock material and testing will be proposed to determine the soil/rock properties.

6.2 Proposed Works on Existing Features

There are 2 existing features within the site and 4 outside site boundary but close to the site.

The stability of existing features within or close to the site (including any unregistered features) to be affected or being affected by the development during site formation works shall be assessed. Monitoring works shall be carried out during the whole construction period. Remedial or upgrading works shall be proposed and carried out if found necessary.

6.3 Proposed Works on Natural Terrain

6.3.1 Description of the Catchment Area

Based on available topographic maps No. 7SE-25A and 7SE-25C of Hong Kong from the Survey & Mapping Office (SMO) of the Lands Department, the hillside catchment westbound of proposed Redevelopment understudy are described below, and presented as Figure 4, with relevant cross-sections of the catchment presented as Figure 5 to 7.

The Study Area can be sub-divided into 3 major Catchment i.e.

(a) Catchment A1 & A2 – They are piece of abandoned cultivated land. The majority portion of these areas is characterized by moderately gentle terrains 28° to 32° .

(b) Catchment B – Undisturbed natural openhill terrain. Here, the ridgeline of the hillside running from NW to SE downhill direction. On the NE flank of the hillside, the contour run from +66 mPD highest to +42 mPD bounding the perimeter of Catchment A1. The majority portion of this catchment is characterized by gentle to moderately gentle terrains 20° to 33° .

(c) Catchment C – the contour within this catchment contain pronounced topographic depression with a definite flow path running downhill north easterly. The identified runoff angle in this depression zone is moderately gentle to gentle i.e. 16° to 23° .

6.3.2 Published Geology

Available geological information for the Catchment Areas have been reviewed. Based on Glnfo Geological May & Solid Geology, the catchment are underlain by course ash crystal TUFF, with overlying colluvium. Part plan of geological mapsheets are attached in Appendix D.

6.3.3 Landslide Inventories

According to the ENTL1 dataset (Appendix C refers), there are three historic relict landside first identified in 1963. These are 07SED0074E, 07SED0075E & 07SED0076E. These locations are marked on Aerial photos 1963 attached in Appendix E, also marked on Figure 4. In which two of them lies totally outside the Catchment Zone. Only 07SED0075E is of relevant to this study, and is further discussed in 6.3.4.

6.3.4 Catchment Study

As revealed from aerial photographs from 1963 to 2024. The catchment understudy has no pass landslide failure. These pre-historic events were identified. Two of these totally lied outside study catchment and direction of landslide is non-critical. Lies within Catchment B, and had a flow direction towards Catchment C. No debris flow path can be traced in 1963 aerial photo. Primarily

Catchment C remained undisturbed.

In conclusion, Catchment A1 & A2 were cultivated land which likely have been progressively abandoned from 1963 onwards. Therefore, this vast piece of farmland and its surrounding natural habitats have been gradually covered up fully by mature dense vegetation. A summary of API is attached in Appendix E.

6.3.5 Screening of Catchment in accordance with GEO Report 138

The catchment areas understudy have no past landslide failure record since 1963 to 2024. The catchments are in stable conditions. Based on GEO Report No. 138, the proposed Site Redevelopment is classified as Facility Group 1(a) in Table 2-2. Referring to Section 2.3.3 In-principle Objection Criteria, the site is NOT faced with severe terrain hazards. It is not located within an angle of reach of 35° from any natural terrain at an elevation of 50m and more above the proposed site formation level. The Site is not located on, or immediately below terrain that is known to be affected by outside, long scale movement. Hence, it does not satisfy the In-principle Objection Criteria.

Thus, referring to 2.3.4 Alert Criteria Fig 2.5, the only critical Cross Section A-A (Figure 5) fall within the requirement of a Natural Terrain Hazzard Studies (NTHS) to be carried out. Since Catchment B have no landslide records since 1963 and the natural catchment is fully covered by mature vegetation. It is proposed the hillside in Catchment A1 disturbed by human activities shall carry out further study. The extent of natural terrains affecting the Site to be studied is demarcated in Figure 8.

6.4 Proposed Foundation Works

The proposed development comprises four blocks of 3 to 4 storey residential building with one level of basement carpark. The available ground investigation information indicates that the rockhead level, defined as weathering grade III or better rock with total core recovery greater than 85%, or a firm stratum such as grade IV rock, may be encountered on average at a level about 3m to 6m below the existing ground. As the loading from the building is comparatively general, mini pile or pre-boring socket H-piles are considered to be feasible foundation options for the proposed building. In case the rock head level is shallow or the bearing capacity is checked to the adequate, footing foundation shall be an alternative. The proposed foundation scheme of the development shall have minimal effect or impact to the stability of all slopes (man-made & natural terrains), retaining walls and existing building or structures within or in vicinity to the lot. Detailed foundation design will be submitted separately when the proposed ground investigation works are completed. Stability of all existing slopes (man-made & natural terrains) and retaining wall (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction shall be assessed & remedial works shall be carried out if found necessary.

6.5 Proposed Site Formation, Excavation and Lateral Support Works

Since the proposed building platform is similar to existing ground level of the site, site formation works are considered to be minimal. For the construction of footing / pile cap, open excavation, sheet pile / pipe pile / soldier pile wall with walings and struts are considered to be feasible scheme to retain excavation depth. The choice of scheme of temporary support shall be subject to detail assessment. Stability of all existing slopes (man-made & natural terrains) and retaining walls (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction shall be assessed & remedial works shall be carried out if found necessary. The detailed design of the works will be submitted separately.

6.6 Construction Method & Sequence

Monitoring points shall be installed & initial reading shall be recorded prior commencement of any works. Remedial works on existing slopes & retaining walls being affected shall be carried out prior commencement of site formation, ELS, foundation & superstructure. Pre-boring shall be carried out prior H-pile installation.

Obstruction during pipe pile installation for temporary ELS shall be overcome by pre-boring. Strut of the ELS shall not be dismantled until completion of the permanent screen wall support the level difference. All temporary cut slope and back filling shall be backfilled by proper material with proper compaction. Groundwater shall be controlled during the excavation. Excessive groundwater drawdown at the adjacent ground shall not be allowed.

7. IMPACTS ON ADJACENT PREMISES/GEOTECHNICAL FEATURES

As the existing registered retaining walls & slope is in close proximity to the captioned site, consideration shall be taken in the design of the proposed works. Also, vibration caused by the installation of the pipe piles / socket H-pile and the ground settlement caused by the wall deflection and dewatering in the excavated areas may cause adverse effects to the adjacent utilities and structures. Therefore, it is necessary to limit the amount of vibration and ground settlement by adoption suitable lateral support works design and construction method. Pre-boring shall be carried out prior installation of piling for foundation and ELS. In all case, stability of existing geotechnical features within or in vicinity to the lot affecting or being affected by the development shall be assessed & remedial works shall be carried out if found necessary.

Groundwater control during the excavation is also critical for the design. Excessive groundwater drawdown at the adjacent ground is not allowed because ground settlement will be induced and damage will be caused to the adjacent structures and utilities. Detail assessment and design will be included in the foundation, site formation and ELS submission.

In addition, in order to ensure the adjacent premises will not be damaged by the proposed works, settlement monitoring stations, titling check points and building settlement pins will be proposed to be installed around the site. The movement of the adjacent premises will be monitored at these stations continuously throughout the work period. The noise from proposed works shall be kept within acceptable limit to minimize the disturbance to the environment. The detailed assessment and discussion on these aspects will be presented in the separate submission for ELS works.

8. CONCLUSION

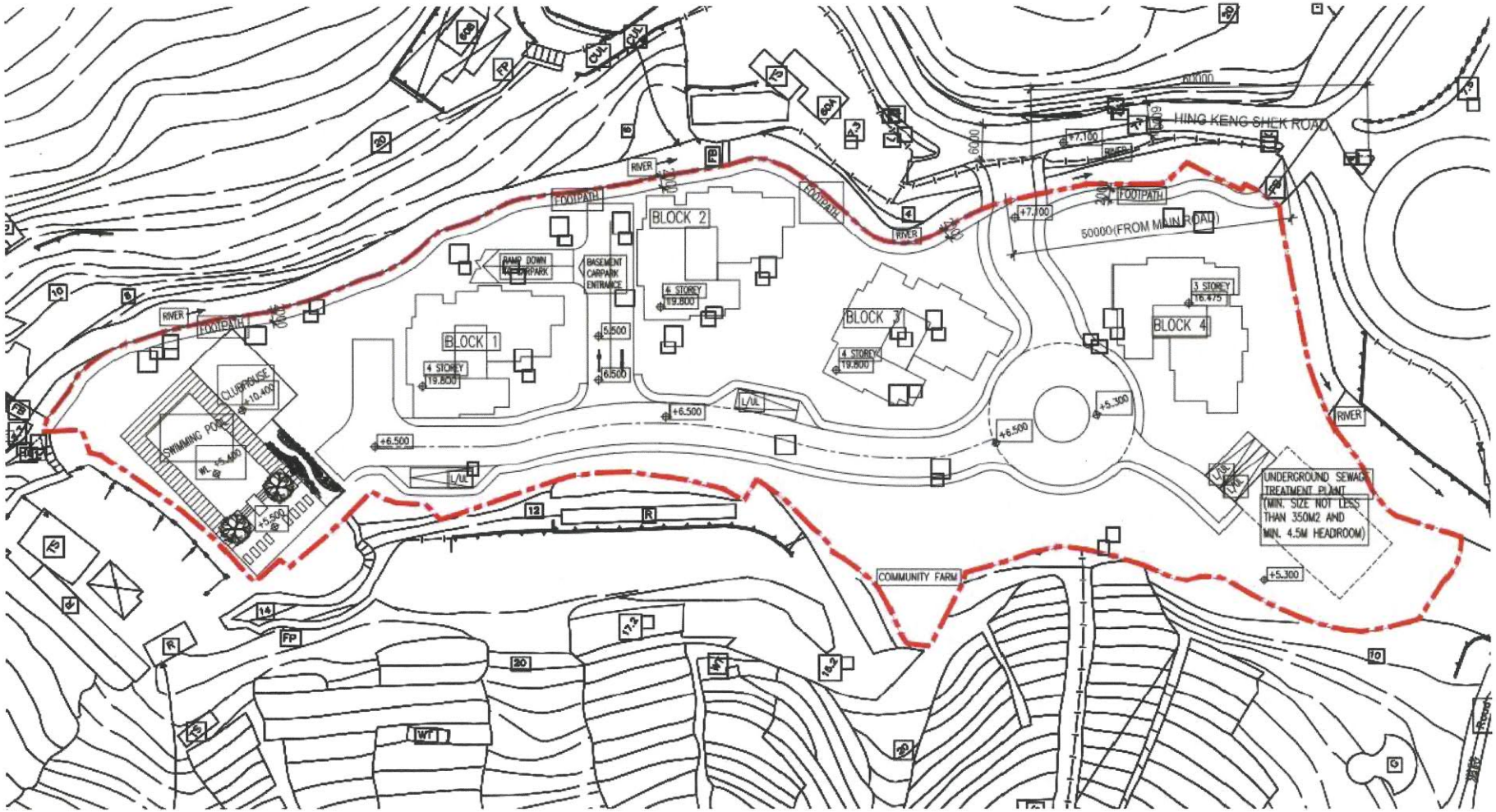
On the basis of the available geotechnical information, the following conclusions and recommendation are drawn:

- The proposed development as presented in the Master Layout Plan is considered as a geotechnical feasible scheme.
- Ground investigation works will be carried out within the proposed development site.
- Mini pile or socket H pile with pre-boring is considered to be feasible foundation options for the proposed development. Footing may be an alternative if the soil stratum at shallow level provides adequate bearing capacity.
- The site formation works for the proposed development shall be minimal.
- Suitable groundwater control scheme shall be considered in design to avoid excessive groundwater drawdown at the adjacent area.
- Proper excavation and lateral support works design and construction method have to be adopted to minimize the adverse effect on the existing utilities and structures. The detailed discussion will be presented the separate submission for excavation and lateral support works.
- Stability of all slopes (man-made & natural terrains) and retaining walls (including unregistered features) within or in vicinity to the lot affecting or being affected by the development during demolition & construction works shall be assessed & remedial works shall be carried out if found necessary.
- Stability of the natural terrain affecting or being affected by the development permanently or temporarily during demolition & construction works shall be assessed & monitored. Mitigation works shall be proposed and carried out as necessary.

It is noteworthy to note that the works / proposal mentioned in this report are preliminary only at the planning stage and will be subjected to detailed study in the detail design stage under separate cover. Based on the current assessment, the proposed development is considered geotechnical feasible.

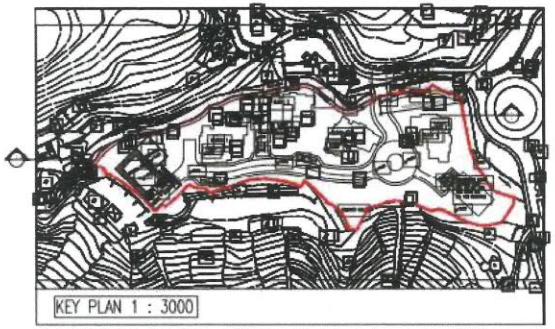
Site Location Plan
(Extracted from Draft Ho Chung Outline Zoning Plan No. S/SK-HC/12)

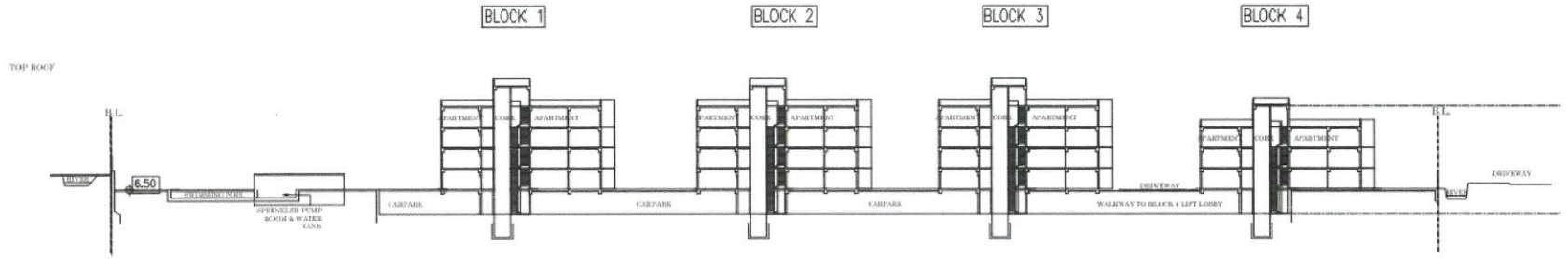
Figure 1



Master Layout Plan

Figure 2





DIAGRAMATIC SECTION

Diagramatic Section

Figure 3

LEGEND:

- LOT BOUNDARY
- SCOPE WITHIN 10m FROM LOT BOUNDARY
- SLOPE FEATURES
- OH CATCHMENT A1/A2 ABANDONED CULTIVATED LAND OPEN HILL SIDE
- OH CATCHMENT B OPEN HILL SIDE
- CD CATCHMENT C CHANNELISED
- A A — SECTIONS
- DH8 — EXISTING DRILLHOLES

HING KENG SHEK ROAD

10m FROM B.L

07SED0074E

07SED0075E

07SED0076E

DH8

DH9

7SE-D/C 163

7SE-D/F 46

7SE-D/R 54

7SE-D/C 154

7SE-D/C 153

7SE-D/C 370

RIDGE LINE

A1

A2

B

C

31'

20'

33'

32'

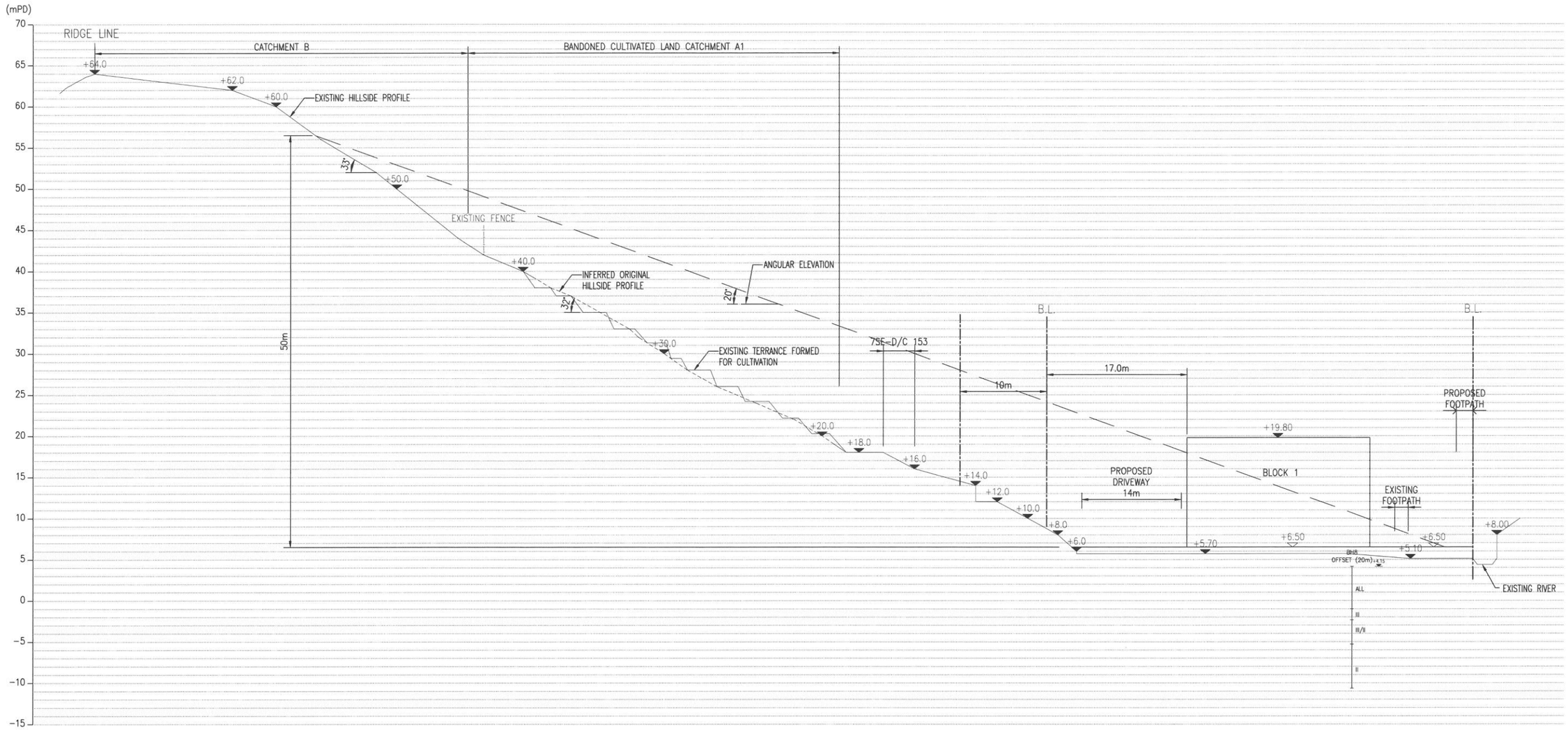
28'

23'

16'

SCALE : 1:1000

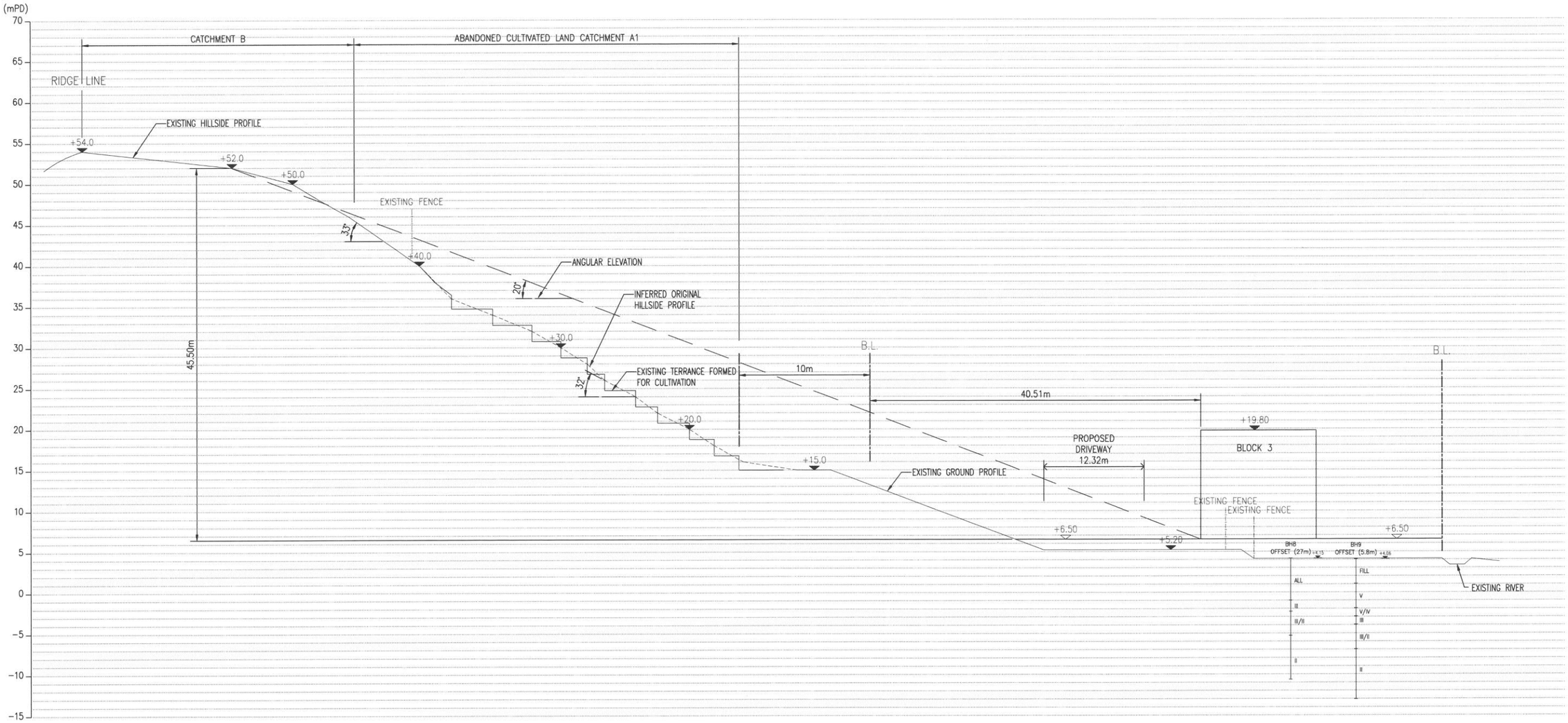
FIGURE 4



SECTION A–A

1 : 500

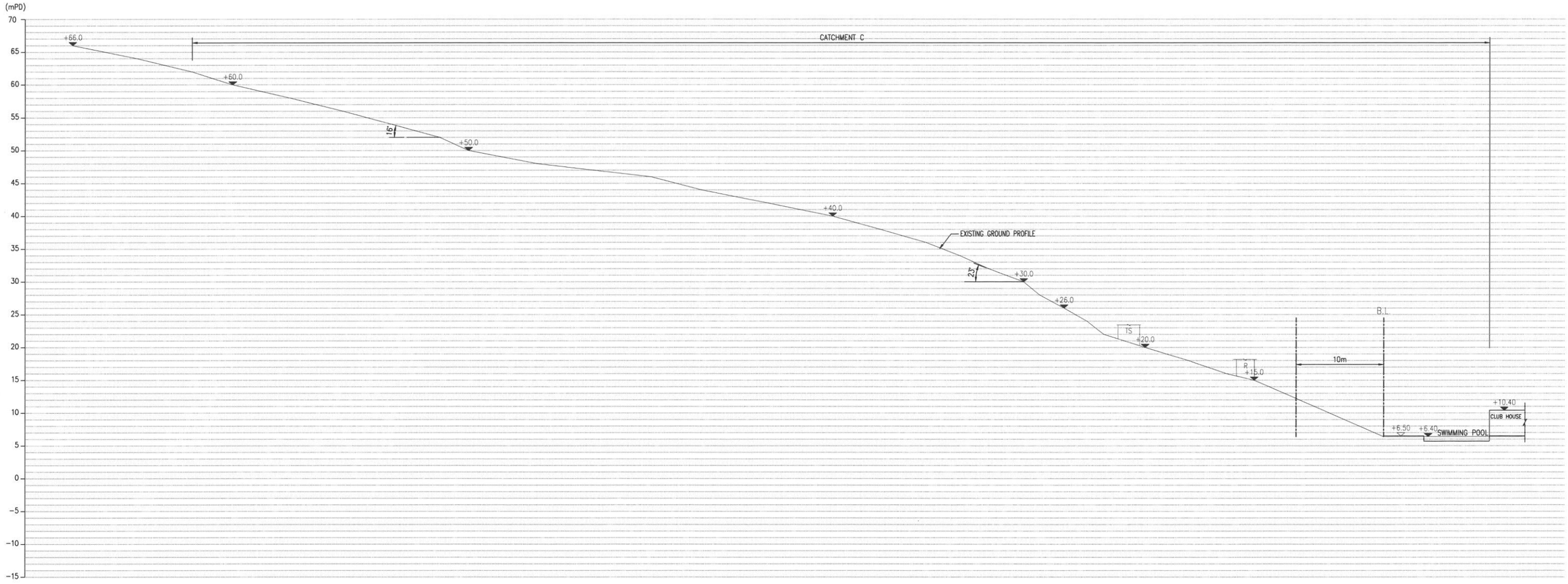
FIGURE 5



SECTION B–B

1 : 500

FIGURE 6



SECTION C–C

1 : 600

FIGURE 7

LEGEND:

- LOT BOUNDARY
- SCOPE WITHIN 10m FROM LOT BOUNDARY
- SLOPE FEATURES
- OH CATCHMENT A1/A2 ABANDONED CULTIVATED LAND OPEN HILL SIDE
- OH CATCHMENT B OPEN HILL SIDE
- CD CATCHMENT C CHANNELISED
- A A — SECTIONS
- DH8 — EXISTING DRILLHOLES
- PROPOSED NTHS STUDY AREA

N

HING KENG SHEK ROAD

RIDGE LINE

07SED0074E

07SED0075E

07SED0076E

7SE-D/C 163

7SE-D/F 46

7SE-D/R 54

7SE-D/C 154

7SE-D/C 153

7SE-D/C 370

DH8

DH9

A1

A2

B

C

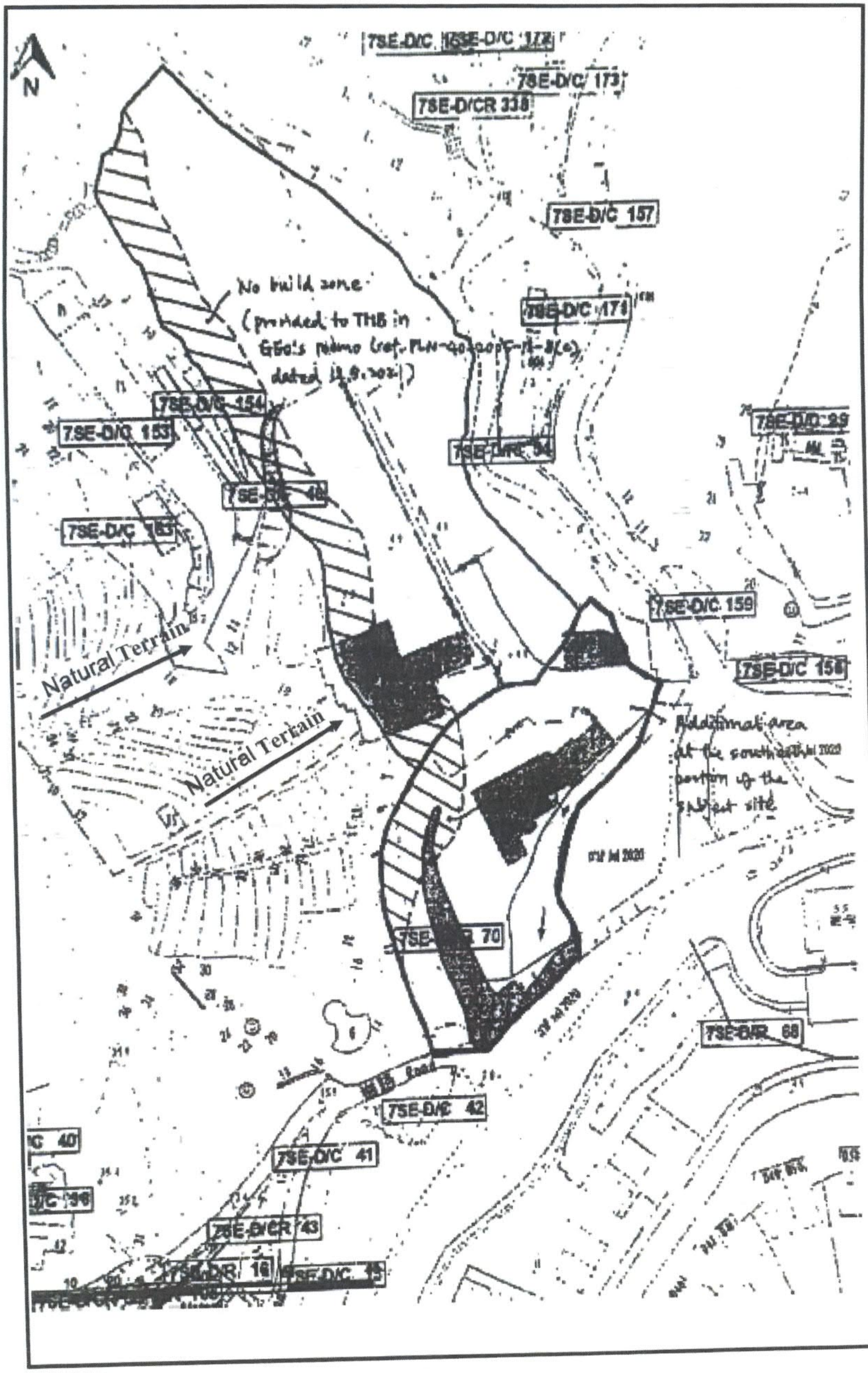
10m FROM B.L

SCALE : 1:1000

FIGURE 8

Appendix A

Information of Existing Slopes/ Retaining Walls


N
7SE-D/C 172
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
No build zone
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/C 159
7SE-D/C 156
7SE-D/D 29
Natural Terrain
Natural Terrain
7SE-D/C 42
7SE-D/C 41
7SE-D/CR 43
7SE-B/R 68

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village, Sai Kung
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 844005 Northing : 824697

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Remote area or abandoned facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Remote area or abandoned facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 4 Length (m): 35 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 1,5b(vi),7 Reason Code: 62,90 MR Endorsement Date: 05-05-1998
(2) Sub Div.: 2 Mixed Feature Party: DD210 Lot31 Agent: N/A Land Cat.: 1,5b(vi),7 Reason Code: 1 MR Endorsement Date: 05-05-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	04-12-2018
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

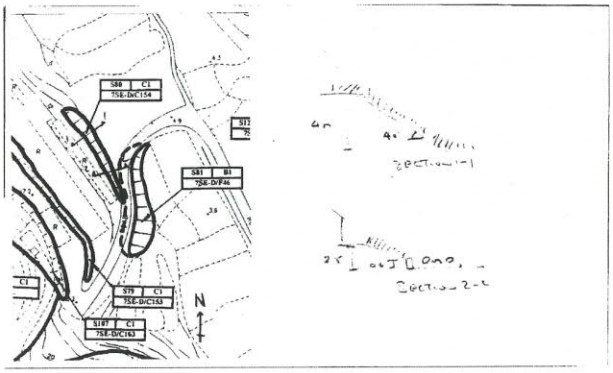
GIU Cell Ref.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	04-12-2018
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 0
Type of Toe Facility:	Remote area or abandoned facilities
Distance from Toe(m):	0
Type of Crest Facility:	Remote area or abandoned facilities
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	U
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Minor (mid-portion) Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3
Observations:	N/A

Emergency Action Required:	N
Action By:	N/A

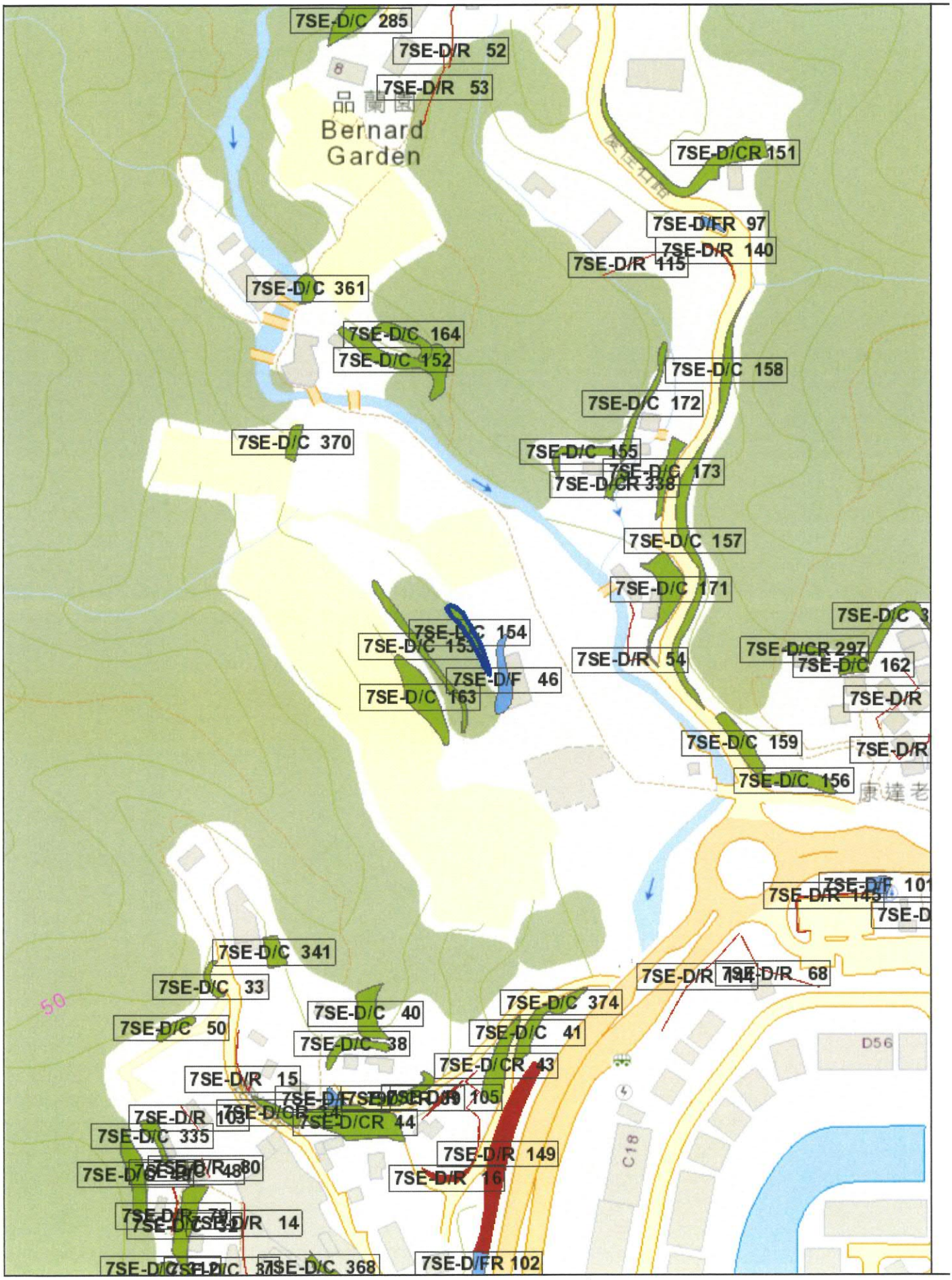
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	N
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
品蘭園
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/F 46
7SE-D/C 163
7SE-D/R 54
7SE-D/CR 297
7SE-D/C 162
7SE-D/R
7SE-D/C 159
7SE-D/R
7SE-D/C 156
7SE-D/F 101
7SE-D/R 145
7SE-D
7SE-D/C 341
7SE-D/C 33
7SE-D/R 144
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/R 103
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
D56
C18
50

BASIC INFORMATION

Location:	SOUTHERN PART OF HING KENG SHEK VILLAGE
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (Notional)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	SIRST
Approximate Coordinates:	Easting : 844019 Northing : 824678

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Road/footpath with very low traffic density
Distance of Facility from Crest (m):	0
Facility at Toe:	Remote area or abandoned facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 35 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD210 LOT31 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 15-03-2001
(2) Sub Div.: 2 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 15-03-2001

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	13-03-1997
Data Source:	SIRST
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	13-03-1997
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	
Weather:	
District:	ME
Section No:	1-1
Height(m):	
Type of Toe Facility:	Remote area or abandoned facilities
Distance from Toe(m):	0
Type of Crest Facility:	Road/footpath with very low traffic density
Distance from Crest(m):	0
Consequence Category:	
Engineering Judgement:	
Section No:	2-2
Type of Toe Facility:	
Distance from Toe(m):	
Type of Crest Facility:	
Distance from Crest(m):	
Consequence Category:	
Engineering Judgement:	
Sign of Seepage:	
Criterion A satisfied:	
Sign of Distress:	
Criterion D satisfied:	
Non-routine maintenance required:	
Note:	
Masonry wall/Masonry facing:	
Note:	
Consequence category (for critical section):	
Observations:	N/A
Emergency Action Required:	
Action By:	N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	
Action By:	N/A
Non-routine Maintenance:	

Action By: N/A

PHOTO


7SE-D/R 52
7SE-D/R 53
品蘭園
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 327
7SE-D/C 154
7SE-D/C 153
7SE-D/CR 297
7SE-D/R 54
7SE-D/C 162
7SE-D/F 46
7SE-D/C 163
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
康達老人中
7SE-D/F 101
7SE-D/R 145
7SE-D/C 341
7SE-D/C 33
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
D56
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
C18
7SE-D/R 79
7SE-D/C 32
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
7SE-D/C 31
7SE-D/CR 47

(OBSOLETE FEATURE)

BASIC INFORMATION

Location: Hiram's Highway

Date of Formation: post-1977

Date of Construction/ Modification:

Approximate Coordinates: Easting : 844090 Northing : 824574

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest: Road/footpath with heavy traffic density

Distance of Facility from Crest (m): 0

Facility at Toe: Horticulture garden

Distance of Facility from Toe (m): 0

Consequence-to-life Category: 2

Remarks: N/A

SLOPE PART

(1) Max. Height (m): 4 Length (m): 140 Average Angle (deg): 30

WALL PART

(1) Max. Height (m): 2 Length (m): 58 Face Angle (deg): 90

MAINTENANCE RESPONSIBILITY

Government Feature Party: HyD Agent: HyD

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 18-06-2010
Data Source: EI(HyD)
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

Wall Part (1)
Type of Wall: Wall Material: Concrete Wall Location: Wall at toe
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

SERVICES

(1) Utilities Type: Cable Size(mm): 0 Location: On crest Remark: Size cannot be determined
(2) Utilities Type: Electricity Size(mm): 0 Location: On crest Remark: Size cannot be determined
(3) Utilities Type: Gas Size(mm): 0 Location: On crest Remark: Size cannot be determined
(4) Utilities Type: Sewer/Drain Size(mm): 0 Location: On crest Remark: Size cannot be determined
(5) Utilities Type: Water Main Size(mm): 100 Location: On crest Remark: N/A
(6) Utilities Type: Water Main Size(mm): 150 Location: On crest Remark: N/A

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Horticulture garden

Distance from Toe(m): 0
Type of Crest Facility: Road/footpath with heavy traffic density

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:	
Criterion A satisfied:	
Sign of Distress:	
Criterion D satisfied:	
Non-routine maintenance required:	
Note:	
Masonry wall/Masonry facing:	
Note:	
Consequence category (for critical section):	
Observations:	N/A
Emergency Action Required:	
Action By:	N/A

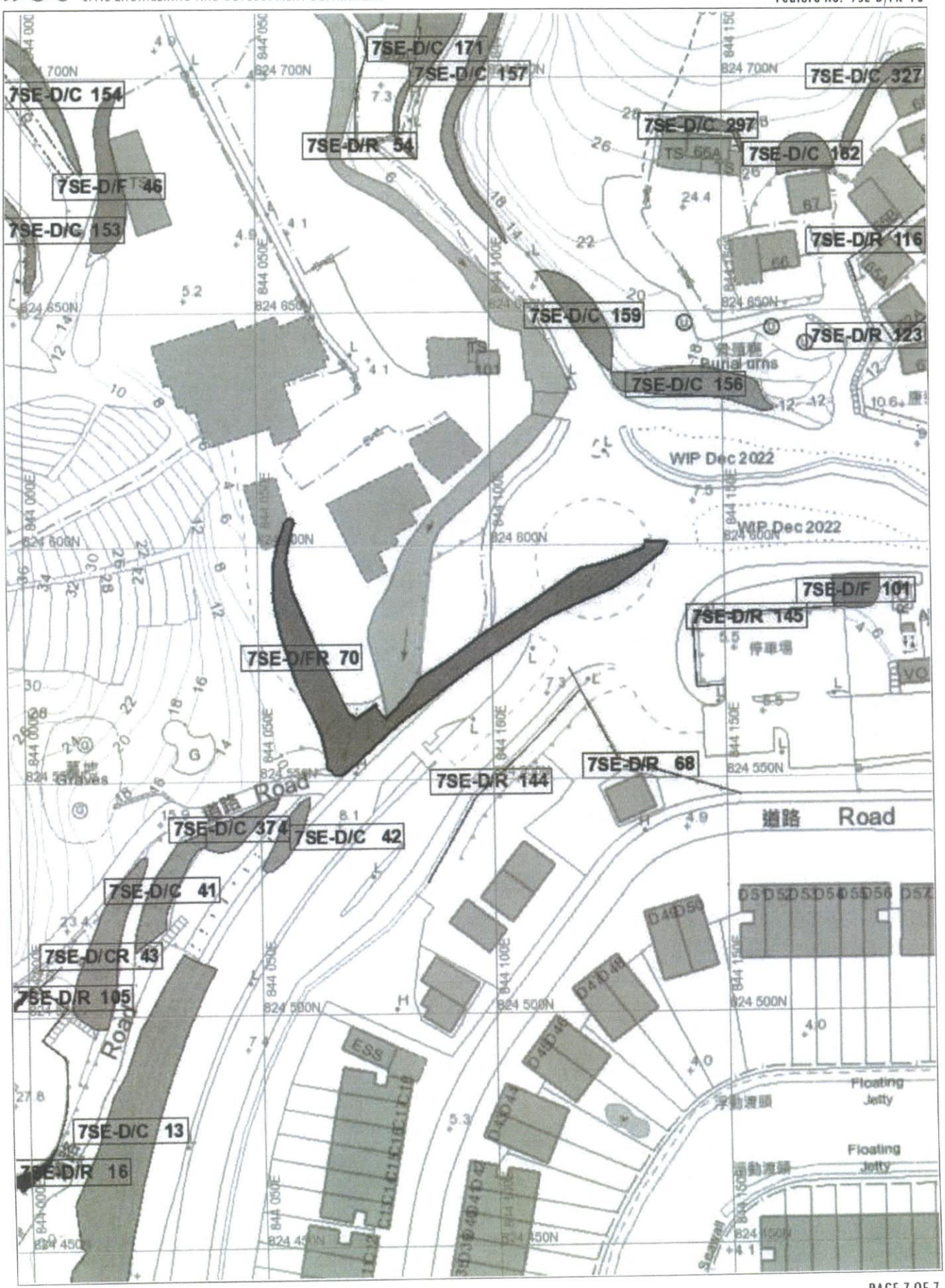
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	
Action By:	N/A
Non-routine Maintenance:	
Action By:	N/A

PHOTO


7SE-D/C 171
7SE-D/C 157
7SE-D/C 154
7SE-D/C 327
7SE-D/C 297
7SE-D/R 54
7SE-D/C 162
7SE-D/F 46
7SE-D/C 153
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
WIP Dec 2022
WIP Dec 2022
7SE-D/F 101
7SE-D/R 145
7SE-D/FR 70
7SE-D/R 68
7SE-D/R 144
7SE-D/C 374
7SE-D/C 42
7SE-D/C 41
7SE-D/CR 43
7SE-D/R 105
7SE-D/C 13
7SE-D/R 16
Road
Road
Road
Floating Jetty
Floating Jetty

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village, Pak Sha Wan
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843982 Northing : 824693

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Remote area or abandoned facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Remote area or abandoned facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	3
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 3.5 Length (m): 75 Average Angle (deg): 60

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 01-09-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	04-12-2018
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

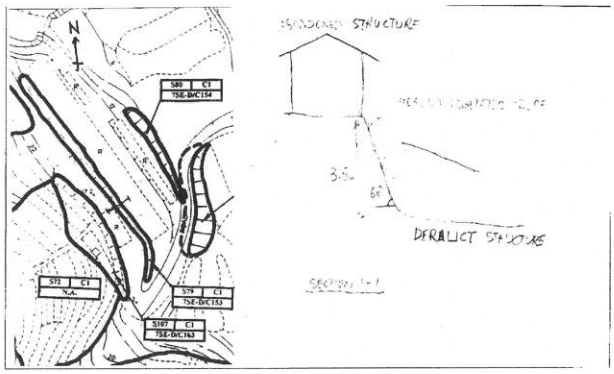
GIU Cell Ref.:	7SE25A8
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	04-12-2018
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 0
Type of Toe Facility:	Remote area or abandoned facilities
Distance from Toe(m):	0
Type of Crest Facility:	Remote area or abandoned facilities
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	3
Engineering Judgement:	P
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Reasonable (mid-portion) Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	3
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

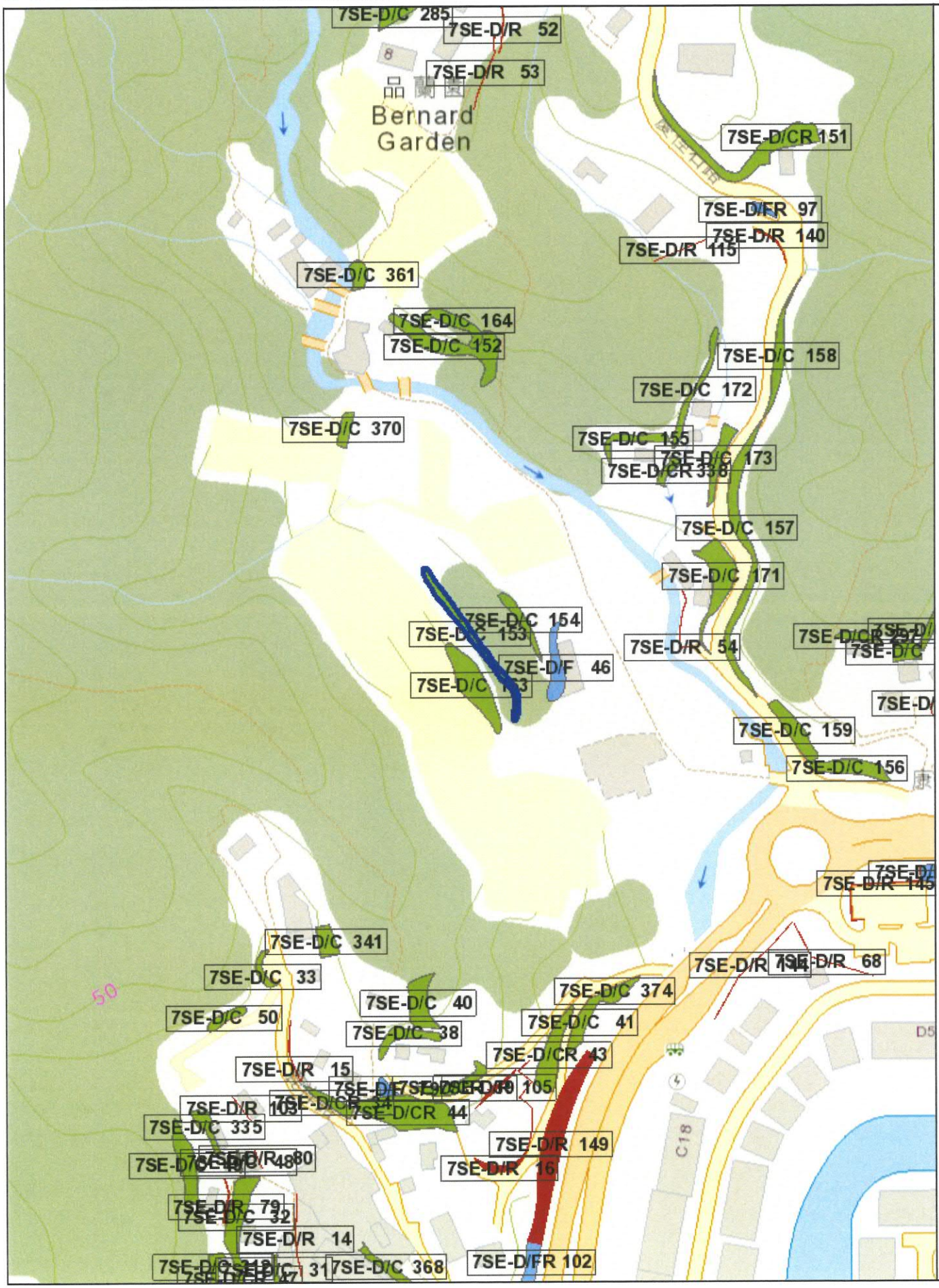
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	Y
Action By:	Mixed

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO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7SE-D/R 52
7SE-D/R 53
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
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7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 14
7SE-D/C 368
7SE-D/FR 102
C18

BASIC INFORMATION

Location:	Hing Keng Shek Road, Sai Kung
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	17-03-2010
Data Source:	Project Office
Approximate Coordinates:	Easting : 844072 Northing : 824698

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Cottage, licensed and squatter area
Distance of Facility from Crest (m):	3
Facility at Toe:	Catchwater w/consequence on Group 5 facilities
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

N/A

WALL PART

(1) Max. Height (m): 4.4 Length (m): 30 Face Angle (deg): 85

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 22-03-2011

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	12-02-2019
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

N/A

WALL PART

Wall Part (1)
Type of Wall: Wall Material: Concrete Wall Location: Retaining wall with level platform
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): 75 Spacing (m): 1.5

SERVICES

N/A

CHECKING STATUS INFORMATION

Tagmark: SCS_14115 Part: 0 Checking Status: Feature modified/upgraded to current standard Checking Certificate No.: GEO/ME 085/2011

BACKGROUND INFORMATION

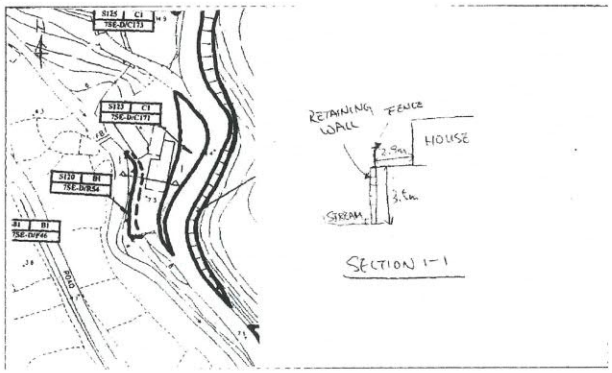
GIU Cell Ref.:	7SE25A9
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	12-02-2019
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1962
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 4 , H2 : 4
Type of Toe Facility:	Catchwater w/consequence on Group 5 facilities
Distance from Toe(m):	0
Type of Crest Facility:	Cottage, licensed and squatter area
Distance from Crest(m):	3
Consequence Category:	1
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	
Distance from Toe(m):	
Type of Crest Facility:	
Distance from Crest(m):	
Consequence Category:	1
Engineering Judgement:	P
Sign of Seepage:	Slope : N/A Wall : Signs of seepage
Criterion A satisfied:	N
Sign of Distress:	Slope : N/A Wall : Moderate(mid-portion, at toe)
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	Y
Note:	N/A
Consequence category (for critical section):	1
Observations:	N/A
Emergency Action Required:	N
Action By:	N/A

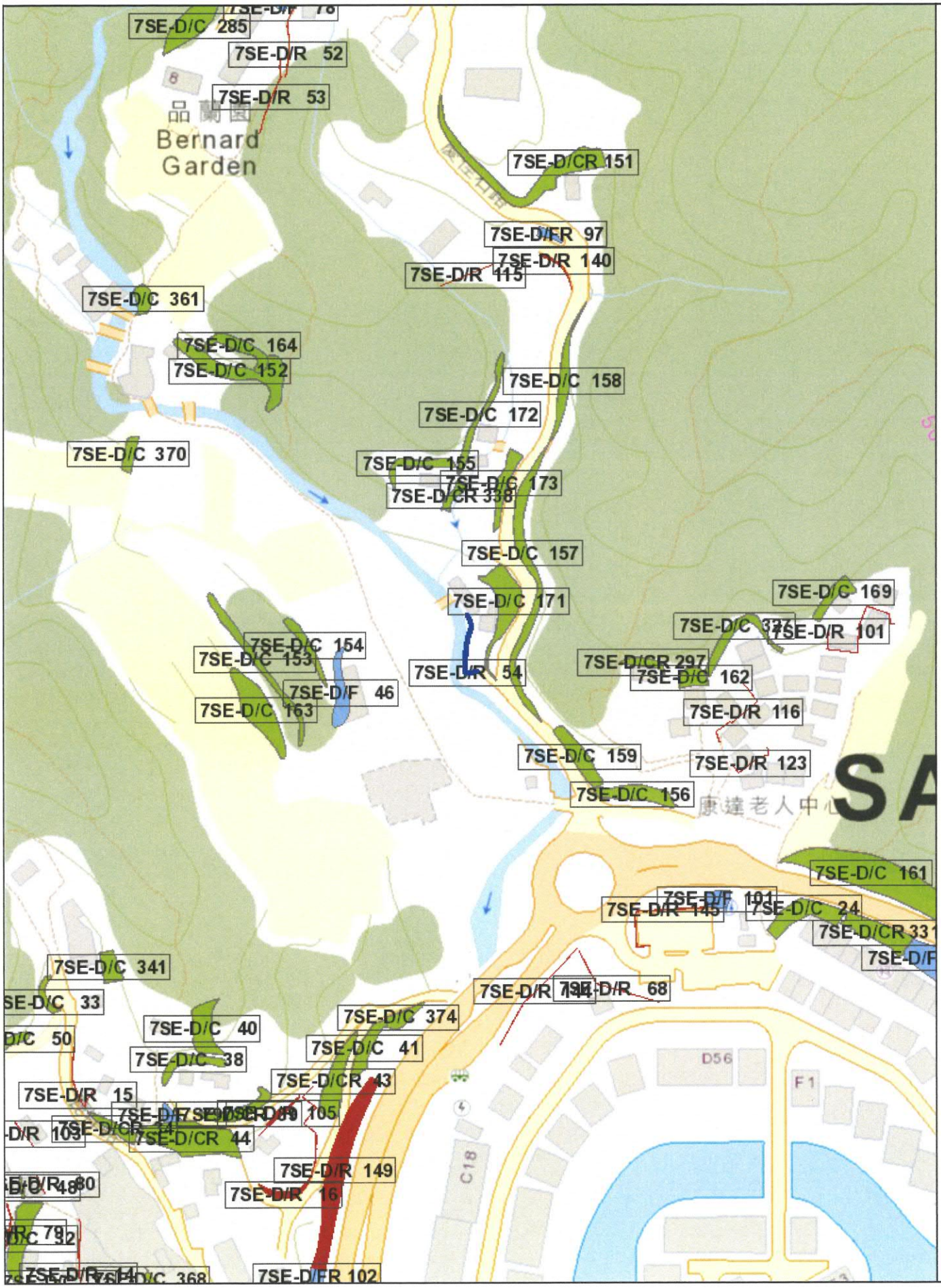
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	Y
Action By:	Mixed

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 169
7SE-D/R 101
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/CR 297
7SE-D/C 162
7SE-D/F 46
7SE-D/C 163
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 156
7SE-D/C 161
7SE-D/R 145
7SE-D/C 24
7SE-D/C 341
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 149
7SE-D/R 16
7SE-D/FR 102
D56
F1
C18

BASIC INFORMATION

Location:	Southern part of Hing Keng Shek Village
Registration Date:	19-12-1997
Ranking Score (NPRS):	0 (EI)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843985 Northing : 824668

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Undeveloped green belt
Distance of Facility from Crest (m):	0
Facility at Toe:	Lightly-used playground
Distance of Facility from Toe (m):	1
Consequence-to-life Category:	3
Remarks:	TGN 15 case - provided by SP Division (31 MAR 2004)

SLOPE PART

(1) Max. Height (m): 9 Length (m): 45 Average Angle (deg): 45

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 05-05-1998

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	13-11-2008
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: Decomposed volcanic
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

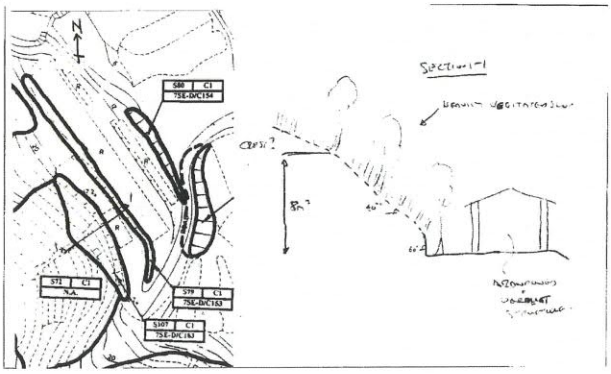
GIU Cell Ref.:	7SE25A8
Map Sheet Reference (1:1000):	7SE-25A
Aerial Photos:	9301 (1974), 9302 (1974)
Nearest Rainguage Station (Station Number):	Pak Kong Tsui Hang Special Area Management Centre(N50)
Data Collected On:	13-11-2008
Date of Construction, Subsequent Modification and Demolition:	Modification: Constructed Before: 1974 After: 1968
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	13-03-1997
Weather:	Mainly Fine
District:	ME



Section No:	1-1
Height(m):	H1 : 8 , H2 : 0
Type of Toe Facility:	Lightly-used playground
Distance from Toe(m):	1
Type of Crest Facility:	Undeveloped green belt
Distance from Crest(m):	0
Consequence Category:	1
Engineering Judgement:	P
Section No:	2-2
Type of Toe Facility:	N/A
Distance from Toe(m):	0
Type of Crest Facility:	N/A
Distance from Crest(m):	0
Consequence Category:	1
Engineering Judgement:	P
Sign of Seepage:	Slope : No signs of seepage Wall : N/A
Criterion A satisfied:	N
Sign of Distress:	Slope : Minor (mid-portion) Wall : N/A
Criterion D satisfied:	N
Non-routine maintenance required:	N
Note:	N/A
Masonry wall/Masonry facing:	N
Note:	N/A
Consequence category (for critical section):	1
Observations:	TGN 15 case - provided by SP Division (31 MAR 2004)
Emergency Action Required:	N
Action By:	N/A

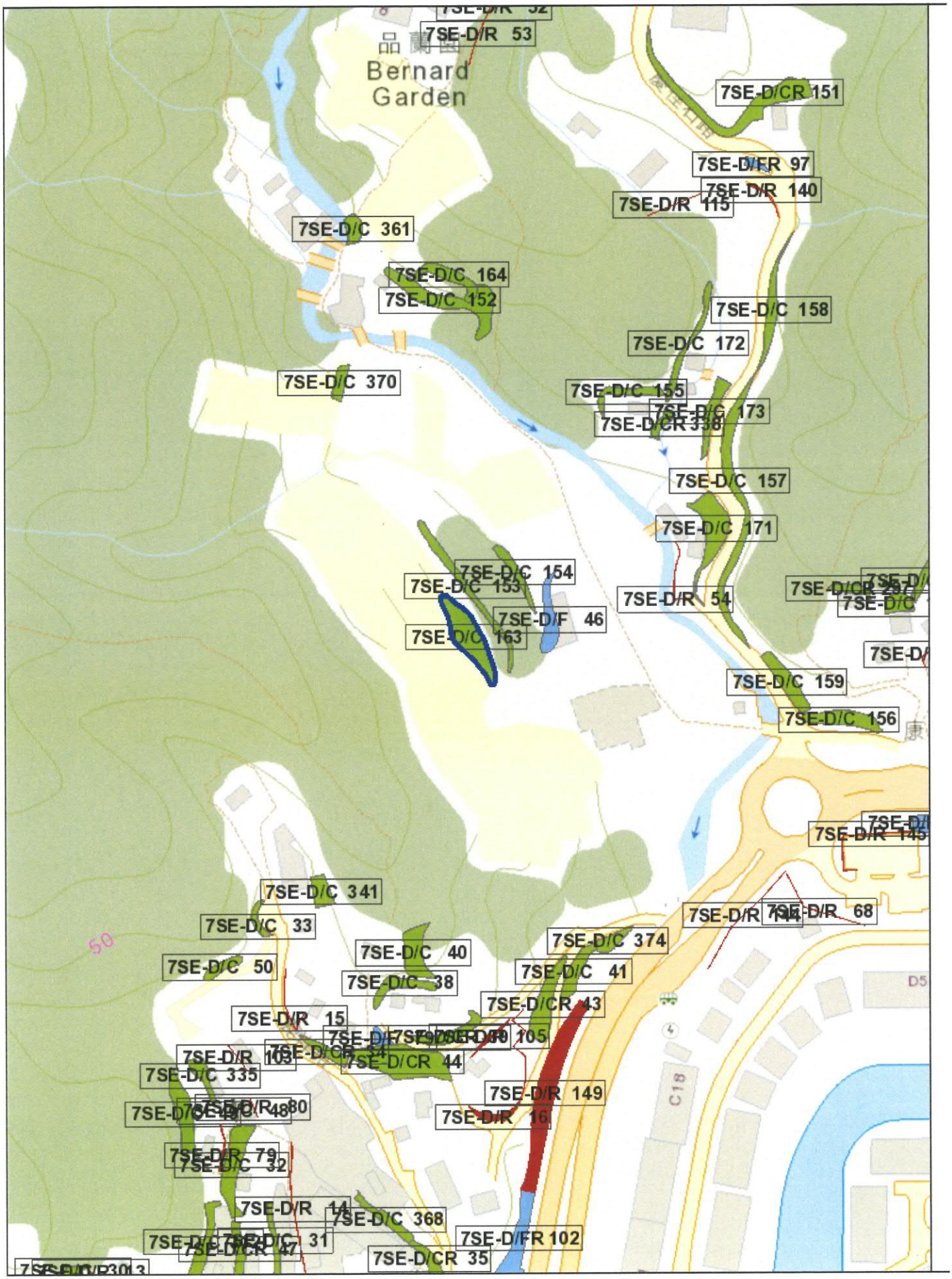
ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	Y
Action By:	Mixed

OTHER EXTERNAL ACTION

Check / repair Services:	N
Action By:	N/A
Non-routine Maintenance:	N
Action By:	N/A

PHOTO


7SE-D/R 53
Bernard Garden
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 140
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 158
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/F 46
7SE-D/C 163
7SE-D/C 159
7SE-D/C 156
7SE-D/R 145
7SE-D/C 341
7SE-D/C 33
7SE-D/R 144
7SE-D/R 68
7SE-D/C 374
7SE-D/C 40
7SE-D/C 50
7SE-D/C 41
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 15
7SE-D/R 105
7SE-D/R 103
7SE-D/CR 44
7SE-D/C 335
7SE-D/R 149
7SE-D/R 16
7SE-D/R 79
7SE-D/C 32
7SE-D/R 44
7SE-D/C 368
7SE-D/C 31
7SE-D/FR 102
7SE-D/CR 47
7SE-D/CR 35
50
C18
D5

BASIC INFORMATION

Location:	Northwest of Marina Cove and West of Hing Keng Shek Road, Southwest Sai Kung
Registration Date:	15-05-2019
Ranking Score (NPRS):	17 (LPMit)
Date of Formation:	post-1977
Date of Construction/ Modification:	
Data Source:	Project Office
Approximate Coordinates:	Easting : 843930 Northing : 824779

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Undeveloped green belt
Distance of Facility from Crest (m):	0
Facility at Toe:	Cottage, licensed and squatter area
Distance of Facility from Toe (m):	0.5
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 3.8 Length (m): 16 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD210 LOT 11 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 19-10-2020
(2) Sub Div.: 2 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 19-10-2020

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection:	31-12-2018
Data Source:	Project Office
Slope Part Drainage:	N/A
Wall Part Drainage:	N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: 1 Min. Berm Width (m): 0.8
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	N/A
Map Sheet Reference (1:1000):	N/A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	()
Data Collected On:	31-12-2018
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A
DH-Order (To Be Confirmed with Buildings Department):	None
Advisory Letter (To Be Confirmed with Buildings Department):	None
LPMIS:	None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 25/09/2025)

STAGE 1 STUDY REPORT

Inspected On:	
Weather:	
District:	N/A
Section No:	1-1
Height(m):	
Type of Toe Facility:	Cottage, licensed and squatter area
Distance from Toe(m):	0.5
Type of Crest Facility:	Undeveloped green belt
Distance from Crest(m):	0
Consequence Category:	
Engineering Judgement:	
Section No:	2-2
Type of Toe Facility:	
Distance from Toe(m):	
Type of Crest Facility:	
Distance from Crest(m):	
Consequence Category:	
Engineering Judgement:	
Sign of Seepage:	
Criterion A satisfied:	
Sign of Distress:	
Criterion D satisfied:	
Non-routine maintenance required:	
Note:	
Masonry wall/Masonry facing:	
Note:	
Consequence category (for critical section):	
Observations:	N/A
Emergency Action Required:	
Action By:	N/A

ACTION TO INITIATE PREVENTIVE WORKS

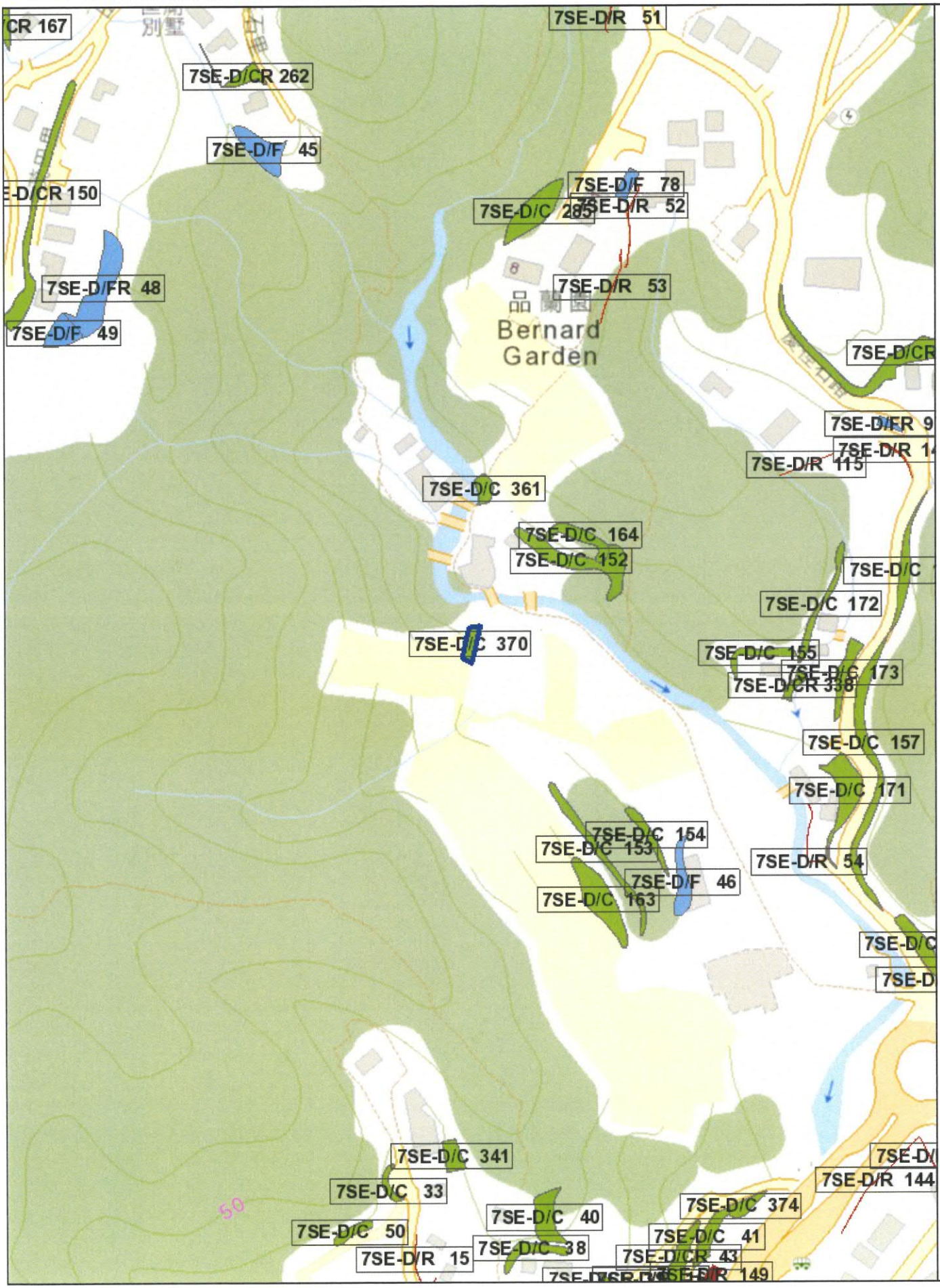
Criterion A/Criterion D:	N/A
Action By:	N/A
Further Study:	
Action By:	N/A

OTHER EXTERNAL ACTION

Check / repair Services:	
Action By:	N/A
Non-routine Maintenance:	

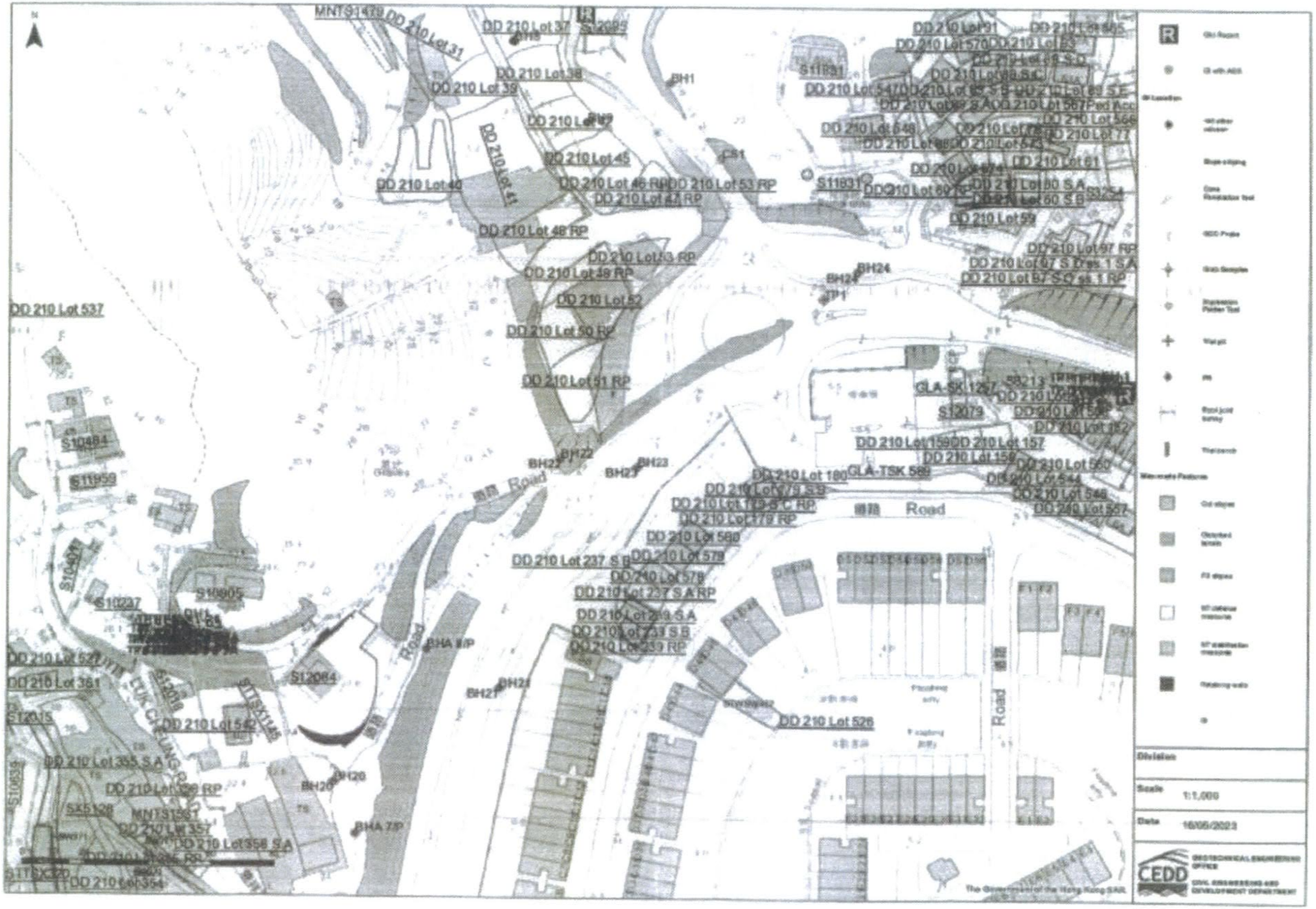
Action By: N/A

PHOTO


7SE-D/R 51
7SE-D/CR 262
7SE-D/F 45
7SE-D/F 78
7SE-D/C 285
7SE-D/R 52
7SE-D/R 53
7SE-D/FR 48
7SE-D/F 49
Bernard Garden
7SE-D/FR 9
7SE-D/R 115
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/C 172
7SE-D/C 370
7SE-D/C 155
7SE-D/CR 338
7SE-D/C 157
7SE-D/C 171
7SE-D/C 154
7SE-D/C 153
7SE-D/R 54
7SE-D/F 46
7SE-D/C 163
7SE-D/C 341
7SE-D/C 33
7SE-D/C 40
7SE-D/C 374
7SE-D/R 144
7SE-D/C 50
7SE-D/C 41
7SE-D/R 15
7SE-D/C 38
7SE-D/CR 43
7SE-D/R 149

Appendix B

Existing Boreholes Information



N
DD 210 Lot 537
DD 210 Lot 37
DD 210 Lot 31
DD 210 Lot 38
DD 210 Lot 39
DD 210 Lot 40
DD 210 Lot 41
DD 210 Lot 45
DD 210 Lot 46 RP
DD 210 Lot 53 RP
DD 210 Lot 47 RP
DD 210 Lot 48 RP
DD 210 Lot 52
DD 210 Lot 50 RP
DD 210 Lot 51 RP
DD 210 Lot 59
DD 210 Lot 61
DD 210 Lot 77
DD 210 Lot 91
DD 210 Lot 97 RP
DD 210 Lot 157
DD 210 Lot 158
DD 210 Lot 180
DD 210 Lot 179 RP
DD 210 Lot 580
DD 210 Lot 579
DD 210 Lot 237 S.B
DD 210 Lot 237 S.A RP
DD 210 Lot 526
DD 210 Lot 542
DD 210 Lot 361
DD 210 Lot 355 S.A
DD 210 Lot 358 S.A
DD 210 Lot 354
GLA-TSK 568
GLA-SK 1257
S10484
S11959
S10237
S10805
S12064
S11831
S13079
BH1
BH20
BH21
BH22
BH23
BH24
BHA 7/P
BHA 8/P
CS1
Road
LUK CHEUNG ROAD
Old Report
Old slopes
Disturbed terrain
Fill slopes
Retaining walls
Division
Scale 1:1,000
Date 16/05/2023
CEDD
GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
The Government of the Hong Kong SAR

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23762121 Fax : 23798282
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. **BH 8**

CONTRACT NO. **GE/99/06**

SHEET 1 of 2

PROJECT **PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation**

METHOD **W+RC**

MACHINE & No. **DR 77**

FLUSHING MEDIUM **WATER**

CO-ORDINATES
E 844,049.46
N 824,688.94

ORIENTATION **VERTICAL**

W.O. No **GE/99/06.59**

DATE: **17/11/2001** to **19/11/2001**

GROUND LEVEL **+4.15** mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
17.11.01	PX							I.P. 0.50 / 1.00 / 1.50					Loose, light yellowish brown (10YR 6/4), silty fine to medium SAND with some angular to subangular fine to medium gravel sized rock fragments. (ALLUVIUM)
								1.90 2.05	+2.10	2.05			
			32					T2-101 3.00					Light grey (10R 7/1), angular to subangular fine to coarse GRAVEL sized moderately strong tuff fragments. (ALLUVIUM)
			51					T2-101 3.50					
			100				38blows	3.95 4.10	+0.65	3.50			Dark grey (5R 4/1), subangular fine to medium GRAVEL sized tuff fragments with a matrix of silty sand. (ALLUVIUM)
	PX HX								+0.05	4.10			
			41					T2-101 4.65					Light grey, angular to subangular medium to coarse GRAVEL with much cobble and occasional boulder sized moderately strong to strong tuff fragments. (ALLUVIUM)
	HX					NA			-1.00	5.15		III	Moderately strong, light grey to light yellowish brown, moderately decomposed coarse ash crystal TUFF. Joints are extremely closely occasionally very closely to closely spaced, rough, undulating and planar, extremely to very narrow, iron and manganese stained and clay infilled (<2-3mm), dipping at 60°-70° and subvertical.
			98	21	13	>20		T2-101 6.05					
17.11.01		1.20m at 18:00											
19.11.01		1.10m at 08:00				10.0			-2.35	6.50		III/II	Moderately strong to strong, grey, moderately to slightly decomposed coarse ash crystal TUFF. Joints are closely, locally extremely to very closely spaced, rough, undulating and planar, extremely narrow, iron and manganese stained, kaolin infilled (<2mm), dipping at 60°-70° and subvertical.
			98	32	10	>20		T2-101 7.35					
						5.0		T2-101 8.10					
			100	80	47								
			100	67	44			T2-101 9.45					From 8.90-9.45m : Non intact.
						NI			-5.30	9.45		II	Strong, grey to dark grey, slightly decomposed coarse ash crystal TUFF.
						7.7		T2-101					

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED **P. Barry**

DATE **20/11/2001**

CHECKED **J. Morrison**

DATE **22/11/2001**

REMARKS
1. Prior to drilling an inspection pit was excavated by hand to 1.50m depth.

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th Floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23742121 Fax : 23760052
ISO 9002 : 1994 Certificate No. FQS00021

DRILLHOLE RECORD

HOLE NO. BH 8

CONTRACT NO. GE/99/06

SHEET 2 of 2

PROJECT PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation

METHOD W+RC

MACHINE & No. DR 77

FLUSHING MEDIUM WATER

CO-ORDINATES
E 844,049.46
N 824,688.94

ORIENTATION VERTICAL

W.O. No GE/99/06.59

DATE: 17/11/2001 to 19/11/2001

GROUND LEVEL +4.15 mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
10			100	100	77			T2-101					Joints are closely becoming medium spaced, planar, extremely narrow, kaolin coated and occasionally kaolin infilled (<2mm), dipping at 45°-55°, 60°-70° and subvertical. From 10.15-10.50m : Non intact.
11						NI 2.1		10.95					
12			100	90	73			T2-101 12.45					
13			100	100	76			T2-101 13.90					
14		1.15m at 18:00	100	100	89			T2-101 14.80	-10.65	14.80			
19.11.01													End of Investigation hole at 14.80m.
15													
16													
17													
18													
19													
20													

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED P. Barry

DATE 20/11/2001

CHECKED J. Morrison

DATE 22/11/2001

REMARKS

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Astoria Building, 6th floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23782121 Fax : 23794283
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. **BH 9**

CONTRACT NO. **GE/99/06**

SHEET **1** of **2**

PROJECT **PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation**

METHOD **W+RC**	CO-ORDINATES **E 844,072.77 N 824,663.34**	W.O. No **GE/99/06.59**
MACHINE & No. **DR 77**		DATE: **21/11/2001** to **22/11/2001**
FLUSHING MEDIUM **WATER**	ORIENTATION **VERTICAL**	GROUND LEVEL **+4.06** mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
21.11.01	PX												Soft to firm, yellowish brown (10YR 5/6) and light grey (10R 7/1), sandy SILT with some angular fine to coarse gravel sized weak to moderately strong tuff fragments. (FILL)
			0				20blows						
			100				21blows						
							(1, 2, 3, 4, 4, 4) N = 15		+1.06	3.00		V	Extremely weak, red (10R 5/8) mottled yellowish brown, completely decomposed coarse ash crystal TUFF. (Firm to stiff, slightly sandy clayey SILT with occasional angular fine to medium gravel sized rock fragments)
			100										
							(2, 2, 3, 5, 5, 6) N = 19		-1.94	6.00		V/IV	Extremely weak to weak, light yellowish brown (2.5Y 6/4), completely to highly decomposed coarse ash crystal TUFF. (Sandy angular fine to coarse GRAVEL sized weak rock fragments)
	PX		100						-2.94	7.00		III	Moderately strong, light yellowish brown, moderately decomposed highly micro fractured coarse ash crystal TUFF. Joints are extremely very closely spaced, rough, planar, extremely narrow, iron and manganese stained, dipping at 35°-45°, 60°-70° and subvertical.
			95	30	0	>20		T2-101					
			100	100	50			T2-101					
			100	85	38	8.8		T2-101	-3.94	8.00		III/II	Moderately strong to strong, grey, moderately to slightly decomposed coarse ash crystal TUFF. Joints are very closely to closely spaced, rough, undulating and planar, extremely to very narrow, iron and manganese stained, kaolin infilled (<2-3mm), dipping at 35°-45°, 60°-70° and subvertical. From 8.80-9.10m : Extremely closely spaced joints.
			95	73	37	>20 6.7		T2-101					

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED **P. Barry**
DATE **23/11/2001**
CHECKED **J. Morrison**
DATE **01/12/2001**

REMARKS
1. Prior to drilling an inspection pit was excavated by hand to 1.50m depth.

ENPACK (H.K.) LIMITED
Civil Engineers & Contractors
Acoris Building, 6th floor, 34 Ashley Road Kowloon, Hong Kong
Tel : 23762131 Fax : 23760262
ISO 9002 : 1994 Certificate No. FQ00021

DRILLHOLE RECORD

HOLE NO. BH 9

CONTRACT NO. GE/99/06

SHEET 2 of 2

PROJECT PWP Item 4273DS-Port Shelter Sewerage Stage 3 Phase 3, Ho Chung and Pik Shui Sun Tsuen Sewerage, Ground Investigation

METHOD W+RC

MACHINE & No. DR 77

FLUSHING MEDIUM WATER

CO-ORDINATES
E 844,072.77
N 824,663.34

ORIENTATION VERTICAL

W.O. No GE/99/06.59

DATE: 21/11/2001 to 22/11/2001

GROUND LEVEL +4.06 mPD

Drilling Progress	Casing size	Water level (m) Shift start/ end	T.C.R.(%)	S.C.R.(%)	R.Q.D.(%)	F.I.	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
10								T2-101 10.30					As sheet 1 of 2. From 10.30-10.40m : Non intact.
11		0.30m at 18:00	100	91	53	NI 1.7		T2-101 11.45	-6.94	11.00		II	Strong, grey to dark grey, slightly decomposed coarse ash crystal TUFF. Joints are closely to medium spaced, rough, planar, extremely narrow, chlorite coated, dipping at 35°-45°, 60°-70° and subvertical.
21.11.01 / 22.11.01 12		1.25m at 08:00	100	100	100			T2-101 12.85					
13			100	100	70			T2-101 14.35					
14						5.5							
15			100	100	59			T2-101 15.80					
16			100	92	54			T2-101 17.19	-13.04	17.10			End of investigation hole at 17.10m.
17 22.11.01		1.23m at 18:00											
18													
19													
20													

Small Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample

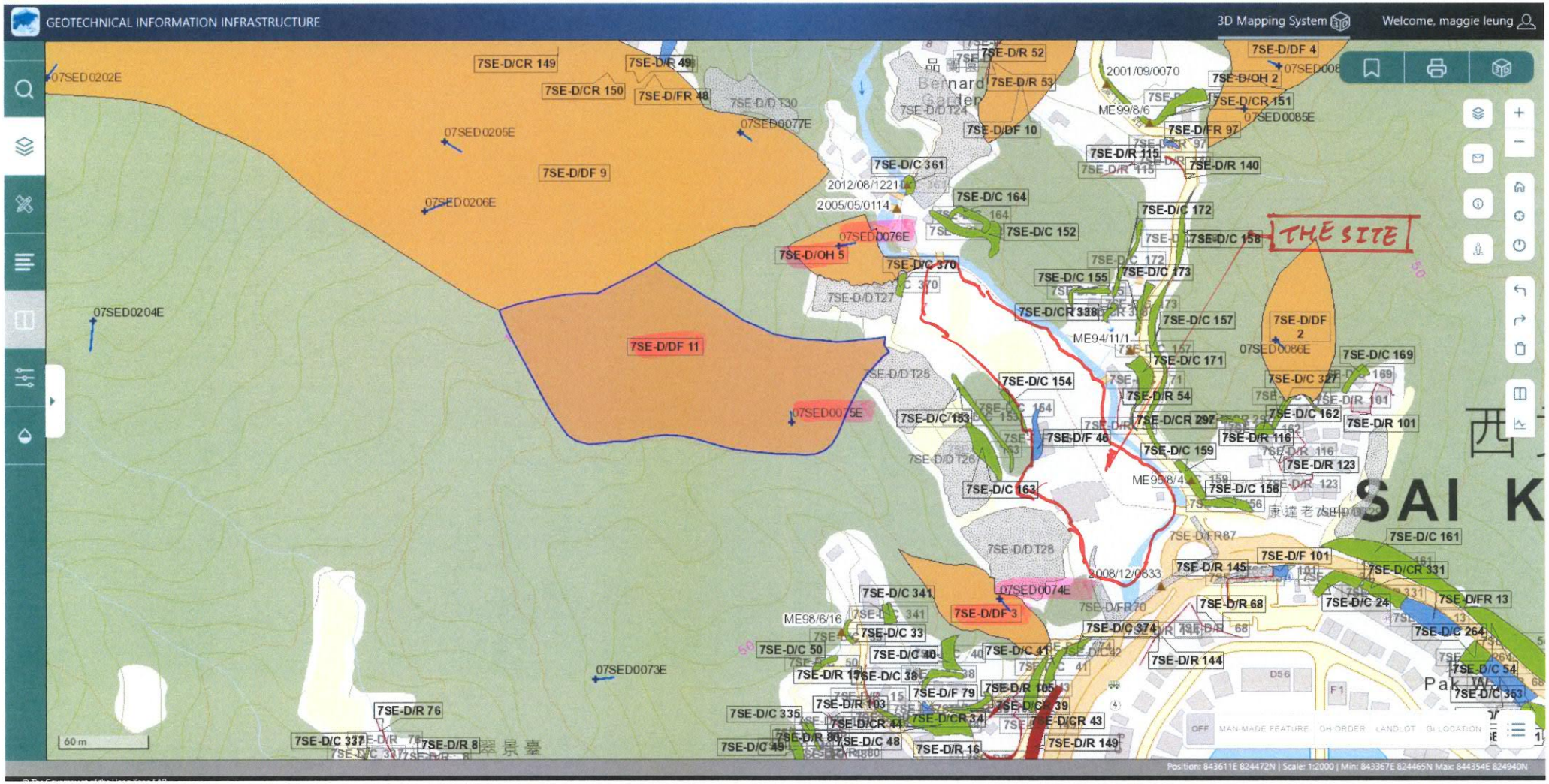
Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Standpipe Tip

LOGGED P. Barry
DATE 23/11/2001
CHECKED J. Morrison
DATE 01/12/2001

REMARKS

Appendix C

ENTLI and HLC from GInfo


GEOTECHNICAL INFORMATION INFRASTRUCTURE
3D Mapping System
Welcome, maggie leung
THE SITE
7SE-D/CR 149
7SE-D/R 49
7SE-D/CR 150
7SE-D/FR 48
7SE-D/DF 9
7SE-D/DF 11
7SE-D/C 361
7SE-D/C 164
7SE-D/C 152
7SE-D/OH 5
7SE-D/C 370
7SE-D/R 52
7SE-D/R 53
7SE-D/DF 10
7SE-D/DF 4
7SE-D/OH 2
7SE-D/CR 151
7SE-D/FR 97
7SE-D/R 115
7SE-D/R 140
7SE-D/C 172
7SE-D/C 158
7SE-D/C 155
7SE-D/C 173
7SE-D/CR 338
7SE-D/C 157
7SE-D/DF 2
7SE-D/C 171
7SE-D/C 169
7SE-D/C 154
7SE-D/R 54
7SE-D/C 153
7SE-D/CR 297
7SE-D/C 162
7SE-D/R 101
7SE-D/F 46
7SE-D/R 116
7SE-D/C 159
7SE-D/R 123
7SE-D/C 163
7SE-D/C 158
7SE-D/C 161
7SE-D/F 101
7SE-D/R 145
7SE-D/CR 331
7SE-D/C 341
7SE-D/DF 3
7SE-D/R 68
7SE-D/C 24
7SE-D/FR 13
7SE-D/C 33
7SE-D/C 374
7SE-D/C 264
7SE-D/C 50
7SE-D/C 40
7SE-D/C 41
7SE-D/R 144
7SE-D/R 17
7SE-D/C 38
7SE-D/C 54
7SE-D/F 79
7SE-D/R 105
7SE-D/C 363
7SE-D/R 103
7SE-D/C 39
7SE-D/C 335
7SE-D/CR 34
7SE-D/CR 43
7SE-D/CR 41
7SE-D/C 48
7SE-D/R 149
7SE-D/R 16
7SE-D/C 49
7SE-D/R 76
7SE-D/C 337
7SE-D/R 8
07SED0202E
07SED0205E
07SED0206E
07SED0204E
07SED0077E
07SED0076E
07SED0075E
07SED0074E
07SED0073E
07SED0085E
07SED0086E
2001/09/0070
ME99/8/6
2012/08/1221
2005/05/0114
ME94/11/1
ME98/6/16
2008/12/0833
SAI K
60 m

ENTLI & MLC

Historical Landslide Catchment

Name	Value
Catchment No.	7SE-D/DF 3
Plan area of the catchment (Sq. m)	2768.70312927
Maximum elevation difference (m)	40
The plan area of the catchment with gradient less than 15 degree (Sq. m)	194.443969406
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	11.18
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	11.18
The total length of the all ENTLI record within the catchment (m)	11

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0074E
Slide ID	07SEDX0013
Type of slides	Relict
Action	A
Width of main scarp	9.5
Length of landslide source	11
Slope	45
Vegetation cover	Completely in grass
Year landslide first observed	1963
Elevation of landslide crown	32
Elevation of landslide toe	26
Elevation difference of landslide trail	6
Gully	N
Relict class	Depression related to drainage line (10% certain)
Easting	843994.155676
Northing	824571.578318

Historical Landslide Catchment

Name	Value
Catchment No.	7SE-D/DF 11
Plan area of the catchment (Sq. m)	19668
Maximum elevation difference (m)	75
The plan area of the catchment with gradient less than 15 degree (Sq. m)	0
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	8
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	8
The total length of the all ENTLI record within the catchment (m)	8

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0075E
Slide ID	07SEDX0014
Type of slides	Relict
Action	A
Width of main scarp	14
Length of landslide source	7.5
Slope	39
Vegetation cover	Shrubs and trees
Year landslide first observed	1963
Elevation of landslide crown	57
Elevation of landslide toe	49
Elevation difference of landslide trail	8
Gully	N
Relict class	Broad depression (10% certain)
Easting	843857.473781
Northing	824688.2476

Historical Landslide Catchment

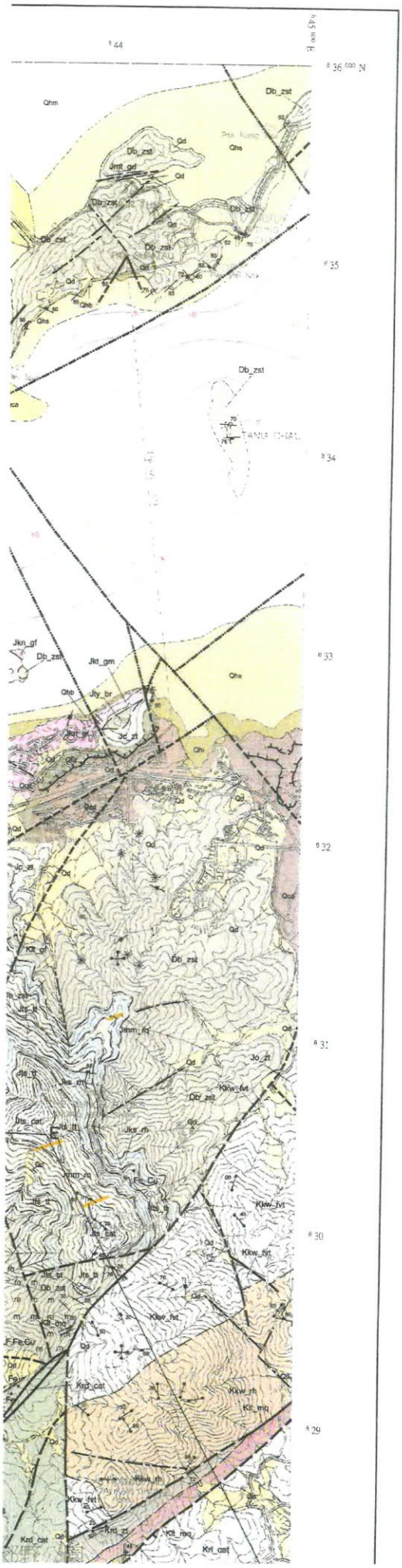
Name	Value
Catchment No.	7SE-D/OH 5
Plan area of the catchment (Sq. m)	2190.91106044
Maximum elevation difference (m)	51
The plan area of the catchment with gradient less than 15 degree (Sq. m)	0
Site visit for the catchment	Y
Total number of relict ENTLI records within the catchment	1
Total number of recent ENTLI records within the catchment	0
The length of the longest relict ENTLI record within the catchment (m)	11.69
The length of the longest recent ENTLI record within the catchment (m)	0
The length of the longest ENTLI record within the catchment (m)	11.69
The total length of the all ENTLI record within the catchment (m)	12

ENTLI Crown / Trail

Name	Value
ENTLI No.	07SED0076E
Slide ID	07SEDX0015
Type of slides	Relict
Action	A
Width of main scarp	16
Length of landslide source	11.5
Slope	47
Vegetation cover	Completely in grass
Year landslide first observed	1963
Elevation of landslide crown	36
Elevation of landslide toe	25
Elevation difference of landslide trail	11
Gully	N
Relict class	Broad depression (10% certain)
Easting	843888.557203
Northing	824804.065281

Appendix D

Geology Map from GInfo



HONG KONG GEOLOGICAL SURVEY

Sheet 7
SOLID AND SUPERFICIAL GEOLOGY

Series HGM20
Scale 1:20 000

SUPERFICIAL DEPOSITS

AGE (Millions of years)			GENETIC CLASSIFICATION OR NAMED DIVISIONS			PRINCIPAL MATERIALS
0	QUATERNARY	HOLOCENE	FANLING FORMATION	Fill; sanitary fill		Natural earth and waste
				Alluvium	Qfa	Clay, silt, sand and gravel; well-sorted to semi-sorted
			HANG HAU FORMATION	Beach deposits	Qhb	Sand
				Intertidal deposits	Qhi	Silt, sand and clay
				Marine mud	Qhm	Soft to very soft mud; some sand
				Marine sand	Qhs	Sand; some gravel and sand
		PLEISTOCENE AND HOLOCENE	UNDIFFERENTIATED	Colluvium	Qd	Silt, sand and gravel with boulders
		PLEISTOCENE	CHEK LAP KOK FORMATION	Alluvium	Qca	Silt, sand, gravel and boulders
1.8				Colluvium	Qcd	Sand, gravel, cobbles and boulders in silt matrix

MINOR INTRUSIVE ROCKS

Undifferentiated mafic to intermediate dykes, dominantly basaltic andesite and andesite — b

VOLCANIC ROCKS

AGE (Millions of years)						
140	JURASSIC TO CRETACEOUS	CRETACEOUS	EARLY	KAU SAI CHAU VOLCANIC GROUP	CLEAR WATER BAY FORMATION	Eutaxitic fine ash vitric tuff — Kkw_fvt
						Flow-banded porphyritic rhyolite lava — Kkw_rh
					CHE KWU SHAN FORMATION	Eutaxitic fine ash vitric tuff — Krc_fvt
				REPULSE BAY VOLCANIC GROUP	MOUNT DAVIS FORMATION	Coarse ash crystal tuff — Krd_cat
						Tuffaceous siltstone — Krd_zt
						Feldsparphyric rhyolite, mainly dykes — Krd_rf
						Quartzphyric rhyolite, mainly dykes — Krd_rq
144					LONG HARBOUR FORMATION	Coarse ash crystal tuff — Krl_cat
						Tuffaceous sandstone — Krl_st

Klt_lq	Quartz latite	TEI TONG TSUI QUARTZ MONZONITE — LION ROCK SUITE
Klt_rf	Feldsparphyric rhyolite	
Klt_gf	Fine-grained granite	
Klt_mq	Quartz monzonite	
Kcs_gf	Dominantly porphyritic fine-grained granite	SHUI CHUEN O GRANITE — CHEUNG CHAU SUITE
Kcs_gm	Dominantly equigranular medium-grained granite with some porphyritic fine-grained granite	
Kcs_gc	Dominantly coarse-grained granite	
Kcu_gd	Undifferentiated porphyritic medium-grained granodiorite	

Textural Modification

Inequigranular texture

AGE (Millions of years)						
146	JURASSIC	LATE				
						Jkl_gf — Fine-grained biotite granite — SHA TIN GRANITE
						Jkt_gm — Medium-grained biotite granite
						Jkt_gc — Coarse-grained biotite granite
						Jkn_gf — Dominantly porphyritic fine-grained granite with some equigranular medium-grained granite — NEEDLE HILL GRANITE
						Jko_rq — Quartzphyric rhyolite to porphyritic granite dykes — EAST LANTAU RHYOLITE
						Jkd_rf — Feldsparphyric rhyodacite to porphyritic granite dykes — EAST LANTAU RHYODACITE
148						Jks_rh — Flow-banded porphyritic rhyolite sill — SHAM CHUNG RHYOLITE — KWAI CHUNG SUITE
164		MIDDLE	TSUEN WAN VOLCANIC GROUP	TAI MO SHAN FORMATION		Fine ash vitric tuff — Jtm_fvt
						Lapilli lithic-bearing coarse ash crystal tuff — Jtm_cat
						Tuffaceous siltstone — Jtm_zt
				SHING MUN FORMATION		Lapilli lithic-bearing coarse ash crystal tuff — Jts_cat
						Tuff breccia — Jts_bt
						Tuffite — Jts_tt
						Tuffaceous sandstone — Jts_st
						Tuffaceous siltstone — Jts_zt
				YIM TIN TSAI FORMATION		Lapilli lithic-bearing coarse ash crystal tuff — Jty_cat
						Sedimentary breccia — Jty_br
						Tuffite — Jty_tt
165						Tuffaceous siltstone — Jty_zt

Jmm_rq	Quartzphyric rhyolite dykes	CHEK MUN RHYOLITE — LAMMA SUITE
Jmt_rf	Feldsparphyric rhyolite dykes	TAI PO GRANODIORITE
Jmt_gd	Porphyritic medium- and fine-grained granodiorite	
m m m / m m m	Contact metamorphism	
	Thermally altered tuff	

SEDIMENTARY ROCKS

	JURASSIC	EARLY TO MIDDLE		TAI O FORMATION	Grey to red, fine-grained sandstone and siltstone	Jo_zt
				LO CHAU KOK FORMATION	Grey to black laminated siltstone	

GEOLOGICAL MAP (2nd ED. AFTER 2008)

SOLID GEOLOGY

Appendix E

Summary of API

Summary of API

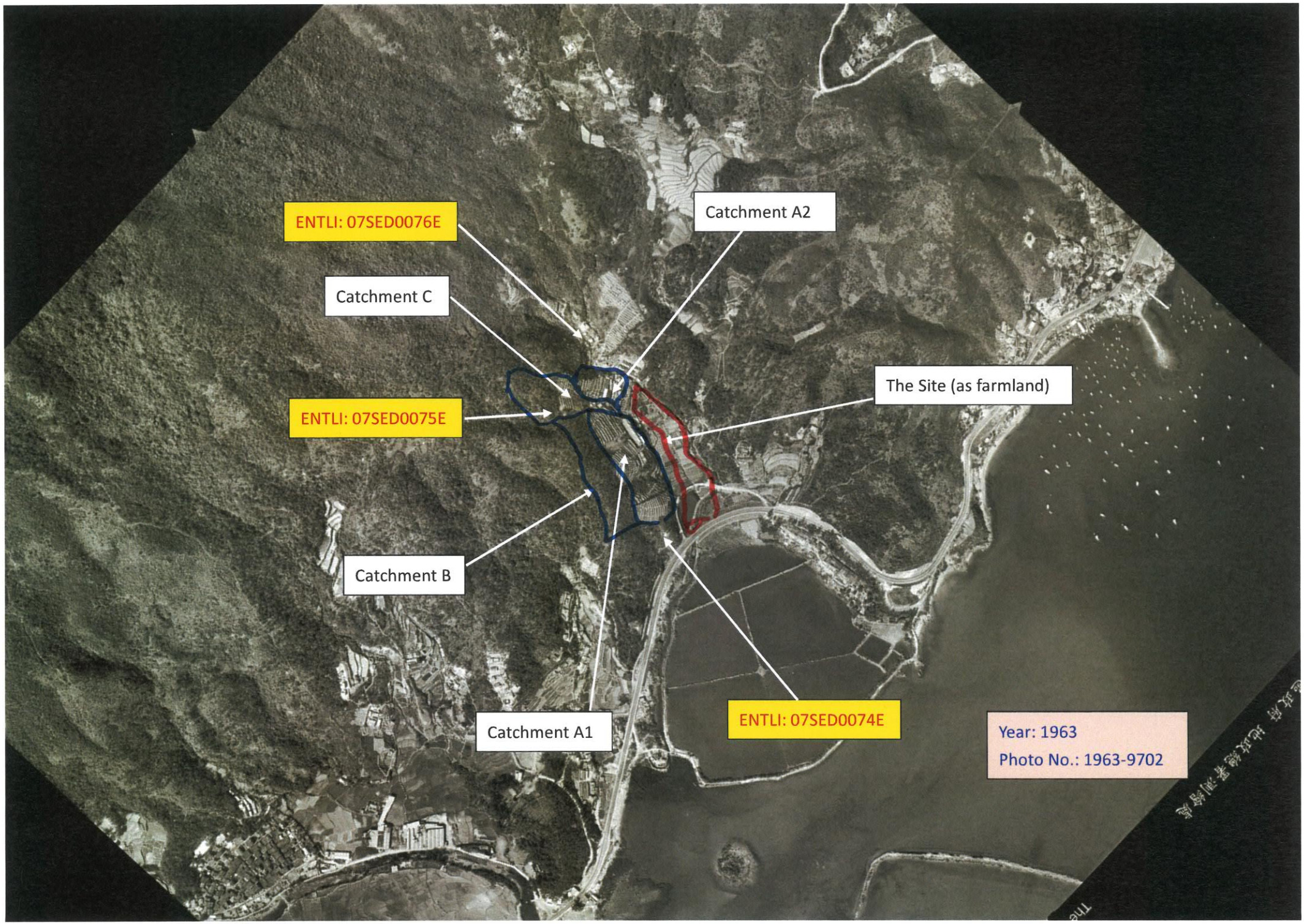
Year	Photographic Reference no.	Activities	Observations
1963	1963-9701 1963-9702	3900	The usage of land in the Site is farmland. Catchment A1 & A2 are also farmland. 3 nos. of Enhanced Natural Terrain Landslide Inventory (ENTLI) with Historical Landslide Catchment (HLC) are found from Ginfo.
1964	1964-4532	1800	The Site, Catchment A1 & A2 are farmland. Catchment B & C were fully covered by vegetation.
1968	1968-0898 1968-0899	2000	The Site, Catchment A2 are farmland. Catchment A1 was started to cover by vegetation/ trees and had been abandoned. Catchment B & C were fully covered by vegetation.
1974	09302	4000	The Site, Catchment A2 are farmland. Catchment A1, B & C were fully covered by vegetation. Catchment A2 was started to cover by vegetation/ trees and had been abandoned
1977	20026	4000	The Site is farmland. Catchments under study were fully covered by vegetation.
1978	23149	4000	The Site is farmland Catchments under study were fully covered by vegetation.
1979	25705	2500	The Site is farmland Catchments under study were fully covered by vegetation.
1980	29666	4000	The Site is farmland Catchments under study were fully covered by vegetation.
1982	43262	4000	The Site is farmland Catchments under study were fully covered by vegetation.

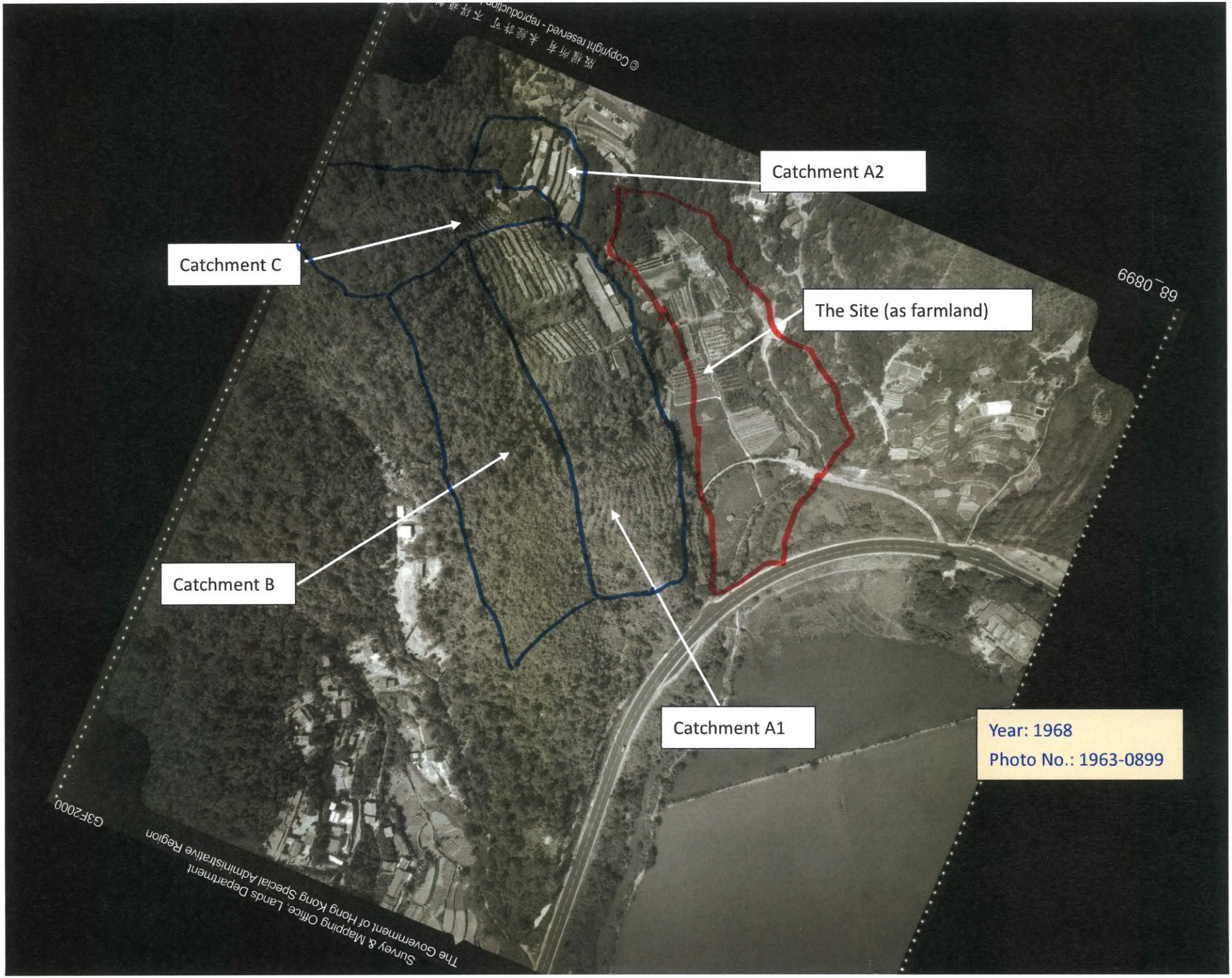
Year	Photographic Reference no.	Activities	Observations
1983	50643	4000	Middle part was farmland and other parts of the Site was started to cover by vegetation/ trees Catchments under study were fully covered by vegetation.
1984	55367	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1986	A05256	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1987	A08855	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1988	A15444	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1989	A17757	4000	Middle part of the Site was farmland. Other parts of the Site and Catchments under study were fully covered by vegetation.
1990	A21734	2000	Middle part of the Site was started to cover by vegetation/ trees. Other parts of the Site and Catchments under study were fully covered by vegetation.
1991	A29309	3000	The Site and Catchments under study were fully covered by vegetation.
1993	CN03209	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1994	CN06606	3300	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1995	CN10978	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

Year	Photographic Reference no.	Activities	Observations
1996	CN15116	3500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1997	CN16771	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1998	CN21228	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
1999	CN23114	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2000	CN26681	4000	Public works (Port Shelter Sewerage Stage 3, Ph. 3 – GE/99/06) was commenced in the middle of the Site. Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2001	CW32429	4000	GI for Public works GE/99/06 was commenced in the middle of the Site Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2002	CW38786	3000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2003	CW52903	4000	New Road (Hing Keng Shek Road) beside the Site is formed Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2004	CW52903	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

Year	Photographic Reference no.	Activities	Observations
2005	CW63913 CW64565	2500	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2006	CW52903	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2007	CS09320	4000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2008	CS22404	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2009	CS24367	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2010	CS29288	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2011	CS35169	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2012	CS39288	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2013	CS45139	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2014	CS48747 CS48748	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2015	CS57777	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.

Year	Photographic Reference no.	Activities	Observations
2016	CS64065	6000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2019	E068813C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2020	E097551C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2021	E129664C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2022	E181548C	3000	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2023	E194258C	6900	Some squatters found in the Site. Catchments under study were fully covered by vegetation.
2024	E233512C E233513C	6900	Latest Aerial Photos Some squatters found in the Site. Catchments under study were fully covered by vegetation. No New ENTLI, HLC & Landslide Incident was found from GInfo in Catchments under study


ENTLI: 07SED0076E
Catchment A2
Catchment C
The Site (as farmland)
ENTLI: 07SED0075E
Catchment B
Catchment A1
ENTLI: 07SED0074E
Year: 1963
Photo No.: 1963-9702


Catchment A2
Catchment C
The Site (as farmland)
Catchment B
Catchment A1
Year: 1968
Photo No.: 1963-0899
68_0899
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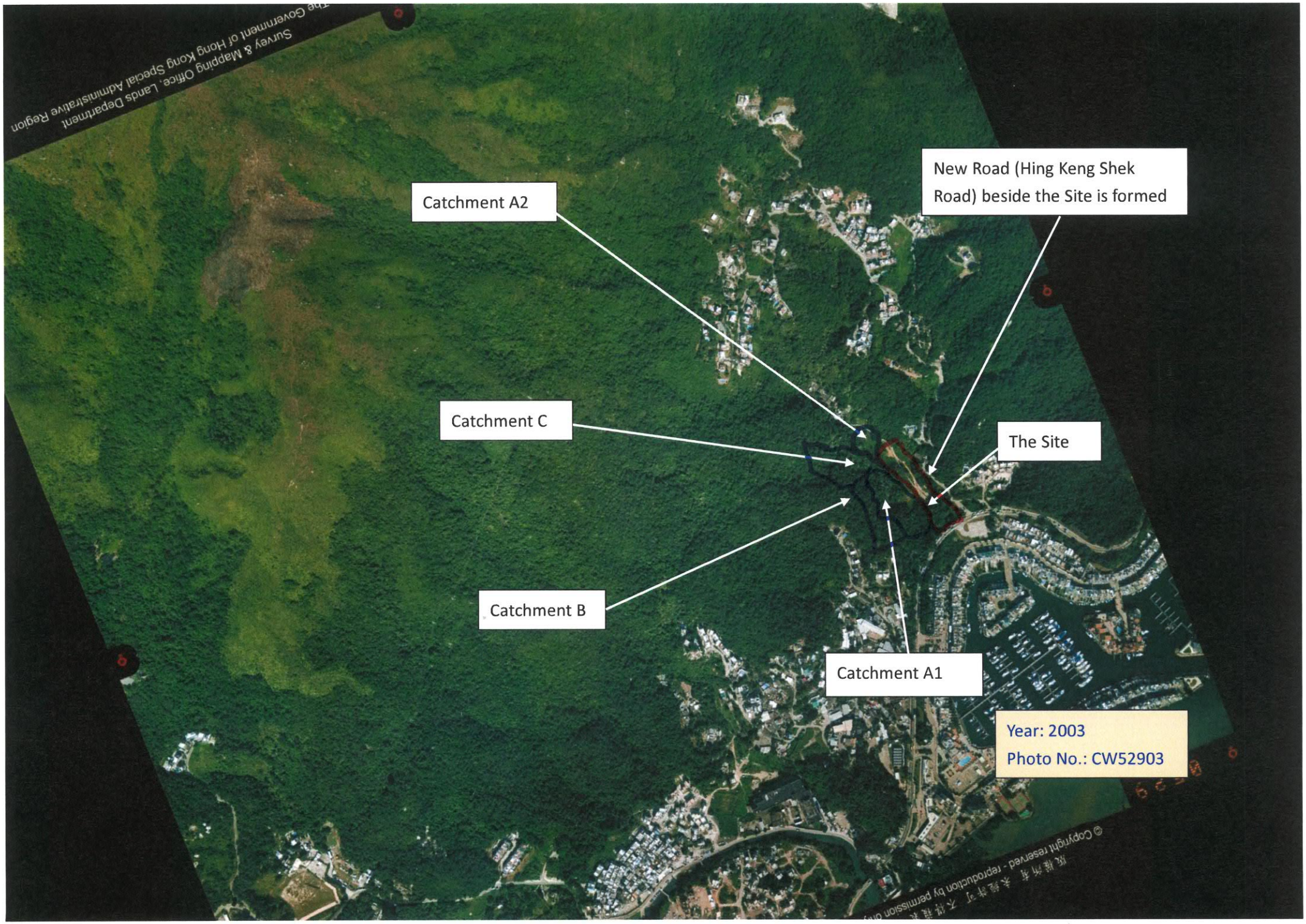
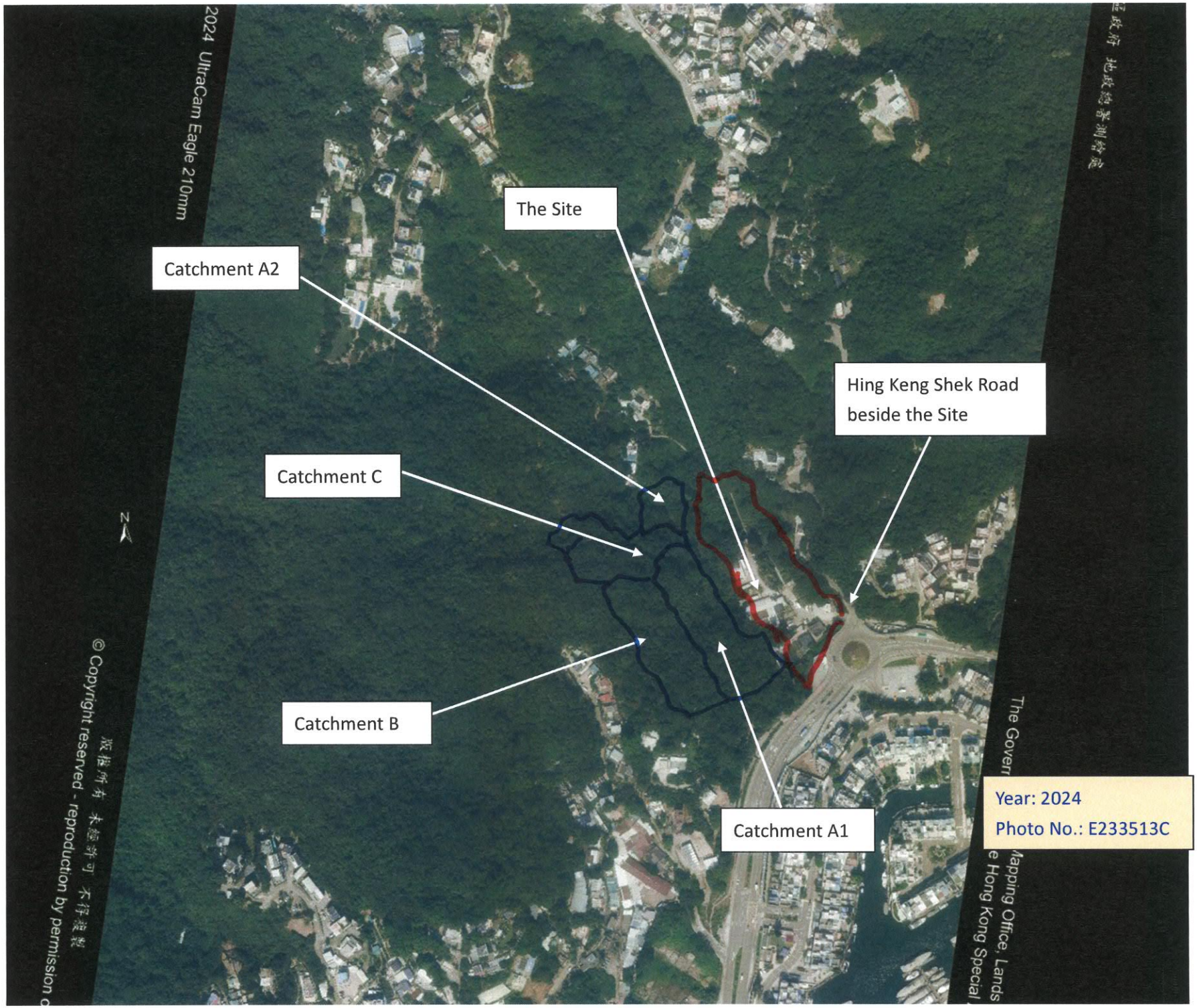
Survey & Mapping Office, Lands Department
G3F2000


Catchment A2
New Road (Hing Keng Shek Road) beside the Site is formed
Catchment C
The Site
Catchment B
Catchment A1
Year: 2003
Photo No.: CW52903

Catchment A2
Catchment C
Catchment B
Catchment A1
The Site
Hing Keng Shek Road
beside the Site
Year: 2014
Photo No.: CS48747
PAK WAI
23 Jan 2014
6000'
CS48747
Survey & Mapping Office, Lands Department
The Government of Hong Kong Special Administrative Region
P4F2000
© Copyright reserved - reproduction by permit


The Site
Catchment A2
Hing Keng Shek Road beside the Site
Catchment C
Catchment B
Catchment A1
Year: 2024
Photo No.: E233513C
2024 UltraCam Eagle 210mm
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The Govern
Mapping Office, Lands
e Hong Kong Special

ARUP

Appendix C

Revised Drainage Impact Assessment

Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131) to Rezone the Application Site from "Green Belt" and Area Shown as "Road" to "Residential (Group C)5" for Proposed Residential Development at Various Lots in D.D. 210 and Adjoining Government Land, Pak Wai, Sai Kung

(HT21130)

Drainage Impact Assessment

November 2025

Drainage Consultant:

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED
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Tel : 2895 2238 Fax : 2890 8872 E-mail : admin@hotin.com.hk

1. Background

1.1 Ho Tin & Associates Consulting Engineers Limited (HTA) has been appointed by the client to prepare a Drainage Impact Assessment (DIA) Report in support of an Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131) to Rezone the Application Site from "Green Belt" and Area Shown as "Road" to "Residential (Group C)5" for Proposed Residential Development at Various Lots in D.D. 210 and Adjoining Government Land, Pak Wai, Sai Kung.

2. The Subject Site and Proposed Development

2.1 The subject site is currently zoned "Green Belt" and shown as "Road" on the Draft Ho Chung Outline Zoning Plan No. S/SK-HC/12 (the OZP). It is located in the northwest side of Marina Cove on the opposite side of Hiram's Highway at Pak Wai, Sai Kung. To its east is Hing Keng Shek Road at the uphill area. It is currently occupied by botanical gardens, temporary structures and an access road. A site location plan is shown in **Figure D1**.

2.2 It is proposed to change the land use of the subject site to "Residential (Group C)5" with a plot ratio of 0.6 and maximum building heights of 4 storey (excluding basements). The proposed rezoning development covers a site area of about 12,692m^2 with a total GFA of about 7,615.2m^2. The designed total population is about 360 persons, and a total of 10 nos. of management staff is presumed in the sewage estimation.

3. Existing Drainage Conditions of the Site

3.1 The subject site is in elongated shape in general and is located within a valley having a principle major axis between the northwest and the southeast. There is an existing stream course running along its boundary from the northern end to the southern end. Surface runoff in the existing stream course is collected into an existing twin 2500 x 2500 box culvert with a gradient of 1 in 200 which conveys the flow and discharges into the Marina Cove on the opposite side of Hiram's Highway. A copy of as-built plan showing existence of the afore-mentioned box culvert is reproduced as **Figure D2** in this report.

3.2 The subject site is currently occupied by botanical gardens, temporary structures and an access road. It is generally hard paved (refer to **Plate No. 1** and **2**). The existing site levels slope gently downward from about +6.5mPD at the north to about +4.1mPD at the south. The level of the section of Hiram's Highway in front of the subject site is at about +7.3mPD.

3.3 The subject site is at elevations relatively lower than its surroundings and abuts on an existing stream course along its boundary from the northern end to the southern end. Surface runoff from the area to its east is intercepted by the existing stream course without entering into the subject site. Surface runoff from the area to its west would flow toward the subject site before flowing into the existing stream course. The existing drainage flow paths and catchment areas of the concerned area are shown in **Figure D3**.

3.4 Colour photos (locations of the photo taken shown in **Figure D1**) showing the existing drainage conditions in the vicinity are shown in the following:

	
Plate No. 1 – Existing conditions of the subject site (1)	Plate No. 2 – Existing conditions of the subject site (2)

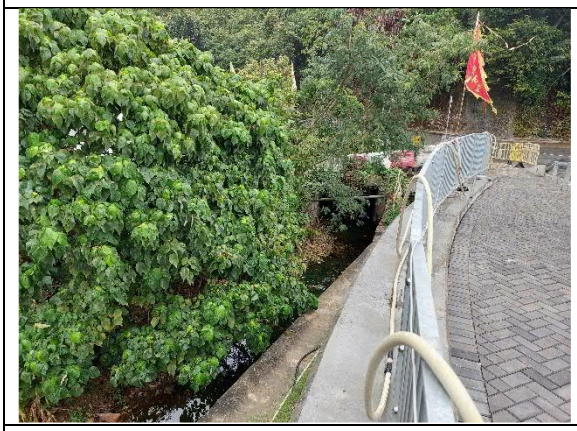



Plate No. 3 – Existing watercourse running underpassing the subject site entrance	Plate No. 4 – Existing watercourse running along the southeastern site boundary

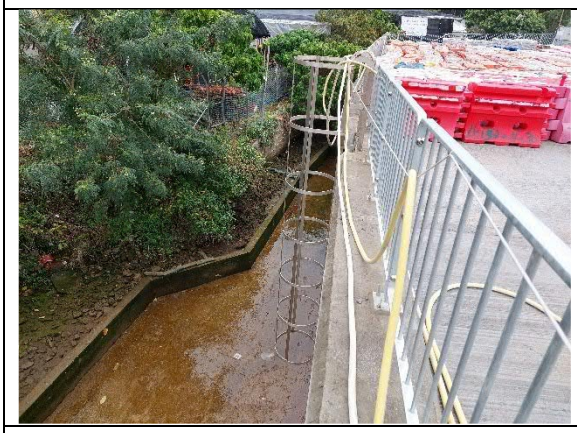



Plate No. 5 – Enlarged width of the existing watercourse outside the southern tip of the subject site	Plate No. 6 – Existing twin 2500x2500mm box culvert receiving flows of the existing watercourse at the downstream area of the subject site

4. Proposed Drainage Works

4.1 Peripheral channels with catchpits will be constructed to intercept all surface runoff running across the subject site boundary. Surface runoff of the subject proposed development will be collected by the proposed channel system. Underground drainage will be used within the subject site boundary only when necessary. The flows inside the channels/drainage will be discharged via a terminal manhole with desilting trap (details refer to DSD Standard Drawing No. DS 1091) into the existing watercourse near the southeastern boundary of the subject site (refer to the above **Plate No. 4**), and from which the water is conveyed to the further downstream into an existing twin 2500x2500mm box culvert running underpassing Hiram's Highway into the Marina Cove (refer to the above **Plate No. 6**).

4.2 Having taken into account of the existing baseflow along the natural stream channel, the narrowest section of the existing watercourse into which the subject site would discharge its flow is about 5.0m (wide) x 2m (deep) in size (refer to the above **Plate No. 4**).

4.3 Assessment criteria is based on the recommendation set out in the Stormwater Drainage Manual (Fifth edition, Jan 2018) (SDM) and its Corrigendum Nos. 1/2022, 1/2024 and 2/2024 issued by DSD. Design Return Period of 200 years is being adopted.

Design Assumptions

Design return period = 200 years (suitable of 'Urban Drainage Trunk Systems')

It is assumed that building platforms of the existing village houses occupy 10% of the remaining area of the catchment, i.e. excluding the area of the subject site, such that,

runoff coefficient = 0.95 (for concrete/asphalt – the subject site area and 10% of the remaining area of the catchment)
0.35 (for grassland (heavy soil), steep – 90% of the remaining area of the catchment)

Catchment Area

The subject site is located near the outlet of a catchment below Sam Fai Tin to the northwest side of Marina Cove at Sai Kung. The catchment consists of heavily vegetated valleys with village houses scattering on the plateaus near the lower portion of the catchment. There would be no change in the existing catchment boundary and area after the proposed development. Since the subject site is currently generally hard paved (refer to the above paragraph 3.2), the overall paved and unpaved areas and drainage conditions of the catchment before and after the subject development are basically the same.

At present, the concerned catchment consists of a main discharge route of which its lower reach runs along the northeast boundary of the subject site. The main discharge route would be undisturbed after the subject development. The major change in the drainage path within the concerned catchment area is that the flow from the subject site would be conveyed to the downstream via engineered channels instead of overland flows.

Catchment area of the narrowest section of the existing watercourse (including the subject site area) (refer to **Figure D3**) = (12,692 + 43,736 + 854,721)m^2 = 911,149m^2

Time of Concentration

Brandy-Williams method is used in calculation of the time of concentration. The surface runoff will flow into the existing watercourse and be conveyed to the existing twin 2500x2500mm box culvert.

H = (389 – 2)/1800 x 100 = 21.50,

then, time of concentration $t_d = 0.14465L/ (H^{0.2}A^{0.1})$
$= 0.14465 \times 1800 / (21.50^{0.2} \times 911{,}149^{0.1}) = 35.74$ min.

Design Rainfall Intensity

The corresponding runoffs under rainfall intensity for various return period are worked out with reference to Rational Method. Brandy-Williams method is used in calculation of the time of concentration. A uniformly distributed rainfall with an intensity is determined by the Intensity-Duration-Frequency. With referenced to Table 3a - Storm Constants for different return periods of HKO Headquarters in the Corrigendum No. 1/2024 of SDM, the rainfall profiles are derived based on the following equation:

$$i = a / (t_d + b)^c$$

where i = extreme mean intensity in mm/hr
t_d = duration in minutes ($t_d \leq 240$)
a, b, c = storm constants given in the table below

Table 2 : Storm Constants

Return Period (years)	200
a	508.8
b	3.46
c	0.322

the rainfall intensity for 1 in 200 years return period $i = 156.14$ mm/hr

A 16.0% rainfall increase has to be adopted in the hydraulic calculation to cater for effects due to climate change and further 12.1% rainfall increase due to design allowance anticipated in end 21st Century as suggested in the item (e), (k) and (n) in the Corrigendum No. 1/2022 of SDM.

Hence, the revised rainfall intensity for 1 in 200 years return period $i = 156.14 \times 1.16 \times 1.121 = 203.04$ mm/hr

Estimated Increase in Surface Runoff

The runoff is estimated by Rational Method.

The runoff coefficient of the subject site area is conservatively taken as 0.95 and that of the remaining area of the same catchment is collectively taken as 0.35 with reference to the recommended values given in "Stormwater Drainage Manual" published by DSD. The areas of paved and grass land are adopted as those shown in **Figure D5**.

Estimated runoff for 1 in 200 years $Q = C \times i \times A / (3600 \times 1000)$
$= (0.95 \times (12{,}692 + 42{,}143) + 0.35 \times (43{,}736 + (854{,}721 - 42{,}143))) \times 203.04 / (3600 \times 1000)$
$= 19.84\ m^3/s$

In addition, peak dry weather flow of the proposed sewage treatment plant is estimated to be 0.051111 m^3/s (the estimation is illustrated in the Sewage Treatment and Disposal Proposal Report submitted under this same Application for Amendment of Plan). In this assessment of stormwater flow, the figure of the peak dry weather flow is conservatively adopted in spite of the fact that discharge of the sewage treatment plant would be regulated by the pumping system.

Therefore, the adopted total peak runoff would be $(19.84 + 0.051111)\ m^3/s = 19.90\ m^3/s$.

Assessment of Adequacy of the 5m (wide) x 2m (deep) Section (adopted conservatively) of the Existing Watercourse (in front of the inlet of the Existing Twin 2500x2500mm Box Culvert)

Manning Equation is adopted in evaluating capacity of the existing watercourse, such that $Q = A \times R^{2/3} \times S_f^{1/2} / n$

Adopting n = 0.050 (natural stream channel, winding some pools and shoals, clean, some weeds and stones under bad condition), and $S_f = 1/1000$, then $Q = (5 \times 2) \times (2+5+2)^{2/3} \times (0.001)^{1/2} / 0.050 = 27.36\ m^3/s$

Capacity of the 5m x 2m section of the existing watercourse = 27.36 m^3/s > 19.90 m^3/s, therefore acceptable. The existing watercourse is capable to convey the estimated flow and will not flood.

4.4 It is envisaged to have no insurmountable technical problems in the detailed drainage design which will be submitted to relevant government departments for approval at the later stage.

4.5 The applicant is committed to obtain all necessary consents from the relevant government departments and lot owners, where necessary, in constructing the proposed drainage provisions outside the subject site boundary after this application is approved.

4.6 The subject proposed development would not alter the existing drainage conditions of the area and the surface runoff of the subject proposed development would be properly collected and conveyed to an appropriate discharge point. No blockage of any existing flow paths would occur. The proposed stormwater drainage management plan is shown in **Figure D4**.

5. Blue-green Concept Provisions

5.1 Aiming at improvement of the sustainability and resilience of Hong Kong's drainage system, application of blue-green drainage infrastructure which facilitates the infiltration of rainfall and the process of natural filtering to reduce the quantity and improve the quality of runoff, will be considered under the subject proposed development. Tentatively, green roofs, porous pavements and rainwater harvesting facilities will be recommended for consideration. The harvested water, if appropriate or after treatment, will be used for toilet flushing, drip irrigation, sprayed irrigation, water features, car washing and street cleansing, etc.

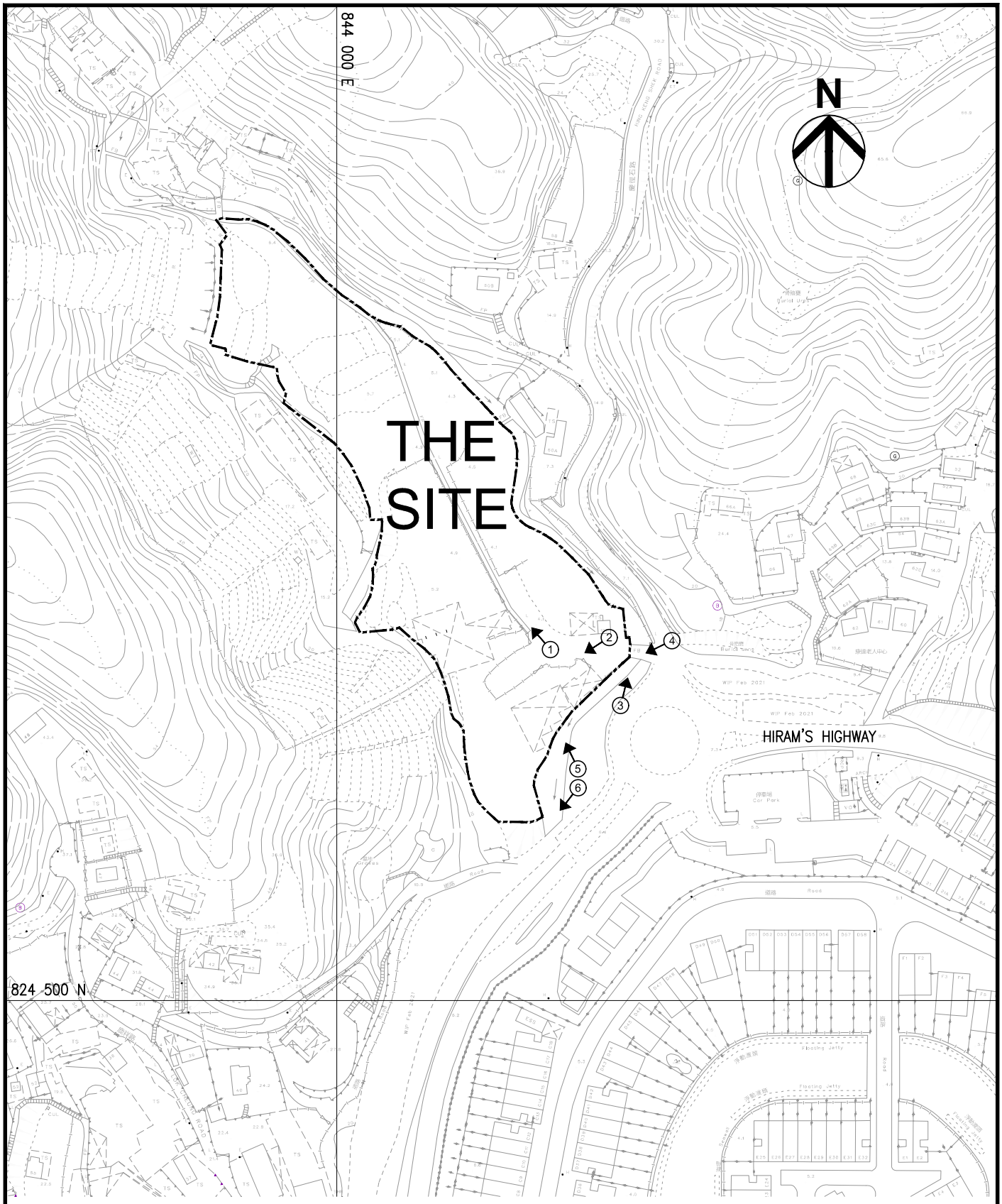
6. Conclusion and Recommendations

6.1 The subject development will be for a proposed residential development. The subject site area is now occupied by botanical gardens, temporary structures and an access road with an existing watercourse running from the northwest to the southeast along the eastern boundary of the subject site. The existing watercourse collects surface runoff from the subject site at present and will be maintained after the proposed development. Stability of the banks of the watercourses will be assessed and upgrading works will be proposed if necessary at the later detailed design stage to ensure safety of the public.

6.2 Peripheral channels with catchpits will be constructed to intercept all surface runoff running across the subject site boundary. A comprehensive channel system will be constructed within the subject proposed development and to convey the collected flows via a terminal manhole with desilting trap to the existing watercourse to the south of the subject site. The existing watercourse will convey its flow into a twin 2500x2500mm box culvert running underpassing Hiram's Highway into the Marina Cove. The additional flow incurred by the subject development would not overload the existing watercourse. Detailed drainage design, including blue-green drainage facilities, will be submitted to relevant government departments for approval at the later stage. No insurmountable technical problems is envisaged.

6.3 The subject proposed development will not alter the existing drainage conditions of the area.

6.4 Besides, the applicant will obtain all necessary consents from the relevant government departments and lot owners, where necessary, for constructing the proposed drainage provisions outside the subject site boundary after this application is approved. In conclusion, the subject development with implementation of the proposed drainage works will not cause any adverse drainage impacts onto the area.



LEGEND:

SUBJECT SITE BOUNDARY

LOCATION OF PHOTO TAKEN (N-PLATE No.)

PROJECT	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP.131) TO REZONE THE APPLICATION SITE FROM "GREEN BELT" AND AREA SHOWN AS "ROAD" TO "RESIDENTIAL (GROUP C)5" FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.210 AND ADJOINING GOVERNMENT LAND, PAK WAI, SAI KUNG	何田顧問工程師有限公司 HO TIN & ASSOCIATES CONSULTING ENGINEERS LIMITED
TITLE SITE LOCATION PLAN	SCALE 1 : 2000 – A4	DRAWING No. FIGURE D1

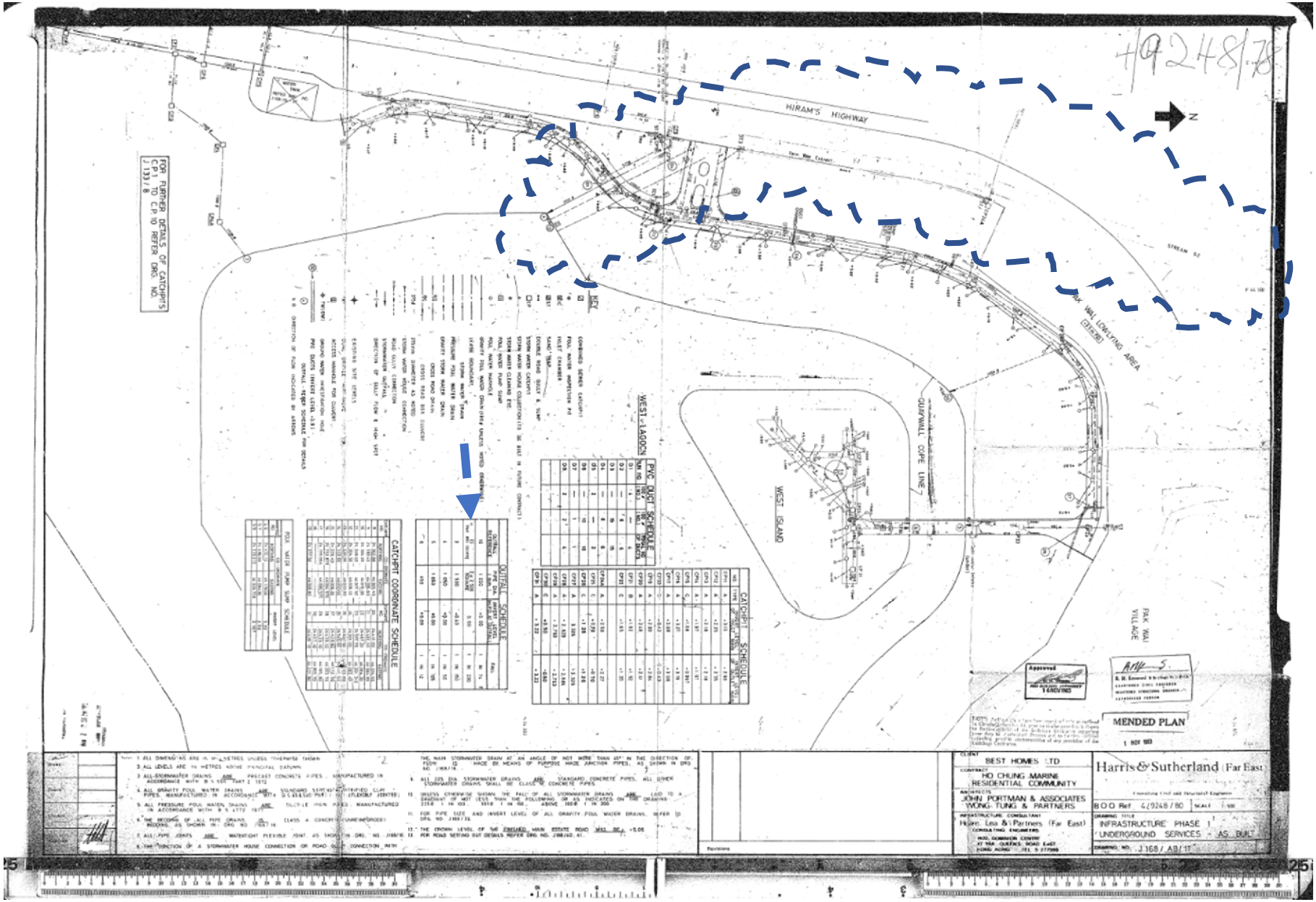


FIGURE D2 - Copy of As-built Plan showing Existence of Box Culvert receiving Surface Runoff from the Site

843 000 E

843 500 E

844 000 E

844 500 E

N

825 500 N

825 000 N

824 500 N

854,721m²

43,736m²

FALL

THE SITE
12,692m²

LEGEND:

SUBJECT SITE BOUNDARY

CATCHMENT BOUNDARY

DRAINAGE PATH (BEFORE AND AFTER THE SUBJECT DEVELOPMENT)

PROPOSED INTERNAL DRAINAGE OF THE SUBJECT DEVELOPMENT

PROJECT APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP.131) TO REZONE THE APPLICATION SITE FROM "GREEN BELT" AND AREA SHOWN AS "ROAD" TO "RESIDENTIAL (GROUP C)5" FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.210 AND ADJOINING GOVERNMENT LAND, PAK WAI, SAI KUNG

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HO TIN & ASSOCIATES
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TITLE EXISTING DRAINAGE FLOW PATHS AND CATCHMENT AREAS

SCALE 1 : 5000 – A3

DRAWING No. FIGURE D3

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843 900 E

844 000 E

844 100 E

844 200 E

824 700 N

824 600 N

N

SWIMMING POOL
WL +5.400

CLUBHOUSE
+10.400

+5.500

+5.500

BLOCK 1
4 STOREY
+9.800

RAMP DOWN TO CARPARK

BASEMENT CARPARK ENTRANCE
+5.500

BLOCK 2
4 STOREY
+9.500

+6.500

+6.500

BLOCK 3
4 STOREY
+9.600

+7.100

+7.100

+6.500

+5.300

BLOCK 4
3 STOREY
+6.475

U/UL

U/UL

U/UL

UNDERGROUND SEWAGE TREATMENT PLANT (MIN. SIZE NOT LESS THAN 350M2 AND MIN. 4.5M HEADROOM)

+5.500

RIVER

FOOTPATH

DISCHARGE TO EXISTING STREAM

EXISTING TWIN 2500x2500mm BOX CULVERT

TREATED EFFLUENT

7158mm

骨殖窰
Burial Urns

停車場
Car Park

康達老人中心

WIP Feb 2021

WIP Feb 2021

LEGEND:

SUBJECT SITE BOUNDARY	PROPOSED STORMWATER TERMINAL MANHOLE
4.100 PROPOSED GROUND LEVEL	PROPOSED STORMWATER DRAIN & MANHOLE
	PROPOSED U-CHANNEL & CATCH PIT
	PROPOSED SEWER & MANHOLE

PROJECT: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP.131) TO REZONE THE APPLICATION SITE FROM "GREEN BELT" AND AREA SHOWN AS "ROAD" TO "RESIDENTIAL (GROUP C)5" FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.210 AND ADJOINING GOVERNMENT LAND, PAK WAI, SAI KUNG

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TITLE: STORMWATER DRAINAGE MANAGEMENT PLAN

SCALE: 1 : 1000 – A3

DRAWING No.: FIGURE D4

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843 000 E

843 500 E

844 000 E

844 500 E

825 500 N

825 000 N

824 500 N

N

854,721m²

43,736m²

FALL

THE SITE
12,692m²

PAVED AREA (TOTAL = 42,143m²)

LEGEND:

SUBJECT SITE BOUNDARY

CATCHMENT BOUNDARY

DRAINAGE PATH (BEFORE AND AFTER THE SUBJECT DEVELOPMENT)

PROPOSED INTERNAL DRAINAGE OF THE SUBJECT DEVELOPMENT

PROJECT APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP.131) TO REZONE THE APPLICATION SITE FROM "GREEN BELT" AND AREA SHOWN AS "ROAD" TO "RESIDENTIAL (GROUP C)5" FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.210 AND ADJOINING GOVERNMENT LAND, PAK WAI, SAI KUNG

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TITLE

EXISTING PAVED AREAS

SCALE 1 : 5000 – A3

DRAWING No. FIGURE D5

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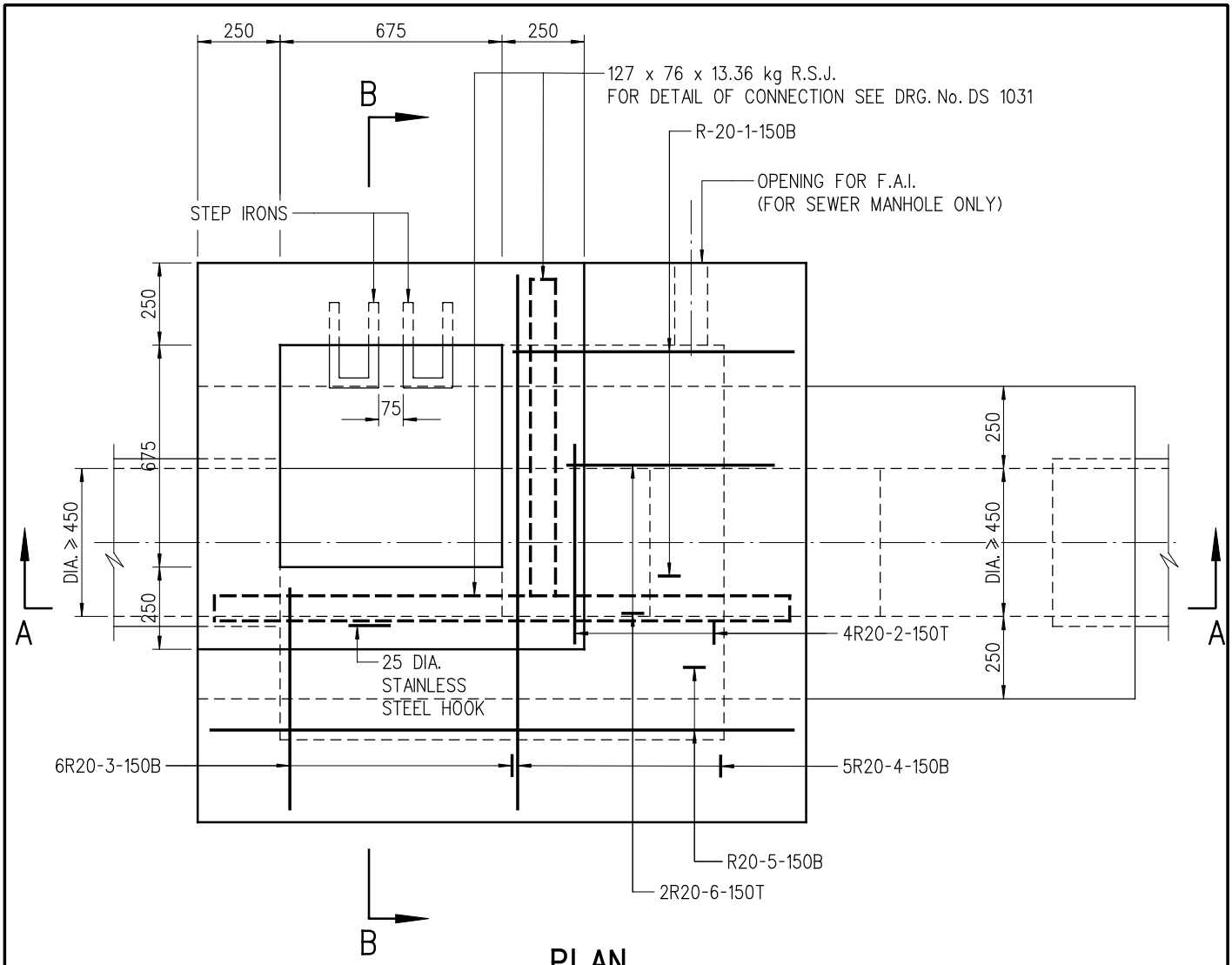


PLAN

NOTES:

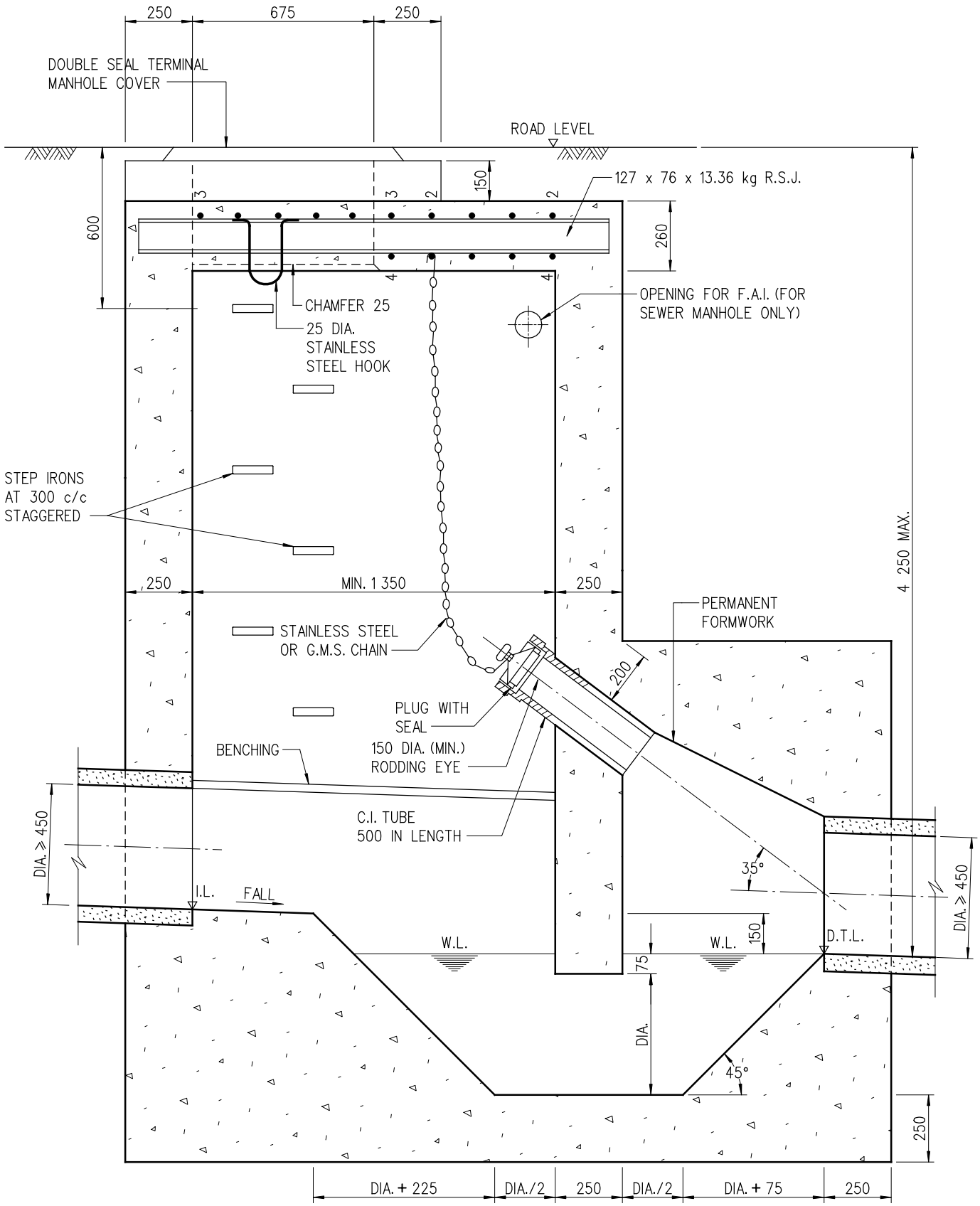
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NOTATION OF REINFORCEMENT : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
3. B DENOTES GRADE 500B RIBBED REINFORCEMENT.
4. R DENOTES GRADE 250 PLAIN REINFORCEMENT.
5. PIPE DIAMETER : EQUAL OR GREATER THAN 450 mm
6. NORMAL RANGE OF DEPTH : 1 750 TO 4 250 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 DRAWING No. DS 1032
10. STEP IRON : SEE DRAWING No. DS 1043
11. FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
12. CONCRETE MIX : GRADE 30/20
13. DIAMETER OF F.A.I. NORMALLY 100 mm
14. MINIMUM COVER AT END OF BARS 40 mm
15. COVER AND FRAME NOT SHOWN ON PLAN FOR CLARITY.

	NEW ISSUE	ORIGINAL SIGNED	13.1.2016
REV.	DESCRIPTION	SIGNATURE	DATE

TERMINAL MANHOLE TYPE T2_1

DRAINAGE SERVICES DEPARTMENT

REFERENCE	DRAWING No.
SCALE 1 : 20	DS 1091 (SHEET 1 OF 3)



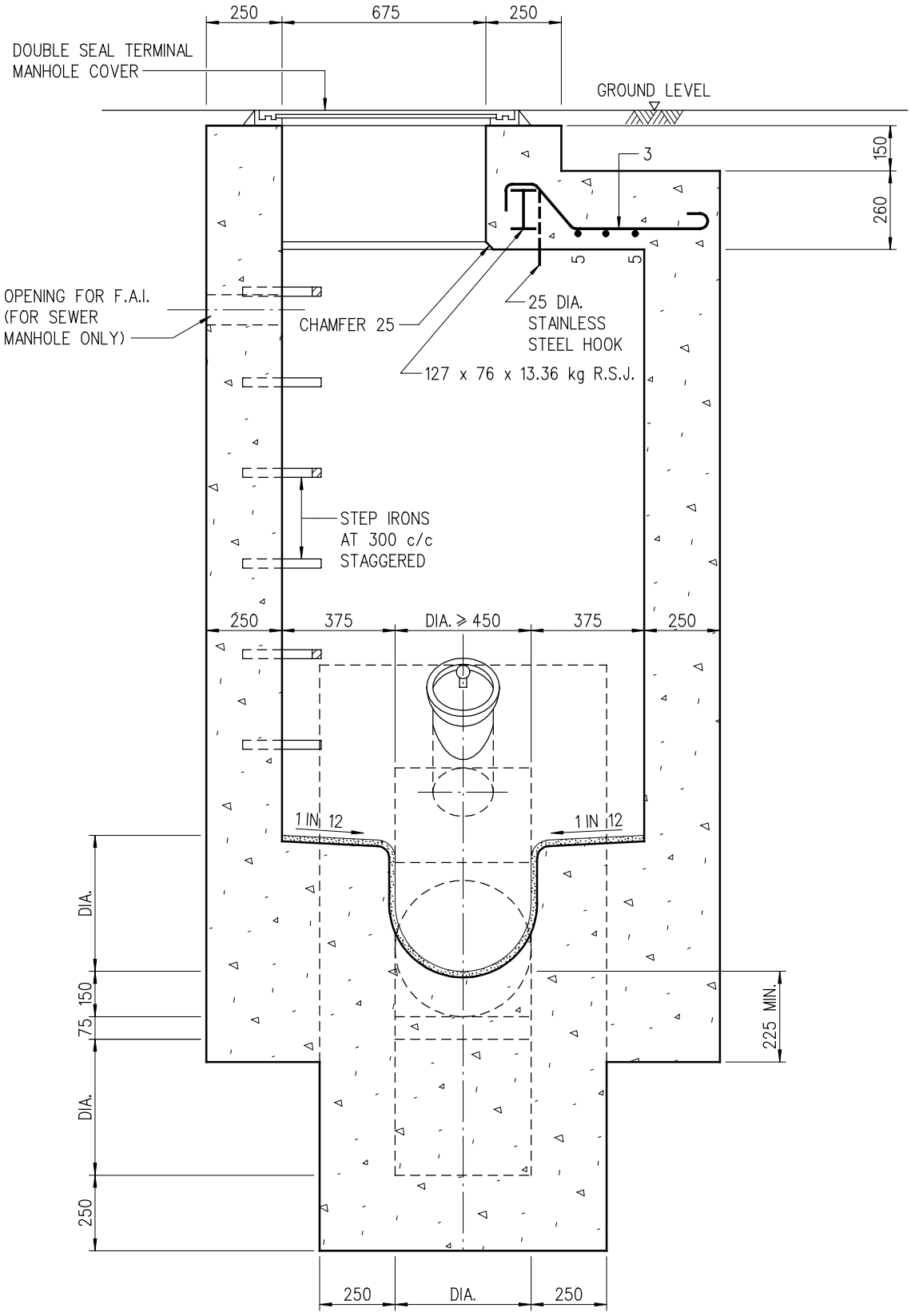
SECTION A-A

REV.	DESCRIPTION	SIGNATURE	DATE
	NEW ISSUE	ORIGINAL SIGNED	13.1.2016

TERMINAL MANHOLE TYPE T2_1

DRAINAGE SERVICES DEPARTMENT

REFERENCE	DRAWING No.
SCALE 1 : 20	DS 1091 (SHEET 2 OF 3)



SECTION B-B

REV.	DESCRIPTION	SIGNATURE	DATE
	NEW ISSUE	ORIGINAL SIGNED	13.1.2016

TERMINAL MANHOLE TYPE T2_1

DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. DS 1091 (SHEET 3 OF 3)