Form No. S16-II
表格第 S16-II 號

APPLICATION FOR PERMISSION
UNDER SECTION 16 OF
THE TOWN PLANNING ORDINANCE
(CAP.131)

2023年 2月 8日
此文件在_____收到，城市規劃委員會只會在收到所有必要的資料及文件後才正式確認收到申請的日期。
- 8 FEB 2023
This document is received on _____.
The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

根據《城市規劃條例》(第131章)
第16條遞交的許可申請

Applicable to Proposal Only Involving Construction of "New Territories Exempted House(s)"

適用於只涉及興建「新界豁免管制屋宇」的建議

Applicant who would like to publish the notice of application in local newspapers to meet one of the Town Planning Board's requirements of taking reasonable steps to obtain consent of or give notification to the current land owner, please refer to the following link regarding publishing the notice in the designated newspapers: https://www.info.gov.hk/tpb/en/plan_application/apply.html

申請人如欲在本地報章刊登申請通知，以採取城市規劃委員會就取得現行土地擁有人的同意或通知現行土地擁有人所指定的其中一項合理步驟，請瀏覽以下網址有關在指定的報章刊登通知：https://www.info.gov.hk/tpb/tc/plan_application/apply.html

General Note and Annotation for the Form
填寫表格的一般指引及註解

\# "Current land owner" means any person whose name is registered in the Land Registry as that of an owner of the land to which the application relates, as at 6 weeks before the application is made
「現行土地擁有人」指在提出申請前六星期，其姓名或名稱已在土地註冊處註冊為該申請所關乎的土地的擁有人的人

& Please attach documentary proof 請夾附證明文件

^ Please insert number where appropriate 請在適當地方註明編號

Please fill "NA" for inapplicable item 請在不適用的項目填寫「不適用」

Please use separate sheets if the space provided is insufficient 如所提供的空間不足，請另頁說明

Please insert a「✔」at the appropriate box 請在適當的方格內上加上「✔」號

2300064 1/1 by hand

Form No. S16-II 表格第 S16-II 號

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/SK-PK/281
	Date Received 收到日期	08 FEB 2023

1. The completed form and supporting documents (if any) should be sent to the Secretary, Town Planning Board (the Board), 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
申請人須把填妥的申請表格及其他支持申請的文件 (倘有)，送交香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會(下稱「委員會」)秘書收。

2. Please read the "Guidance Notes" carefully before you fill in this form. The document can be downloaded from the Board's website at http://www.info.gov.hk/tpb/. It can also be obtained from the Secretariat of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong (Tel: 2231 4810 or 2231 4835), and the Planning Enquiry Counters of the Planning Department (Hotline: 2231 5000) (17/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong and 14/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories).
請先細閱《申請須知》的資料單張，然後填寫此表格。該份文件可從委員會的網頁下載 (網址：http://www.info.gov.hk/tpb/)，亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 – 電話：2231 4810 或 2231 4835)及規劃署的規劃資料查詢處(熱線：2231 5000) (香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輋路 1 號沙田政府合署 14 樓)索取。

3. This form can be downloaded from the Board's website, and obtained from the Secretariat of the Board and the Planning Enquiry Counters of the Planning Department. The form should be typed or completed in block letters. The processing of the application may be refused if the required information or the required copies are incomplete.
此表格可從委員會的網頁下載，亦可向委員會秘書處及規劃署的規劃資料查詢處索取。申請人須以打印方式或以正楷填寫表格。如果申請人所提交的資料或文件副本不齊全，委員會可拒絕處理有關申請。

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1. Name of Applicant 申請人姓名/名稱

(☑ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☐ Company 公司 / ☐ Organisation 機構)

Kong Edmund Ming Ji 江銘基

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱（如適用）

(☑ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☐ Company 公司 / ☐ Organisation 機構)

Pang Hing Yeun 彭慶餘

3. Application Site 申請地點

(a) Full address / location / demarcation district and lot number (if applicable) 詳細地址／地點／丈量約份及地段號碼（如適用）	Lot No. 45 S.P in D.D. 213, Lung Mei, Sai Kung, N.T. 新界西貢龍尾丈量約份第213約地段第45號P分段
(b) Site area and/or gross floor area involved 涉及的地盤面積及／或總樓面面積	☑Site area 地盤面積 163.40 sq.m 平方米 ☑About 約 ☑Gross floor area 總樓面面積 195.09 sq.m 平方米 ☐About 約
(c) Area of Government land included (if any) 所包括的政府土地面積（倘有）	..... sq.m 平方米 ☐About 約

(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	S/SK-PK/11 北港及沙角尾分區計劃大綱圖
(e)	Land use zone(s) involved 涉及的土地用途地帶	Village Type Development and Green Belt 鄉村式發展及綠化地帶
(f)	Current use(s) 現時用途	Vacant 空置 (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

4. "Current Land Owner" of Application Site 申請地點的「現行土地擁有人」

The applicant 申請人 –

☑ is the sole "current land owner"#& (please proceed to Part 6 and attach documentary proof of ownership).
是唯一的「現行土地擁有人」#&(請繼續填寫第 6 部分，並夾附業權證明文件)。

☐ is one of the "current land owners"#& (please attach documentary proof of ownership).
是其中一名「現行土地擁有人」#&(請夾附業權證明文件)。

☐ is not a "current land owner"#.
並不是「現行土地擁有人」#。

☐ The application site is entirely on Government land (please proceed to Part 6).
申請地點完全位於政府土地上（請繼續填寫第 6 部分）。

5. Statement on Owner's Consent/Notification
就土地擁有人的同意/通知土地擁有人的陳述

(a) According to the record(s) of the Land Registry as at ..... (DD/MM/YYYY), this application involves a total of ..... "current land owner(s)"#.
根據土地註冊處截至 ..... 年 ..... 月 ..... 日的記錄，這宗申請共牽涉 ..... 名「現行土地擁有人」#。

(b) The applicant 申請人 –

☐ has obtained consent(s) of ..... "current land owner(s)"#.
已取得 ..... 名「現行土地擁有人」#的同意。

Details of consent of "current land owner(s)"# obtained 取得「現行土地擁有人」#同意的詳情		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where consent(s) has/have been obtained 根據土地註冊處記錄已獲得同意的地段號碼／處所地址	Date of consent obtained (DD/MM/YYYY) 取得同意的日期 (日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

☐ has notified ..... "current land owner(s)"#
已通知 ..... 名「現行土地擁有人」#。

Details of the "current land owner(s)"# notified 已獲通知「現行土地擁有人」#的詳細資料		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where notification(s) has/have been given 根據土地註冊處記錄已發出通知的地段號碼／處所地址	Date of notification given (DD/MM/YYYY) 通知日期(日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

☐ has taken reasonable steps to obtain consent of or give notification to owner(s):
已採取合理步驟以取得土地擁有人的同意或向該人發給通知。詳情如下：

Reasonable Steps to Obtain Consent of Owner(s) 取得土地擁有人的同意所採取的合理步驟

☐ sent request for consent to the "current land owner(s)" on _____ (DD/MM/YYYY)#&
於_____(日/月/年)向每一名「現行土地擁有人」#郵遞要求同意書&

Reasonable Steps to Give Notification to Owner(s) 向土地擁有人發出通知所採取的合理步驟

☐ published notices in local newspapers on _____ (DD/MM/YYYY)&
於_____(日/月/年)在指定報章就申請刊登一次通知&

☐ posted notice in a prominent position on or near application site/premises on _____ (DD/MM/YYYY)&
於_____(日/月/年)在申請地點／申請處所或附近的顯明位置貼出關於該申請的通知&

☐ sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on _____ (DD/MM/YYYY)&
於_____(日/月/年)把通知寄往相關的業主立案法團/業主委員會/互助委員會或管理處，或有關的鄉事委員會&

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

Note: May insert more than one「✔」.
Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application.
註: 可在多於一個方格內加上「✔」號
申請人須就申請涉及的每一地段（倘適用）及處所（倘有）分別提供資料

6. Development Proposal 擬議發展計劃

(a) Name(s) of indigenous villager(s) (if applicable) 原居民姓名（如適用）	Kong Edmund Ming Ji 江銘基		
(b) 原居民所屬的原居鄉村（如適用） The related indigenous village of the indigenous villager(s) (if applicable)	Sai Kung Lung Mei 西貢龍尾		
(c) Proposed gross floor area 擬議總樓面面積	..... 195.09 ..... sq.m 平方米 ☐About 約		
(d) Proposed number of house(s) 擬議房屋幢數	1	Proposed number of storeys of each house 每幢房屋的擬議層數	3
(e) Proposed roofed over area of each house 每幢房屋的擬議上蓋面積	...65.03.. sq.m 平方米	Proposed building height of each house 每幢房屋的擬議高度	....8.23... m 米
(f) Proposed use(s) of uncovered area (if any) 露天地方（倘有）的擬議用途	Circulation Area for the Small House 小型屋宇的通道地方 (Please illustrate on plan the total number and dimension of each car parking space, and/or location of septic tank, where applicable) (請在圖則上顯示，並註明車位總數，以及每個車位的長度和寬度及/或化糞池的位置 (如適用))		
(g) Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？	Yes 是	☐ There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) ..... ☐ There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。（請在圖則顯示，並註明車路的闊度）	
	No 否	☑	
(h) Can the proposed house(s) be connected to public sewer? 擬議的屋宇發展能否接駁至公共污水渠?	Yes 是☐	(Please indicate on plan the sewerage connection proposal. 請用圖則顯示接駁公共污水渠的路線)	
	No 否☑	(Please indicate on plan the location of the proposed septic tank. 請用圖則顯示化糞池的位置)	

7. Impacts of Development Proposal 擬議發展計劃的影響

If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures.
如需要的話，請另頁註明可盡量減少可能出現不良影響的措施，否則請提供理據/理由。

Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	Yes 是 ☐ No 否 ☑	Please provide details 請提供詳情 ....
Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程?	Yes 是 ☐ No 否 ☑	(Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍) ☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填土厚度 ..... m 米 ☐About 約 ☐ Excavation of land 挖土 Area of excavation 挖土面積 ..... sq.m 平方米☐About 約 Depth of excavation 挖土深度 .....m 米 ☐About 約
Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響？	On environment 對環境 Yes 會 ☐ No 不會 ☑ On traffic 對交通 Yes 會 ☐ No 不會 ☑ On water supply 對供水 Yes 會 ☐ No 不會 ☑ On drainage 對排水 Yes 會 ☐ No 不會 ☑ On slopes 對斜坡 Yes 會 ☐ No 不會 ☑ Affected by slopes 受斜坡影響 Yes 會 ☐ No 不會 ☑ Landscape Impact 構成景觀影響 Yes 會 ☐ No 不會 ☑ Tree Felling 砍伐樹木 Yes 會 ☐ No 不會 ☑ Visual Impact 構成視覺影響 Yes 會 ☐ No 不會 ☑ Others (Please Specify) 其他 (請列明) Yes 會 ☐ No 不會 ☑ _____ _____	
	Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible) 請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可)	

8. Justifications 理由

The applicant is invited to provide justifications in support of the application. Use separate sheets if necessary.
現請申請人提供申請理由及支持其申請的資料。如有需要，請另頁說明。

1. 本人是西貢龍尾的原居民，根據現行的小型屋宇政策，本人有權獲批准興建小型屋宇。
2. 申請位置位部份位于龍尾的鄉村式發展及綠化地界內。
3. 本人沒有其他土地，而申請位置是本人唯一可供申請小型屋宇的土地。
4. 申請位置附近亦有小型屋宇，因此申請位置與鄰近面貌互相協調。
5. 西貢龍尾因地理環境關係，適合申請小型屋宇的土地不多。
6. 申請地點屋宇的位置超過50%位于鄉村式發展地帶內，而只有小部份位于綠化地帶內。
7. 申請位置於2009年曾經獲批規劃許可，並且續期致2017年，但由於當時的申請人因私人理由取消小型屋宇的申請，及後由本人購入該土地去申請小型屋宇。
8. 申請地點之前我們曾經清理過雜草並進行測量，而申請位置並沒有樹木，因此不涉及樹。
9. 申請位置只屬小型發展，相對影響比較少，對環境沒太大影響。
10. 申請位置附近地段都曾獲批規劃許可，例如A/SK-PK/225。
11. 申請位置近龍尾村路附近存在一個斜坡，本人承諾如獲得批准必定提交相關報告給有關部門審批。
12. 本人定必遵從貴處及有關部門的意見，確保不會影響環境。

9. Declaration 聲明

I hereby declare that the particulars given in this application are correct and true to the best of my knowledge and belief.
本人謹此聲明，本人就這宗申請提交的資料，據本人所知及所信，均屬真實無誤。

I hereby grant a permission to the Board to copy all the materials submitted in this application and/or to upload such materials to the Board's website for browsing and downloading by the public free-of-charge at the Board's discretion.
本人現准許委員會酌情將本人就此申請所提交的所有資料複製及/或上載至委員會網站，供公眾免費瀏覽或下載。

Signature 簽署 ..... ☐ Applicant 申請人 / ☑ Authorised Agent 獲授權代理人

Pang Hing Yeun
Name in Block Letters 姓名（請以正楷填寫）

Position (if applicable) 職位 （如適用）

Professional Qualification(s) 專業資格
☐ Member 會員 / ☐ Fellow of 資深會員
☐ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /
☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /
☐ HKILA 香港園境師學會/ ☐ HKIUD 香港城市設計學會
☐ RPP 註冊專業規劃師
Others 其他 .....

on behalf of 代表 .....
☐ Company 公司 / ☐ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期 29-12-2022 (DD/MM/YYYY 日/月/年)

Remark 備註

The materials submitted in this application and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.
委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下，有關申請資料亦會上載至委員會網頁供公眾免費瀏覽及下載。

Warning 警告

Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance.
任何人在明知或故意的情況下，就這宗申請提出在任何要項上是虛假的陳述或資料，即屬違反《刑事罪行條例》。

Statement on Personal Data 個人資料的聲明

1. The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes:
委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門，以根據《城市規劃條例》及相關的城市規劃委員會規劃指引的規定作以下用途：
   (a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and
   處理這宗申請，包括公布這宗申請供公眾查閱，同時公布申請人的姓名供公眾查閱；以及
   (b) facilitating communication between the applicant and the Secretary of the Board/Government departments.
   方便申請人與委員會秘書及政府部門之間進行聯絡。

2. The personal data provided by the applicant in this application may also be disclosed to other persons for the purposes mentioned in paragraph 1 above.
申請人就這宗申請提供的個人資料，或亦會向其他人士披露，以作上述第 1 段提及的用途。

3. An applicant has a right of access and correction with respect to his/her personal data as provided under the Personal Data (Privacy) Ordinance (Cap. 486). Request for personal data access and correction should be addressed to the Secretary of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
根據《個人資料(私隱)條例》(第 486 章)的規定，申請人有權查閱及更正其個人資料。如欲查閱及更正個人資料，應向委員會秘書提出有關要求，其地址為香港北角渣華道 333 號北角政府合署 15 樓。

Gist of Application 申請摘要

(Please provide details in both English and Chinese as far as possible. This part will be circulated to relevant consultees, uploaded to the Town Planning Board's Website for browsing and free downloading by the public and available at the Planning Enquiry Counters of the Planning Department for general information.)
(請盡量以英文及中文填寫。此部分將會發送予相關諮詢人士、上載至城市規劃委員會網頁供公眾免費瀏覽及下載及於規劃署規劃資料查詢處供一般參閱。)

Application No. 申請編號	(For Official Use Only) (請勿填寫此欄)
Location/address 位置／地址	Lot No. 45 S.P in D.D. 213, Lung Mei, Sai Kung, N.T. 新界西貢龍尾丈量約份第213約地段第45號P分段
Site area 地盤面積	163.40 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 sq. m 平方米 ☐ About 約)
Plan 圖則	S/SK-PK/11 北港及沙角尾分區計劃大綱圖
Zoning 地帶	Village Type Development and Green Belt 鄉村式發展及綠化地帶
Applied use/ development 申請用途/發展	New Territories Exempted House 新界豁免管制屋宇 ☑ Small House 小型屋宇

(i) Proposed Gross floor area 擬議總樓面面積	195.09	sq.m 平方米 ☐ About 約
(ii) Proposed No. of house(s) 擬議房屋幢數	1	
(iii) Proposed building height/No. of storeys 建築物高度／層數	8.23	m 米 ☑ (Not more than 不多於)
	3	Storeys(s) 層

Submitted Plans, Drawings and Documents 提交的圖則、繪圖及文件

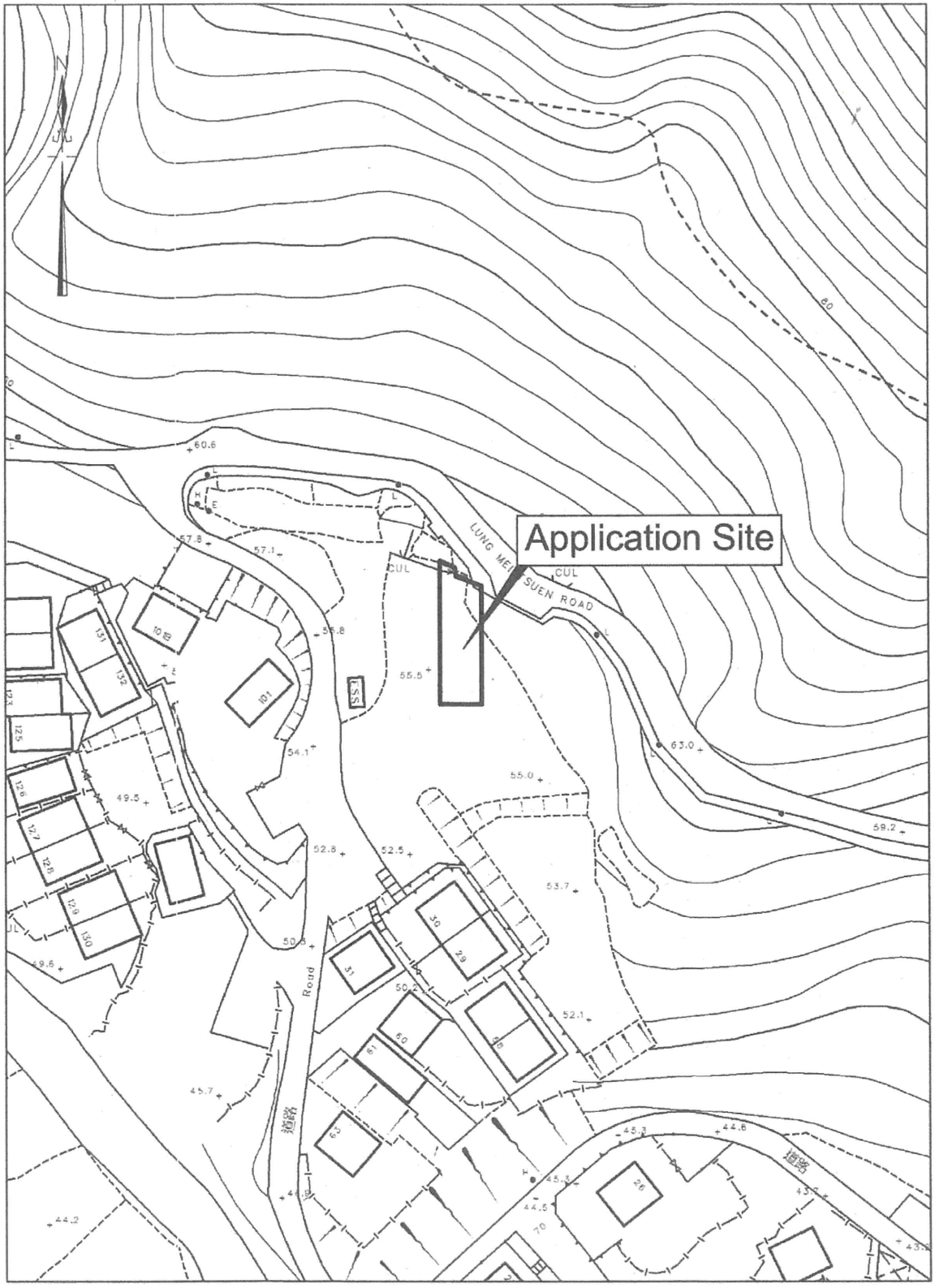
	Chinese 中文	English 英文
Plans and Drawings 圖則及繪圖		
Master layout plan(s)/Layout plan(s) 總綱發展藍圖／布局設計圖	☐	☐
Block plan(s) 樓宇位置圖	☐	☐
Floor plan(s) 樓宇平面圖	☐	☐
Sectional plan(s) 截視圖	☐	☐
Elevation(s) 立視圖	☐	☐
Photomontage(s) showing the proposed development 顯示擬議發展的合成照片	☐	☐
Master landscape plan(s)/Landscape plan(s) 園境設計總圖／園境設計圖	☐	☐
Others (please specify) 其他（請註明）	☐	☑
Location Plan & Proposed Building Licence		
Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據	☐	☐
Environmental assessment (noise, air and/or water pollutions) 環境評估（噪音、空氣及／或水的污染）	☐	☐
Traffic impact assessment (on vehicles) 就車輛的交通影響評估	☐	☐
Traffic impact assessment (on pedestrians) 就行人的交通影響評估	☐	☐
Visual impact assessment 視覺影響評估	☐	☐
Landscape impact assessment 景觀影響評估	☐	☐
Tree Survey 樹木調查	☐	☐
Geotechnical impact assessment 土力影響評估	☐	☐
Drainage impact assessment 排水影響評估	☐	☐
Sewerage impact assessment 排污影響評估	☐	☐
Risk Assessment 風險評估	☐	☐
Others (please specify) 其他（請註明）	☐	☐

Note: May insert more than one「✔」. 註：可在多於一個方格內加上「✔」號

Note: The information in the Gist of Application above is provided by the applicant for easy reference of the general public. Under no circumstances will the Town Planning Board accept any liabilities for the use of the information nor any inaccuracies or discrepancies of the information provided. In case of doubt, reference should always be made to the submission of the applicant.

註： 上述申請摘要的資料是由申請人提供以方便市民大眾參考。對於所載資料在使用上的問題及文義上的歧異，城市規劃委員會概不負責。若有任何疑問，應查閱申請人提交的文件。

LOCATION PLAN

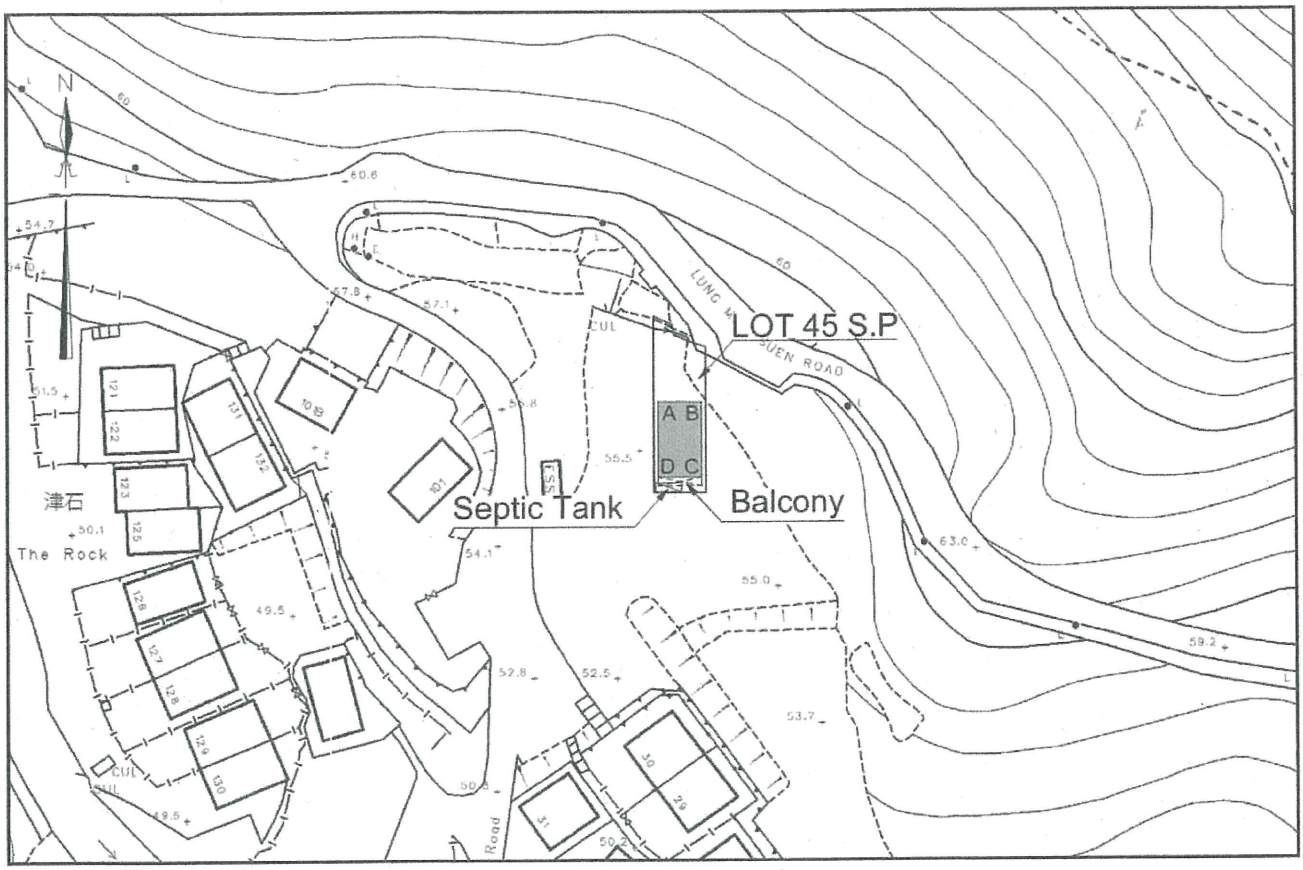


卓 弘 測 量 服 務 公 司
CHUO WANG SURVEY SERVICES COMPANY

[redacted]

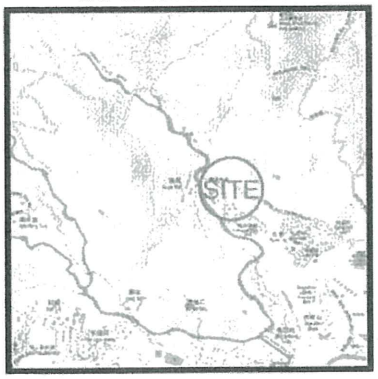
Scale : 1 : 1000
Survey Sheet No. : 8-SW-6B
Date : December 2022

PROPOSED BUILDING LICENCE
LOT No. 45 S.P IN D.D. 213



Line	Bearing	Distance(M)	Nothing	Easting	Pt.
A-B	90° 00' 00"	6.096	828 332. 335	845 796. 492	A
B-C	180° 00' 00"	10.668	828 332. 335	845 802. 588	B
C-D	270° 00' 00"	6.096	828 321. 667	845 802. 588	C
D-A	0° 00' 00"	10.668	828 321. 667	845 796. 492	D

LOCATION PLAN



Remarks:

Please refer to SRP/SK/053/1984/D1 for the boundary information of Lot No. 45 S.P in D.D. 213

Legends:

Septic Tank (3.658m x 1.219m)

Balcony (6.096m x 1.219m)

Scale : 1:1000
Survey Sheet No. : 8-SW-6B
Date : December 2022
Plan No. : CW/SK/45P/213/BL/01

卓 弘 測 量 服 務 公 司
CHUO WANG SURVEY SERVICES COMPANY

[redacted]

Proposed House (NTEH - Small House) Lot 45 S.P in D.D. 213, Lung Mei, Sai Kung, N.T. (No. A/SK-PK/281)21/03/2023 15:55
From: pang hingyeun <[redacted]>
To: "vlkma@pland.gov.hk" <vlkma@pland.gov.hk>

1 Attachment

Rev4_13July2012.pdf

Dear Ms Ma,

We reply to CEDD' s comments.

CEDD comments

Please find the enclosed NTHS Report for your reference.
Simultaneously, about the Natural Terrain Hazard Study Report, the applicant who filed the report earlier is deceased, the deceased applicant is my uncle,
so i got the NTHS report from my family, i have my family's consent to use this NTHS report and I will take all responsibility by this report.
Thank You !

Regards,
H.Y.Pang

從 Outlook 傳送

Natural Terrain Hazard Study Report

Lot 45 S.D, S.O, S.P, S.Q, S.R and S.AH DD213
Lung Mei Tsuen
Sai Kung

By
BC+S Limited

Contents

Executive Summary

BC+S Limited was commissioned to undertake a natural terrain hazard study (NTHS) for a new development of New Territories Exempt Houses (NTEH), Lot 45 S.D, S.O, S.P, S.Q, S.R and S.AH DD213, in Lung Mei Tsuen, Sai Kung.

Based on the findings from the detailed aerial photograph interpretation and the engineering geological mapping, there is no evidence that either landslides or boulder falls will impact the proposed NTEH development at Lot 45 S.D, S.O, S.P, S.Q, S.R and S.AH DD213.

Revision record

Revision	Date	Description	Prepared	Approved
0	Feb 2011	First issue		
1	Oct 2011	Second issue		
2	Feb 2012	Third issue		
3	Sep 2012	Forth issue		

1 Introduction

BC+S Limited was commissioned to undertake a natural terrain hazard study (NTHS) for a new development of New Territories Exempt Houses (NTEH), Lot 45 S.D, S.O, S.P, S.Q, S.R and S.AH DD213, in Lung Mei Tsuen, Sai Kung. This report presents the findings and the assessment results of the study.

2 Desk Study

2.1 Site and Study Area

The proposed NTEH development is located on an abandoned agricultural land in Lung Mei Tsuen (Plates 1 and 2). The proposed development is situated at the toe of a south-westerly facing natural terrain, immediately below Lung Mei Tsuen Road.

A search on the Historical Landslide Catchment Inventory (HLCI) on the Slope Information System (SIS) website showed that there was no HLC identified on the natural hill slope above the proposed NTEH development.

The boundary of the study area is determined from a topographical map of scale in 1:5,000, which consists of the upslope catchment of the natural hill slope above the proposed development and Lung Mei Tsuen Road. The slope aspect of the study area is generally southwest facing. Its elevation rises from +60mPD along Lung Mei Tsuen Road, to +230mPD along Chuk Yeung Road. The upper hill slope above the Chuk Yeung Road is southeast facing and it is separated from the study area by the 4m wide Chuk Yeung Road. The upper hill slope is not included in this study due to its slope aspect and no evidence of past instability from desk study and aerial photograph interpretation. The location of the proposed NTEH development and the boundary of the study area are presented in Figure 1.

2.2 Geology

The Hong Kong Geological Survey of scale 1:20,000 Solid and Superficial Geology Sheet 8 - Sai Kung (GCO , 1989) and the corresponding Hong Kong Geological Memoir No. 4 (P.J. Strange, R. Shaw and R. Addison, 1990) shows that the study area is underlain by undivided, mainly coarse ash tuff of the Tai Mo Shan Formation (JTM). The lower foot slope of the study area, the proposed development and the abandoned agricultural land are situated on debris flow deposits. There are a NE-SW trending fault and a NE-SW trending photogeological lineament at approximately 150m northwest and approximately 110m southeast respectively to the study area. The solid geology of the site was further recognised as coarse ash crystal tuff of the Long Harbour Formation in the Pre-Quaternary Geology of Hong Kong (R.J. Sewell, S.D.G. Campbell, C.J.N. Fletcher, K.W. Lai and P.A. Kirk, 2000). The regional geology of the study area is reproduced in Figure 2.

Previous ground investigation was carried out under the Agreement No. CE47/96 for the project of improvement of Lung Mei Tsuen Road. Drillhole, BH1, is located near the toe of the study area (Figure 2). A 2.6m thick of debris flow deposit, 15.8m thick CD tuff and 7.7m thick CD/HD tuff and 6.05m thick MD/SD tuff were encountered in this drillhole.

A Boulder Study of Hong Kong for Agreement No. CE34/97, titled Territory-Wide Quantitative Riask Assessment of Boulder Fall Hazards was carried out to cover the study area in Map Sheet No. 8 in August 1998. However, the study area was not selected for study. (refer to Appendix A with the study area location))

2.3 GAPS Report

The Geotechnical Area Studies Programme (GASP Report IX - East N.T. 1988) classified the natural hill slope as insitu terrain with general slope gradient steeper than 30 degrees, and the hill slope is underlain predominantly by coarse tuff with less than 1m soil horizon. Colluvium was mapped along the drainage line DL1, below Chuk Yeung Road and on the foothill. The proposed NTEH development area was zoned within potential development area but with local geotechnical constraints and high geotechnical limitations, such that requiring high engineering cost for development.

2.4 Past Instability Records

The location of the past instabilities in the vicinity of the study area is reproduced in Figure 2, which are extracted from Geotechnical Engineering Office's (GEO) Enhanced Natural Terrain Landslides Inventory (ENTLI) and Large Landslide Study (LLS) (Scott Wilson, 1999). A relict landslide feature, 08SWA0103E, was identified on the upper hill slope of the study area on the basis on the interpretation of a stereopair of 1963 aerial photographs.

The LLS identified a large landslide feature, 8SW-AL012, along the natural drainage line within the study area, which is topographically confined by the drainage line.

The ENTLI and LLS are solely based on the interpretation of the aerial photographs without field verification. The accuracy of the results depends on the vegetation cover, shadow of nearby objects, flight height, image clarity, camera angle, location of the feature on the aerial photograph and film (A Basic Guide to Air Photo Interpretation in Hong Kong, Ho H.Y., King J.P. & Wallance M.I., 2006). In view of these, the exact locations of the two features were inspected and verified in field mapping, and the results are summarised in Section 4.

2.5 Previous natural terrain study

No previous natural terrain hazard study (NTHS) was carried out in the close proximity of the study area. And, no previous NTHS record was found for Lung Mei Tsuen Road, which is situated directly at the foothill of the study area. It is noted that modification/road widening of Lung Mei Tsuen Road was being undergone by the Highways Department at the time of field mapping in December 2010 and January 2011 (Plate 3).

2.6 Anthropogenic features

Chuk Yeung Road along the upper boundary of the study area and Lung Mei Tsuen Road were constructed before the 1940s. There is no man-made slope in the vicinity of the study area and the proposed NTEH development.

3 Review of Aerial Photographs

3.1 Site history

The natural hill slope above the proposed NTEH development was covered with ground covers and shrubs before the 1950s. Agricultural terraces were identified near the headstream of the ephemeral drainage line (DL1). Frequent woodcutting by local villagers was possibly carried out for household use in the 1950s and 1960s. The density of vegetation on the hill slope has increased since the 1960s. The hill slope surface was completely covered by the canopies of tall trees after the 1980s.

The access roads, Chuk Yeung Road and Lung Mei Tsuen Road, were built before the 1940s. Modification/road widening of the Lung Mei Tsuen Road was commenced in 2008 and the construction works were still being carried out at the time of field mapping for this study in December 2010 and January 2011.

The proposed NTEH development is situated on abandoned agricultural lands. Active agricultural activities were found before the 1980s. The agricultural lands were possibly abandoned after the 1980s. Developments of NTEHs have been carried out since 2000.

3.2 Preliminary Geomorphological Model

The natural hill slope can be broadly divided into two terrain units, the middle slope terrain unit and the lower slope terrain unit, and they are shown in Figure 5. The upper slope terrain unit extends from +86mPD to +230mPD. Five ephemeral drainage lines (DL1 to DL5) are identified within this terrain unit, which formed wide and elongated depressions on the surface of the hill slope. This terrain unit is mainly erosional terrain, which dominated by processes of erosion. Superficial deposits of valley colluvium possibly exist along these ephemeral drainage lines, which possibly compose of mainly semi-sorted, ungraded and immature gravels, cobbles and boulders in matrix of silt and sand. The LLS record 8SW-AL012 is situated at the ephemeral drainage line DL1 with its crown at the headstream and its trial along the side-slopes of the drainage line.

The debris of the large landslide formed a debris lobe on the lower slope terrain unit, which extends from +58mPD to +86mPD. The debris lobe formed a gently sloping open hill slope with a flatland at its lower reach and along the Lung Mei Tsuen Road. The lower slope terrain unit is mainly dominated by deposition of transported materials from the middle slope terrain.

Abandoned agricultural lands (from +53mPD to +58mPD) are present between Lung Mei Tsuen Road and the river (Hang Cho Shui), and they are part of the debris lobe but the materials were largely disturbed by the agricultural activities.

From the 1963 aerial photographs, the location of the ENTLI 08SWA0103E is at the middle slope terrain, and it appears as a shallow bowl-shaped depression alongside an unpaved footpath.

4 Engineering Geological Mapping

Engineering geological mapping was carried out in December 2010 and January 2011, and the findings are presented in Figure 4. An engineering geological map for the study area is shown in Figure 5, which incorporates geomorphological observations and have been compiled from API and field mapping. The traverse of the field mapping is given in Figure 17.

The catchment above the proposed NTEH development was generally southwest facing. The middle slope terrain sloped gently at 15 degrees to 35 degrees with steeper slopes along the side-slopes of the drainage lines (see Figures 6, 7 and 8). The study area surface was covered with residual colluvium, which comprises mainly poorly sorted silty fine to coarse sand with much fine to coarse gravels and cobbles, and some boulders. Profile of residual colluvium was well exposed along the drainage lines for examination, and the general thickness was about 0.5m to 1.5m. The gravels, cobbles and boulders are mainly immature, moderately to slightly decomposed coarse ash crystal tuff. Boulders with various sizes ranged from 0.2m to 2.5m semi-exhumed and deposited on the upper portion of the middle slope terrain (Plate 4).

Five ephemeral drainage lines, namely DL1 to DL5, were found within the study area. The drainage lines formed wide, shallow and elongated depressions on the middle slope terrain. Under cutting of existing trees were noted along the side-slopes, which formed steeper gradients ranged from 25 degrees to 50 degrees. The ephemeral drainage lines inclined at 15 degrees to 25 degrees, and occasionally less than 15 degrees. Bouldery colluvium comprised immature deposits of angular to subangular boulders and some cobbles in matrix of sand, silt and gravels, which are possibly originated from the transportation of the exhumed boulders. The boulders were interlocked with moss and lichen spread over their surfaces. The immaturity of the angular and subangular boulders suggests that they were not transported much (Plate 5). The approximate thickness of the bouldery colluvium was about 0.2m to 0.35m.

The northern proposed development is situated immediately below Lung Mei Tsuen Road, which is about 4m wide. The southern proposed development is situated at the toe of the gentle footslope, which inclined at about 15 degrees to 20 degrees.

The geometry of the drainage lines was mapped and cross sections across them are shown in Figures 9 to 16. The values of channelisation ratio (CR) of the drainage lines DL2 to DL5 were larger than 8. The CR of the majority of the drainage line DL1 is larger than 8, while the CRs at the headstream and the lower sections are less than 8. Shallow features of erosion, typically 1.5m to 3m wide and 1m to 1.5m deep, were noted at the headstream of the DL1 (Plates 6 and 7). Rock outcrop of highly to moderately decomposed coarse ash crystal tuff was noted at the lower section of the DL1, and seepage was noted from the rock outcrop (Plates 8 and 9). A deeper feature of erosion (2.5m (W) x 1.5m (D)) was found near at the lower section of the DL1, which formed a steeper side-slope and exposed the underlying bedrock. This feature was possibly formed by undercutting of existing trees on one side of the side-slope.

Drainage lines DL1 and DL5 terminated at the unpaved footpath across the study area on the lower slope terrain. The lower slope terrain was gently sloping at less than 15 degrees and about 15m wide, at which boulders deposited on the surface.

Field inspection was also carried out during the wet season from June 2011 to August 2011. No steady water flow was noted along 5 ephemeral drainage lines.

The locations of the ENTLI 08SWA0103E and its vicinity were inspected during engineering geological mapping. A cutting surface was found on the upslope side of an unpaved footpath grown with ground mass and short shrubs (Plates 10 and 11), which it was possibly identified incorrectly as a relict landslide scarp. It is believed that this cutting was formed in association with the formation of the unpaved footpath.

The mapping of feature 8SW-AL012 was solely based on the aerial photographic interpretation without verification by field mapping. Based on the recent mapping for this study, discrete sections of abandoned agricultural terraces were mapped along the drainage line DL1. A dry packed random rubble wall was found on the middle hill slope and it was approximately 1m from the top of the western side-slope of the drainage line DL1 (Plate 13). No landslide scar and landslide debris was mapped in and in the vicinity of the location of the LLS. The anthropogenic features along the drainage line DL1 were possibly misidentified as landslide.

A 1m high dry packed random rubble wall was present on the upper hill slope and above the headstream of the drainage line DL1, which is approximately 5m long (Plate 12). The walls were possibly constructed by the local villagers for cultivation activities. A 2m high masonry wall was built immediately below the Chuk Yeung Road about 4m away from the headstream of the DL2 (Plate 14), which was possibly built when the road was formed.

A flat channel of 300mm to 500mm wide was built on the along the upslope side of Chuk Yeung Road (Plate 15), and runoff would flow and follow the drainage to downhill.

The extent of the anthropogenic feature is shown in Figure 4. It was no other anthropogenic feature was identified in the study area.

5 Natural Terrain Hazard Model

The upper middle slope terrain is covered with colluvium and semi-exhumed boulders on gently sloping surface. Boulders will be transported and enter the drainage lines due to the topography once triggered by erosion of the founding materials. The boulders will be stopped by the interlocked bouldery colluvium and then deposited along the drainage lines. No surface water flowed in the drainage line at the time of mapping, and surface runoff from Chuk Yuen Road and the upper hill slope is collected by the existing surface drainage system with 300-500mm flat channel built along the road. It is likely that the drainage lines only carry minor surface runoff during rainfall.

The boulders along the drainage lines were immature with angular to subangular in shape and interlocked, and covered with moss and lichen, which suggest that transportation of the boulders along the drainage lines is not frequent. Shallow erosion was noted at the headstream of the DL1 but sections with CR larger than 8 existed at the lower section of the DL1, where the eroded materials will be deposited. The CRs of the majority of the DL1 are larger than 8, which suggests that channelisation along DL1 is unlikely to happen. The wide and shallow DL2 to DL5 with CRs larger than 8 suggests that channelisation is unlikely to happen.

The wide flatland, with gradient less than 15 degrees and with some areas even inclined less than 9 degrees, is present behind the proposed NTEH development for the deposition of any transported materials from the middle slope terrain. Apart from the flatland, the 4m wide Lung Tsuen Road provides further space for the deposition of any transported materials before reaching the proposed northern NTEH development. From the API, there was no evidence of stockpiling of fill materials at this flatland by human activities.

The gentle footslope between Lung Mei Road and the proposed southern NTEH development inclined at less than 15 degrees, and there was no past instability observed and recorded. This suggests that open hill slope landslide is unlikely to occur.

6 Hazard Assessment

6.1 Natural Terrain Hazard Modes

The Design Event Approach is adopted in this report to assess the natural terrain hazards based on 5 generic landslide hazards based on the GEO Report No. 138.

No open hillslope landslide was identified within the Study Area. Based on the ENTLI records, 4 open hillslope landslides were identified within the adjacent catchments.

From field mapping, 5 ephemeral drainage lines were verified. Based on the site measurement, the CRs of the majority of the drainage sections were found less than 8 and inclined at 15 degrees to 25 degrees, and occasionally less than 15 degrees. Based on field mapping, no steady water flow was found in the wet season. Bouldery colluvium comprised angular boulders and some cobbles in matrix of sand, silt and gravels. The boulders were interlocked. The angularity of the boulders suggests that they were not transported much. No evidence or record of recent and relict failure was recorded and mapped along the drainage lines, and no event of sign of erosion was noted as well. Only under cutting of existing trees was found along the drainage sides. It is considered that they do not pose channelised debris flow hazard within the Study Area. Based on the observation of the interlocked boulders, the entrainability of the boulder colluvium is considered as minor.

Apart from the conclusion drawn from field mapping, debris mobility modelling along the ephemeral drainage line DL1 is simulated to assess the likelihood and severity of any potential debris flow hazard to the proposed development. Three cases are considered and assessed, and their flow paths depicated on a digital elevation model are illustrated in Figure S1. In view of the lack of previous incident within the study area, a volume of 100m3 landslide debris is assumed in all cases. In case 1, a potential open hillslope landslide is assumed at the drainage head. In case 2, a landslide debris is assumed coming from the ephemeral draiange line DL1.3. In case 3, landslide debris is assumed coming from the ephermeral drainage line DL1.4. An entrainable depth of 0.2m is also assumed along the flow paths. According to GEO Report No. 104, Frictional Rheological model has been adopted for open hillside landslide section and voellmy rheological model has been adopted for channelised debris flow section in this assessment, which are summarised in Table 6.1. The simulation is performed on software DAN-W (release 9). The results are given in Figures S2 to S4 and are summarised in Table 6.2, which show that no debris would reach the proposed development.

Table 6.1 – Parameters of rheological models adopted in the DMM assessment

Rheological model	Apparent angle of friction	Turbulence coefficient	Remarks
Frictional rheological model	25 degrees	-	for open hillslope landslide
Voellmy rheological model	11 degrees	$500ms^{-2}$	for channelised debris flow

Table 6.2 – Parameters for the DMM assessment

Case	Unit weight of debris	Source volume	Final volume	Travel distance	Affecting proposed development
1	$18kNm^{-2}$	$107.85m^3$	$107.85m^3$	0m	no
2	$18kNm^{-2}$	$105.70m^3$	$245.78m^3$	250.34m	no
3	$18kNm^{-2}$	$108.69m^3$	$153.34m^3$	128.92m	no

No prominent rock outcrop was found within the Study Area. Hence there was no rockfall hazard within the study area.

Colluvial boulders were found along the ephemeral drainage line DL1. They were clast-support and interlocked, and no unstable boulders along ephemeral drainage line were mapped

In field mapping, boulders with various sizes ranged from 0.2m to 2.5m were found within the study area. The potential trajectories of these boulders are generated on a digital elevation model developed from 1:1,000 topographic map. The trajectories show that boulders deposited on the upper and middle portions of the middle slope terrain would enter the drainage lines once triggered. Seven boulders on the lower portion of the middle slope terrain and the lower slope terrain have potential trajectories would reach the proposed development. The trajectories are given in Figure S5. Boulder fall hazard assessment of the 7 boulders have been assessed on software CRSP by considering the most unfavourable spherical shape of the boulder with a maximum diameter of 2.5m. The parameters are estimated from field mapping and reference to Chau et al, 1996, which are summarised in Table 6.3. The assessment results are presented in Figures S6 to S12 and summarised in Table 6.3, which show that no boulder would fall in and in the vicinity of the proposed development. Therefore, there was no boulder fall hazard within the study area.

Table 6.3 – Parameters for boulder fall assessment

Case	Rock block shape	Surface roughness	Tangent coefficient for soil	Normal coefficient for soil	Percentage of boulder reach the proposed development
Case 1	spherical	0.1	0.567	0.393	0%
Case 2	spherical	0.1	0.567	0.393	0%
Case 3	spherical	0.1	0.567	0.393	0%
Case 4	spherical	0.1	0.567	0.393	0%
Case 5	spherical	0.1	0.567	0.393	0%
Case 6	spherical	0.1	0.567	0.393	0%
Case 7	spherical	0.1	0.567	0.393	0%

Based on API and site inspection, no signs of distress, such as soil creeping and tension cracks, were observed within or in the vicinity of the study area. No geomorphological evidence of relic events and landslides in the vicinity of the site. Deep-seated failure for the study area is considered unlikely.

6.2 Landslide Susceptibility

No evidence or record of recent and relic failure was identified within study area. Process of potential surface erosion and undercutting of drainage sides were identified. A review of past aerial photographs was carried out. No environment change to the overall setting of the terrain, such as hill fires and construction upslope. Based on the Table 4 of GEO Report No. 138, the study are has a low susceptibility and Susceptibility Class D to the open hill slope landslide. And the susceptibility and Susceptibility Class of channelised debris flow triggered by open hill slope landslide are low and Class D respectively.

With reference to the SPR1/2004 the facility group of the proposed NTEH development is categorised as facility group 1a. The proximity of the NTEH development is moderately close (Figures 7 and 8). Based on the Table 3 of GEO Report No. 138, the consequence class of the NETH development is II.

Following the matrix of the Table 2 of GEO Report No. 138, further study of natural terrain hazard is not required for this proposed NTEH development.

7 Conclusions

Based on the findings from the detailed aerial photograph interpretation and the engineering geological mapping, there is no evidence that either landslides or boulder falls will impact the proposed NTEH development at Lot 45 S.D, S.O, S.P, S.Q, S.R and S.AH DD213, in Lung Mei Tsuen, Sai Kung.

8 References

Geotechnical Control Office (1988). Geotechnical Area Studies Programme Report IX - East New Territories, Geotechnical Control Office, 141 p. plus 4 maps.

Geotechnical Engineering Office (1996). Guide to Site Investigation (Geoguide 2). Geotechnical Engineering Office, Hong Kong, 359 p.

Geotechnical Engineering Office (1994). Guide to Rock and Soil Descriptions (Geoguide 3). Geotechnical Engineering Office, Hong Kong, 195 p.

Geotechnical Engineering Office (2004). Technical Guidance Note 22 (TGN 22), Guidelines on Geomorphological Mapping for Natural Terrain Hazard Studies, Geotechnical Engineering Office, Hong Kong, 8 p.

Geotechnical Engineering Office (2011). Technical Guidance Note 29 (TGN 29), Guidelines on the Assessment of Debris Mobility for Channelised Debris Flows, Geotechnical Engineering Office, Hong Kong, 6 p.

Geotechnical Engineering Office. Slope Information System. 24 December 2010. Geotechnical Engineering Office. http://hkss.cedd.gov.hk/hkss/eng/slopeinfo/siswelcome.asp.

Ho H.Y., King J.P. & Wallance M.I. (2006). A Basic Guide to Air Photo Interpretation in Hong Kong. Applied Geoscience Centre, Department of Earth Science, University of Hong Kong, 115 p.

Ng, K. C., Parry, S., King, J. P., Franks, C. A. M. & Shaw, R. (2003). Guidelines for Natural Terrain Hazard Studies. GEO Report No. 138. Geotechnical Engineering Office, Hong Kong, 138 p.
MFJV (2004) Tsing Shan Final Report. Natural Terrain Hazard Study for Tsing Shan Foothill Area. Geotechnical Engineering Office, Hong Kong.

Scott Wilson (1999). Specialist API Services for the Natural Terrain Landslide Study. Natural Terrain Landslide Inventory. Task B. Geotechnical Engineering Office, Hong Kong.

Strange, P. J. & Addison, R. (1989). Hong Kong Geological Survey, Sai Kung Sheet 8, Solid & Superficial Geology, Geotechnical Engineering Office, Hong Kong.

Strange, P. J., Shaw & Addison, R. (1990). Hong Kong Geological Survey Memoir No. 4. Geology of Sai Kung and Clear Water Bay, Geotechnical Control Office, Hong Kong, 111 p.

Sewell, R. J., Campbell, S. D. G., Fletcher, C. J. N., Lai, K. W. & Kirk, P. A. (2000). The Pre-Quaternary Geology of Hong Kong. Geotechnical Engineering Office, Hong Kong, 181 p.

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Table 1 – Aerial photograph Interpretation

Aerial Photograph Inspected		Key Issues
Photo ref#: Date: Flight height:	4056, 4057 10 Nov 1945 20,000 ft	The Chuk Yeung Road was built. There was an unpaved footpath across the upper hill slope of the study area. This footpath cut across the Chuk Yeung Road to form a short-cut road. There was an unpaved footpath across the lower footslope of the study area. The area for the proposed NTEH development was covered with trees and ground cover.
Photo ref#: Date: Flight height:	0043, 0044 18 Nov 1954 29,200 ft	No signature change.
Photo ref#: Date: Flight height:	0127, 0128, 0078 28 Dec 1956 16,700 ft	The upper hill slope of the study area was covered with ground cover and shrubs. The middle hill slope is covered with shrubs and trees, where tall trees grew along the ephemeral drainage line. Tall trees grew on the surface of the lower footslope and on the surface of the gentle hill slope immediately east to the study area. Farmland was formed on the area for the proposed NTEH development, where unpaved footpaths are clearly seen among the farmland.
Photo ref#: Date: Flight height:	91, 90 26 Oct 1961 30,000 ft	No signature change
Photo ref#: Date: Flight height:	9663, 9664 19 Feb 1963 3,900 ft	The natural hill slope can be broadly divided into two terrain units, the middle slope terrain unit and the lower slope terrain unit. The upper slope terrain unit extends from +86mPD to +230mPD. Five drainage lines (DL1 to DL5) are identified within this terrain unit, which formed wide and elongated depressions on the surface of the hill slope. This terrain unit is mainly erosional terrain. Superficial deposits of valley colluvium possibly exist along the drainage lines, which possibly composes of mainly semi-sorted, ungraded and immature gravels, cobbles and boulders in matrix of silt and sand. The LLS record L012 is situated at the drainage line DL1 with its crown at the headstream and its trial along the side-slopes of the drainage line. The large landslide is mostly degraded or possibly as a result of multiple landslides. The debris of the large landslide formed a debris lobe on the lower slope terrain unit, which extends from +58mPD to +86mPD. The debris lobe formed a gently sloping open hill slope with a flatland at its lower reach and along the Lung Mei Tsuen Road. The lower slope terrain unit is mainly dominated by deposition of transported materials from the middle slope terrain. Abandoned farmlands (from +53mPD to +58mPD) are present between Lung Mei Tsuen Road and the river (Hang Cho Shui), and they are part of the debris lobe but the materials were largely disturbed by the agricultural activities. Floodplains exist on both sides of the river. The location of the ENTLI 08SWA0103E is at the middle slope terrain, and it appears as a shallow bowl-shaped depression alongside an unpaved footpath.

Aerial Photograph Inspected		Key Issues
Photo ref#: Date: Flight height:	2645, 2646 13 Dec 1964 12,500 ft	More shrubs and trees grew along the drainage line (DL1).
Photo ref#: Date: Flight height:	2310, 2311 03 Oct 1972 13,000 ft	No significant change
Photo ref#: Date: Flight height:	3244, 3245 20 Feb 1973 5,000 ft	
Photo ref#: Date: Flight height:	9808, 9809 21 Nov 1974 12,500 ft	A photolineament extending form the junction road of the upper Chuk Yeung Road to the village houses in the lower Lung Mei Tsuen. It was possibly an overhead cable.
Photo ref#: Date: Flight height:	11963, 11964, 11759 24 Dec 1975 12,500ft	More vegetation grew on the surface of the middle hill slope and lower footslope.
Photo ref#: Date: Flight height:	12309, 12310, 12311 16 Jan 1976 6,000 ft	The unpaved footpath across the upper hill slope was covered with vegetation. The farmland in and in the vicinity of the proposed NTEH development were possibly abandoned.
Photo ref#: Date: Flight height:	23154, 23155 07 Nov 1978 4,000 ft	More vegetation grew on the surface of the middle hill slope and the lower footslope. Tall trees and more vegetation grew along the ephemeral drainage line DL1. The farmland in and in the vicinity of the proposed NTEH development were abandoned, where ground cover started to grow on the footpaths within the farmland.
Photo ref#: Date: Flight height:	25981, 25982 05 July 1979 4,000 ft	Few trees and shrubs grew below the Chuk Yeung Road.
Photo ref#: Date: Flight height:	35467, 35468 30 Dec 1980 4,000 ft	A strip of vegetation clearance and a shallow trench were formed across the study area, from the upper road junction of the Chuk Yeung Road to the Lung Mei Tsuen. It was possibly in association with the installation of buried power cable.
Photo ref#: Date: Flight height:	37337 17 May 1981 4,000 ft	No significant change
Photo ref#: Date: Flight height:	44037, 44038 20 Sep 1982 5,000 ft	More vegetation grew within the depression at the upper hill slope.
Photo ref#: Date: Flight height:	51058, 51059 29 Nov 1983 4,000 ft	Denser vegetation grew on the surface of the middle hill slope and lower footslope, and on the upper hill slope below the Chuk Yeung Road.
Photo ref#: Date: Flight height:	57430, 57431 23 Nov 1984 4,000 ft	Lung Mei Tsuen Road was started to build from the road junction to the Lung Mei Tsuen across the lower footslope of the study area.

Aerial Photograph Inspected		Key Issues
Photo ref#: Date: Flight height:	A03371, A03372 15 Nov 1985 4,000 ft	Lung Mei Tsuen Road was completed.
Photo ref#: Date: Flight height:	A08141, A08142 21 Dec 1986 10,000 ft	No significant change.
Photo ref#: Date: Flight height:	A09797, A09798, A09799 12 Jul 1987 4,000 ft	The Lung Mei Tsuen Road was possibly widened.
Photo ref#: Date: Flight height:	A15437, A15438 04 Nov 1988 4,000 ft	Strip of minor vegetation clearance on the natural hill slope, which was sub-parallel to the drainage line DL1. It is possibly related to the installation of buried cable.
Photo ref#: Date: Flight height:	A17762, A17763 15 Aug 1989 4,000 ft	No significant change. Vegetation grew on the hill slope became denser.
Photo ref#: Date: Flight height:	A23230, A23231 12 Oct 1990 2,000 ft	No significant change. Vegetation grew on the hill slope became denser.
Photo ref#: Date: Flight height:	A27090, A27091 13 Sep 1991 2,000 ft	
Photo ref#: Date: Flight height:	A31633, A31634 22 Jun 1992 4,000 ft	
Photo ref#: Date: Flight height:	CN5145, CN5146 02 Nov 1993 3,000 ft	Ground cover grew on the surface of the upper hill slope, where shrubs and trees grew at the depression near the upper headstream of the ephemeral drainage line DL1.
Photo ref#: Date: Flight height:	CN10861, CN10862 02 May 1995 2,500 ft	No significant change.
Photo ref#: Date: Flight height:	CN21222, CN21223 31 Oct 1998 4,000 ft	
Photo ref#: Date: Flight height:	A50422, A50423 27 Oct 1999 4,000 ft	
Photo ref#: Date: Flight height:	CN26821, CN26822 01 Jul 2000 4,000 ft	A NTEH development was carried out immediately south to the proposed NTEH development.
Photo ref#: Date: Flight height:	RW00008, RW00009 18 Jun 2001 7,000 ft	Ground cover and sparse shrubs grew on the upper hill slope. Shrubs and trees grew on the surface of the upper hill slope below the Chuk Yeung Road. Tall trees grew on the middle hill slope and lower footslope.

Aerial Photograph Inspected		Key Issues
Photo ref#: Date: Flight height:	CW39086, CW39087 07 Mar 2002 7,000 ft	No significant change
Photo ref#: Date: Flight height:	CW50268, CW50269 27 Sep 2003 4,000 ft	Dense shrubs and trees grew on the surface of the depression at the upper hill slope.
Photo ref#: Date: Flight height:	CW58572, CW58573 08 Aug 2004 4,000 ft	New NTEH development and new access roads were carried out on construction sites south and southeast to the proposed NTEH development.
Photo ref#: Date: Flight height:	CW67426, CW67427 31 Oct 2005 4,000 ft	No significant change
Photo ref#: Date: Flight height:	CW70614, CW70615 08 Feb 2006 4,000 ft	
Photo ref#: Date: Flight height:	RW08729, RW08730 02 Feb 2007 6,000ft	
Photo ref#: Date: Flight height:	CS15699, CS15700 27 Jul 2008 6,000 ft	Road widening/modification of the Lung Mei Tsuen Road was carried out. The surface of the study area was completely covered with dense vegetation.
Photo ref#: Date: Flight height:	CS24891, CS24892 23 Nov 2009 6,000 ft	

Figure S1 – Trajectories of potential boulder fall

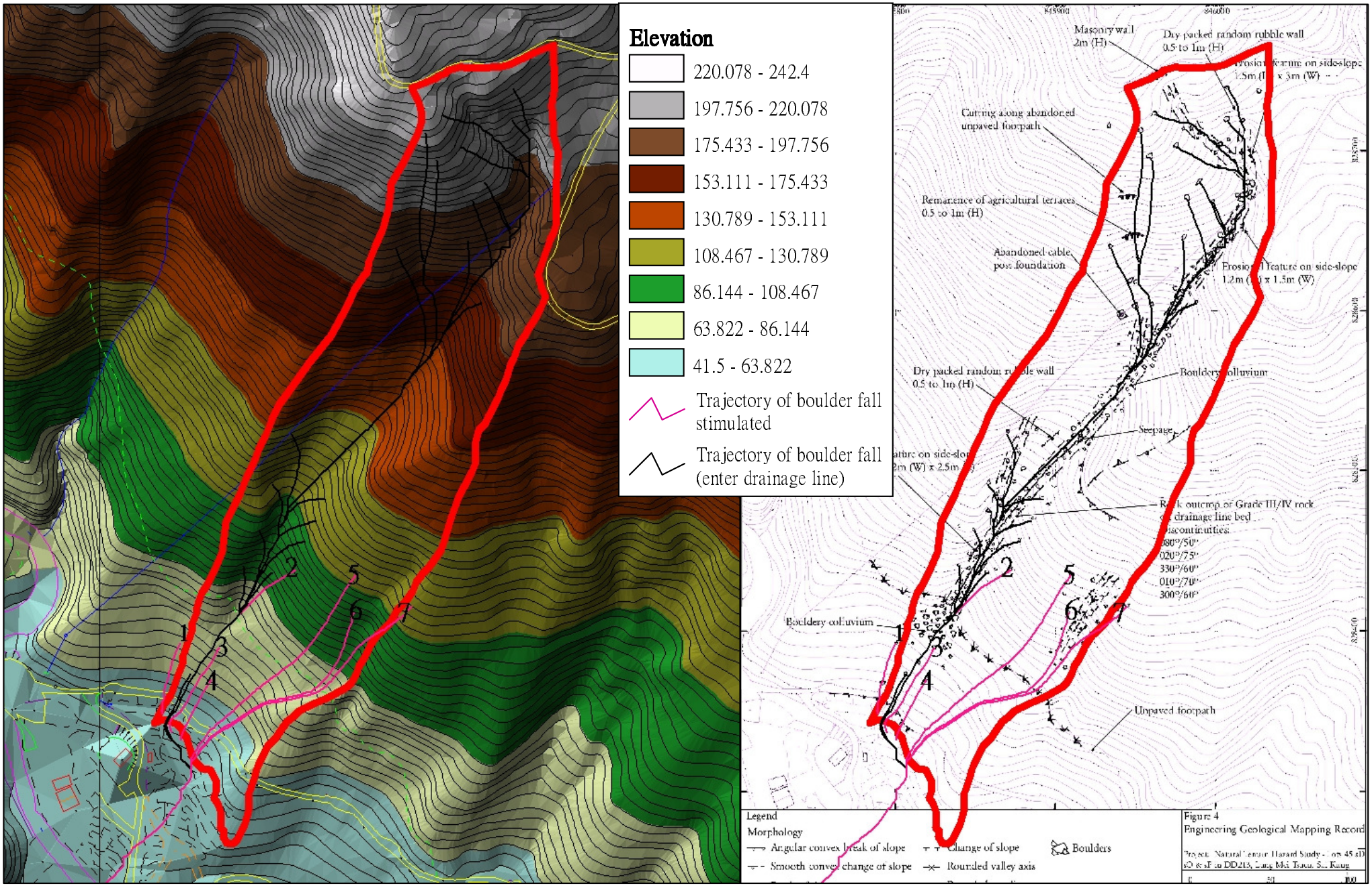
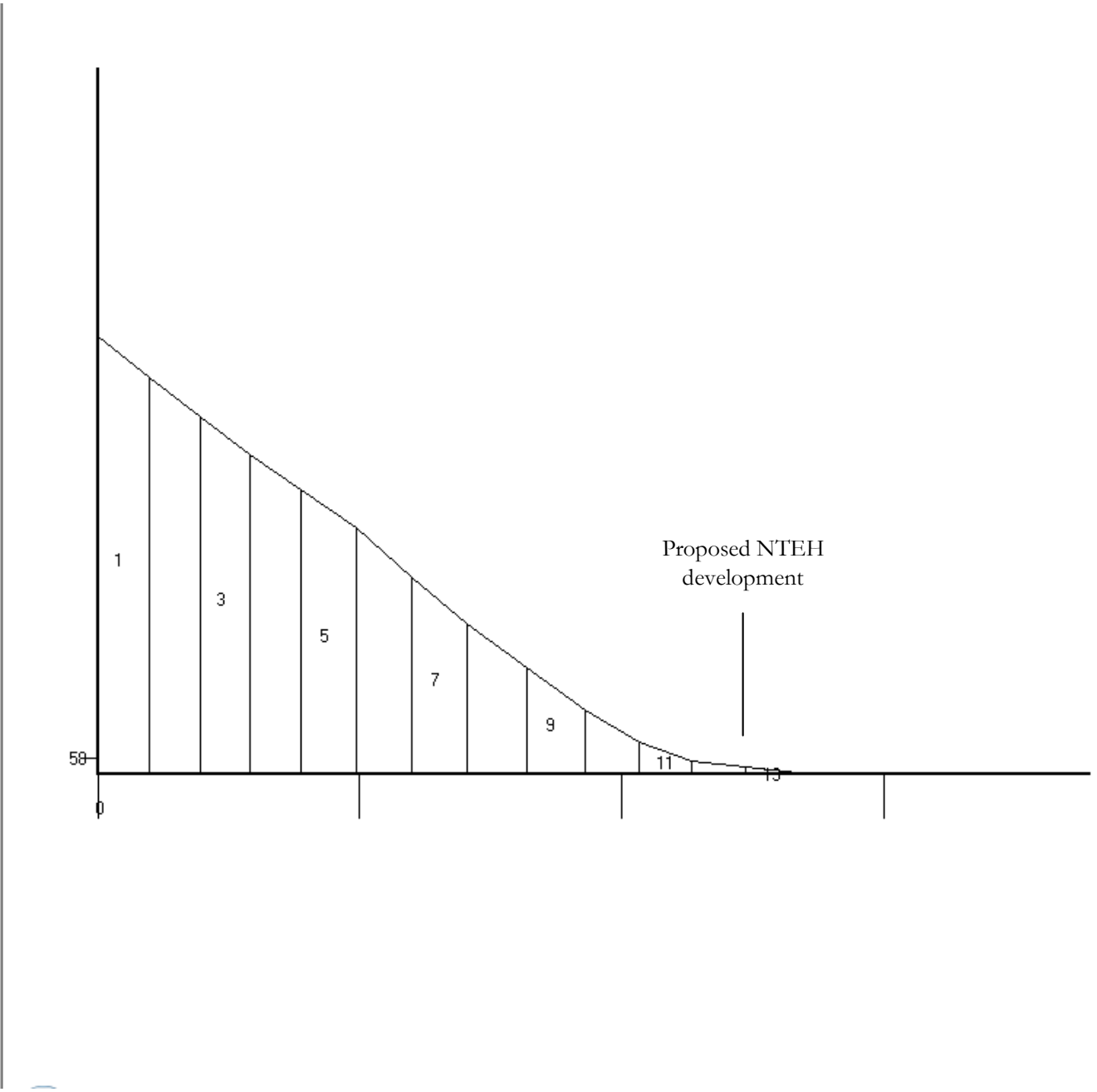


Figure S2 – Trajectory 1



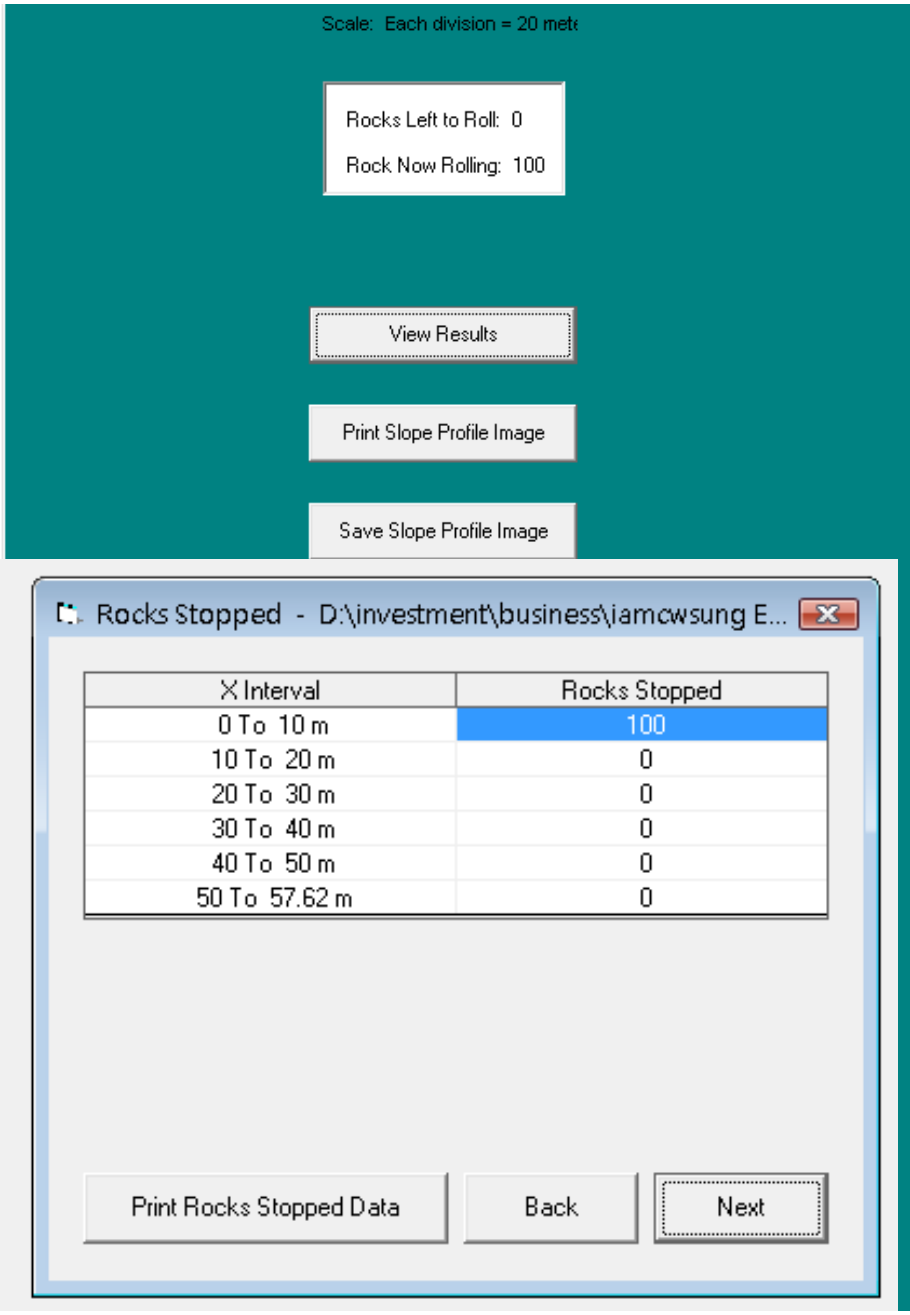


Figure S3 – Trajectory 2

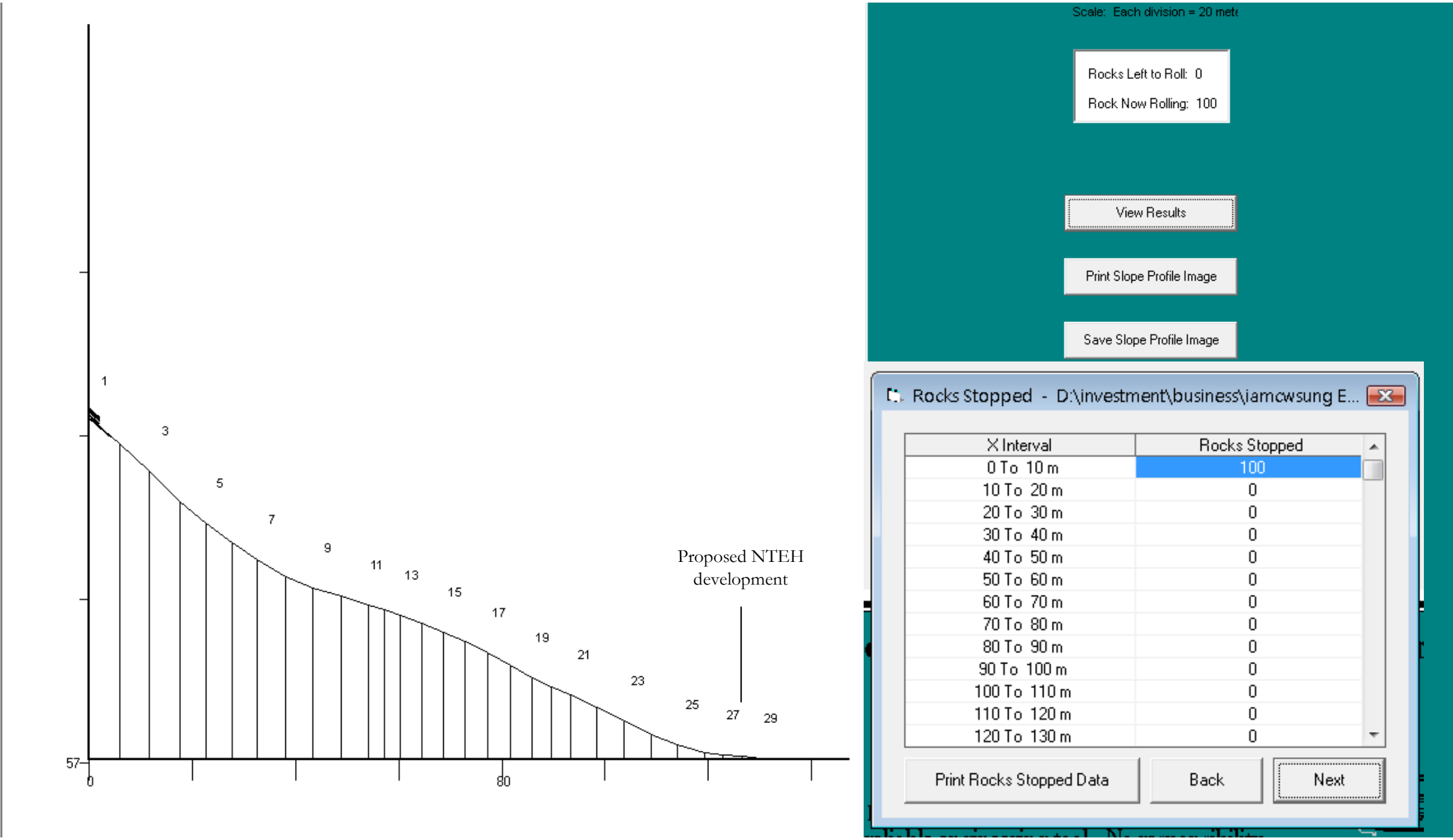


Figure S4 – Trajectory 3

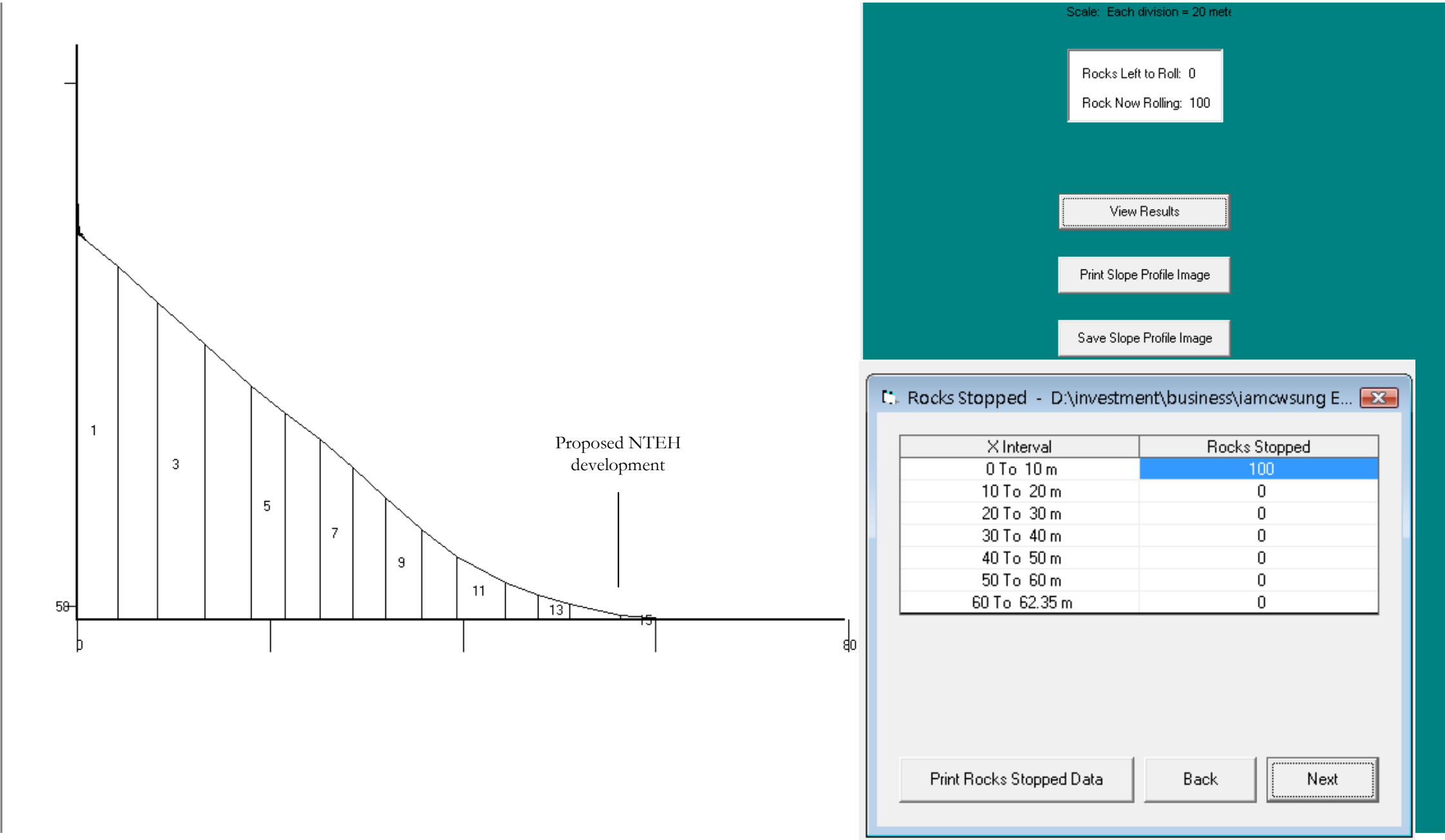


Figure S5 – Trajectory 4

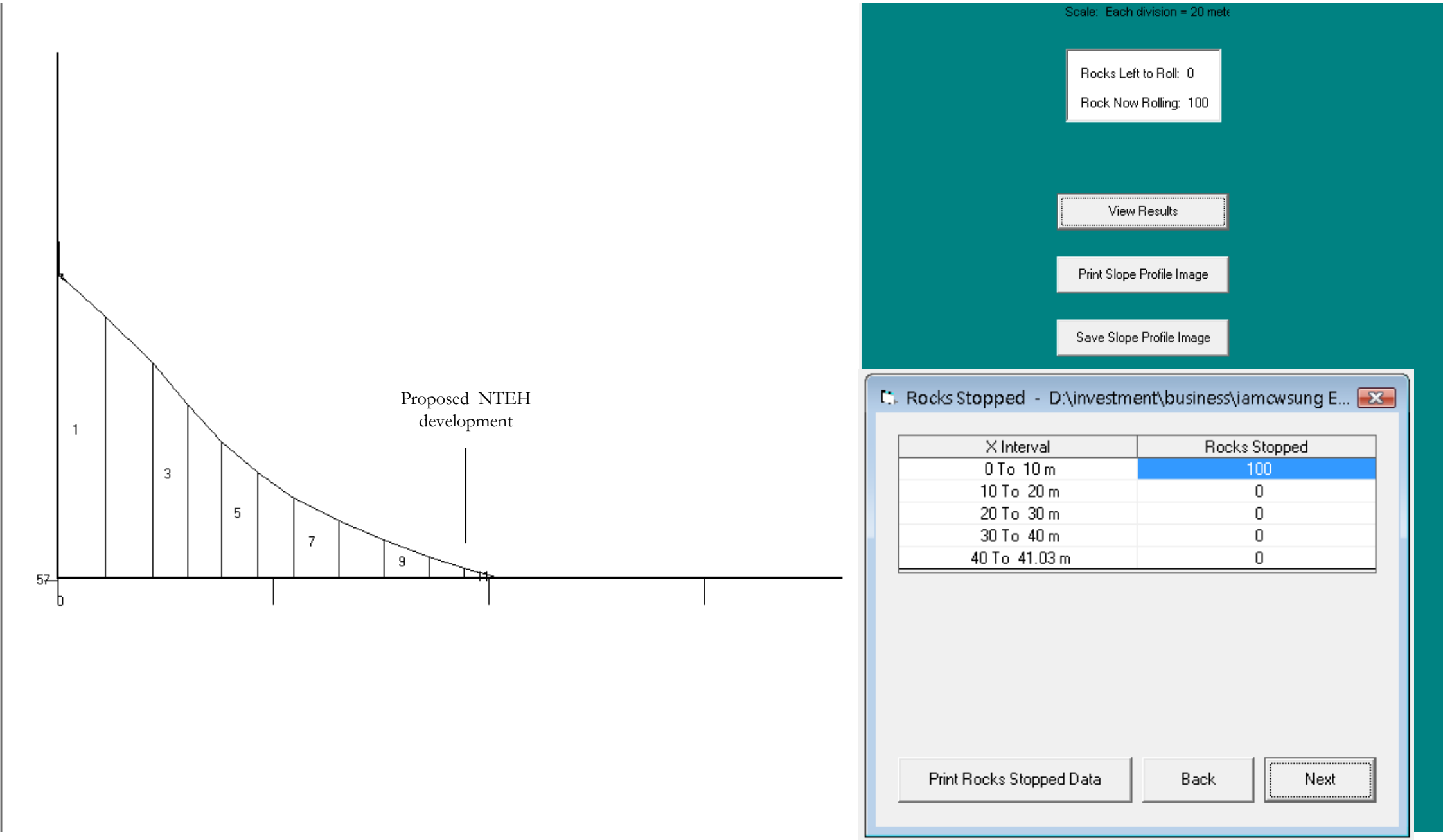


Figure S6 – Trajectory 5

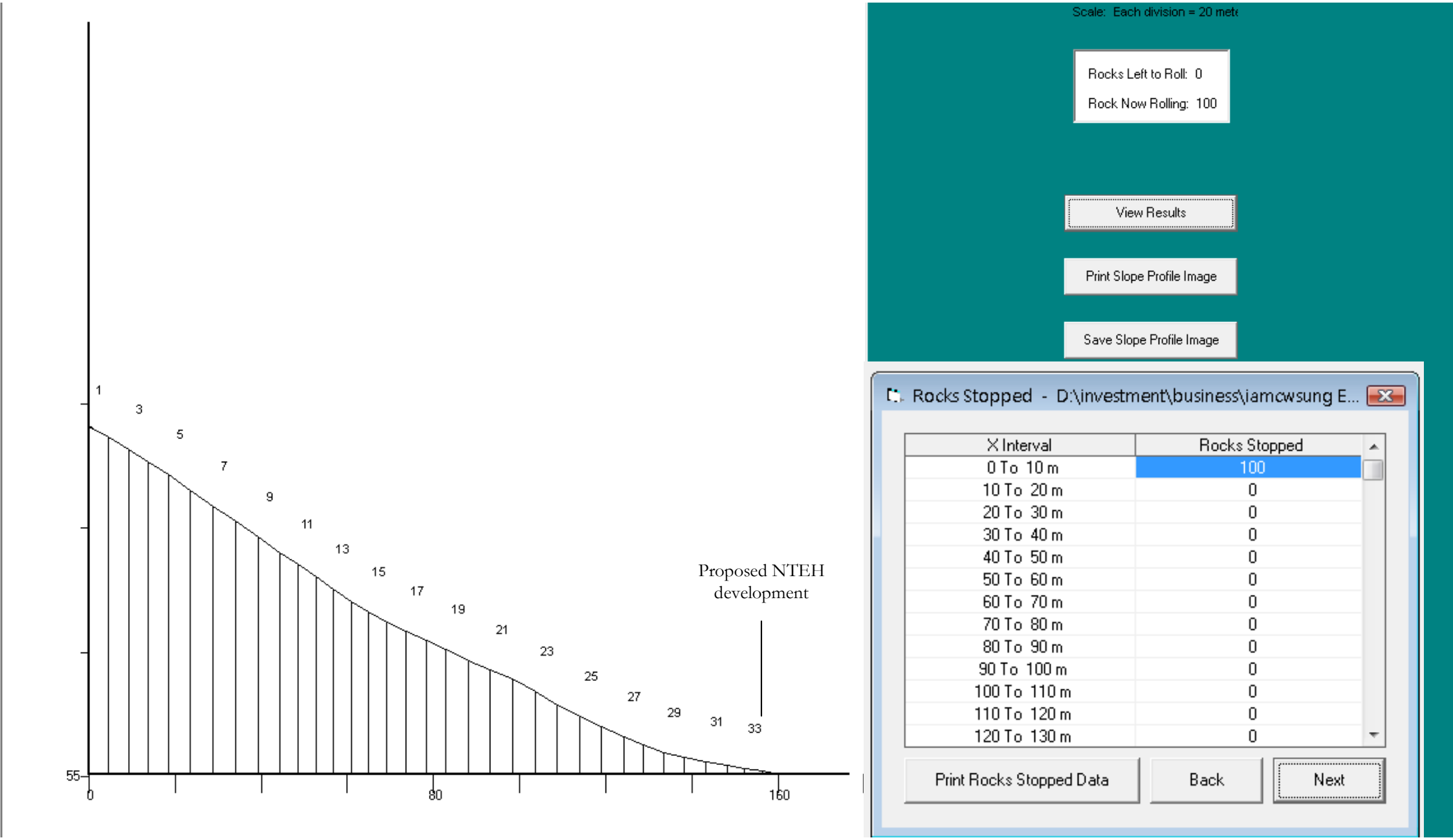
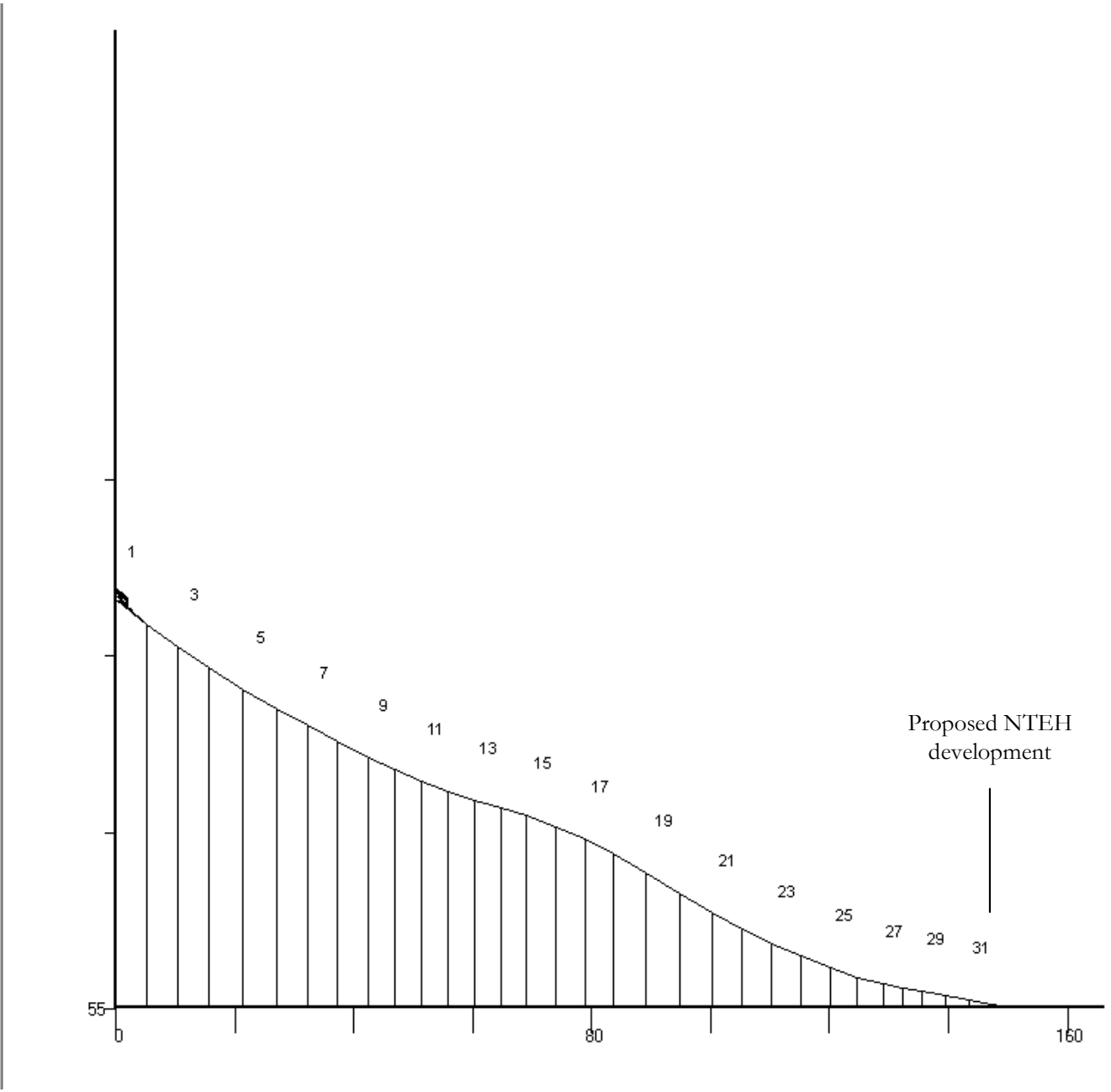


Figure S7 – Trajectory 6



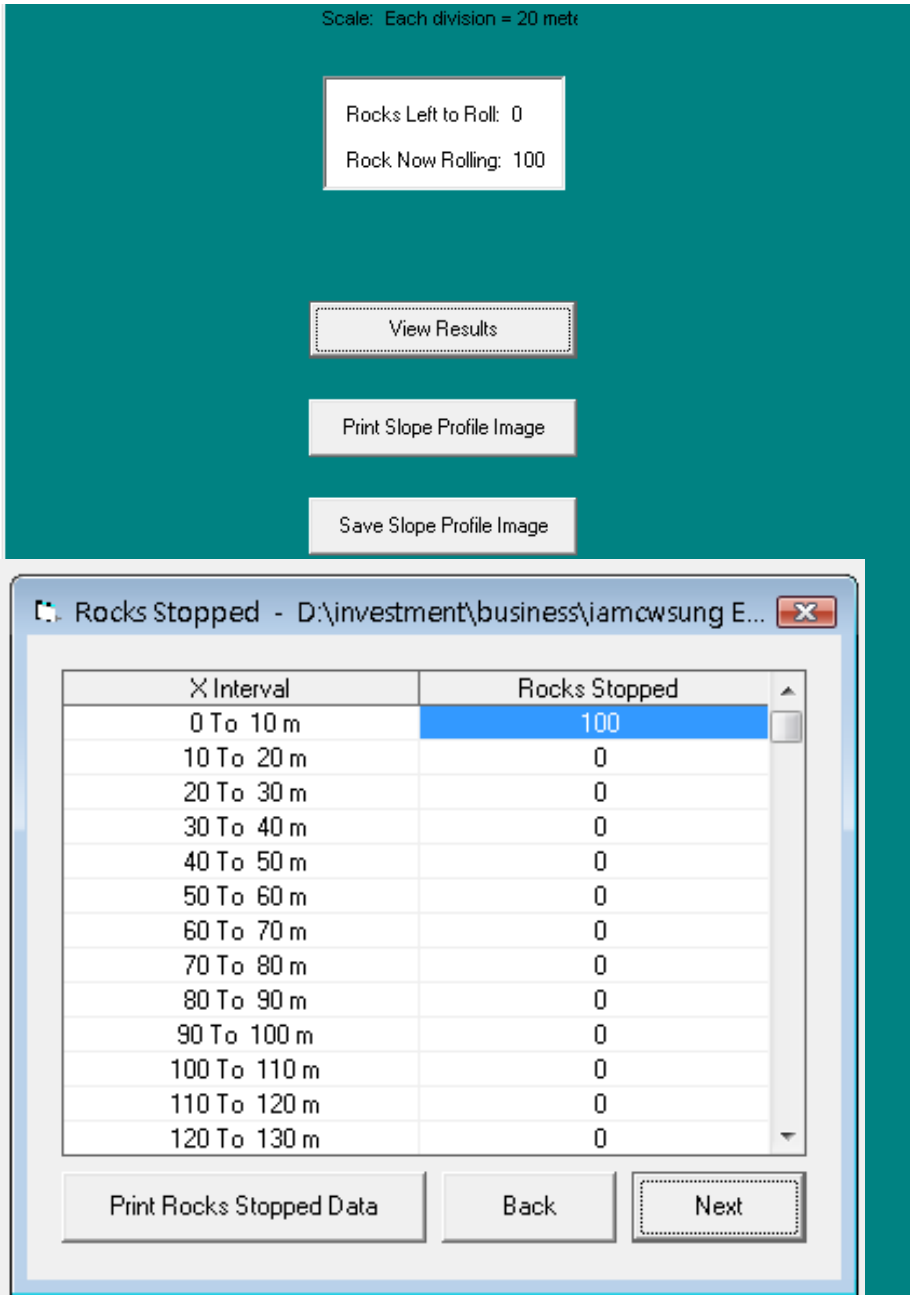
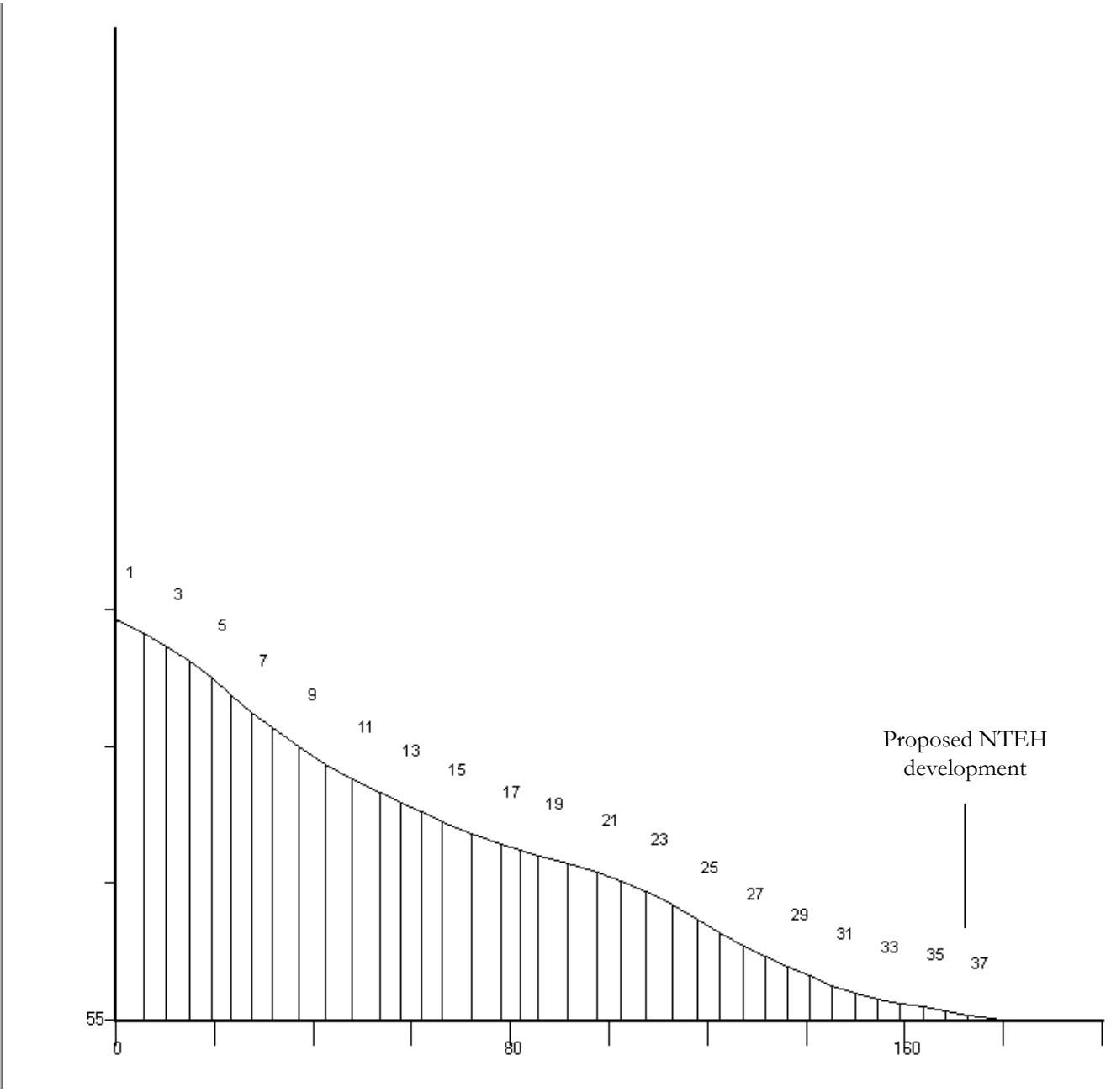


Figure S8 – Trajectory 7



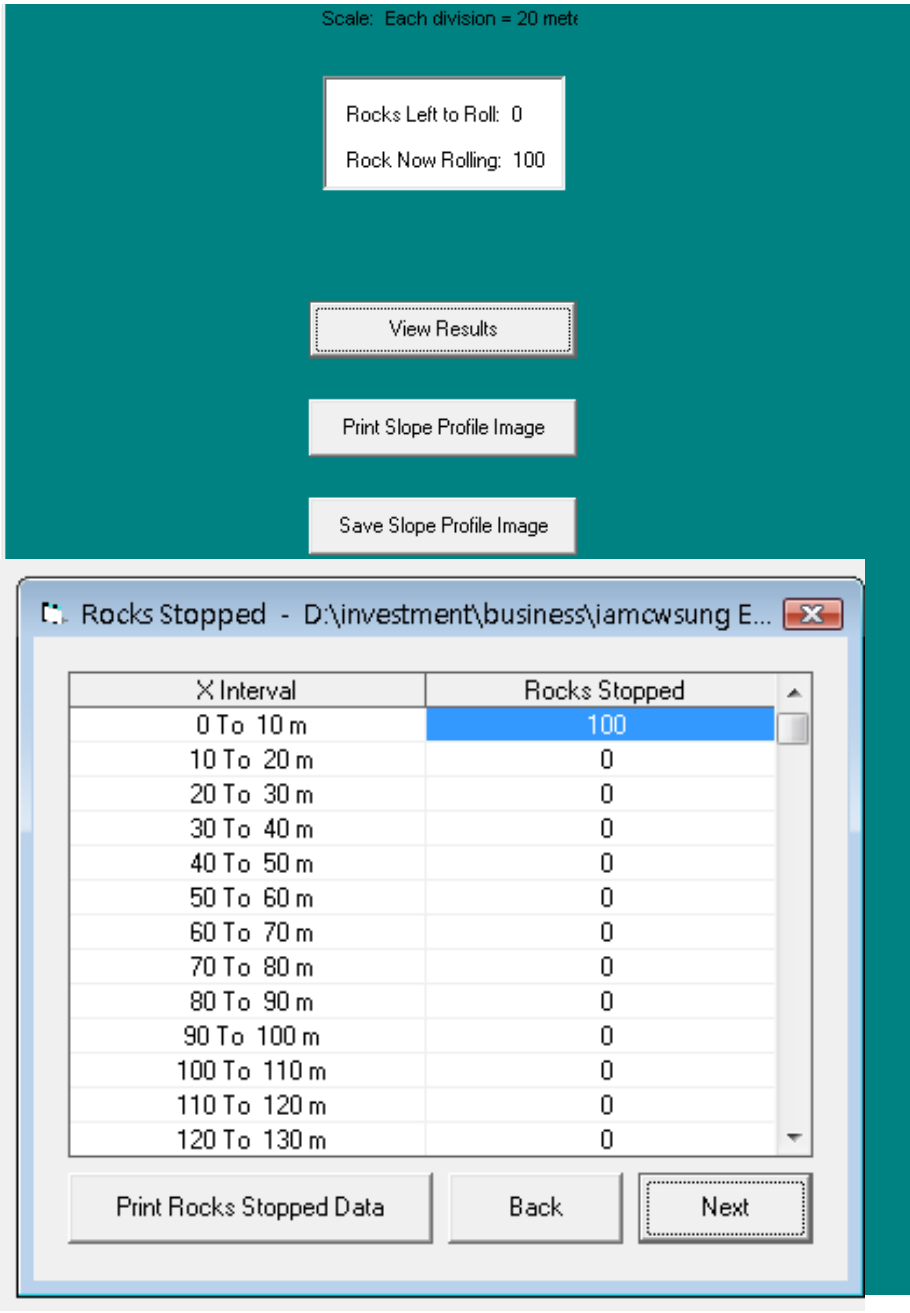


Figure S9 – Flow path 1

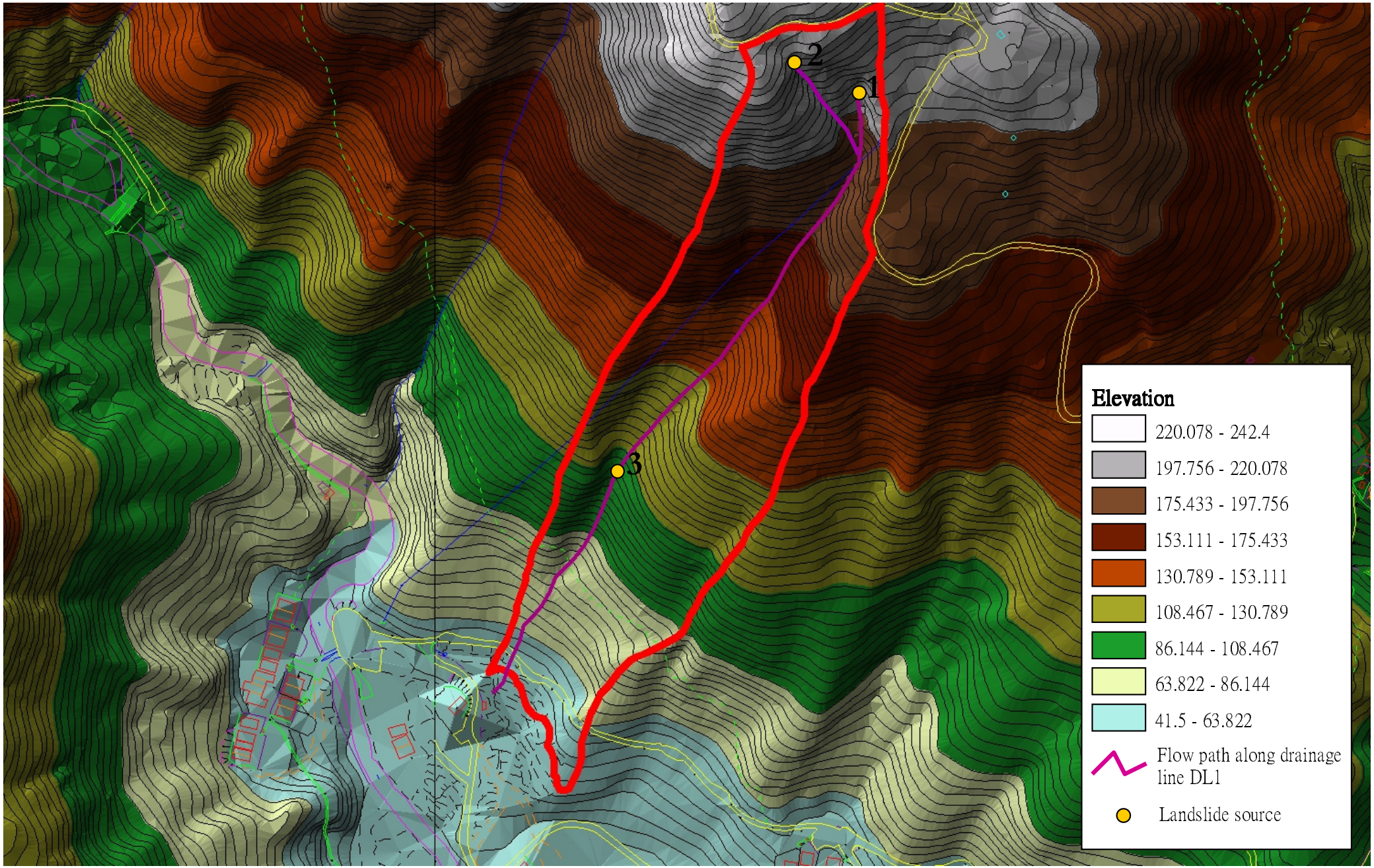


Figure S10 – Flow path 1 (landslide source 1)

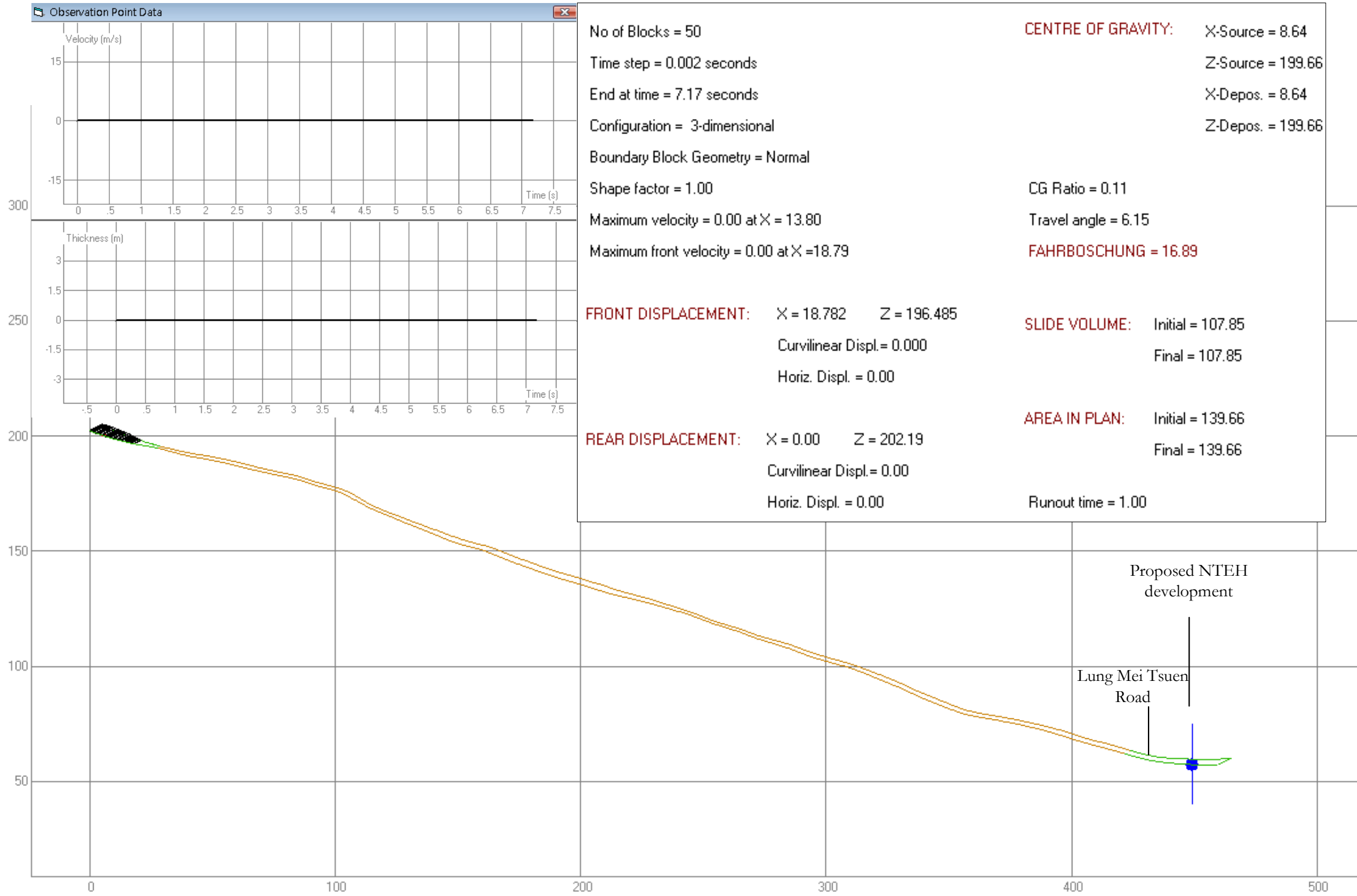


Figure S11 – Flow path 2 (landslide source 2)

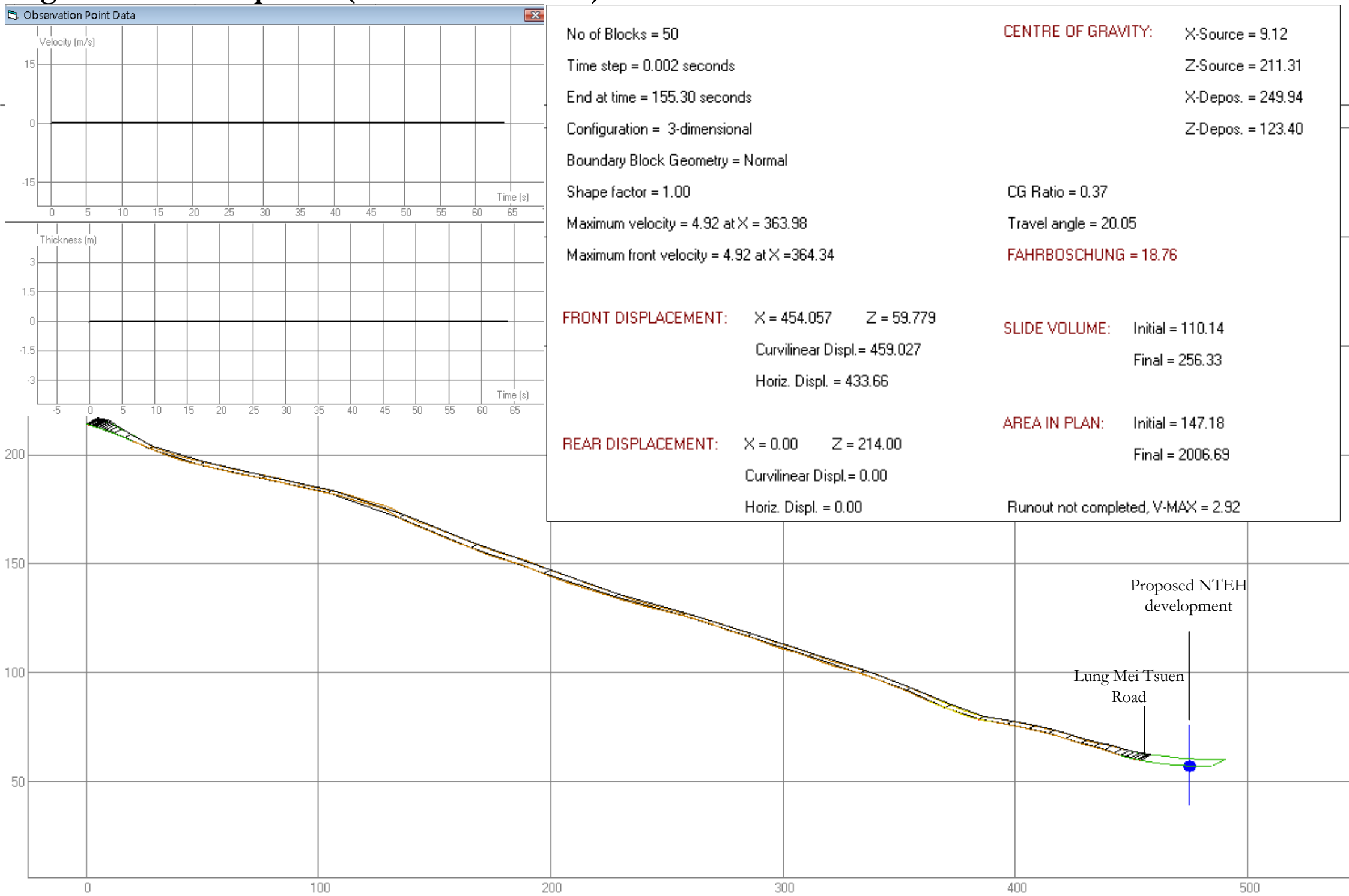
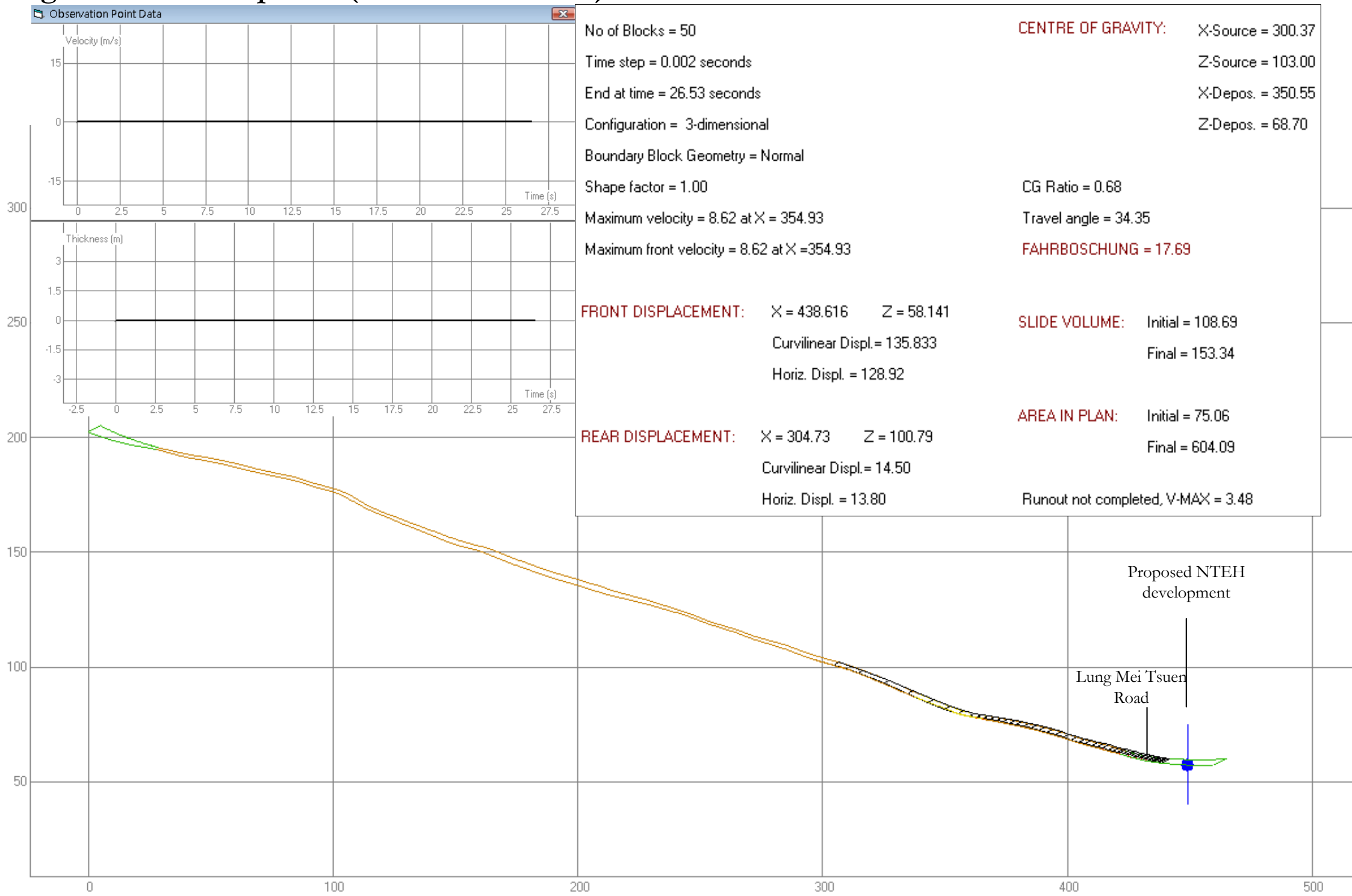


Figure S12 – Flow path 3 (landslide source 3)



Appendix II of RNTPC
Paper No. A/SK-PK/281A

Relevant Interim Criteria for Consideration of Application for
New Territories Exempted House (NTEH)/Small House in New Territories
(Revised on 7.9.2007)

(a) sympathetic consideration may be given if not less than 50% of the proposed NTEH/Small House footprint falls within the village 'environs' ('VE') of a recognized village and there is a general shortage of land in meeting the demand for Small House development in the "Village Type Development" ("V") zone of the village;

(b) if more than 50% of the proposed NTEH/Small House footprint is located outside the 'VE', favourable consideration could be given if not less than 50% of the proposed NTEH/Small House footprint falls within the "V" zone, provided that there is a general shortage of land in meeting the demand for Small House development in the "V" zone and the other criteria can be satisfied;

(c) development of NTEH/Small House with more than 50% of the footprint outside both the 'VE' and the "V" zone would normally not be approved unless under very exceptional circumstances (e.g. the application site has a building status under the lease, or approving the application could help achieve certain planning objectives such as phasing out of obnoxious but legal existing uses);

(d) application for NTEH/Small House with previous planning permission lapsed will be considered on its own merits. In general, proposed development which is not in line with the criteria would normally not be allowed. However, sympathetic consideration may be given if there are specific circumstances to justify the cases, such as the site is an infill site among existing NTEHs/Small Houses, the processing of the Small House grant is already at an advance stage;

(e) if an application site involves more than one NTEH/Small House, application of the above criteria would be on individual NTEH/Small House basis;

(f) the proposed development should not frustrate the planning intention of the particular zone in which the application site is located;

(g) the proposed development should be compatible in terms of land use, scale, design and layout, with the surrounding area/development;

(h) the proposed development should not encroach onto the planned road network and should not cause adverse traffic, environmental, landscape, drainage, sewerage and geotechnical impacts on the surrounding areas. Any such potential impacts should be mitigated to the satisfaction of relevant Government departments;

(i) the proposed development, if located within water gathering grounds, should be able to be connected to existing or planned sewerage system in the area except under very special circumstances (e.g. the application site has a building status under the lease or the applicant can demonstrate that the water quality within water gathering grounds will not be affected by the proposed development^);

(j) the provision of fire service installations and emergency vehicular access, if required, should be appropriate with the scale of the development and in compliance with relevant standards; and

(k) all other statutory or non-statutory requirements of relevant Government departments must be met. Depending on the specific land use zoning of the application site, other Town Planning Board guidelines should be observed, as appropriate.

^i.e. the applicant can demonstrate that effluent discharge from the proposed development will be in compliance with the effluent standards as stipulated in the Water Pollution Control Ordinance Technical Memorandum.

Appendix III of RNTPC
Paper No. A/SK-PK/281A

Relevant Extract of Town Planning Board Guidelines for Application for Development within Green Belt Zone under Section 16 of the Town Planning Ordinance (TPB PG-No. 10)

The relevant assessment criteria are as follows:

(a) there is a general presumption against development in the "Green Belt" ("GB") zone;

(b) applications for new development in the "GB" zone will only be considered in exceptional circumstances and must be justified with very strong planning grounds. The scale and intensity of the proposed development including the plot ratio, site coverage and building height should be compatible with the character of surrounding areas;

(c) applications for New Territories Exempted House with satisfactory sewage disposal facilities and access arrangements may be approved if the application sites are in close proximity to existing villages and in keeping with the surrounding uses, and where the development is to meet the demand from indigenous villagers;

(d) the design and layout of any proposed development should be compatible with the surrounding area. The development should not involve extensive clearance of existing natural vegetation, affect the existing natural landscape, or cause any adverse visual impact on the surrounding environment;

(e) the proposed development should not overstrain the capacity of existing and planned infrastructure such as sewerage, roads and water supply. It should not adversely affect drainage or aggravate flooding in the area;

(f) the proposed development should not overstrain the overall provision of government, institution and community facilities in the general area; and

(g) any proposed development on a slope of hillside should not adversely affect slope stability.

Previous Application at the Application Site

Approved Application

Application No.	Proposed Development	Date of Consideration	Approval Condition(s)
A/SK-PK/167	Proposed Three Houses (New Territories Exempted Houses (NTEHs) - Small Houses)	18.12.2009	(a) to (d)

Approval Conditions

(a) The submission and implementation of a landscape proposal

(b) The submission of a Natural Terrain Hazard Study and the implementation of the geotechnical mitigation measures

(c) The provision of fire fighting access, water supplies and fire service installations

(d) The provision of stormwater drainage proposal

Similar Planning Applications for
Proposed House (New Territories Exempted House (NTEH) - Small House)
Within/Straddling the Subject "Green Belt" Zone
on the Approved Pak Kong and Sha Kok Mei Outline Zoning Plan No. S/SK-PK/11

Approved Applications

	Application No.	Proposed Development(s)	Zoning(s)	Date of Consideration	Approval Condition(s)
1.	A/SK-PK/104	Proposed Two Houses (NTEHs - Small Houses)	"GB" and "V"	2.2.2001	(a) and (b)
2.	A/SK-PK/177	Proposed Three Houses (NTEHs - Small Houses)	"GB" and "V"	27.8.2010	(b), (c) and (d)
3.	A/SK-PK/185	Proposed House (NTEH - Small House)	"GB"	15.4.2011	(a), (b) and (d)
4.	A/SK-PK/225	Proposed Three Houses (NTEHs - Small Houses)	"GB" and "V"	23.10.2015	(b) and (e)

Approval Conditions

(a) The provision of stormwater drainage facilities / the submission and implementation of drainage proposals
(b) The submission and implementation of landscaping and/or tree preservation proposals
(c) The submission of Natural Terrain Hazard Study and the implementation of the geotechnical mitigation measures
(d) The provision of fire-fighting access, water supplies and fire service installations
(e) The provision of septic tank as proposed by the applicant

Comments from Relevant Government Departments

1. Land Administration

Comments of the District Lands Officer/Sai Kung, Lands Department (DLO/SK, LandsD):

(a) no objection to the application;

(b) the application site (the Site) is located at Lot No. 45 S.P in D.D. 213 which is held under the Block Government Lease demised for agricultural use. No structure is allowed to be erected on the lot without prior approval from his office pursuant to the lease restriction;

(c) the Site and the proposed Small House footprint fall completely within the village 'environs' of Lung Mei in Sai Kung Heung which is a recognised village under the New Territories Small House Policy;

(d) the Indigenous Inhabitant Representative (IIR) of Lung Mei village has not provided the figure for 10-year Small House demand forecast since 1.1.2016. The latest record provided by the IIR of Lung Mei village for such forecast as at 31.12.2015 was 19 cases. However, his office is not in a position to verify the forecast figures;

(e) the number of outstanding Small House applications in Lung Mei falling within "Village Type Development" ("V") zone and outside/straddling "V" zone are five and one respectively (including the proposed Small House under application);

(f) the applicant, Mr. KONG Edmund Ming Ji, has applied for a Small House grant by way of Free Building Licence at the Site. He has been certified as an indigenous villager of Lung Mei by the IIR of the village;

(g) Small House application has been submitted by the applicant to his office. The documents to support the application are under screening for further processing; and

(h) notwithstanding that the planning permission may be given, there is no guarantee that the Small House application at the Site will be approved.

2. Traffic

Comments of the Commissioner for Transport:

(a) the proposed Small House development should be confined within the "V" zone as far as possible. Although additional traffic generated by the proposed development is not expected to be significant, the proposed Small House development outside the "V" zone, if permitted, will set an undesirable precedent case for similar applications in the future. The resulting cumulative adverse traffic impact could be substantial; and

(b) notwithstanding the above, the subject application only involves the development of one Small House and can be tolerated on traffic grounds.

3. Agriculture

Comments of the Director of Agriculture, Fisheries and Conservation:

according to their site inspection, the Site is occupied by common vegetation and no mature tree on government land would be affected. He has no comment on the subject application.

4. Environment

Comments of the Director of Environmental Protection (DEP):

(a) in view of the small scale of the proposed development, the application alone is unlikely to cause major pollution; and

(b) septic tank and soakaway system is an acceptable means for collection, treatment and disposal of the sewage provided that its design and construction follow the requirements of the Practice Note for Professional Persons (ProPECC) PN 5/93 "Drainage Plans subject to Comment by the Environmental Protection Department" and are duly certified by an Authorised Person.

5. Drainage and Sewerage

Comments of the Chief Engineer/Mainland South, Drainage Services Department (DSD):

(a) the Site is currently not covered by DSD's public drainage networks. He has no in-principle objection to the application from drainage maintenance viewpoint provided that adequate stormwater drainage collection and disposal facilities will be provided in connection with the proposed development to deal with the surface runoff of the Site or the same flowing onto the Site from the adjacent areas without causing any adverse drainage impact on the areas or nuisance to the adjoining areas; and

(b) the Site is currently not covered by DSD's public sewerage networks. The proposed development of septic tank is subject to the views of DEP.

6. Water Supply

Comments of the Chief Engineer/Construction, Water Supplies Department:

(a) no objection to the application; and

(b) standard pedestal hydrant cannot be provided in the vicinity of the Site.

7. Landscape

Comments of the Chief Town Planner/Urban Design and Landscape, Planning Department (PlanD):

(a) no adverse comment on the application from landscape planning perspective;

(b) with reference to the aerial photo of 2023, it is observed that the Site is situated in an area

of uplands and hillsides landscape character predominated by scattered village houses and hillside woodland of the same "Green Belt" and the adjacent "Conservation Area" zones; and

(c) based on the site photos as shown on **Plan A-4**, it is observed that the Site is fully covered by natural vegetation. As the applicant claims that no tree felling is required at the Site, significant impact from the proposed Small House development is not anticipated. The proposed development is considered not incompatible with the surrounding landscape character as there is already an existing village setting in the south, and applications for the same use were previously approved at the Site (No. A/SK-PK/167) and at the adjacent lots (No. A/SK-PK/177 and 225) respectively.

8. Fire Safety

Comments of the Director of Fire Services:

(a) no objection in-principle to the application; and

(b) the applicant is reminded to observe the "New Territories Exempted Houses – A Guide to Fire Safety Requirements", which is administered by LandsD. Detailed fire safety requirements will be formulated upon receipt of formal application referred by LandsD.

9. Geotechnical

Comments of the Head of Geotechnical Engineering Office, Civil Engineering and Development Department:

no adverse comment on the application.

10. Demand and Supply of Small House Sites

According to DLO/SK, LandsD, the number of outstanding Small House applications in Lung Mei is six, while the 10-year Small House demand forecast for the village is 19 as last advised by the IIR of Lung Mei village on 31.12.2015. According to the latest estimate by PlanD, it is estimated that about 0.468ha of land (equivalent to about 18 Small House sites) is available within the "V" zone of Lung Mei. Therefore, the land available in the "V" zone of Lung Mei cannot fully meet the future Small House demand for 25 Small House sites.

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand personal&publi

A/SK-PK/281 DD 213, Lung Mei, Sai Kung
08/03/2023 02:43

From:
To: tpbpd <tpbpd@pland.gov.hk>
File Ref:

A/SK-PK/281

Lot 45 S.P in D.D. 213, Lung Mei, Sai Kung

Site area: About 163.4sq.m

Zoning: "Green Belt" and "VTD"

Applied development: NET House

Dear TPB Members,

Objections. The majority of the site is GB and there is still land suitable for small house development within the "V" zone.

Members should reject the application as approval would encourage further encroachment into the buffer zone of the country park.

Mary Mulvihill

嘉道理農場暨植物園公司
Kadoorie Farm & Botanic Garden Corporation

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333, Java Road, North Point,
Hong Kong.
(Email: tpbpd@pland.gov.hk)

10th March, 2023. **By email only**

Dear Sir/ Madam,

Proposed House (New Territories Exempted House - Small House)
(A/SK-PK/281)

1. We refer to the captioned.

2. We visited the locality where the site is located in March 2023 and some photos are shown in **Figure 1**.

3. Although the site is partially within Village Type Development (V) zone, it is also partially within the Green Belt (GB) zone.

4. We urge the Board to reject this application as the proposed use is not in line with the planning intention of GB zone and we also urge the Board to investigate whether the V zone still have space for accommodating the entire Small House development and thus the GB would not need to be touched.

5. Thank you for your attention.

RECEIVED
10 MAR 2023
Town Planning Board

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

香港新界大埔林錦公路
Lam Kam Road, Tai Po, New Territories, Hong Kong
Email: eap@kfbg.org

Figure 1. The site and its surroundings.

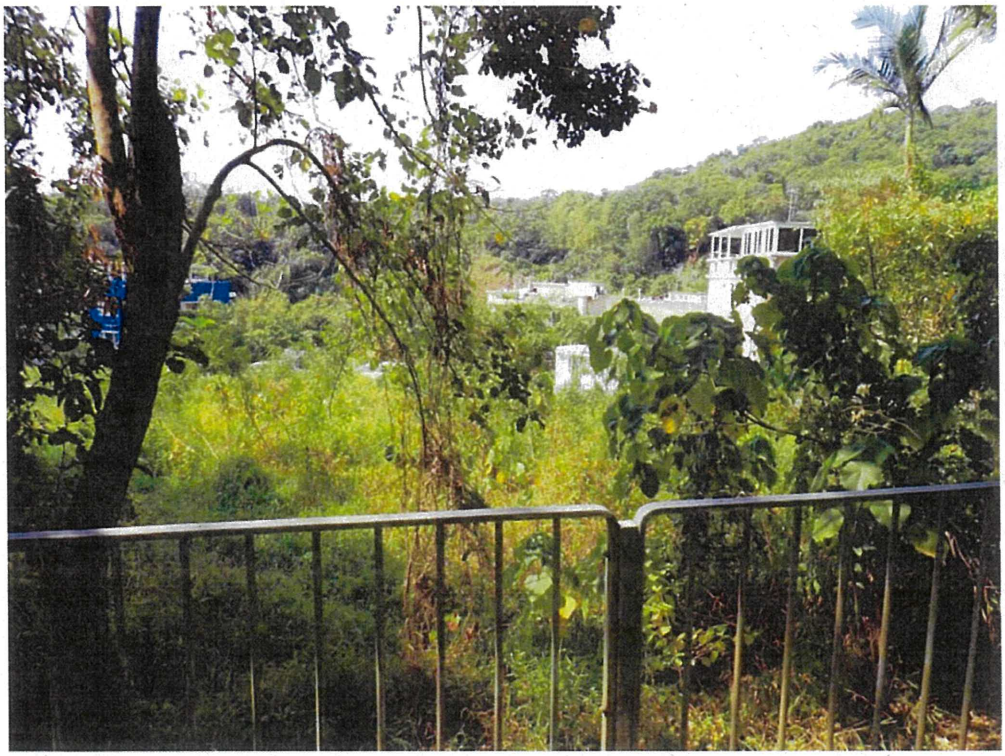
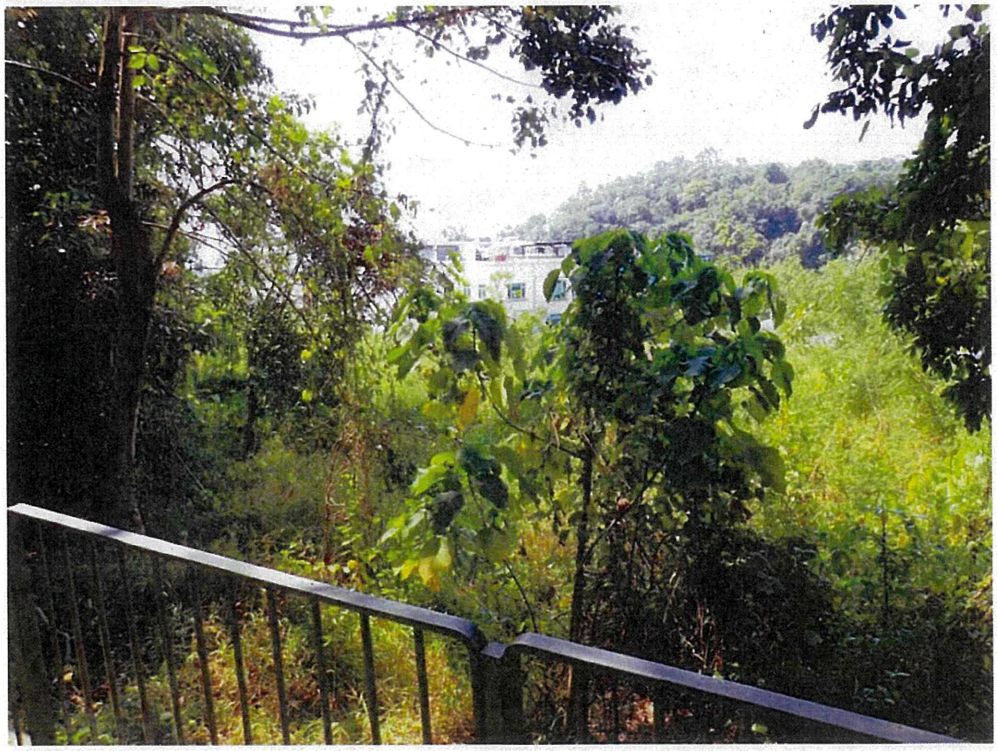


Figure1. Cont'd.



Recommended Advisory Clauses

(a) to note the comments of the District Lands Officer/Sai Kung, Lands Department (LandsD) that notwithstanding that the planning permission may be given, there is no guarantee that the Small House application will be approved;

(b) to note the comments of the Director of Environmental Protection that septic tank and soakaway system is an acceptable means for collection, treatment and disposal of the sewage provided that its design and construction follow the requirements of the Practice Note for Professional Persons (ProPECC) PN 5/93 "Drainage Plans subject to Comment by the Environmental Protection Department" and are duly certified by an Authorised Person;

(c) to note the comments of the Chief Engineer/Mainland South, Drainage Services Department that the applicant should provide adequate stormwater drainage collection and disposal facilities in connection with the proposed development to deal with the surface runoff of the application site (the Site) or the same flowing onto the Site from the adjacent areas without causing any adverse drainage impact on the areas or nuisance to the adjoining areas; and

(d) to note the comments of the Director of Fire Services that the applicant should observe the "New Territories Exempted Houses – A Guide to Fire Safety Requirements" published by LandsD. Detailed fire safety requirements will be formulated upon receipt of formal application referred by LandsD.