Appendix II of RNTPC
Paper No. A/TP/687A

Relevant Revised Interim Criteria for Consideration of Application for NTEH/Small House in New Territories (promulgated 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) 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.

Extract of Town Planning Board Guidelines for Application for Development within "GB" zone under Section 16 of the Town Planning Ordinance

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

(b) an application for new development in "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 Houses 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 (G/IC) facilities in the general area;

(g) the proposed development should not be susceptible to adverse environmental effects from pollution sources nearby such as traffic noise, unless adequate mitigating measures are provided, and it should not itself be the source of pollution; and

(h) any proposed development on a slope or hillside should not adversely affect slope stability.

Appendix IV of RNTPC
Paper No. A/TP/687A

Previous s.16 Applications at the Site

Rejected Applications

Application No.	Proposed Development	Date of Consideration	Rejection Reasons
A/TP/589	Proposed 2 Houses (New Territories Exempted Houses - Small Houses)	7.8.2015	R1 – R4
A/TP/602	Proposed 2 Houses (New Territories Exempted Houses - Small Houses)	13.5.2016	R1 – R4
A/TP/650	Proposed 2 Houses (New Territories Exempted Houses - Small Houses)	6.7.2018	R1 – R5

Rejection Reasons

R1. The proposed development was not in line with the planning intention of the "Green Belt" ("GB") zone which is to define the limits of urban development areas by natural physical features so as to contain urban sprawl and to provide passive recreational outlets. There is a general presumption against development within this zone. There is no strong planning justification in the submission for a departure from the planning intention.

R2. The proposed development did not comply with the interim criteria for assessing planning application for 'New Territories Exempted House' ('NTEH') / Small House development in that over 50% of the application site and the proposed Small House footprint were located outside both the 'Village Environs' and the "Village Type Development" ("V") zone of a recognized village, and would cause adverse landscape and geotechnical impacts on the surrounding areas.

R3. The application did not comply with the Town Planning Board Guidelines for 'Application for Development within "GB" zone under section 16 of the Town Planning Ordinance' in that the proposed developments would affect the existing natural landscape and adversely affect slope stability.

R4. The approval of the application would set an undesirable precedent for similar applications within the "GB" zone. The cumulative effect of approving such applications would result in further encroachment of green belt area by building development and a general degradation of the natural environment in the area.

R5. Land was still available within the "V" zone of Ha Wong Yi Au which was primarily intended for Small House development. It was considered more appropriate to concentrate the proposed Small House development within the "V" zone for more orderly development pattern, efficient use of land and provision of infrastructure and services.

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

反對A/TP/687申請
21/02/2023 16:51

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

致城市規劃委員會:

本人反對有關大埔下黃宜坳村D.D.32 Lot 371 編號: A/TP/687申請。

反對理由如下:

1.申請地點已超出鄉村發展範圍。所申請的位置在綠化地上。(地政總署、規劃署及環保署作出鄉村發展地區及綠化地區就是要鄉村發展與綠化地區得到平衡)!如一旦申請批准,日后做成一個不良的先例,保育及綠化地區日后會受到更大的傷害。同時以偏離規劃的意向。

2.在未經批准,已在綠化地平整地盤。

(如未經申請,先破壞后申請,在綠化地區範圍清除天然植被及破壞環境。如這個申獲准得到批准,累積影響所及,造成不良的先例。)

3.在申請地點中有山坡地需要砍伐綠化地內樹木。(因發展中要涉及大範圍清除樹木及天然植被,對現有自然環境做成不良影響及破壞。)

4.因興建小型屋宇需要平整地盤及斜坡工程亦需要佔用DD32 Lot 371 毗鄰政府地。加深了對綠化地帶天然植被樹木等破壞。

如這宗申請得到批准會為同類申請立下不良的先例令發展侵進綠化地帶,使該長滿樹木的斜坡受到更大干擾。

同大全

2

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

KFBG's comments on three planning applications
08/03/2023 16:17

From: EAP KFBG <eap@kfbg.org>
To: "tpbpd@pland.gov.hk" <tpbpd@pland.gov.hk>
File Ref:

3 attachments

230308 s12a KTS 8.pdf 230308 s16 HLH 60.pdf 230308 s16 TP 687.pdf

Dear Sir/ Madam,

Attached please see our comments regarding three applications. There are three pdf files attached to this email. If you cannot see/ download/ open these files, please notify us through email.

Thank You and Best Regards,

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

Email Disclaimer:
The information contained in this e-mail (including any attachments) is confidential and is intended solely for the addressee. If you are not the intended recipient, please notify the sender immediately and delete this e-mail from your system. Any unauthorised use, disclosure, copying, printing, forwarding or dissemination of any part of this information is prohibited. KFBG does not accept responsibility and shall not be liable for the content of any e-mail transmitted by its staff for any reason other than bona fide official purposes. There is no warranty that this e-mail is error or virus free. You should not rely on any information that is not transmitted via secure technology.

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)

8th March, 2023. **By email only**

Dear Sir/ Madam,

Proposed House (New Territories Exempted House)
(A/TP/687)

1. We refer to the captioned.

2. According to the Statutory Planning Portal 2 website, there were three rejected applications for Small Houses covering the current application site, and the reasons to reject the latest one (i.e., A/TP/650; rejected in 2018) are as follows:

(a) the proposed development is not in line with the planning intention of the "Green Belt" ("GB") zone, which is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone. There is no strong planning justification in the submission for a departure from the planning intention;

(b) the application does not comply with the Town Planning Board Guidelines No. 10 for 'Application for Development within "GB" zone under section 16 of the Town Planning Ordinance' in that the proposed development will affect the existing natural landscape and adversely affect slope stability;

(c) the proposed development does not comply with the Interim Criteria for Consideration of Application for New Territories Exempted House/Small House in New Territories in that over 50% of the proposed Small House footprints are located outside the village 'environs'/ "Village Type Development" ("V") zone of a recognized village, and would cause adverse landscape and geotechnical impacts on the surrounding areas;

(d) land is still available within the "V" zone of Ha Wong Yi Au which is primarily intended for Small House development. It is considered more appropriate to concentrate the proposed Small House development within the "V" zone for more orderly development pattern, efficient use of land and provision of infrastructure and services; and

(e) the approval of the application would set an undesirable precedent for similar applications within the "GB" zone. The cumulative effect of approving such applications would result in a general degradation of the natural environment in the area.

3. We urge the Board to reject this application as Green Belt (GB) zone is not intended for house development. We also urge the Board to consider the potential cumulative impacts of approving this application as the approval would set a precedent for similar applications in the GB zone of concern.

4. Thank you for your attention.

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

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

A/TP/687 DD 32 Ha Wong Yi Au
09/03/2023 02:41

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

A/TP/687

Lot 371 in D.D. 32, Ha Wong Yi Au, Tai Po

Site area: About 37.6sq.m

Zoning : "Green Belt"

Applied development: Net House

Dear TPB Members,

This is part of Application 650 footprint. Rejected for a number of reasons including

(d) **land is still available within the "V" zone of Ha Wong Yi Au** which is primarily intended for Small House development. It is considered more appropriate to concentrate the proposed Small House development within the "V" zone for more orderly development pattern, efficient use of land and provision of infrastructure and services.

In addition the proposed footprint of this application is ridiculously small and any development of this size would impact adjoining and probably government land.

Members must again reject the application.

Mary Mulvihill

From:
To: tpbpd <tpbpd@pland.gov.hk>
Date: Friday, 8 June 2018 3:04 AM CST
Subject: A/TP/650 DD 32 Ha Wong Yi Au

Dear TPB Members,

Rejected again 13 May 2016:

The District Lands Officer/Tai Po of Lands Department did not support the application as the footprint of the Small Houses fell entirely outside village 'environs' ('VE').

PlanD) had strong reservation on the application and considered that the approval of the application would encourage similar site modification prior to application, thus resulting in degradation of existing landscape resources within the "Green Belt" ("GB") zone. Also the proposed 4.6m high bare concrete wall extending on three sides of the site might give rise to visual concern in the rural and natural setting. The Head of Geotechnical Engineering Office of Civil Engineering & Development Department advised that the site was overlooked by steep natural terrain and met the Alert Criteria requiring a Natural Terrain Hazard Study and a Geotechnical Planning Review Report would be required.

It is quite obvious that this application has no merit.

Mary Mulvihill

From:
To: "tpbpd" <tpbpd@pland.gov.hk>
Sent: Saturday, April 9, 2016 1:15:40 AM
Subject: Fwd: A/TP/602 Ha Wong Yi Au

A/TP/602
Lots in D.D. 32 and adjoining Government land, Ha Wong Yi Au Vi llage, Tai Po
Site area : 162 m² Includes Government Land of about 22 m²
Zoning : "Green Belt"
Applied Development : NET House

Dear TPB Members,

On 7 August 2015 this application was rejected for the following reasons, all of which remain valid.

"(a) the proposed development is not in line with the planning intention of the "Green Belt" ("GB") zoning for the area which is to define the limits of urban development areas by natural physical features so as to contain urban sprawl and to provide passive recreational outlets. There is a general presumption against development within this zone. There is no strong planning justification in the submission for a departure from the planning intention;

(b) the proposed development does not comply with the interim criteria for assessing planning application for New Territories Exempted House/Small House development in that over 50% of the application site and the proposed Small House footprints are located outside both the village 'environs' and the "Village Type Development" zone of a recognized village, and would cause adverse landscape and geotechnical impacts on the surrounding areas;

(c) the application does not comply with the Town Planning Board Guidelines for 'Application for Development within "GB" zone under section 16 of the Town Planning Ordinance' in that the proposed developments would affect the existing natural landscape and adversely affect slope stability; and

(d) the approval of the application would set an undesirable precedent for similar applications within the "GB" zone. The cumulative effect of approving such applications would result in a general degradation of the natural environment in the area."

As it is impossible that material conditions would have greatly changed in such a short period, TPB must reject it again.

Mary Mulvihill

From:
To: "tpbpd" <tpbpd@pland.gov.hk>
Sent: Tuesday, July 7, 2015 12:02:26 AM
Subject: A/TP/589 Ha Wong Yi Au

A/TP/589
Lots 353 S.A, 353 S.B, 370 and 371 in D.D. 32 and adjoining Government land, Ha Wong Yi Au, Tai Po
About 165.20 m^2 Government Land of about 25.00 m^2
Zoning "Green Belt"
Applied Use/Development - Proposed 2 Houses (NET Exempted Houses)

Dear TPB Members,

Application is for proposed houses on an isolated plot zoned Green Belt

I urge TPB to reject this application to despoil Green Belt in line with its previous decisions. The application does not reflect the zoning and planning intention. It is not within the VZ so there is no justification to grant application under the Small House policy.

Mary Mulvihill

FI Seq 1 4

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

KFBG's comments on three planning applications
20/06/2023 11:48

From: EAP KFBG <eap@kfbg.org>
To: "tpbpd@pland.gov.hk" <tpbpd@pland.gov.hk>
File Ref:

3 attachments

230620 s16 LYT 795.pdf 230620 s16 TKL 730.pdf 230620 s16 TP 687.pdf

Dear Sir/ Madam,

Attached please see our comments regarding three applications. There are three pdf files attached to this email. If you cannot see/ download/ open these files, please notify us through email.

Thank You and Best Regards,

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

Email Disclaimer:
The information contained in this e-mail (including any attachments) is confidential and is intended solely for the addressee. If you are not the intended recipient, please notify the sender immediately and delete this e-mail from your system. Any unauthorised use, disclosure, copying, printing, forwarding or dissemination of any part of this information is prohibited. KFBG does not accept responsibility and shall not be liable for the content of any e-mail transmitted by its staff for any reason other than bona fide official purposes. There is no warranty that this e-mail is error or virus free. You should not rely on any information that is not transmitted via secure technology.

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)

20th June, 2023. **By email only**

Dear Sir/ Madam,

Proposed House (New Territories Exempted House)
(A/TP/687)

1. We refer to the captioned.

2. According to the Statutory Planning Portal 2 website, there were three rejected applications for Small Houses covering the current application site, and the reasons to reject the latest one (i.e., A/TP/650; rejected in 2018) are as follows:

(a) the proposed development is not in line with the planning intention of the "Green Belt" ("GB") zone, which is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone. There is no strong planning justification in the submission for a departure from the planning intention;

(b) the application does not comply with the Town Planning Board Guidelines No. 10 for 'Application for Development within "GB" zone under section 16 of the Town Planning Ordinance' in that the proposed development will affect the existing natural landscape and adversely affect slope stability;

(c) the proposed development does not comply with the Interim Criteria for Consideration of Application for New Territories Exempted House/Small House in New Territories in that over 50% of the proposed Small House footprints are located outside the village 'environs'/ "Village Type Development" ("V") zone of a recognized village, and would cause adverse landscape and geotechnical impacts on the surrounding areas;

(d) land is still available within the "V" zone of Ha Wong Yi Au which is primarily intended for Small House development. It is considered more appropriate to concentrate the proposed Small House development within the "V" zone for more orderly development pattern, efficient use of land and provision of infrastructure and services; and

(e) the approval of the application would set an undesirable precedent for similar applications within the "GB" zone. The cumulative effect of approving such applications would result in a general degradation of the natural environment in the area.

3. We urge the Board to reject this application as Green Belt (GB) zone is not intended for house development. We also urge the Board to consider the potential cumulative impacts of approving this application as the approval would set a precedent for similar applications in the GB zone of concern.

4. Thank you for your attention.

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

Advisory Clauses

(a) to note the comments of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) that:

(i) all site formation works should not obstruct any overland flow. All existing flow paths as well as the runoff falling onto and passing through the Site should be intercepted and disposed of via proper discharge points. In addition, sufficient openings should be provided at the bottom of the boundary wall/fence to allow surface runoff to pass through the Site if any boundary wall/fence are to be erected. The AP should ensure the proposed works would not cause any adverse drainage impacts to the surrounding areas;

(ii) the site formation level of the proposed house shall not cause flooding risk to nearby area/premises. Comment/agreement from the District Lands Officer/ Tai Po, Lands Department (DLO/TP, LandsD) for the finished site formation level should be sought;

(iii) the proposed drainage works, whether within or outside the lot boundary, should be constructed and maintained by the lot owner at his/her expense;

(iv) the existing drainage system proposed for receiving of the runoff from the Site is not maintained by DSD. Consent from its owner/maintenance party, DO/TP and the users should be sought for the proposed drainage connection/modification. Moreover, the applicant should ensure that this existing drainage system and the downstream channels/drains have adequate capacity for conveying the additional runoff from the application site (the Site). Regular maintenance should be carried out by the lot owner to avoid blockage of drains/channels;

(v) the lot owner should rectify/modify the nearby existing/original drainage system if it is found to be inadequate or ineffective to accommodate the additional runoff arisen from the development of the Site. The lot owner shall also be liable for and shall indemnify Government against claims and demands arising out of damage or nuisance caused by failure or ineffectiveness of the modified drainage system caused by their work;

(vi) for works to be undertaken outside the lot boundary, prior consent and agreement from DLO/TP and/or relevant private lot owners should be sought;

(vii) the lot owner should take all precautionary measures to prevent any disturbance, damage and pollution from the redevelopment to any parts of the existing drainage facilities in the vicinity of the lot. In the event of any damage to the existing drainage facilities, the lot owner would be held responsible for the cost of all necessary repair works, compensation and any other consequences arising therefrom;

(viii) the lot owner is advised that the limited desk-top checking by Government on the drainage proposal covers only the fundamental aspects of the drainage design which will by no means relieve their obligations to ensure that (i) the proposed drainage works will not cause any adverse drainage or environmental

impacts in the vicinity; and (ii) the proposed drainage works and the downstream drainage systems have the adequate capacity and are in good conditions to receive the flows collected from the lot and all upstream catchments;

(ix) the applicant should consider to adopt polyethylene (PE100) pipe for buried sewage pipe beyond the sewage terminal manhole;

(x) a minimum soil cover of 450mm and 900mm should be provided for the connection pipe constructed under footpath and carriageway respectively; and

(xi) upon completion of the sewer connection works, an on-site technical audit will be carried out by DSD. The AP should submit an application for technical audit (Form HBP1), the approved sewerage plan and the technical audit fee to DSD at least two weeks before the technical audit. Form HBP1 can be downloaded from the DSD website at http://www.dsd.gov.hk;

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

(c) to note the comments of the Chief Engineer/Construction, Water Supplies Department (CE/C, WSD) that for provision of water supply to the development, the applicant may need to extend his/her inside services to the nearest suitable government water mains for connection. The applicant shall resolve any land matter (such as private lots) associated with the provision of water supply and shall be responsible for the construction, operation and maintenance of the inside services within the private lot to WSD's standards; and

(d) to note that the permission is only given to the development under application. If provision of an access road is required for the proposed development, the applicant should ensure that such access road (including any necessary filling/excavation of land) complies with the provisions of the relevant statutory plan and obtain planning permission from the Town Planning Board where required before carrying out the road works.

2023年 2月 13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。

This document is received on 13 FEB 2023.
The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

Form No. S16-II
表格第 S16-II 號

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

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

2203319 29/12 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/TP/687
	Date Received 收到日期	13 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。

---

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)

CHAN WING WAI 陳穎慧

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)

T.H. & ASSOCIATES LIMITED 陳德慶測量有限公司

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）	Ha Wong Yi Au, Tai Po, New Territories. Lot No. 371 in D.D. 32 新界，大埔，下黃宜坳. 大埔丈量約份第 32 約 地段 371 號 (Appendix A & Appendix B)
(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 37.6 sq.m 平方米☑About 約 ☑Gross floor area 總樓面面積 112.8 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）	N A 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	Tai Po Outline Zoning Plan 大埔分區計劃大綱圖 S/TP/30 (Appendix C)
(e)	Land use zone(s) involved 涉及的土地用途地帶	GB Zone 綠化 (Appendix B)
(f)	Current use(s) 現時用途	Vacant Land 土地空置 (Appendix D) (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」#。

(Appendix E)

☐ 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

NA

(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」#。 NA

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： NA

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）

NA

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）			
(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)			
(c) Proposed gross floor area 擬議總樓面面積	112.8 sq.m 平方米 ☐About 約		
(d) Proposed number of house(s) 擬議房屋幢數	ONE	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	37.6 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	N A (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)) (Appendix F) NIL ☐ 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) (Appendix H)	

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 ☐ Please provide details 請提供詳情 .... No 否 ☑
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 ☐ (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 No 否 ☑
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 ☑ _____ _____ (Appendix D)
	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) N A ....

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。

.....

.....

.....

.....

.....

.....

.....

.....

Appendix G

.....

.....

.....

.....

.....

.....

.....

.....

.....

Plans to be Submitted

Appendix	A	Lot Index Plan—Lot No. 371 in D.D. 32
Appendix	A1	Government Lessees
Appendix	A2	Survey Record Plan
Appendix	B	Proposed N.T.E.H. Plan
Appendix	C	Tai Po Outline Zoning Plan—S/TP/30
Appendix	D	Aerial Photo of the Subject Site
Appendix	F	Location Plan
Appendix	G	Justification
Appendix	H	Septic Tank Proposal Plan

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

MR CHAN TAK HING
Name in Block Letters 姓名（請以正楷填寫）

Managing Director
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 MRICS, RPS (LS) & ALS

on behalf of 代表 T.H. & ASSOCIATES LIMITED 陳德慶測量有限公司
☑ Company 公司 / ☐ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期 15 DEC 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) N A
Location/address 位置／地址	Ha Wong Yi Au, Tai Po, New Territories. Lot No. 371 in D.D. 32 新界，大埔，下黃宜坳. 大埔丈量約份 第 32 約 地段 371 號 (Appendix A)
Site area 地盤面積	37.6 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 N A sq. m 平方米 ☐ About 約)
Plan 圖則	O.Z.P. S/TP/30 (Appendix C)
Zoning 地帶	GB Zone 綠化 (Appendix B)
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	112.8 sq.m 平方米 ☐ About 約
(ii)	Proposed No. of house(s) 擬議房屋幢數	ONE
(iii)	Proposed building height/No. of storeys 建築物高度／層數	8.23 m 米 ☑ (Not more than 不多於)
		Three 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）	☐	☑
Lot Index Plan of Lot 371 in D.D. 32, Survey Record Plan, Proposed N.T.E.H. Plan, O.Z.P—S/TP/30, Aerial Photo of the Subject Site, Location Plan & Septic Tank Proposal Plan		
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 N A	☐	☐
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。

地段索引圖 LOT INDEX PLAN

Appendix A

Locality :	D. D. 32
Lot Index Plan No. :	ags_S00000100969_0002
District Survey Office :	Land Information Centre
Date :	27-Sep-2022
Reference No. :	7-NW-10C,7-NW-15A

D.D. 32

LOTS 353 to 389

SCHEDULE OF CROWN LESSEES.

DISTRICT No. 32.

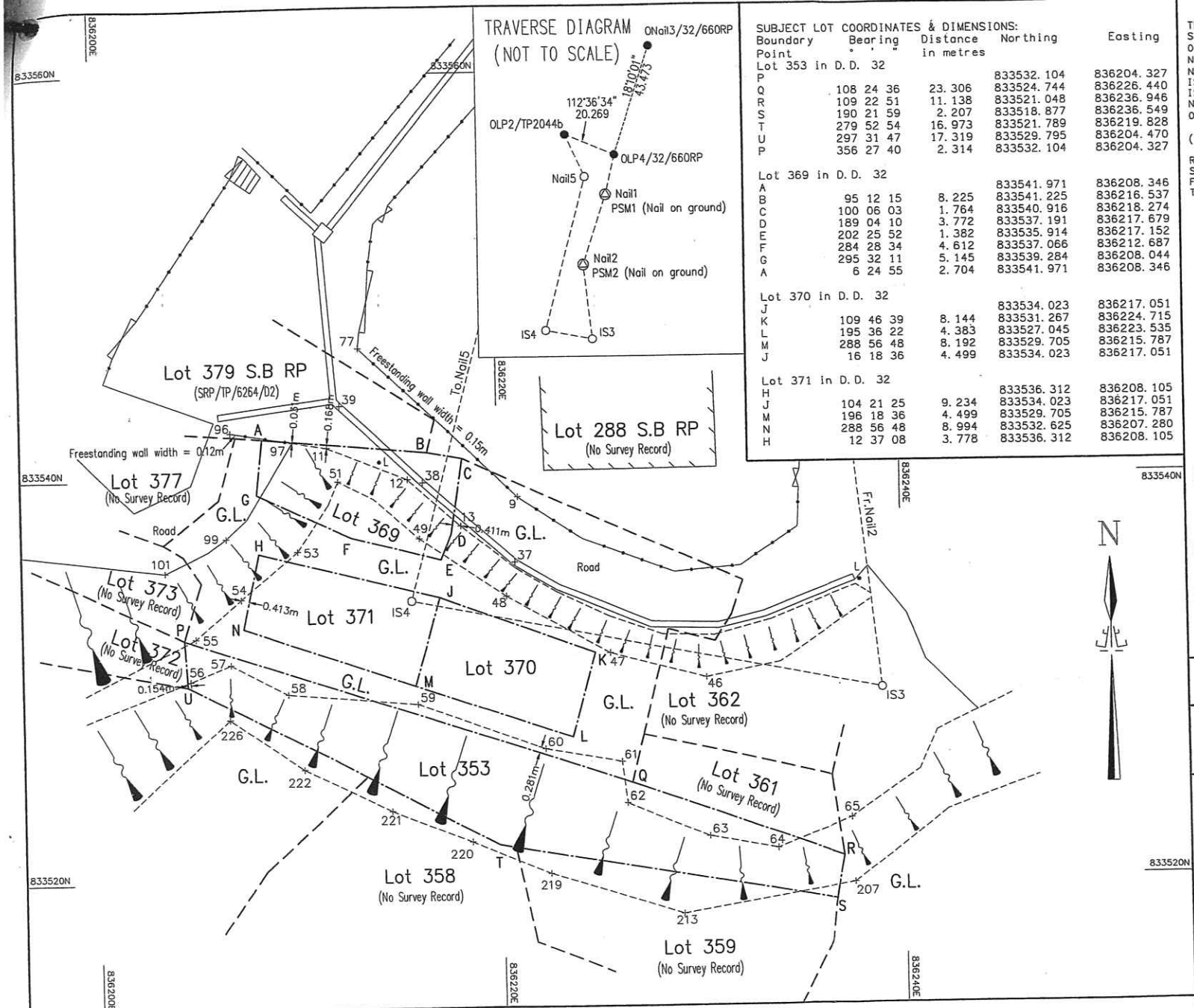
(12)

Lot No.	Term of lease in years.	Area	Description of Lot	Name of Owner. Chinese	Transliteration	Address	Crown Rent. Class	$	¢	Remarks.
353	75	·03	Dry Cultivation	陳維欽	Chan Wai jam	黃宜凹	3rd		03	
354	"	·01	"	陳談欽	Chan Tan jam	"	"		01	
355	"	·04	"	陳怡茂	Chan I Mau	"	"		04	
				陳怡鵬	Chan I Pang					
				陳怡容	Chan I jung					
				陳怡坤	Chan I Kwan					
356	"	·02	"	陳翰欽	Chan Hong jam	"	"		02	
357	"	·01	"	陳林秀	Chan Lam Sau	"	"		01	
358	"	·06	"	陳留橋	Chan Lau Kiu	"	"		06	
				陳李橋	Chan Li kiu					
359	"	·02	"	陳五福	Chan Ng Fuk	"	"		02	
360	"	·01	"	陳維欽	Chan Wai jam	"	"		01	
361	"	·01	Shed (2)	陳永欽	Chan Ving jam	黃宜凹	2nd	1	00	
362	"	·03	Dry Cultivation	陳純欽	Chan Shun jam	"	3rd		03	
363	"	·02	"	陳良欽	Chan Leung jam	"	"		02	
364	"	·01	"	陳純欽	Chan Shun jam	"	"		01	
365	"	·01	"	同上	ditto	"	"		01	
366	"	·02	"	陳林秀	Chan Lam Sau	"	"		02	
369	"	·01	"	陳永欽	Chan Ving jam	黃宜凹	"		01	
370	"	·01	House (1)	陳永欽	Chan Ving jam	黃宜凹	2nd		50	
371	"	·01	" (1)	同上	ditto	"	"		50	
372	"	·01	Dry Cultivation	陳純欽	Chan Shun jam	"	3rd		01	
373	"	·01	"	陳良欽	Chan Leung jam	"	"		01	
374	"	·02	"	陳達欽	Chan Tat jam	"	"		02	
375	"	·02	"	陳官來	Chan Kun Loi	"	"		02	
376	"	·02	"	陳林秀	Chan Lam Sau	"	"		02	
377	"	·01	"	陳怡興	Chan I Hing	"	"		01	
378	"	·08	Padi	陳廣超	Chan Kwong Chiu	黃宜凹	1st		24	
				司理陳怡標	Chan I Piu (Trustee)					
379	"	·15	Padi & Dry Cultivation	陳永欽	Chan Ving jam	"	2nd		30	see Lot 258
				陳良欽	Chan Leung jam	"				
380	"	·01	"	陳品欽	Chan Pun jam	"	3rd		01	
381	"	·01	"	陳四發	Chan Sze Fat	"	"		01	
382	"	·01	"	陳來興	Chan Loi Hing	"	"		01	
383	"	·01	"	陳林秀	Chan Lam Sau	"	"		01	
384	"	·08	"	陳品欽	Chan Pun jam	"	"		08	
385	"	·01	"	陳翰欽	Chan Hong jam	"	"		01	
389	"	·01	Latrine	陳林秀	Chan Lam Sau	"	2nd		50	

D.D. 32

LOTS 353 to 389

Appendix A1



TRAVERSE DIAGRAM (NOT TO SCALE)

SUBJECT LOT COORDINATES & DIMENSIONS:

Boundary Point	Bearing ° ' "	Distance in metres	Northing	Easting
Lot 353 in D.D. 32				
P			833532.104	836204.327
Q	108 24 36	23.306	833524.744	836226.440
R	109 22 51	11.138	833521.048	836236.946
S	190 21 59	2.207	833518.877	836236.549
T	279 52 54	16.973	833521.789	836219.828
U	297 31 47	17.319	833529.795	836204.470
P	356 27 40	2.314	833532.104	836204.327
Lot 369 in D.D. 32				
A			833541.971	836208.346
B	95 12 15	8.225	833541.225	836216.537
C	100 06 03	1.764	833540.916	836218.274
D	189 04 10	3.772	833537.191	836217.679
E	202 25 52	1.382	833535.914	836217.152
F	284 28 34	4.612	833537.066	836212.687
G	295 32 11	5.145	833539.284	836208.044
A	6 24 55	2.704	833541.971	836208.346
Lot 370 in D.D. 32				
J			833534.023	836217.051
K	109 46 39	8.144	833531.267	836224.715
L	195 36 22	4.383	833527.045	836223.535
M	288 56 48	8.192	833529.705	836215.787
J	16 18 36	4.499	833534.023	836217.051
Lot 371 in D.D. 32				
H			833536.312	836208.105
J	104 21 25	9.234	833534.023	836217.051
M	196 18 36	4.499	833529.705	836215.787
N	288 56 48	8.994	833532.625	836207.280
H	12 37 08	3.778	833536.312	836208.105

TRAVERSE:

Station	Bearing	Distance	N	E
OLP4/32/660RP			833642.017	836248.581
Nail1 (PSM1)	193 09 44	20.220	833622.329	836243.975
Nail2 (PSM2)	198 13 51	36.505	833587.658	836232.550
IS3	173 41 55	58.644	833529.370	836238.981
IS4	280 55 30	23.744	833533.871	836215.664
Nail5	14 49 59	96.159	833626.828	836240.271
OLP2/TP2044B	335 38 53	25.225	833649.810	836229.867

(Traverse is originated from SRP/TP/008/0638/D1)

RADIATIONS:

Surveyed Point	Bearing	Distance	N	E
Fr. IS3			833529.370	836238.981
To 9	298 14 55	20.409	833539.029	836221.002
11	293 52 13	30.002	833541.511	836211.545
12	294 16 55	25.699	833539.938	836215.555
13	291 35 10	22.388	833537.606	836218.162
37	289 23 21	19.253	833535.761	836220.820
38	294 39 21	24.954	833539.780	836216.301
39	297 54 33	30.293	833543.549	836212.211
46	273 52 38	8.823	833529.966	836230.177
47	277 52 57	13.649	833531.242	836225.460
48	284 07 47	19.192	833534.055	836220.369
49	288 24 46	24.119	833536.988	836216.096
51	291 20 47	28.878	833539.882	836212.084
53	283 39 28	29.789	833536.404	836210.033
54	278 23 09	32.147	833534.058	836207.178
55	274 42 24	34.197	833532.176	836204.899
56	271 10 11	34.381	833530.072	836204.607
57	272 40 20	32.398	833530.880	836206.618
58	269 59 40	29.521	833529.367	836209.459
59	268 34 21	23.102	833528.794	836215.886
60	260 10 37	17.057	833526.460	836222.173
61	254 35 22	13.533	833525.774	836225.934
62	246 17 31	13.981	833523.748	836226.180
63	230 14 50	11.410	833522.074	836230.209
64	214 14 31	9.577	833521.453	836233.592
65	194 07 03	6.666	833522.905	836237.355
Fr. IS4			833533.871	836215.664
To 77	348 48 12	12.804	833546.431	836213.178
96	313 28 09	12.254	833542.302	836206.770
97	323 46 54	9.832	833541.803	836209.855
99	289 24 18	9.737	833537.106	836206.480
101	277 12 50	12.322	833535.418	836203.440
Fr. IS3			833529.370	836238.981
To 207	188 50 05	9.796	833519.690	836237.476
213	222 06 25	15.047	833518.207	836228.891
Fr. IS4			833533.871	836215.664
To 219	153 47 36	15.119	833520.305	836222.341
220	166 45 07	12.245	833521.951	836218.470
221	186 23 29	10.438	833523.498	836214.502
222	213 26 23	9.951	833525.567	836210.181
226	237 51 29	10.800	833528.125	836206.519

LOT/SECTION	AREA	
	Agricultural Land	House Land
Lot 353 in D.D. 32	120.6 m² (About)	
Lot 369 in D.D. 32	41.7 m² (About)	
Lot 370 in D.D. 32		36.2 m² (About)
Lot 371 in D.D. 32		37.6 m² (About)

I, Chan Tak Hing an Authorized Land Surveyor registered under the Land Survey Ordinance (Cap. 473), hereby certify that this survey record plan has been prepared from land boundary surveys that were carried out by me, or under my direct supervision, in conformity with the Code of Practice approved by the Land Survey Authority under the above Ordinance, and that this plan correctly represents that survey completed on the 3rd day of July 2014.

Dated this 28th day of July 2014.

Appendix A2

Authorized Land Surveyor

Survey District : Tai Po
Date of Survey : July 2014
Scale: 1:200
Survey Sheet : 7-NW-15A
Ref. SRP No. : SRP/TP/6264/D2

DIMENSION PLAN OF LOTS 353, 369, 370 & 371 IN D.D. 32, WONG YI AU, TAI PO

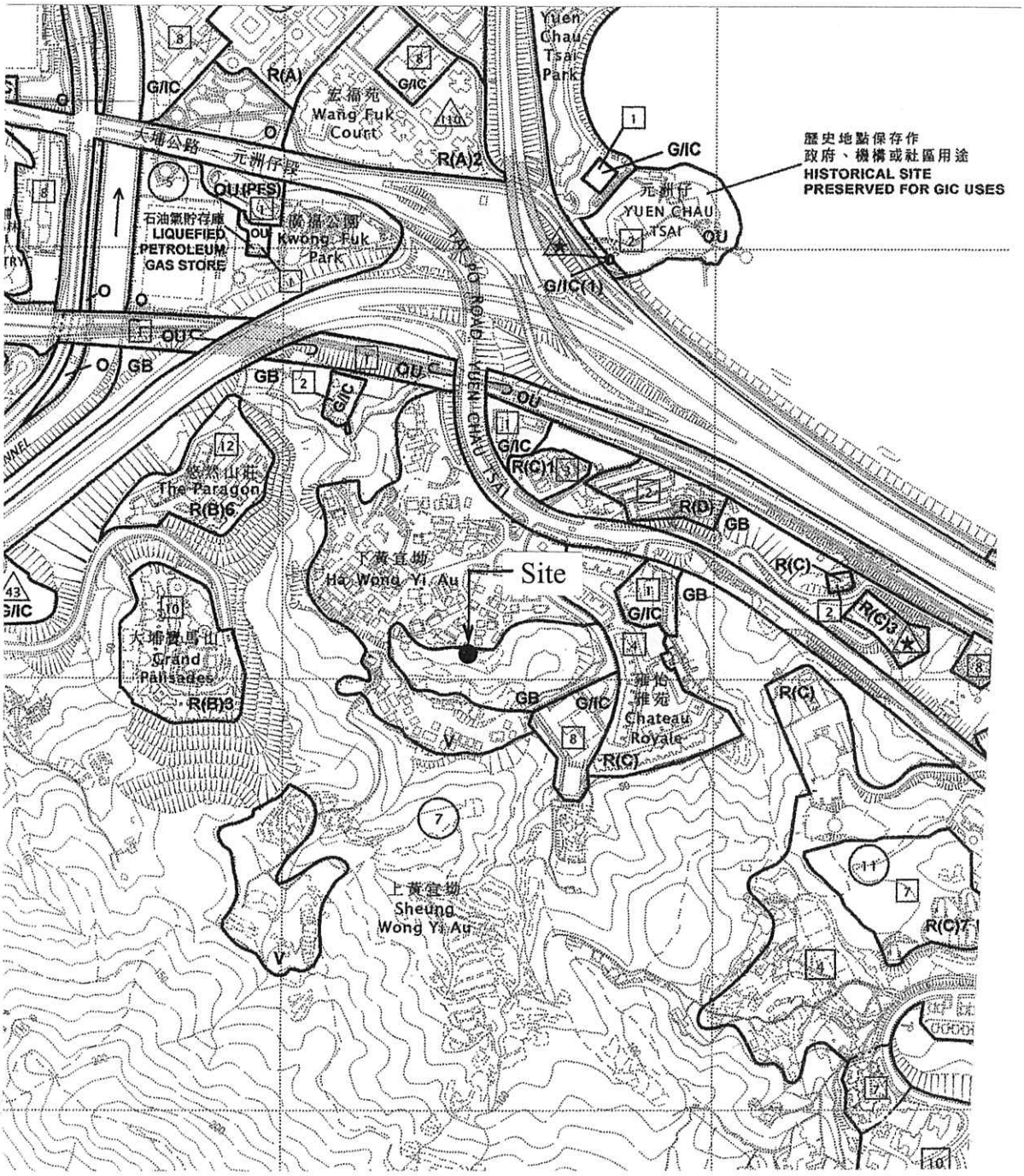
Survey Record Plan No.: SRP/TP/008/32/353-D

Proposed New Territories Exempted House Plan of LOT NO. 371 in D.D. 32

SCALE 1:1000

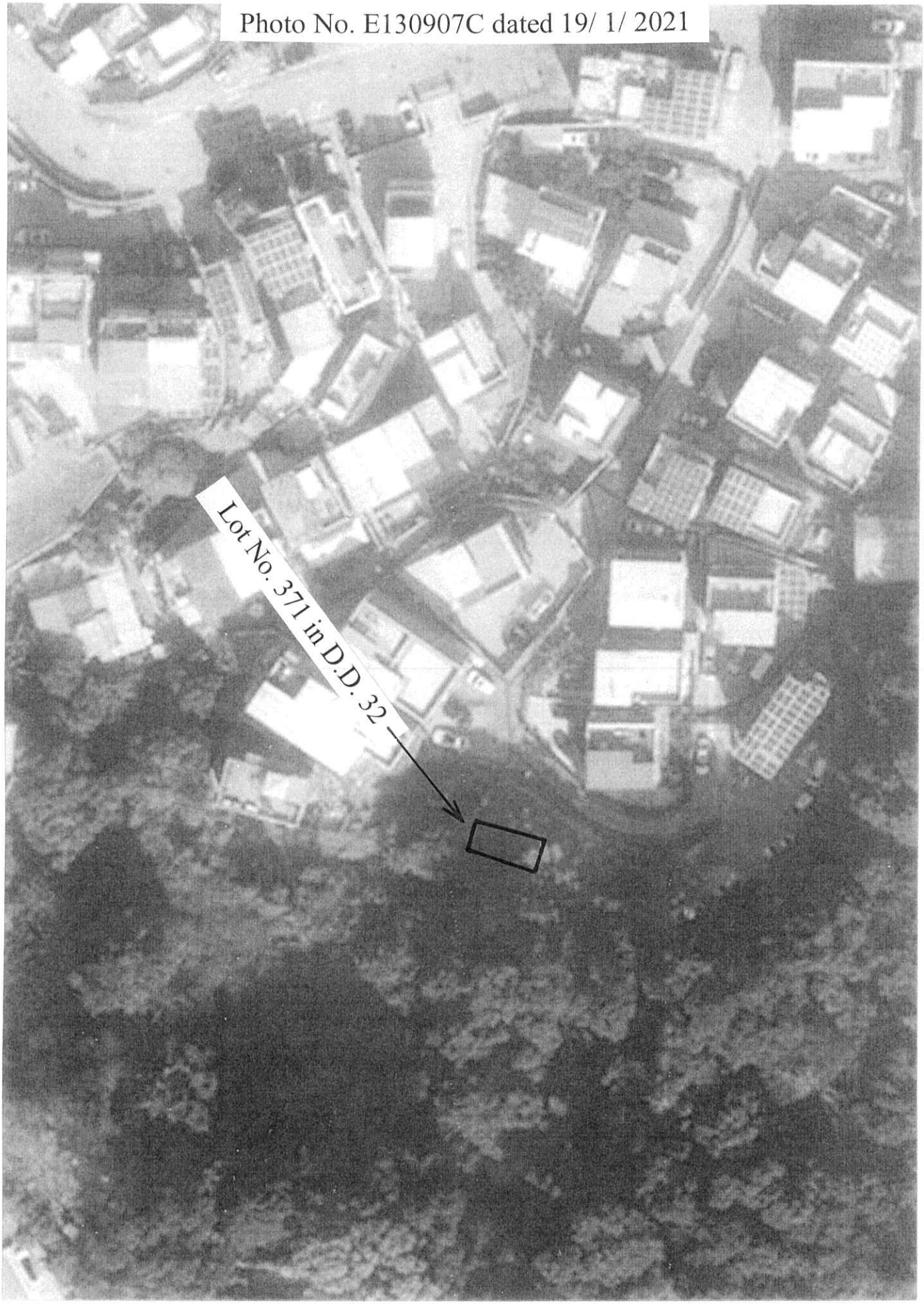
EXTRACT PLAN

From O.Z.P. S/TP/30



SCALE 1:7500

Photo No. E130907C dated 19/ 1/ 2021



EXTRACT PLAN

From Survey Sheet No. 7-NW-B

SCALE 1:5000

Appendix G

Justifications

Lot No. 371 in D.D. 32 (Re-building)

1. The applicant Miss Chan Wing Wai (陳穎慧) villager of Ha Wong Yi Au, Tai Po, who wishes to apply for the planning permission to re-build a N.T.E.H. house under Section 16 of the Town Planning Ordinance;

2. Applicant wishes to develop her house land in order to improve her living accommodation and environment.

3. Lot No. 371 in D.D. 32 is an old schedule Lot of registered area 0.01 ac, House 2nd class, the rent is 50 ₵ p.a. (Govt. Lessees Appendix A1 refers);

4. Boundary of the Lot 371 was re-established by an Authorized Land surveyor, the plan No. is SRP/TP/008/32/353-D, the area of the Lot is 37.6 m^2 (House Land);

5. There is an existing access leading to the site;

6. The Lot 371 is entirely within GB Zone, it is outside village environs boundary of Ha Wong Yi Au, centre of the house lot is 3 metres in average away from the village type Dev. (V Zone) of Tai Po Outline Zoning Plan S/TP/30;

7. Applicant agrees to re-build the NTEH house of floor area of 37.6 x 3 (3 storeys), the height is 8.23 metres with balcony faces North;

8. No tree felling is required in this proposed re-building;

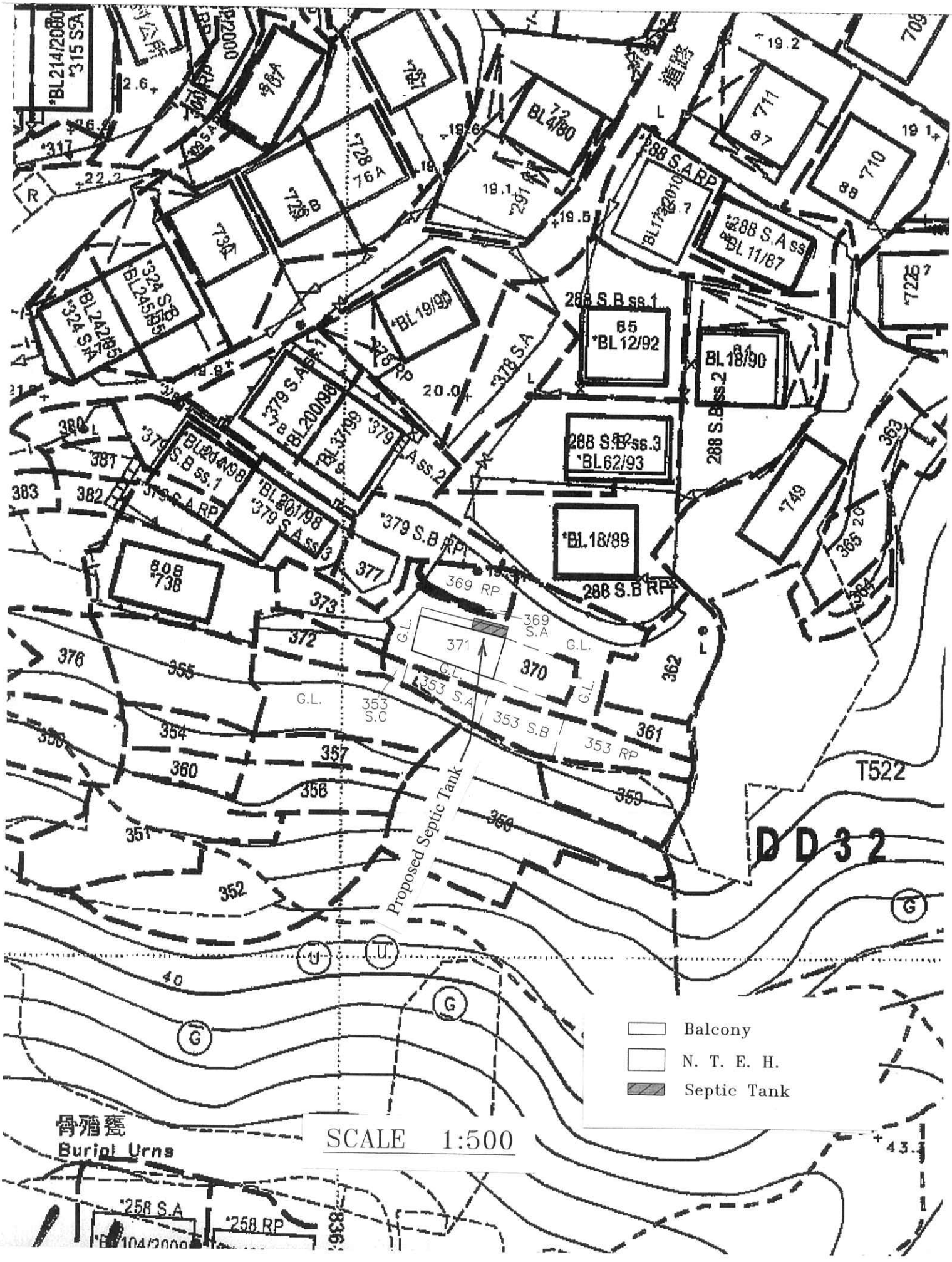
9. The proposed re-building will NOT cause any adverse impacts on environment, traffic, water supply, land filling and drainage etc.;

10. Similar application (A/TP/423, A/TP/409, A/TP/540) for the small house re-development within GB zone were approved by the Board in the past, besides house of Lot 723 was developed without planning reference, all are in D.D. 32 Ha Wong Yi Au, Tai Po.

Location of the Proposed Septic Tank

LOT NO. 371 in D.D. 32

Appendix H



Geotechnical Planning Review Report
for Proposed Small House Development
on
Lot No. 371 in D.D. 32,
Ha Wong Yi Au, Tai Po,
New Territories

JDF Engineering Consultants Limited

May 2023

Contents

1 INTRODUCTION **1**

2 SITE DESCRIPTION **1**
2.1 Site Location 1

3 DESK STUDY **1**
3.1 Geological Maps 1
3.1.1 Solid Geology 1
3.1.2 Superficial Geology 1
3.1.3 Structural Geology 1
3.2 GASP Report 1
3.3 Enhanced Natural Terrain Inventory 2
3.4 Historical Landslide Catchment Inventory 2
3.5 Hillside Pocket 2
3.6 Reported Landslide Incidents 3
3.7 Registered Man-made Slopes 3

4 REVIEW OF NATURAL TERRAIN OVERLOOKING THE SITE **3**

5 IMPACTS OF PROPOSED WORKS ON EXISTING SLOPES AND RETAINING WALL **3**

6 RECOMMENDATIONS AND CONCLUSIONS **3**

7 REFERENCES **4**

FIGURES
PLATES

APPENDIX
Appendix A Incident Records

1 INTRODUCTION

A small house is proposed to be constructed within Lot No. 371 in D.D. 32, Ha Wong Yi Au, Tai Po, N.T. This report documented the assessment of the geotechnical feasibility of the proposed development and outline of further studies that may be required.

2 SITE DESCRIPTION

2.1 Site Location

The Site, where the proposed small house is to be constructed, is located on a platform at Ha Wong Yi Au, Tai Po (**Plate 1 and Plate 2**). The Site is covered by concrete surface and is retained by a small non-registered retaining wall with maximum high of about 1.1m at its northern corner. The approximate location of the lot boundary is shown in **Figure 1**. A natural terrain overgrown with dense vegetation is overlooking the Site at the southern direction (**Plate 3**). Further details on the discussion of these features are given in Section 4 and 5 below.

3 DESK STUDY

3.1 Geological Maps

The geology of the Site is shown on the Hong Kong Geological Survey (HKGS) Map Sheet 7 (Shatin), Second Edition, 1:20,000-scale HGM20 series. The local geology of the Study Area is presented in **Figure 2** and described below.

3.1.1 Solid Geology

The 1:20,000 scale geological map sheet 7 (HKGS, 2010, Second Edition) indicated that the Site is likely to be underlain by Lapilli Lithic-bearing Coarse Ash Crystal Tuff (Jty_cat) of the Yim Tin Tsai Formation under the Tsuen Wan Volcanic Group in Middle Jurassic.

3.1.2 Superficial Geology

No superficial deposit has been recorded within the Site.

3.1.3 Structural Geology

No fault or photolineament has been recorded within or in vicinity of the Site.

3.2 GASP Report

The Geotechnical Area Studies Programme (GASP) comprised a systematic geotechnical information and assessment for land management and development planning of the Territory of Hong Kong. The findings were based on terrain classification techniques using aerial photographs, examination of geotechnical data collected from existing Site

investigation records and available literature and field reconnaissance. The study was based on the bedrock geology given on the 1:50,000 scale geological map produced by Allen & Stephens (1971) 'Report on the Geological Survey of Hong Kong', which has subsequently been superseded. The following are extracts from the relevant GASP report (GASP Report II, Central New Territories, 1987):

a) Physical Constraints Map – This map has indicated the Site area is designated as zone of colluvium which are subject to overland flow and periodic inundation. Evidence of unusual groundwater regime.

b) Engineering Geology Map – This map indicates that the Site is covered by colluvium.

c) Geotechnical Land Use Map –This map indicates that the Site area is designated as Class III, which has high geotechnical limitations and is low suitable for development.

3.3 Enhanced Natural Terrain Landslide Inventory

In 1995, the GEO compiled the Natural Terrain Landslide Inventory (NTLI) from an interpretation of high-altitude (8,000ft and above) aerial photographs dated from 1945 to 1994 (King, 1999). In 2007, the GEO produced an Enhanced Natural Terrain Landslide Inventory (ENTLI) using low-altitude (8,000ft and below) aerial photographs to update the NTLI.

In accordance with **GEO Report No. 138** (GEO, 2003), landslides are classed as either "Relict" or "Recent", depending on their appearance in aerial photographs. "Relict" landslides are defined as those where the main scarp is well-defined but vegetation has re-established on the scar on the earliest set of available aerial photographs. "Recent" landslides are defined as having occurred within the timespan of the aerial photograph coverage. These are typically identified as having a light tone on the aerial photographs and are bare of vegetation.

No ENTLI has been recorded within or in the vicinity of the Site.

3.4 Historical Landslide Catchment (HLC) Inventory

Historical Landslide Catchments (HLCs) have been defined by GEO based on the results of the ENTLI. No HLC present within or in the vicinity of the Site.

3.5 Hillside Pocket

Hillside Pockets (HP) are defined as small tracts of predominantly natural hillside within developed areas (defined as areas with more than 10% of development within 200 m searching radius) and satisfying all three of the following criteria:

i) have an elevation difference greater than 8 m,

ii) have a maximum gradient greater than 20°, and

iii) have a plan area of greater than 400 m^2.

The HP Catalogue was compiled between 2013 and 2016 under Agreement No. CE 11/2013 (GE) Feasibility Study on Cataloguing and Ranking of Hillside Pockets, based on the review of 4 sets of aerial photographs, records of past instabilities (mainly the GEO landslide incident records and ENTLI features), presence of registered disturbed terrain, facilities in close proximity to the HP and site inspection.

No Hillside Pocket has been recorded within or in the vicinity of the Site.

3.6 Reported Landslide Incidents

The GEO landslide incidents database has indicated one incident record located at about 30m to the east of the Site (**Figure 3**). The incident was recorded as 2020/07/2727 and it involved a small slope failure ($4m^3$) within a disturbed terrain adjoining to an access road in July 2020. Detailed information of the feature extracted from SIS is presented in **Appendix A**.

3.7 Registered Man-made Slopes

No man-made feature has been registered within or in the vicinity of the Site, **Figure 4**.

4 REVIEW OF NATURAL TERRAIN OVERLOOKING THE SITE

It is noted that the Site may be affected by natural hazard aroused from a natural terrain above the Site from the elevation of about +49mPD to +24mPD. An initial screening exercise has been carried out to assess whether the proposed development falls within the "In-principle Objection Criteria" or the "Alert Criteria" with respect to the concerned natural terrain according to the guideline given in GEO Report No. 138 Second Edition. The potential hillside catchment that may affect the proposed development has been delineated based on the 1:1000 topographic map and is presented in **Figure 5**. The measured angular elevation from the top of the natural terrain to the nearest boundary of Lot no. 371 is about 28° and therefore satisfied the "Alert Criteria" and therefore further study of the natural terrain hazards arouse from the natural terrain to the Site is required.

5 IMPACTS OF PROPOSED WORKS ON EXISTING SLOPES AND RETAINING WALL

Although there is no man-made feature has been registered within or in the vicinity of the Site, the Site platform was retained by a retaining wall at its eastern and northern side with a maximum height of about 1.1m (**Plate 2**). There is also a small cut slope (about 1.2m high) with chunam surface below the retaining wall. No major sign of distress can be identified at the retaining wall and the cut slope during the inspection. However, the stability of these retaining wall and cut slope have to be checked with respect to the proposed development based on the subsurface conditions and shear strength parameters of soil/rock obtained from a site specific ground investigation. If found necessary, appropriate improvement/upgrading works, including slope re-profiling, installation of soil nails, and thickening of the retaining wall shall be carried out so as to meet the current geotechnical standard.

6 RECOMMENDATIONS AND CONCLUSIONS

A desk study has been carried out for the proposed small houses development within Lot No 371 in D.D. 32, Tai Po on all available geological and geotechnical information in GEO and relevant publications. A review on the proximities of the natural slope and man-made slope feature were conducted to assess whether the proposed development will be affected by the adjacent slope including natural terrain.

Based on the results of the review, the angular elevation from the natural terrain to the Site is 28°. According to GEO report No.138, the proposed development satisfied the "Alert Criteria" and therefore a further study of the natural terrain hazards posing to the proposed development is required. The proposed extent of the natural terrain hazards study is delineated in **Figure 5**.

In addition, it is essential to search and review the background information of existing building, geotechnical feature (retaining wall and cut slope below the Site) and underground services within and in the vicinity of the Site. Site investigation is proposed to reveal/confirm the subsoils and the ground profile within and in the vicinity of the Site as well as to determine the engineering properties of the soils and rock.

For safety and cost effectiveness, the foundation design, retaining wall stability assessment, excavation planning as well as the design of geotechnical structure should be based on the geological horizons obtained from the ground investigation results, groundwater table interpreted from the piezometer/standpipe monitoring records, and the geotechnical parameters determined from the field and laboratory testing. A geotechnical assessment report (GAR) is required to deal with the above issues in the later stage.

7 REFERENCES

Geotechnical Engineering Office (1987). Geotechnical Area Studies Programme – Central New Territories. Geotechnical Control Office, Hong Kong, GASP Report No. II.

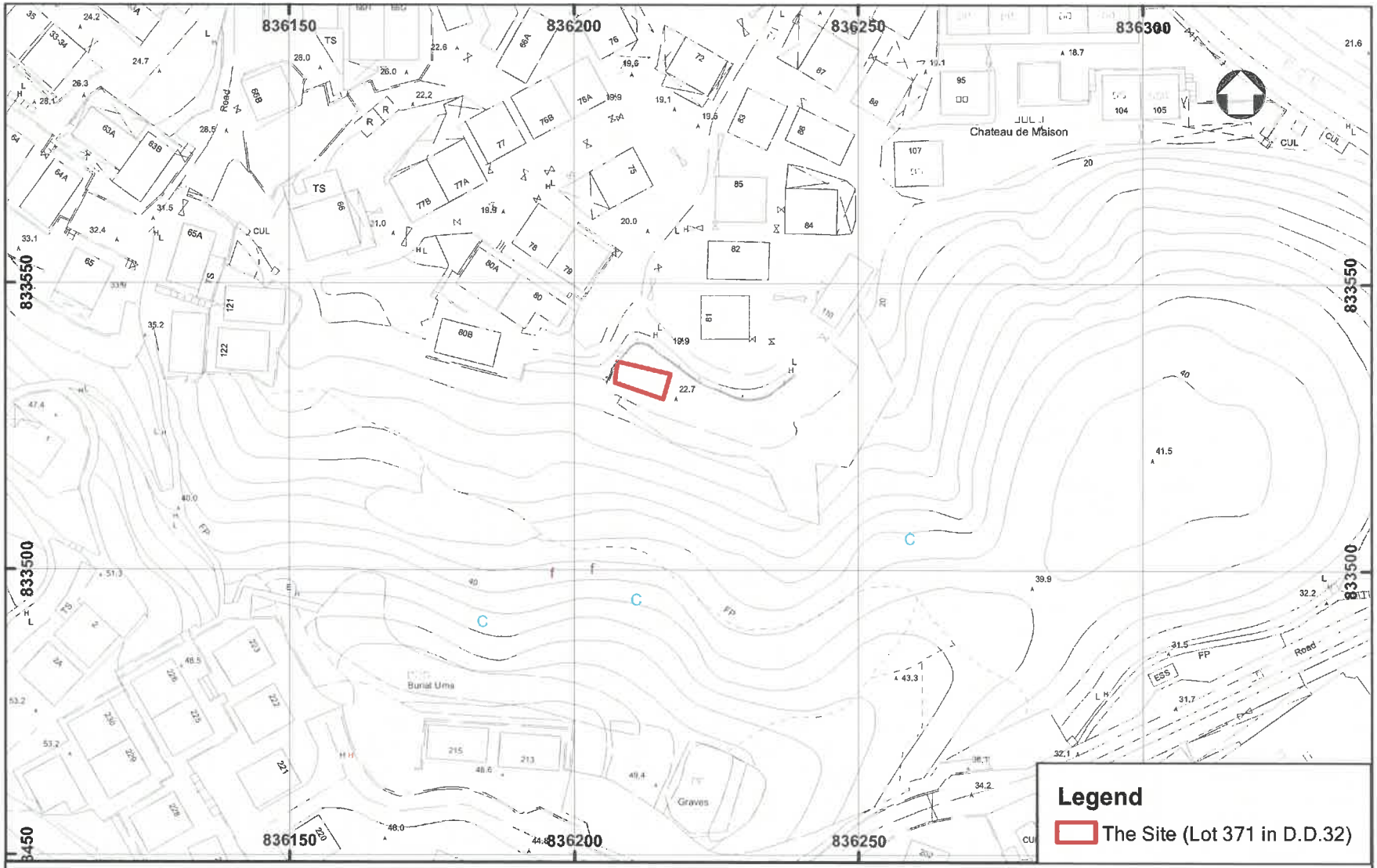
Geotechnical Engineering Office (2016). Guidelines for Natural Terrain Hazard Studies. Geotechnical Engineering Office, Hong Kong. GEO Report No. 138, Second Edition.

Geotechnical Engineering Office (2004). Guidelines for Classification of Consequence-to-Life Category for Slope Features. Geotechnical Engineering Office, Hong Kong. GEO Technical Guidance Note No. 15 (TGN15).

Geotechnical Engineering Office (2010), Map 7 (Shatin) Solid and Superficial Deposits, 1:20,000 scale, HGM20 series.

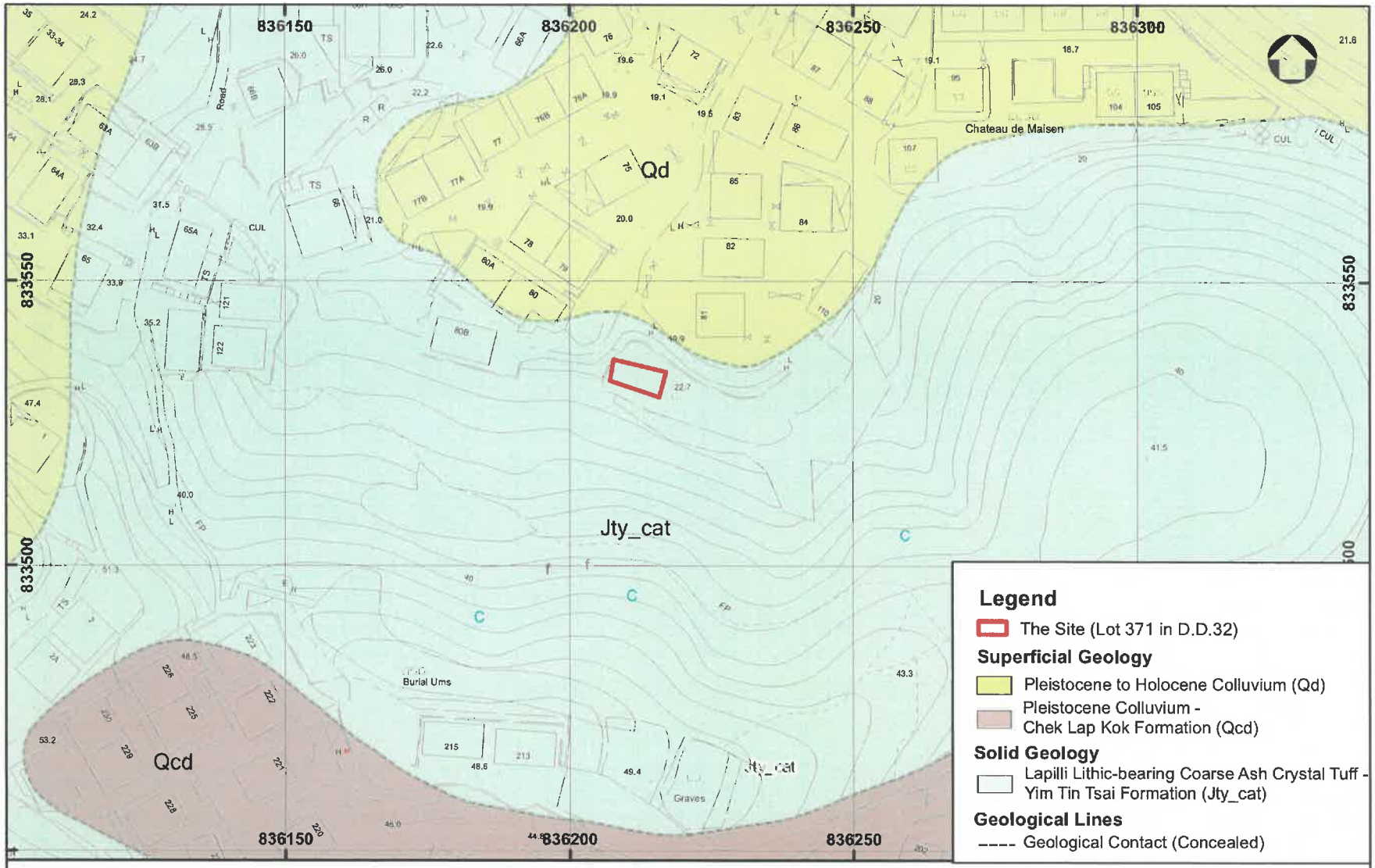
LIST OF FIGURES

Figure No.	
1	Location Plan of the Site
2	Geological Map (1:20,000)
3	Recorded Past Instabilities
4	Registered Man-made Features
5	Angular Elevation from Natural Terrain



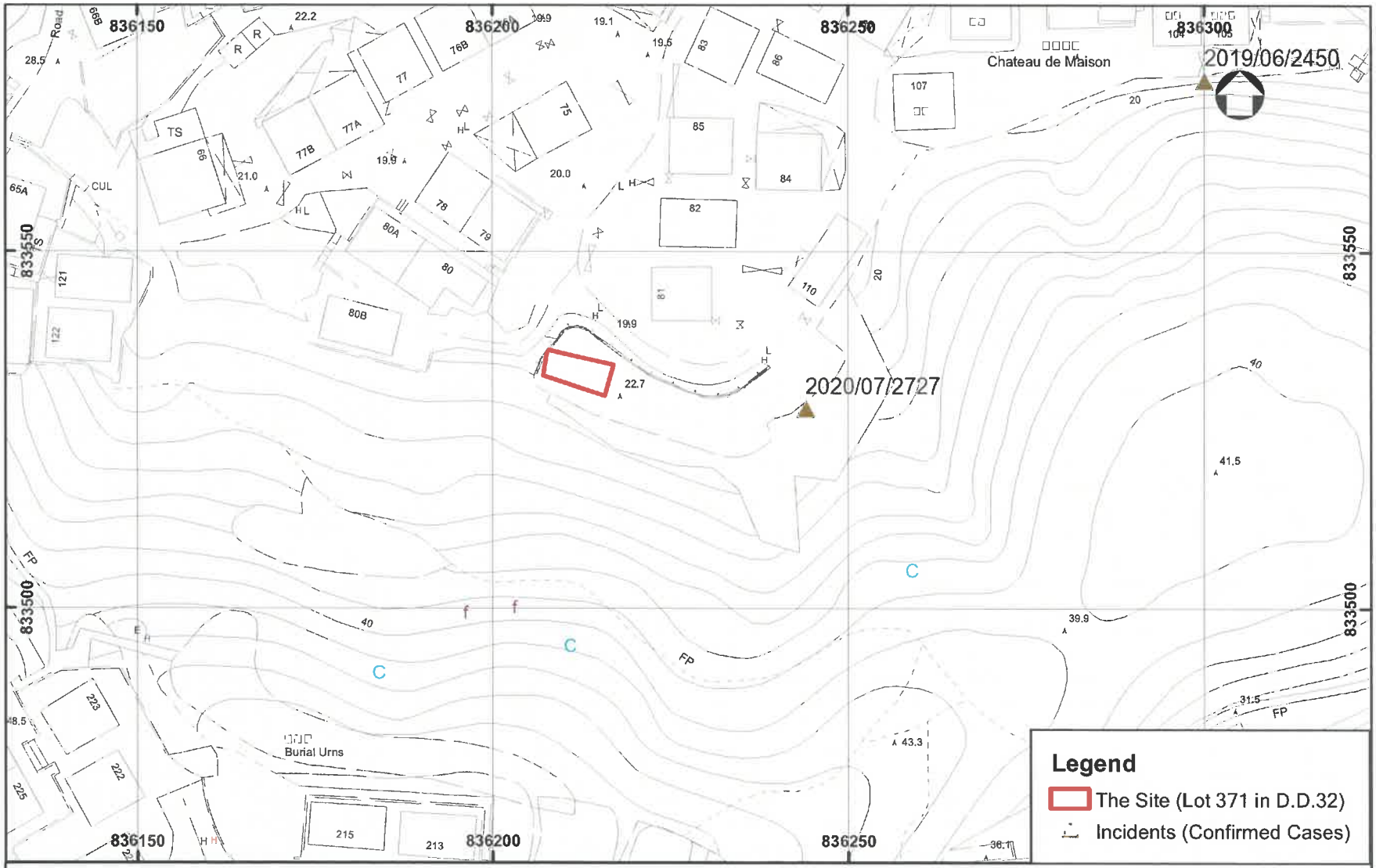
PROJECT: **Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po**

TITLE: Location Plan of the Site	**SCALE:** 1 : 1000	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	**FIGURE NO :** FIGURE 1



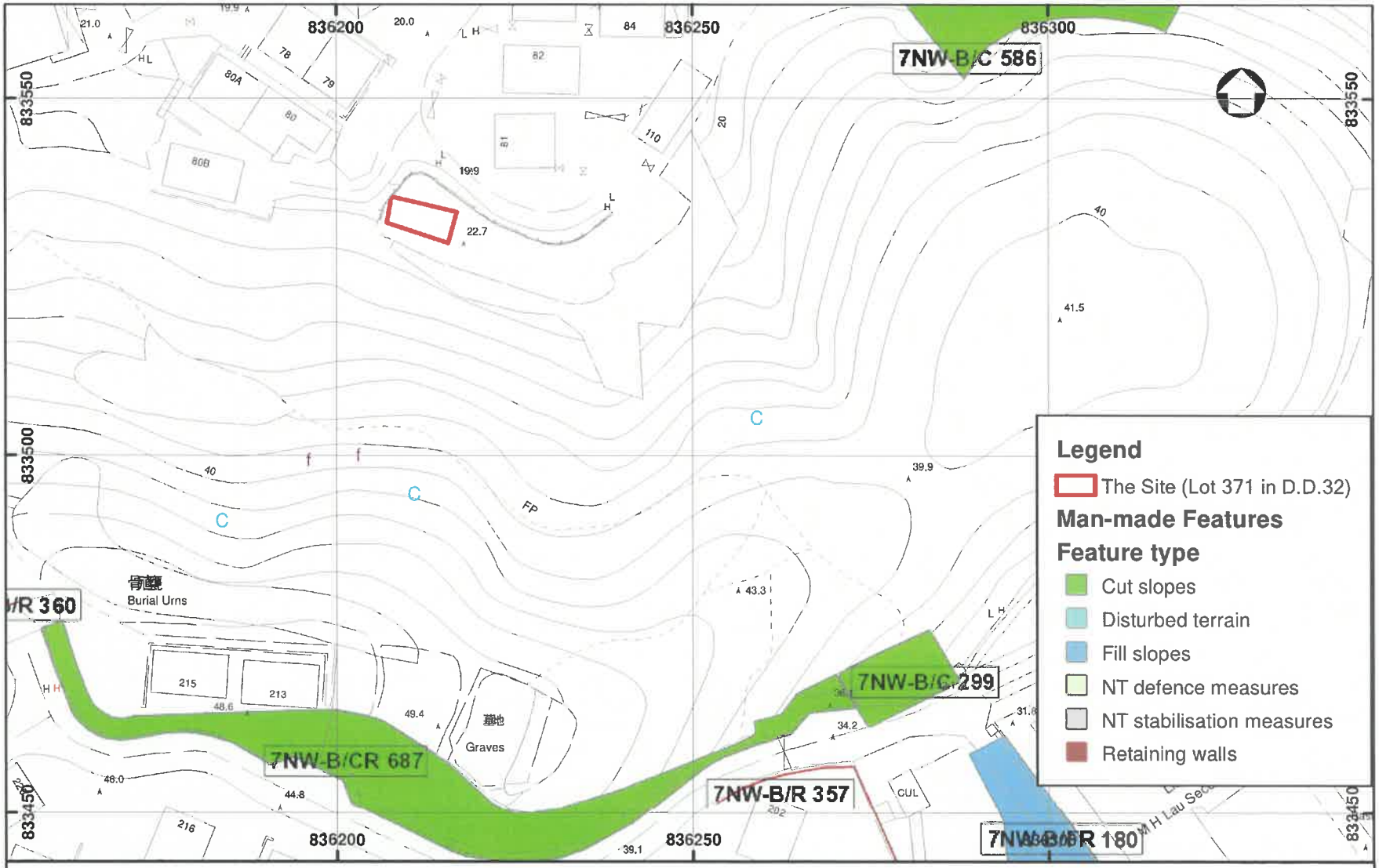
PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Geological Map	SCALE: 1 : 1000	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 2



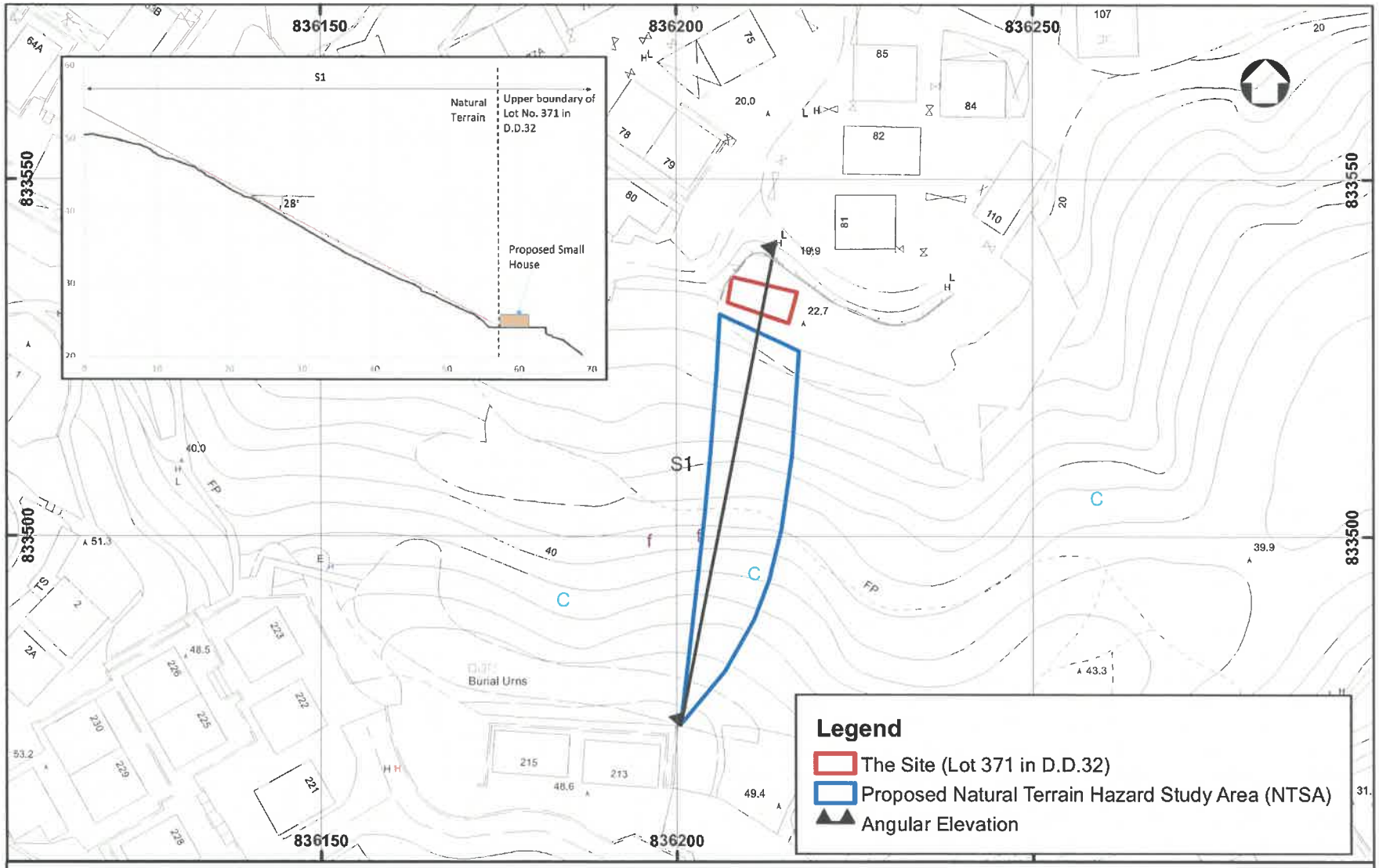
PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Recorded Past Instabilities	SCALE: 1 : 800	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 3



PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Registered Man-made Features	SCALE: 1 : 800	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 4

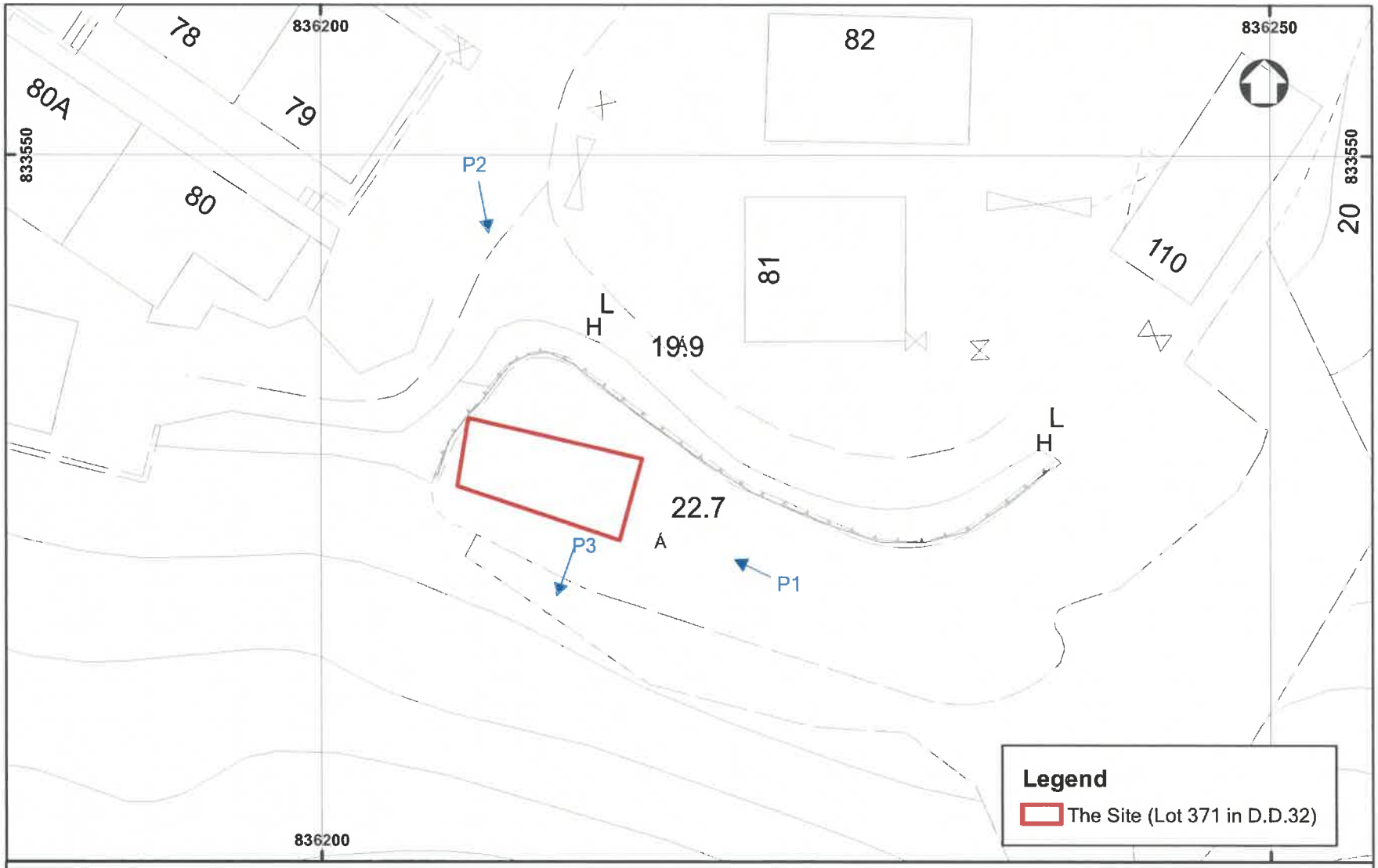


PROJECT: Proposed Small House on Lot No. 371 in D.D.32, Tai Po

TITLE: Angular Elevation from Natural Terrain	SCALE: 1 : 800	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 5

LIST OF PLATES

Plate No.	
Plate 1	General View of the Site
Plate 2	General View of the Site, the non-registered retaining wall and cut slope.
Plate 3	Natural Terrain Overlooking the Site



PROJECT: Proposed Small House on Lot No. 371 in D.D.32, Tai Po

TITLE: Location of Plates	SCALE: 1 : 300	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 6

Plate 1 General View of the Site

Plate 2 General View of the Site, the non-registered retaining wall and the cut slope

Plate 3 Natural Terrain Overlooking the Site

Appendix A

Incident Records

(19)

GEOTECHNICAL ENGINEERING OFFICE
LANDSLIDE INCIDENT REPORT

GEO Incident No. 2020/07/2727 **ECC Ref:**

PART 1 --- REGISTRATION

The contents should be updated when further information is received (e.g. following site inspection) [Note 1.1]

(1.1) INCIDENT REPORTED TO GEO	
(1.1.1) Duplicate Incident No. (if any) [Note 1.1.1]	
(1.1.2) Location [Note 1.1.2] * (Confirmed with Police/FSD or GEO staff on site : **Yes**) **下黃宜坳81號** Co-ordinates of landslide Easting : **836244** Northing : **833528**	
(1.1.3) Nearby Lamp Post No. :	
(1.1.4) Feature No.	(1.1.5) District Council **Tai Po District**
(1.1.6) Report date [Note 1.1.6] * **14/7/2020**	(1.1.7) Report time [Note 1.1.7] * **09:20**
(1.1.8) Best Estimated Date and Time of Incident [Note 1.1.8] Source of Incident Date and Time	(1.1.9) 1823 Reference (if applicable) [Note 1.1.9]
(1.1.10) Reported by (Caller name) * **Ms.H Y LO**	(1.1.11) Contact No. of caller * **26541227**
(1.1.12) Affiliation **DLO**	(1.1.13) Affiliation remarks (if any)
(1.1.14) Incident Also Recorded in LandsD's Emergency System? [Note 1.1.14] **No**	(1.1.15) Corresponding LandsD's Incident No. [Note 1.1.14]

(1.2) TYPE OF INCIDENT
(1.2.1) Type of Incident **Slope Failure**
(1.2.2) Remarks (e.g. Approximate dimensions / Volume of landslide) **Nil Remark**

(1.3) CONSEQUENCE OF FAILURE	
(1.3.1) No. of deaths **0** persons	(1.3.2) No. of injuries **0** persons
(1.3.3) No. of road lanes closed [Note 1.3.3] **0** of **0** Nos.	(1.3.4) No. of persons evacuated **0** persons
(1.3.5) Traffic disruption / impact details [Note 1.3.5]	

(1.4) FACILITIES AFFECTED OR THREATENED
(1.4.1) Facilities affected or threatened **Open space**
(1.4.2) Details (e.g. No. of buildings damaged / name of road sections blocked / road type under TD classification / type of Government premises, facilities or private utility services) : **Nil Remark**

(1.5) CLASSIFICAION OF INCIDENT (Highest genuine classification) [Note 1.5]
(1.5.1) Incident classified to be * **Minor** Updated upon inspection : **No** Date : Time : by Name : Post :
(1.5.2) Media attention [Note 1.5.2] **Nil**

(1.6) INITIAL ACTION TAKEN [Note 1.6]
(1.6.1) Action taken **GEO inspection arranged**
(1.6.2) **LIN Wan Kwan, Carrie (Ms)** has been assigned to inspect the incident
(1.6.3) Remarks

(1.7) DISTRICT INFORMATION	
(1.7.1) District Division : **ME**	(1.7.2) District GE : **LIN Wan Kwan, Carrie (Ms)**

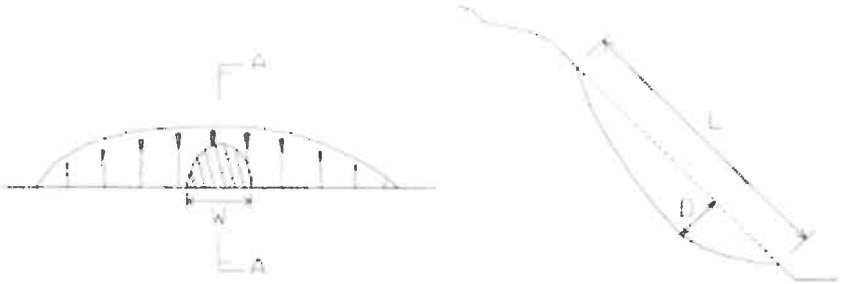
(1.8) OTHER INFORMATION	
(1.8.1) Incoming call received by **District** Name : **LIN Wan Kwan, Carrie (Ms)** Post : **GE/ME23** Tel : **2762 5236**	(1.8.2) Registered by **District GE** Name : **LIN Wan Kwan, Carrie (Ms)** Post : **GE/ME23** Tel : **2762 5236**

PART 2 --- INSPECTION

For serious incidents, the Inspection GE should provide information for completion of all key fields (item 2.7.1 and 2.8.1) marked with '*' and seek agreement from ETC/SGE(District)/Emergency Manager whoever is appropriate, before leaving the landslide site.

(2.1) DETAILS OF FIRST INSPECTION [Note 2.1]

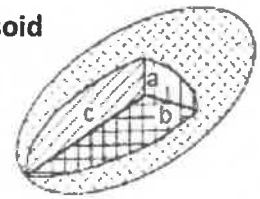
(2.1.1) GEO Inspection by **LIN Wan Kwan, Carrie (Ms)**	(2.1.2) Inspection date **17/7/2020**
(2.1.3) Time arrived on site **11:15**	(2.1.4) Time left site **11:30**
(2.1.5) With of	(2.1.6) Contact No. (mobile)
(2.1.7) Weather condition at time of inspection **Sunny**	(2.1.8) Feature type **Disturbed terrain**



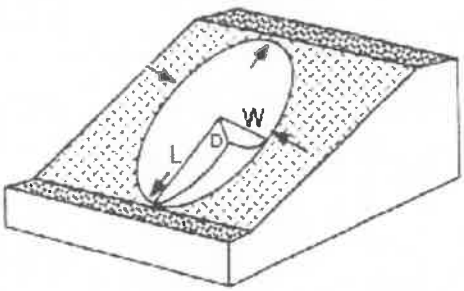
Plan **Section A – A**

(2.1.9) Scar length (L) [Notes 2.1.9] **4.00** m	(2.1.10) Scar depth (D) **0.25** m
(2.1.11) Scar width (W) **8.00** m	(2.1.12) Volume of landslide debris [Notes 2.1.12] **4.000** m^3

(a) Ellipsoid



(b) Landslide



$$VOL_{ls} = \frac{4}{6}\pi a \cdot b \cdot c$$
$$= \frac{1}{6}\pi D \cdot W \cdot L$$

Extracted from "Turner & Schuster (1996). Landslides Investigation and Mitigation. Transportation Research Board, Special Report 247" Chapter 3 Landslide Types and Process, p36-71.

(2.1.13) Media on site

(2.1.14) Non-landslide Incident [Note 2.1.14]
No

(2.2) MATERIAL AND MASS DESCRIPTION OF THE EXPOSURE
(2.2.1) Material and mass description of the exposure [refer to Geoguide 3 for soil rock classification] **Residual Soil**
(2.2.2) Detailed descriptions

(2.3) BOULDER FALL CASES [Note 2.3]
(2.3.1) Number of boulders involved
(2.3.2) Dimensions of boulders Shape of boulders

(2.4) MAN-MADE SLOPE FEATURE CASES	
(2.4.1) Slope condition	(2.4.2) Locations of matters described in item 2.4.1
(2.4.3) Capacity of surface drainage system **Not present**	(2.4.4) Coverage of hard protection **Not present**
(2.4.5) Surface protection material **vegetation**	(2.4.6) Field evidence of past instability at or adjoining the failure location **No**
(2.4.7) Groundwater seepage observed at the failure location **No**	(2.4.8) Location of seepage / past instability

(2.5) CAUSES OF FAILURE	
(2.5.1) Possible contributing causes of failure	
Geotechnical causes **Infiltration**	Non-geotechnical causes
(2.5.2) Remarks	

(2.6) FURTHER DETAILS OF THE INCIDENT [Note 2.6]

(2.7) IMMEDIATE ADVICE GIVEN

(2.7.1) Immediate advice given [Note 2.7.1] *

Cordon off area in danger
Cover failure scar with tarpaulin properly secured against wind
Provide hard surface protection (with weepholes) to trimmed failure surface
Remove landslide debris which threatens life or property

(2.7.2) Responsible Works Department [Note 2.7.2]

Lands Department Slope Maintenance Section (SMS)

SMRIS (MR) : NPRS Score :

SC Nos. :

(2.7.3) Remarks

(2.8) EMERGENCY ACTION TAKEN

(2.8.1) Emergency action taken at Rescue Phase [Note 2.8.1] *

Emergency inspection by GEO completed and recommendation given

(2.8.2) Remarks

(2.9) ADVICE ON SUBSEQUENT EMERGENCY WORKS / ACTIONS

(2.9.1) Subsequent advice given [Note 2.9.1]

NDC Cat 1 on squatter structures SC Nos. :

To allow re-occupation of property / re-opening of roads :

To complete recovery :

(2.9.2) Responsible Works Department [Note 2.9.2]

(2.9.3) Remarks

(3.1) FEATURE REGISTRATION (to be completed by District GE / Technical Staff)

(3.1.1) Has the feature been registered?

No

(3.1.2) Was the feature registrable before failure? [refer to DEVB TC(W) No. 2 2018 for slope registration]

No

(3.2) STATUS OF LANDSLIDE INCIDENT [Note 3.2]

(3.2.1) Status

Closed

ATTACHMENTS
Attachment Type # **Photo** **Location Plan**
Attachment / Remarks

Inspection Officer's Signature	CARRIE W K LIN, GE/ME23 Name in Block Letter , Post	30 / 10 / 2020 Date

Information reviewed by:

District GE	(Signature)	CARRIE W K LIN (Name)	30/10/2020 (Date)
District SGE	(Signature)	CHRIS C W CHAN (Name)	2/11/2020 (Date)
District CGE	(Signature)	JENNY F YEUNG (Name)	2/11/2020 (Date)

c.c. ~~STO(G)~~/ME2 - please update information in EILIS as necessary

- Delete as appropriate (For significant and serious cases, plan and cross-section(s) of the landslide shall be prepared with Form ECC7 and uploaded to EILIS)

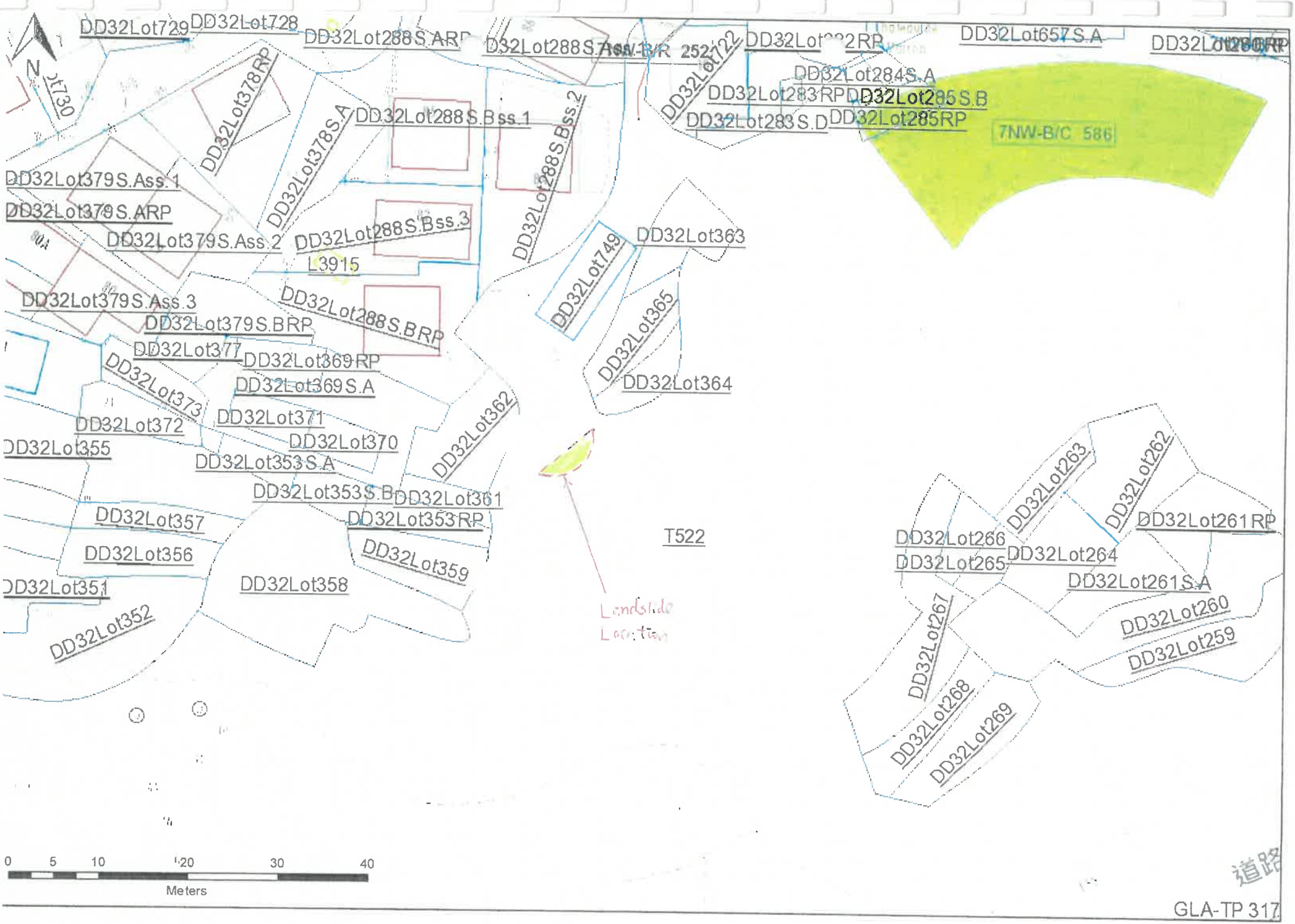

DD32Lot729
DD32Lot728
DD32Lot288S.ARP
DD32Lot288S.Ass.1
DD32Lot722
DD32Lot657S.A
DD32Lot284S.A
DD32Lot283RP
DD32Lot285S.B
DD32Lot283S.D
DD32Lot285RP
7NW-B/C 586
DD32Lot730
DD32Lot378RP
DD32Lot378S.A
DD32Lot288S.Bss.1
DD32Lot379S.Ass.1
DD32Lot379S.ARP
DD32Lot379S.Ass.2
DD32Lot288S.Bss.3
DD32Lot288S.Bss.2
L3915
DD32Lot749
DD32Lot363
DD32Lot379S.Ass.3
DD32Lot379S.BRP
DD32Lot288S.BRP
DD32Lot377
DD32Lot369RP
DD32Lot365
DD32Lot373
DD32Lot369S.A
DD32Lot364
DD32Lot372
DD32Lot371
DD32Lot362
DD32Lot355
DD32Lot370
DD32Lot353S.A
DD32Lot353S.B
DD32Lot361
DD32Lot357
DD32Lot353RP
T522
DD32Lot356
DD32Lot359
DD32Lot351
DD32Lot358
DD32Lot352
Landslide
Location
DD32Lot263
DD32Lot262
DD32Lot261RP
DD32Lot266
DD32Lot265
DD32Lot264
DD32Lot261S.A
DD32Lot267
DD32Lot260
DD32Lot259
DD32Lot268
DD32Lot269
0 5 10 20 30 40
Meters
道路
GLA-TP 317

Photo 1

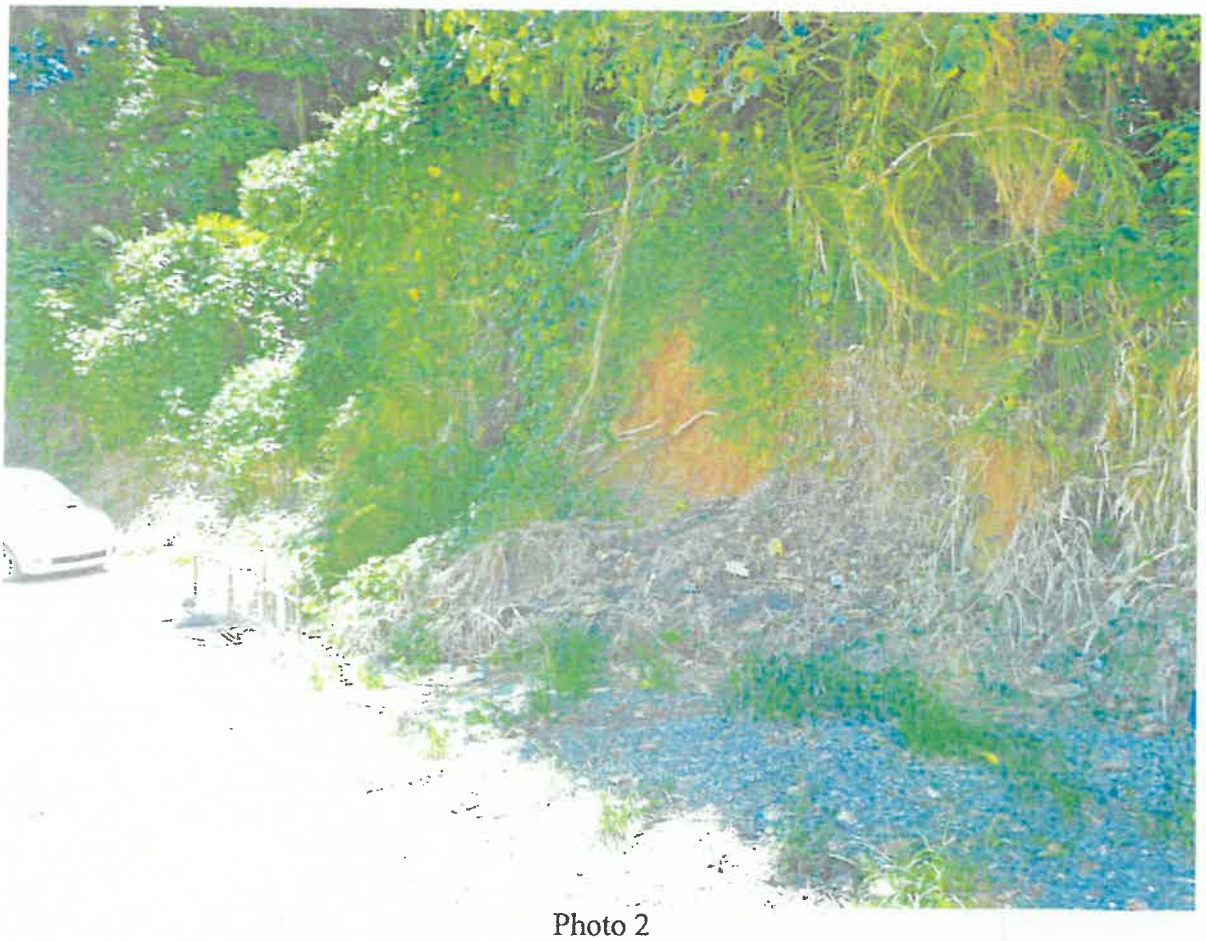


Photo 2

DLO Ref.: (26) in DLO/TP 284/TLT/94

Re-building of Village House
Lot No. 371 in D.D.32
Ha Wong Yi Au, Tai Po, N.T.

Stormwater Drainage Proposal

JDF Engineering Consultants Ltd.
G/F., No. 202
Ha Wong Yi Au,
Tai Po, N.T.

Registered Professional Engineer:
Ir. WONG Wai Lun
MHKIE RPE(Civil)
May 2023

Catchment Area Plan

署測繪處 Survey and Mapping Office, Lands Dep

CATCHMENT AREA

(A1) $= (\frac{1}{2})(14.5)(3.5) + (\frac{1}{2})(10.5)(2) + (\frac{1}{2})(8)(1.5)$

$= 41.875 m^2$

(B1) $= (\frac{1}{2})(16)(3) + (\frac{1}{2})(32)(9) + (\frac{1}{2})(31)(3) +$
$(\frac{1}{2})(29)(7) + (\frac{1}{2})(29)(10) + (\frac{1}{2})(29)(14)$

$= 801.9 m^2$

(C1) $= (\frac{1}{2})(18)(5)$

$= 45 m^2$

(D1) $= (\frac{1}{2})(18)(4.5)$

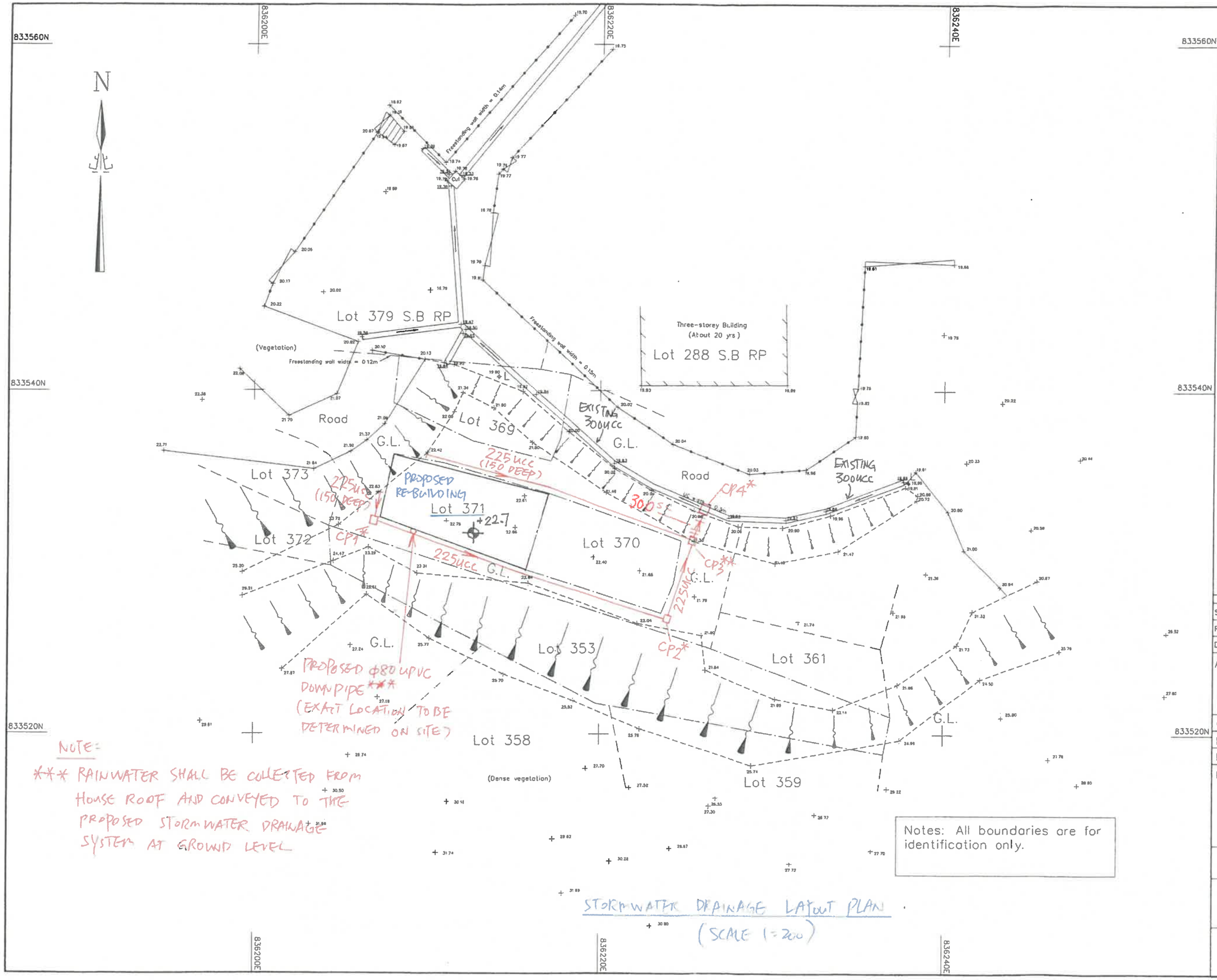
$= 40.5 m^2$

(E1) $= (\frac{1}{2})(7)(3.5) + (\frac{1}{2})(7)(4) + (\frac{1}{2})(9)(2) +$
$(\frac{1}{2})(9)(4.9)$

$= 55.5 m^2$

Stormwater Drainage Layout Plan

(Showing with the position of proposed uPVC downpipe for collecting and conveying the rainwater from the house roof to the proposed stormwater drainage system at ground level, the runoff within the subject premise will be served by the proposed/ existing stormwater drainage system and shall not be drained to the public sewerage network.)



NOTE:

*** RAINWATER SHALL BE COLLECTED FROM HOUSE ROOF AND CONVEYED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM AT GROUND LEVEL

Notes: All boundaries are for identification only.

STORMWATER DRAINAGE LAYOUT PLAN
(SCALE 1:200)

NOTES :
1. MEASUREMENTS BASED ON HONG KONG METRIC ORD & PRINCIPAL DATUM. ALL UNITS IN METRES
2. ALL SPOT LEVEL POSITIONS ARE INDICATED BY THE DECIMAL POINT OR A CROSS

ABBREVIATION

ARCH	ARCHWAY
BH	BOREHOLE
BS	BOUNDARY STONE
WIP	WORKS IN PROGRESS
CL	COVER LEVEL
Col	COLUMN
Conc	CONCRETE
CS	CONCRETE STAND
Cul	CULVERT
DW	DRAINAGE WORKS
E	ELECTRIC POLE
EB	ELECTRIC BOX
ET	ELECTRIC TRANSFORMER
FB	FLOWER BED
FIG	FEED INTO GROUND
FP	FOOTPATH
G	GULLY
H	FIRE HYDRANT
HWM	HIGH WATER MARK
IC	INSPECTION COVER
IL	INVERT LEVEL
L	LAMP POST
Lat	LATRINE
MH	MANHOLE
PB	PEDESTRIAN BARRIER
PH	PUMP HOUSE
PWD	PUBLIC WORKS DEPARTMENT
SC	STEPPED CHANNEL
SP	SIGN POLE
T	TELEPHONE POLE
TB	TRAFFIC LIGHT CONTROL BOX
TC	TELEPHONE COMPANY
TL	TRAFFIC LIGHT
TS (s)	TEMPORARY STRUCTURE (s)
UC	U-SHAPED CHANNEL
WL	WELL
WS	WATER SERVICES
WT	WATER TANK
WW	WATERWORKS
WO	WATER OUTLET
BH	BENCH

SYMBOLS

- TBM (TEMPORARY BENCH MARK) CONTROL STATION
- ARTIFICIAL SLOPE
- D: 0.15 H: 5 S: 5 — TREE WITH DIAMETER HEIGHT & SPREAD
- CLIFF QUARRY
- WATER COURSE
- FENCE RAILING OR HOARDING
- VERTICAL MASONRY (RETAINING WALL)
- CONCRETE DRAIN & CULVERT
- TOE WALL
- HWM — HIGH WATER MARK
- 20 — CONTOURS INTERPOLATED AT ONE METRE INTERVAL
- BOULDER & ROCK
- BOLLARD AT ROAD
- CATCH PIT
- GRATING
- MF — MANHOLE FOUL WATER
- MS — MANHOLE STORM WATER
- MH — MANHOLE (UNCLASSIFIED)
- MT — MANHOLE TELEPHONE
- MW — MANHOLE WATERWORKS
- SIGN BOARD
- STEEL COVER
- VALVE (UNCLASSIFIED)
- VALVE FIRE
- VALVE GAS
- VALVE WATERWORKS
- 1.23 SPOT LEVEL
- 1.23 INVERT LEVEL
- W WATER POINT
- BUILDING
- PROPOSED SMALL HOUSE
- HANDRAIL OR FREE STANDING WALL

	Name	Date
Surveyed	M K YIP	Jul, 2014
Revised	T H Chan	Jul, 2014
Drawn	M K YIP	Jul, 2014

Approved by :

T H CHAN (MRICS, MHKIS, RPS(LS), ALS)
Date 25 July, 2014

Contract no.

File no.

Project no.

Drawing Title

TOPOGRAPHICAL SURVEY
OF LOTS 353, 369, 370 & 371
IN D.D. 32
AT WONG YI AU, TAI PO

SCALE 1 : 200

Drawing no. TOPO/TP/0608

Rev.

T.H. & Associates Limited
M/F, 39 Po Yick Street
Tai Po, N.T.
Tel: 26577726 Fax: 26588757

Project: Rebuilding on Lot No. 371 in D.D. 32, Ha Wong Yi Au, Tai Po, N.T.

Subject: Stormwater Drainage Proposal

Title: **Catchpit Schedule**

Ctachpit No.	Cover Level (mPD)	Inlet Invert Level (mPD)	Outlet Invert Level (mPD)
CP1*	+22.70	+22.35	+22.30
CP2*	+21.80	+21.40	+21.35
CP3** (with trap)	+21.35	+21.00	+20.95
CP4*	+20.40	+19.64	+19.63
			(I.L. of existing UC)

Notes:

1) CP1*,CP2*, CP4* - Standard catchpits (Complying with CEDD Standard Drawing No. C2405)

2) CP3** (with trap) - Catchpit with trap (Complying with CEDD Standard Drawing No. C2406)

3) Covers shall be provided for the U- channels and catchpits adjacent to existing footpath

Stormwater Drainage Calculation

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

DESIGN OF U-CHANNEL UA1 (For Area A1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

A1 = 41.875 m^2 H = 48.67 [(30 - 22.7/15]*100 L = 15 m

t_o = **0.69** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 2 m

t_f = **0.50** sec.

$t_c = t_o + t_f$ = 0.70 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.35 (Steep grassland assumed as heavy soil)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 318.85 mm/hr & i = 369.87 mm/hr (16% increased)

QUA1 = 1.30 l/s (Refer Table 28 in SDM)
= 0.001 m^3/s

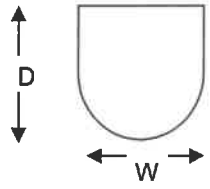
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 150 mm = 0.15 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.028 m^2
= 0.025 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.428 m

R = 0.059

S = 0.01 *(gradient of the proposed U-channel, 1:100)*

V = 0.94 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.027 m^3/s > Max. runoff = 0.001 m^3/s OK

Thus, Provide U-Channel with size of 225mm (150mm Deep)

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

DESIGN OF U-CHANNEL UB1 (For Area B1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

B1 = 819 m^2 H = 40.45 [(49.4 - 22.7)/66]*100 L = 69 m

t_o = **2.43** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 18 m

t_f = **4.50** sec.

$t_c = t_o + t_f$ = 2.51 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.350 (Steep grassland assumed as heavy soil)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 274.52 mm/hr & i = 318.44 mm/hr (16% increased)

QUB1 = 21.86 l/s (Refer Table 28 in SDM)
= 0.022 m^3/s

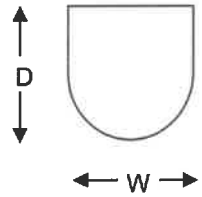
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 225 mm = 0.225 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.045 m^2
= 0.041 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.578 m

R = 0.070

S = 0.05 *(gradient of proposed UC between CP1 & CP2, +22.30 - +21.40/ 18m)*

V = 2.36 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.107 m^3/s > Max. runoff = 0.022 m^3/s OK

Thus, Provide U-Channel with size of 225mm

Summation QUA1, QUB1 = 0.023 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)

For channel UB1, Q = 0.107 m^3/s > Max. runoff = 0.023 m^3/s OK

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

DESIGN OF U-CHANNEL UC1 (For Area C1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

C1 = 45 m^2 H = 5.00 [(22.7 - 21.8)/18]*100 L = 18 m

t_o = **1.29** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 5 m

t_f = **1.25** sec.

$t_c = t_o + t_f$ = 1.31 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

i = $a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 300.38 mm/hr & i = 348.44 mm/hr (16% increased)

QUC1 = 3.57 l/s (Refer Table 28 in SDM)
= 0.004 m^3/s

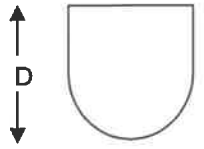
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 225 mm = 0.225 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.045 m^2
= 0.041 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.578 m

R = 0.070

S = 0.07 *(gradient of proposed UC between CP2 & CP3, +21.35 - +21.00/ 5m)*

V = 2.79 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.126 m^3/s > Max. runoff = 0.004 m^3/s OK

Thus, Provide U-Channel with size of 225mm

Summation QUA1, QUB1, QUC1 = 0.027 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)

For channel UC1, Q = 0.126 m^3/s > Max. runoff = 0.027 m^3/s OK

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

DESIGN OF U-CHANNEL UD1 (For Area D1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

D1 = 40.5 m^2 H = 5.00 [(22.7 - 21.8/18]*100 L = 18 m

t_o = **1.30** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 16 m

t_f = **4.00** sec.

$t_c = t_o + t_f$ = 1.37 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient

K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 298.83 mm/hr & i = 346.64 mm/hr (16% increased)

QUD1 = 3.19 l/s (Refer Table 28 in SDM)
= 0.003 m^3/s

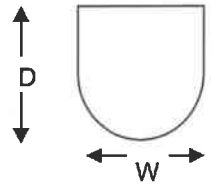
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 150 mm = 0.15 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.028 m^2
= 0.025 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.428 m

R = 0.059

S = 0.0875 *(gradient of UC between start of IL & CP3, +22.40 - +21.00/ 16m)*

V = 2.79 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.079 m^3/s > Max. runoff = 0.003 m^3/s OK

Thus, Provide U-Channel with size of 225mm (150mm Deep)

Summation QUA1, QUB1, QUC, QUD1 = 0.030 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)
QUC1 = 0.004 m^3/s (Area C1)

According to GEO TGN 27, capacity of 300mm stepped channel is adequate.
(see attached sheet)

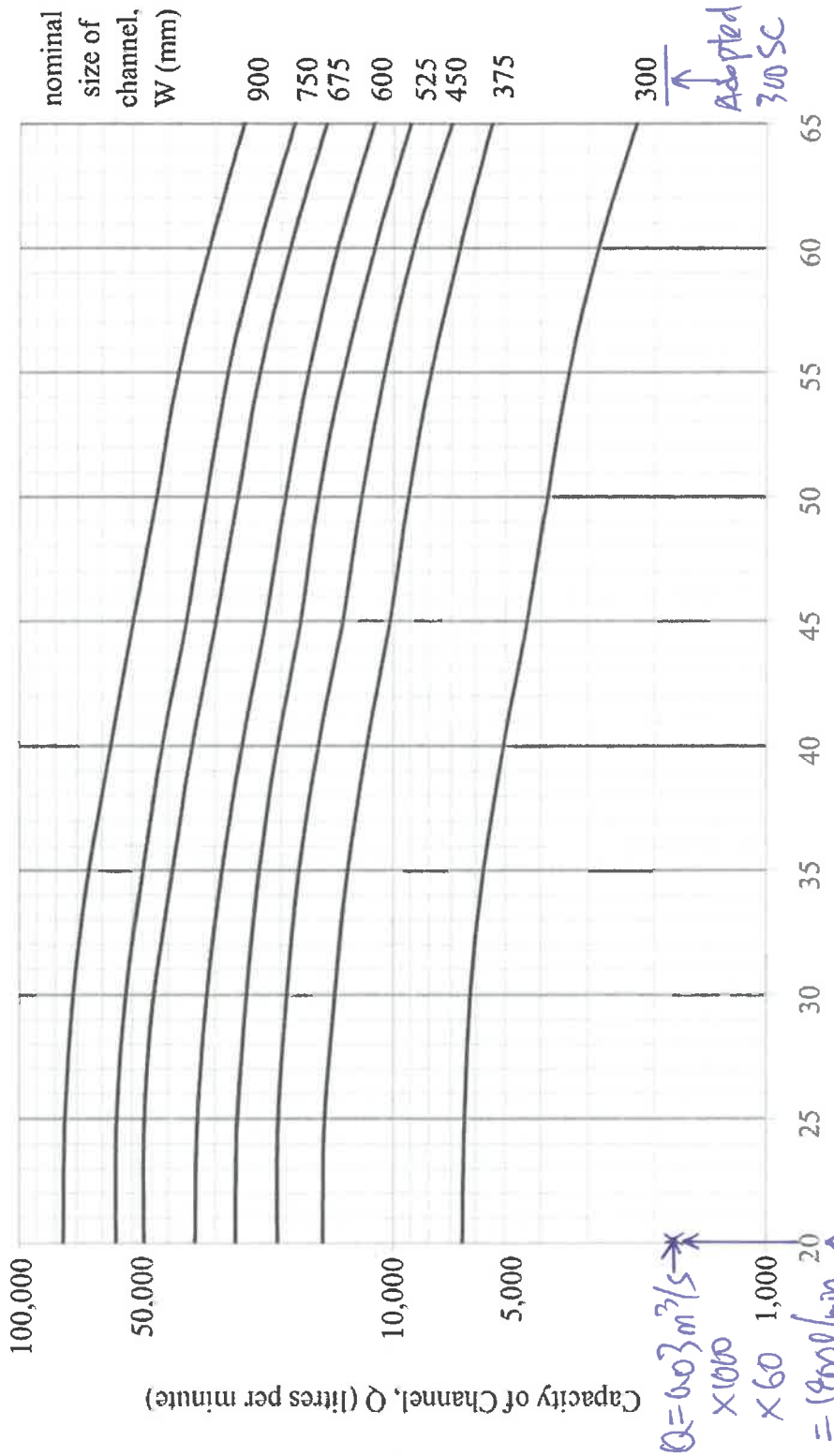
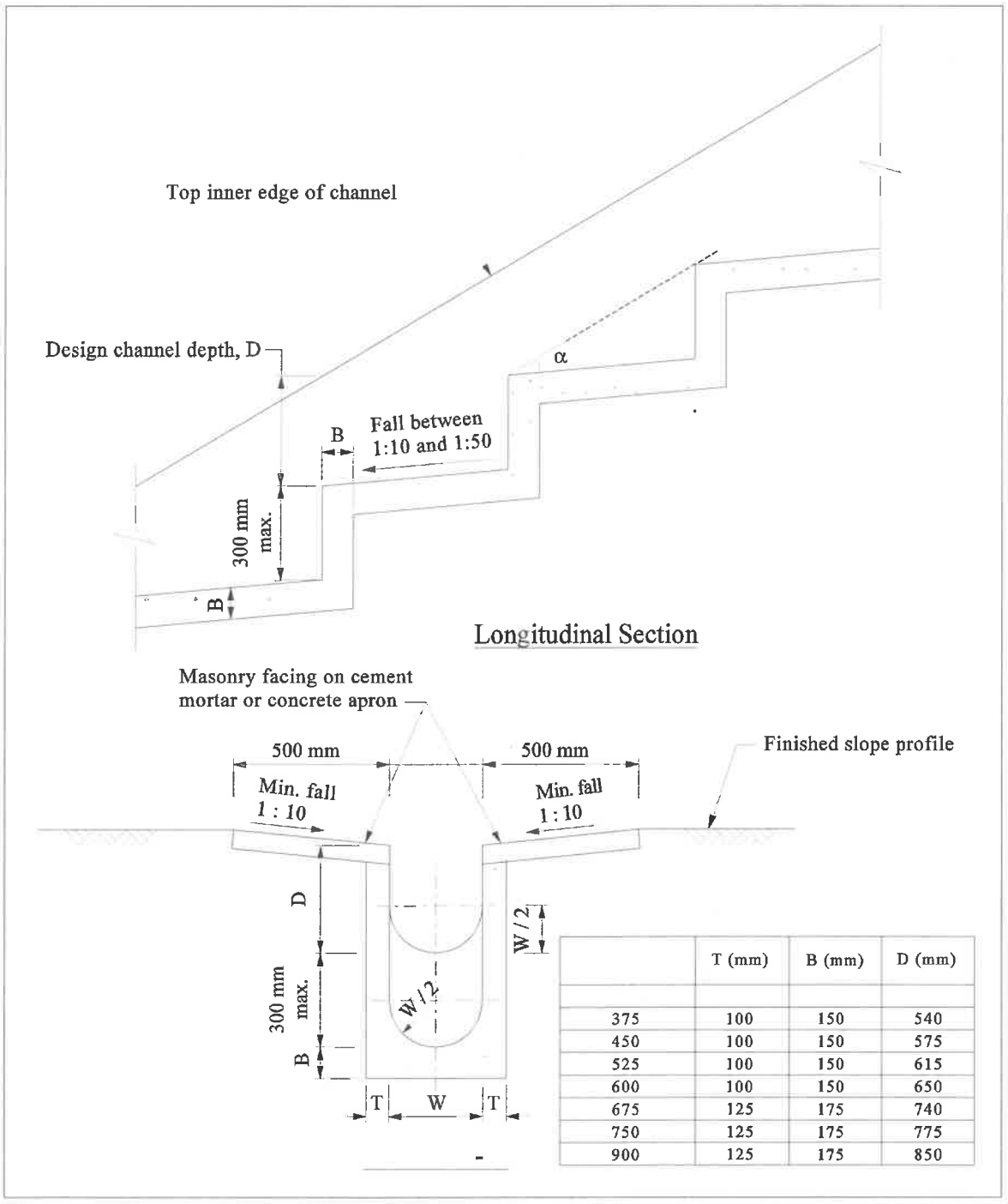


Figure 2 – Design Chart for Standard Sized Stepped Channels

Figure 1 – Details of Standard Sized Stepped Channels



	T (mm)	B (mm)	D (mm)
375	100	150	540
450	100	150	575
525	100	150	615
600	100	150	650
675	125	175	740
750	125	175	775
900	125	175	850

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

DESIGN OF U-CHANNEL UE1 (For Area E1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

E1 = 55.5 m^2 H = 75.50 [(21.47 - 19.96/2]*100 L = 2 m

t_o = **0.08** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 12 m

t_f = **3.00** sec.

$t_c = t_o + t_f$ = 0.13 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 341.22 mm/hr & i = 395.81 mm/hr (16% increased)

QUE1 = 5.00 l/s (Refer Table 28 in SDM)
= 0.005 m^3/s

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM

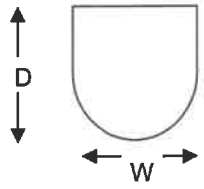
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 300 mm = 0.3 m
W = 300 mm = 0.3 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.080 m^2
= 0.072 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.771 m

R = 0.094

S = 0.01 *(gradient of the existing UC, +19.67 - 19.64/ 3m, 1:100)*

V = 1.28 m/s < Max. veolicity = 4.0 m^3/s Provide U-Channel

Q = A x V
= 0.103 m^3/s > Max. runoff = 0.005 m^3/s OK

Thus, Provide U-Channel with size of 300mm (Existing)

Summation QUA1, QUB1, QUC, QUD1, QUE1 = 0.035 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)
QUC1 = 0.004 m^3/s (Area C1)
QUD1 = 0.003 m^3/s (Area D1)

For ex. 300 UC, Q = 0.103 m^3/s > Max. runoff = 0.035 m^3/s OK
Capacity of existing 300mm U-channel is adequate.

Copied from 'Stormwater Drainage Manual', 5th Edt. 2018.

routing through drainage channels. The same consideration shall also be applied when ground gradients vary greatly within the catchment.

(b) *Runoff Coefficient.* C is the least precisely known variable in the Rational Method. Proper selection of the runoff coefficient requires judgement and experience on the part of the designer. The value of C depends on the impermeability, slope and retention characteristics of the ground surface. It also depends on the characteristics and conditions of the soil, vegetation cover, the duration and intensity of rainfall, and the antecedent moisture conditions, etc. In Hong Kong, a value of C = 1.0 is commonly used in developed urban areas.

In less developed areas, the following C values may be used but it should be checked that the pertinent catchment area will not be changed to a developed area in the foreseeable future. Particular care should be taken when choosing a C value for unpaved surface as the uncertainties and variability of surface characteristics associated with this type of ground are known to be large. It is important for designer to investigate and ascertain the ground conditions before adopting an appropriate runoff coefficient. Designers may consider it appropriate to adopt a more conservative approach in estimation of C values for smaller catchments where any consequent increase in cost may not be significant. However, for larger catchments, the designers should exercise due care in the selection of appropriate C values in order to ensure that the design would be fully cost-effective.

Surface Characteristics	*Runoff coefficient, C**
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil**)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

* For steep natural slopes or areas where a shallow soil surface is underlain by an impervious rock layer, a higher C value of 0.4 - 0.9 may be applicable.

** Heavy soil refers to fine grain soil composed largely of silt and clay

(c) *Rainfall intensity.* i is the average rainfall intensity selected on the basis of the design rainfall duration and return period. The design rainfall duration is taken as the time of concentration, t_c. The Intensity-Duration-Frequency Relationship is given in Section 4.3.2.

(d) *Time of concentration.* t_c is the time for a drop of water to flow from the remotest point in the catchment to its outlet. For an urban drainage system,

$$t_c = t_o + t_f \qquad t_f = \sum_{j=1}^{n} \frac{L_j}{V_j}$$

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

Table 3a – Storm Constants for Different Return Periods of HKO Headquarters

Return Period T (years)	2	5	10	20	50	100	200	500	1000
a	499.8	480.2	471.9	463.6	451.3	440.8	429.5	414.0	402.1
b	4.26	3.36	3.02	2.76	2.46	2.26	2.05	1.77	1.55
c	0.494	0.429	0.397	0.369	0.337	0.316	0.295	0.269	0.251

Adopted

Table 3b – Storm Constants for Different Return Periods of Tai Mo Shan Area

Return Period T (years)	2	5	10	20	50	100	200
a	1743.9	2183.2	2251.3	2159.2	1740.1	1307.3	1005.0
b	22.12	27.12	27.46	25.79	19.78	12.85	7.01
c	0.694	0.682	0.661	0.633	0.570	0.501	0.434

Table 3c – Storm Constants for Different Return Periods of West Lantau Area

Return Period T (years)	2	5	10	20	50	100	200
a	2047.9	1994.1	1735.2	1445.6	1107.2	909.1	761.8
b	24.27	24.23	21.82	18.36	13.01	8.98	5.40
c	0.733	0.673	0.619	0.561	0.484	0.428	0.377

Table 3d – Storm Constants for Different Return Periods of North District Area

Return Period T (years)	2	5	10	20	50	100	200
a	1004.5	1112.2	1157.7	1178.6	1167.6	1131.2	1074.8
b	17.24	18.86	19.04	18.49	16.76	14.82	12.47
c	0.644	0.614	0.597	0.582	0.561	0.543	0.523

Table 12 - Frictional Resistance Equations

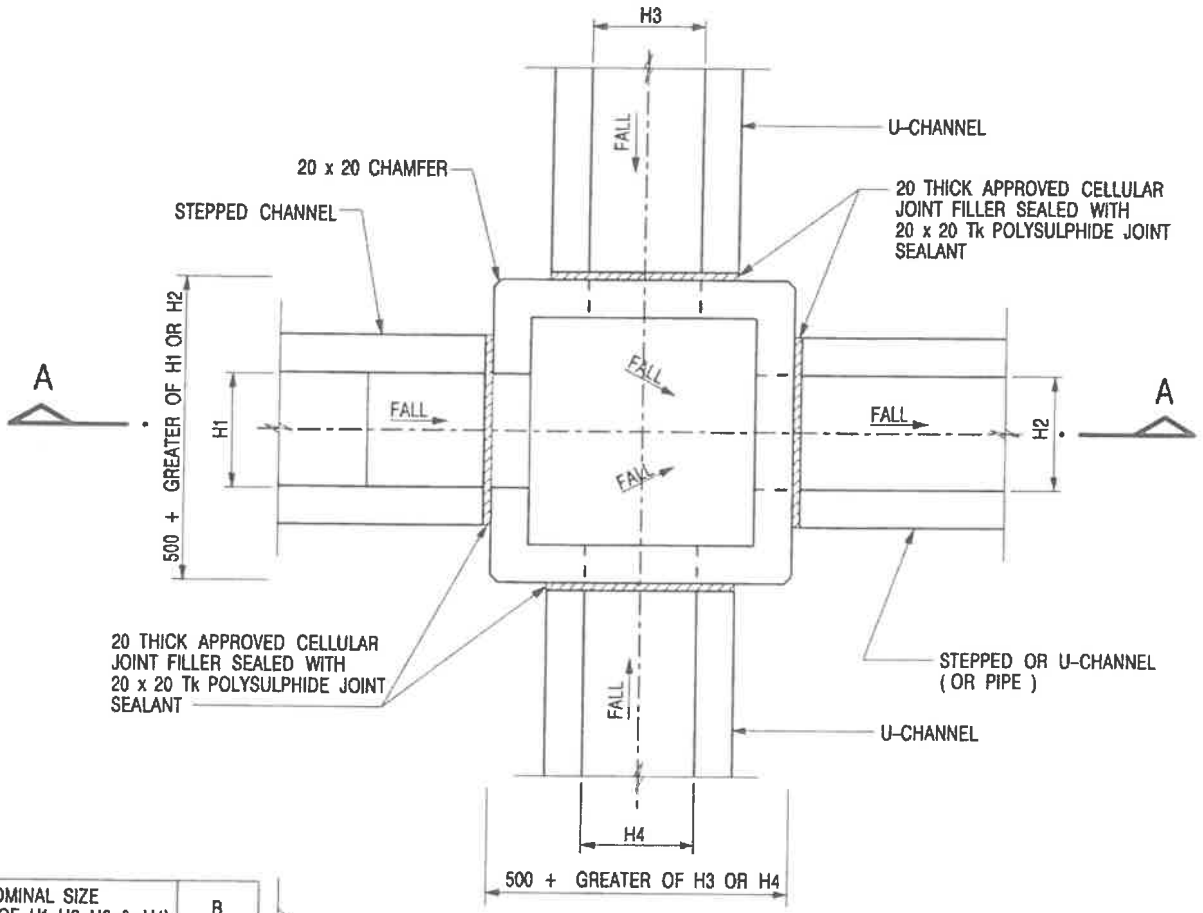
Equations	Formulation	Limit of Applications
Chézy	$\overline{V} = C\sqrt{RS_f}$	rough turbulent
Manning	$\overline{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$	rough turbulent
Darcy-Weisbach	$\overline{V} = \sqrt{\frac{8g}{f}}\sqrt{RS_f}$	laminar/turbulent
Hagen-Poiseuille	$\overline{V} = \frac{gS_f R^2}{2\nu}$	laminar
Colebrook-White	$\overline{V} = -\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}}\right]$	transition between rough and smooth turbulent flow
Hazen-Williams	$\overline{V} = 0.85C_{HW}R^{0.63}S_f^{0.54}$	pipe flow $\overline{V} < 3m/s$, diameter > 0.05m

Table 13 - Values of n to be used with the Manning equation

Source: Brater, E.F. & King, H.W. (1976)

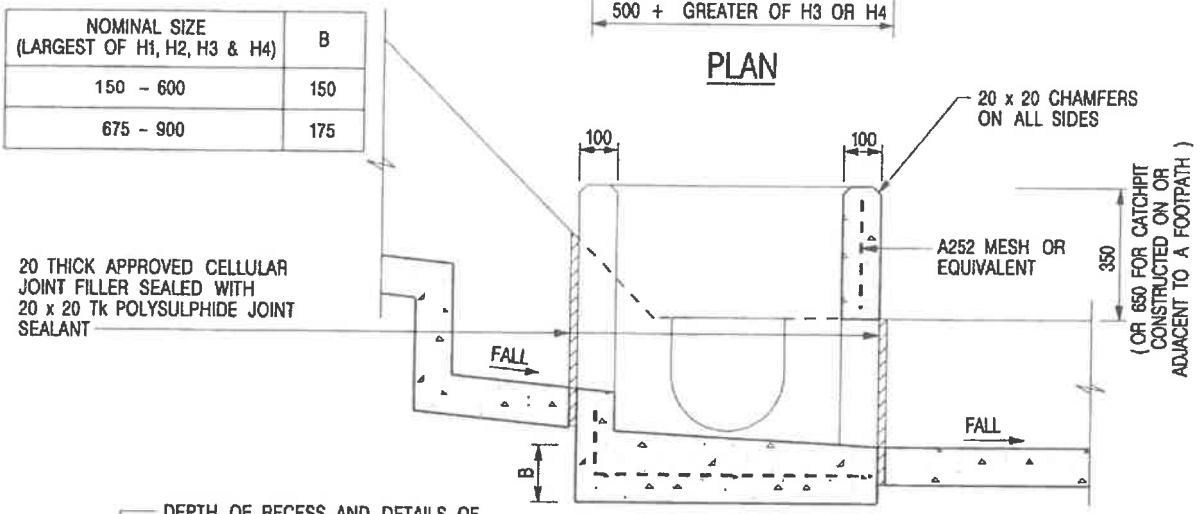
Surface	Best	Good	Fair	Bad
Uncoated cast-iron pipe	0.012	0.013	0.014	0.015
Coated cast-iron pipe	0.011	0.012*	0.013*	
Commercial wrought-iron pipe, black	0.012	0.013	0.014	0.015
Commercial wrought-iron pipe, galvanized	0.013	0.014	0.015	0.017
Smooth brass and glass pipe	0.009	0.010	0.011	0.013
Smooth lockbar and welded "OD" pipe	0.010	0.011*	0.013*	
Riveted and spiral steel pipe	0.013	0.015*	0.017*	
Vitrified sewer pipe	0.010	0.013*	0.015	0.017
Common clay drainage tile	0.011	0.012*	0.014*	0.017
Glazed brickwork	0.011	0.012	0.013*	0.015
Brick in cement mortar; brick sewers	0.012	0.013	0.015*	0.017
Neat cement surfaces	0.010	0.011	0.012	0.013
Cement mortar surfaces	0.011	0.012	0.013*	0.015
Concrete pipe	0.012	0.013	0.015*	0.016
Wood stave pipe	0.010	0.011	0.012	0.013
Plank flumes - Planed	0.010	0.012*	0.013	0.014
- Unplaned	0.011	0.013*	0.014	0.015
- With battens	0.012	0.015*	0.016	
Concrete-lined channels	0.012	0.014*	0.016*	0.018
Cement-rubble surface	0.017	0.020	0.025	0.030
Dry-rubble surface	0.025	0.030	0.033	0.035
Dressed-ashlar surface	0.013	0.014	0.015	0.017
Semicircular metal flumes, smooth	0.011	0.012	0.013	0.015
Semicircular metal flumes, corrugated	0.0225	0.025	0.0275	0.030
Canals and ditches				
1. Earth, straight and uniform	0.017	0.020	0.0225*	0.025
2. Rock cuts, smooth and uniform	0.025	0.030	0.033*	0.035
3. Rock cuts, jagged and irregular	0.035	0.040	0.045	
4. Winding sluggish canals	0.0225	0.025*	0.0275	0.030
5. Dredged-earth channels	0.025	0.0275*	0.030	0.033
6. Canals with rough stony beds, weeds on earth banks	0.025	0.030	0.035*	0.040
7. Earth bottom, rubble sides	0.028	0.030*	0.033*	0.035
Natural-stream channels				
1. Clean, straight bank, full stage, no rifts or deep pools	0.025	0.0275	0.030	0.033
2. Same as (1) but some weeds and stones	0.030	0.033	0.035	0.040
3. Winding some pools and shoals, clean	0.033	0.035	0.040	0.045
4. Same as (3), lower stages, more ineffective slope and sections	0.040	0.045	0.050	0.055

CEDD Engineering and Development Department (CEDD) Standard Drawings (Reference Only)

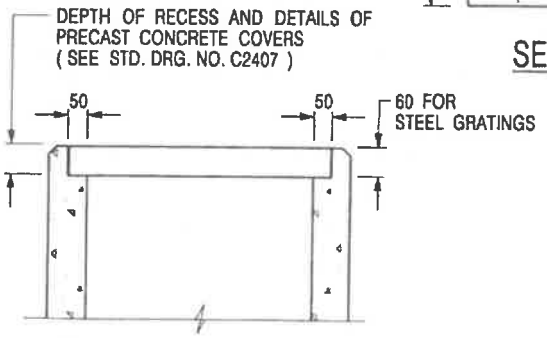


PLAN

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



SECTION A - A



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

REF.	REVISION	SIGNATURE	DATE
-	FORMER DRG. NO. C2405J.	Original Signed	03.2015

STANDARD CATCHPIT DETAILS

(SHEET 1 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

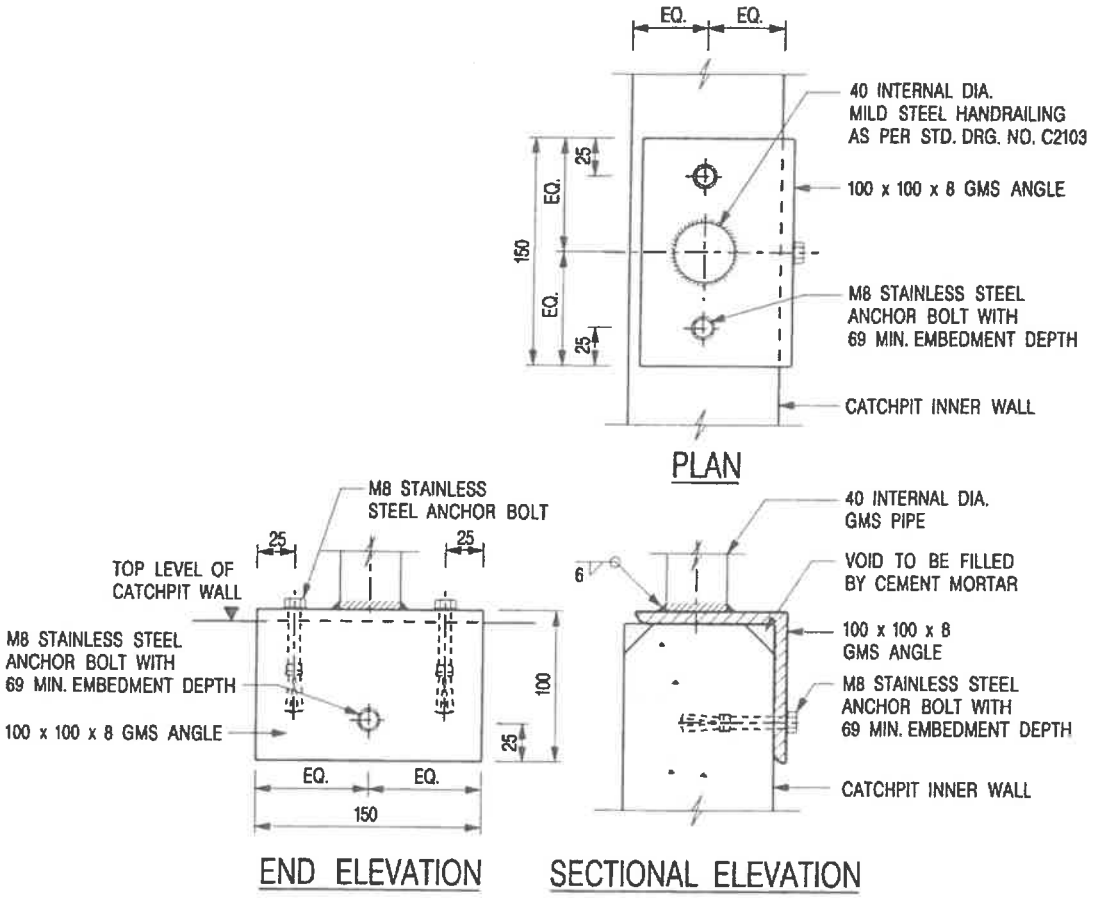
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2405 /1

卓越工程 建設香港

We Engineer Hong Kong's Development



DETAIL 'J' - FIXING DETAILS FOR HANDRAILING ON TOP OF CATCHPIT WALL

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAILS ON SHEET 2 OR SHEET 3) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
7. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON SHEET 5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
8. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 mm c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
9. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
10. ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
11. UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
12. ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
13. ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
14. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

REF.	REVISION	SIGNATURE	DATE
-	FORMER DRG. NO. C2405J.	Original Signed	03.2015

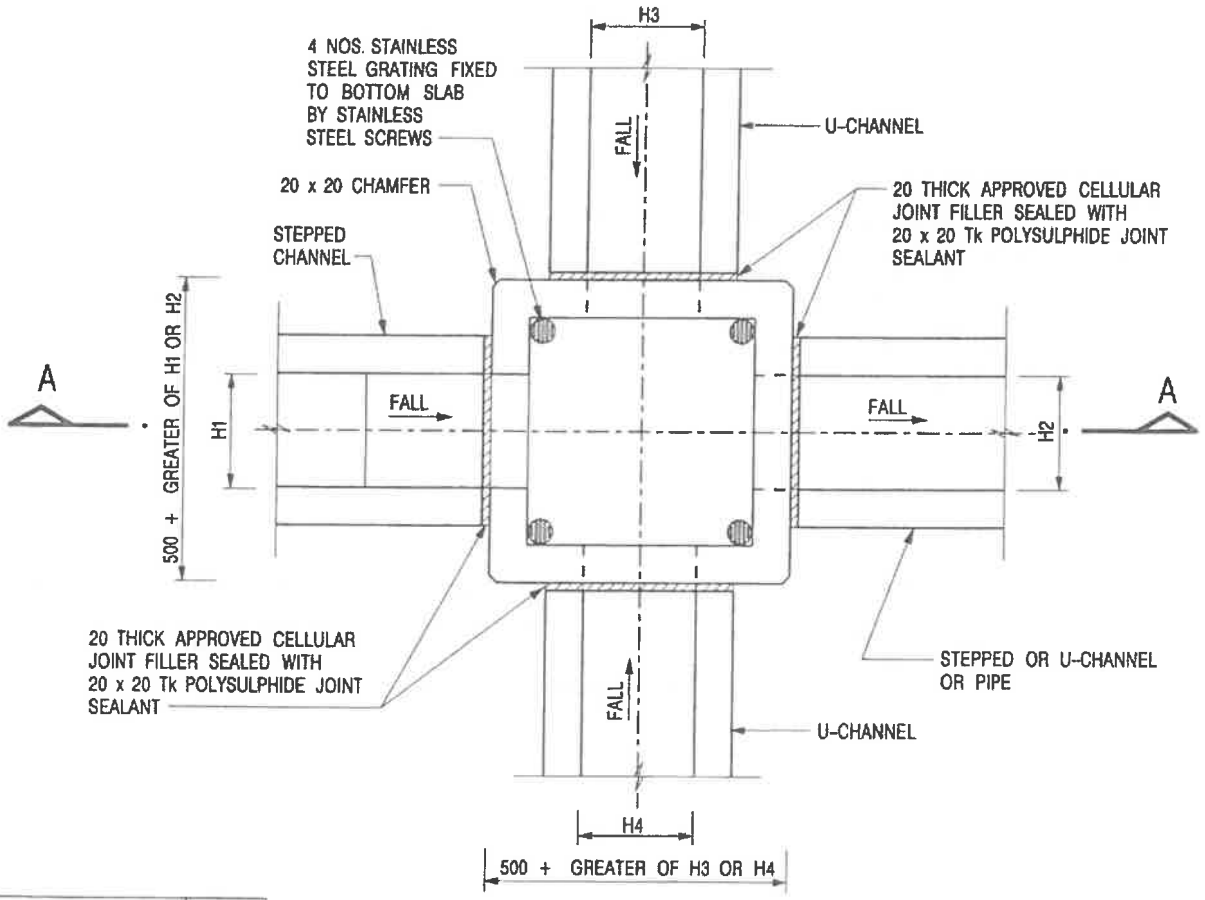
STANDARD CATCHPIT DETAILS

(SHEET 5 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

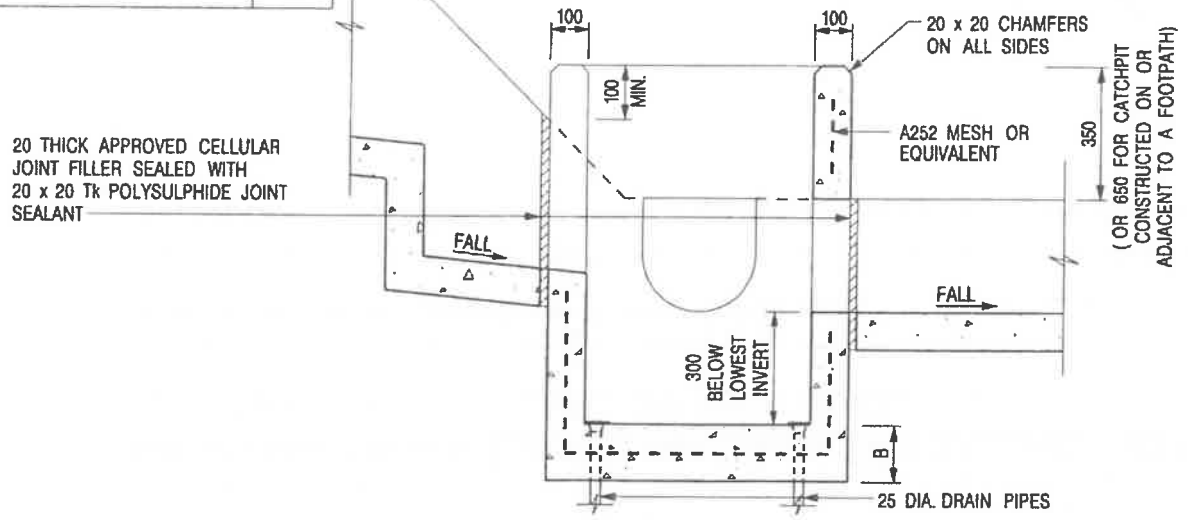
SCALE AS SHOWN	DRAWING NO. C2405 /5
DATE JAN 1991	

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



PLAN

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



SECTION A - A

NOTES:

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

REF.	REVISION	SIGNATURE	DATE
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015

CATCHPIT WITH TRAP

(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

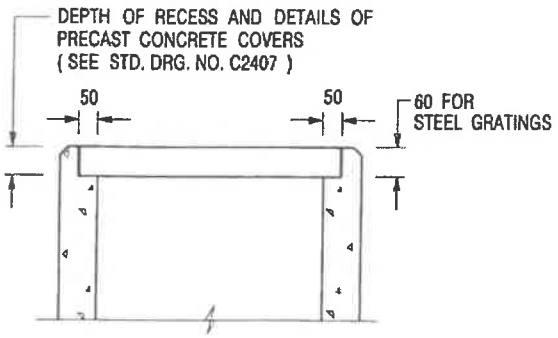
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1

卓越工程 建設香港

We Engineer Hong Kong's Development



ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

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

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

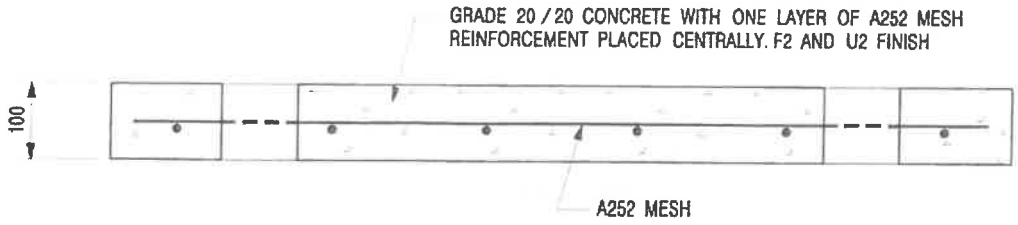
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

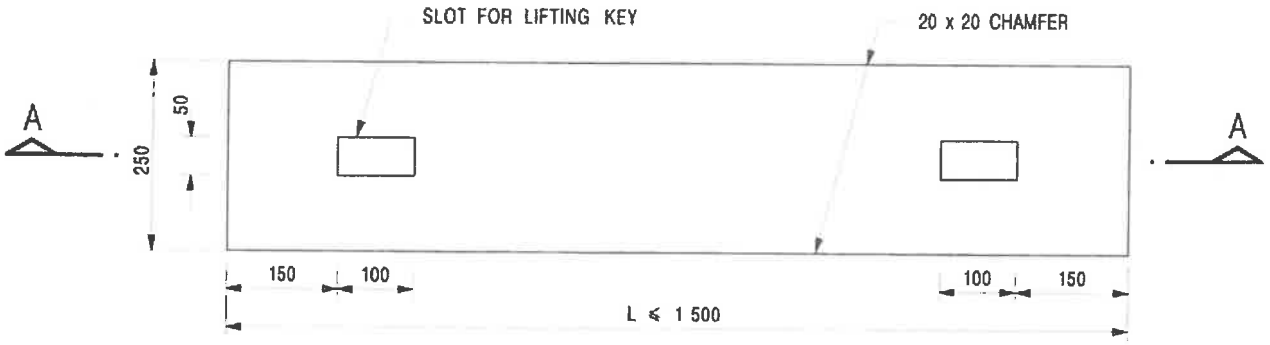
SCALE 1 : 20

DRAWING NO. C2406 /2A

DATE JAN 1991

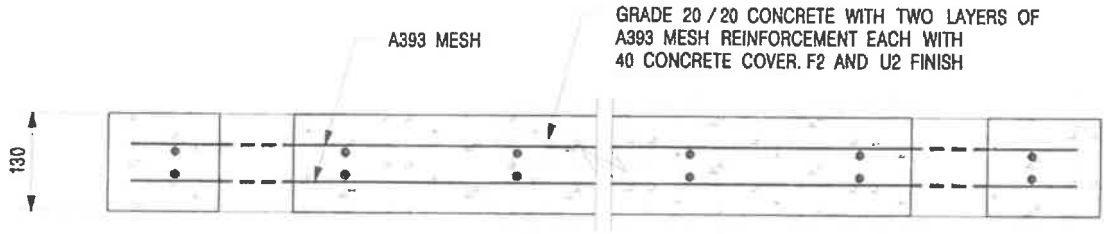


SECTION A - A

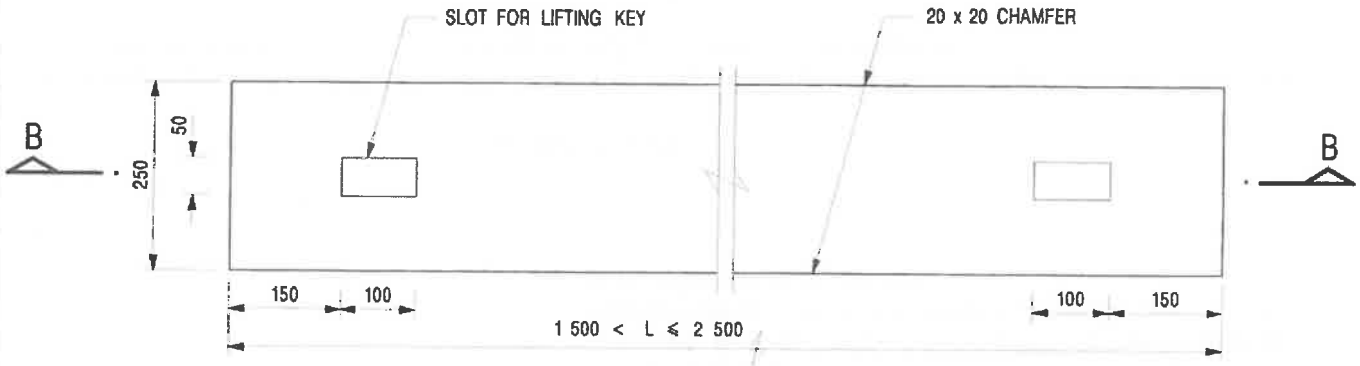


PLAN

TYPE 1 - FOR SPAN UP TO 1.5 m



SECTION B - B



PLAN

TYPE 2 - FOR SPANS 1.5 m TO 2.5 m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL EXTERNAL EDGES OF THE COVERS SHALL BE 20mm CHAMFERED.

REF.	REVISION	SIGNATURE	DATE
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002

PRECAST CONCRETE COVERS FOR CATCHPIT AND SAND TRAP

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

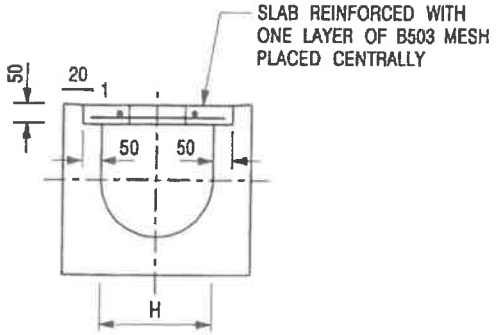
SCALE 1 : 10

DATE JAN 1991

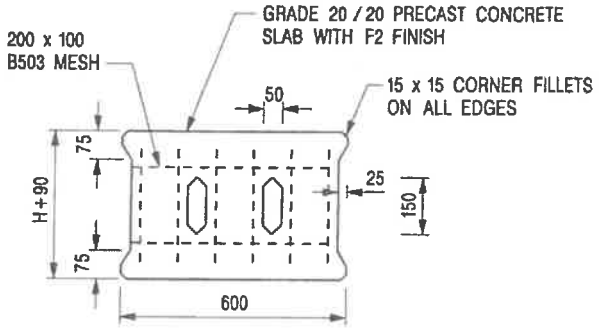
DRAWING NO. C2407B

興土木 利民生 齊拓展 創明天

We bring the best engineering to life



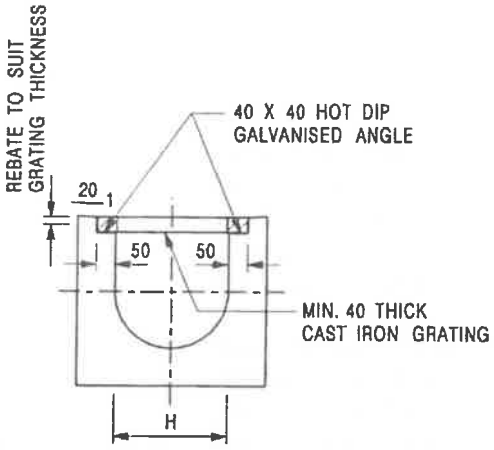
TYPICAL SECTION



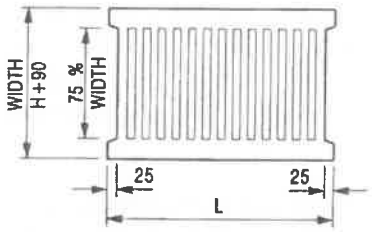
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

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

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

COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

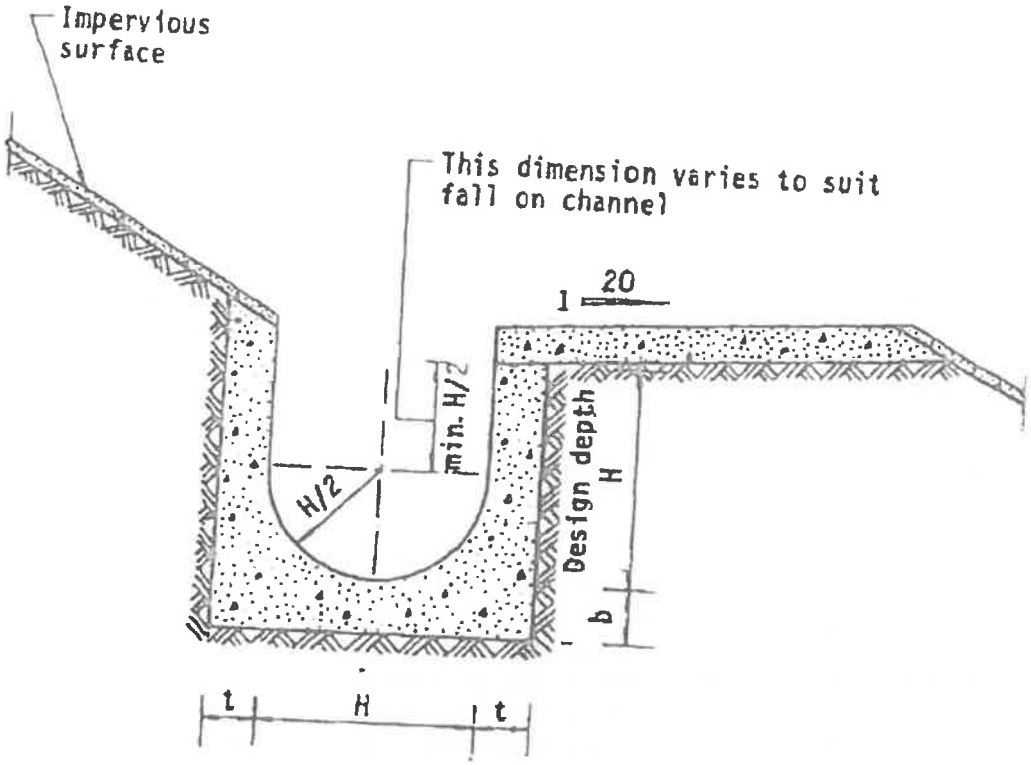
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

卓越工程 建設香港

We Engineer Hong Kong's Development



Dimensions of U - channel		
Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
150 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

Copied from 'Geotechnical Manual for Slopes'

Lot Index Plan
&
Dimension Plan of Proposed Rebuilding on Lot 371

地段索引圖 LOT INDEX PLAN

地政總署測繪處 Survey and Mapping Office, Lands Department

比例尺 SCALE 1 : 1 000

米 metres 10 0 10 20 30 40 50 米 metres

Locality :

Lot Index Plan No. : ags_S00000073555_0001

District Survey Office : Lands Information Center

Date : 13-May-2021

Reference No. : 7-NW-10C,7-NW-15A

香港特別行政區政府 一 版權所有
© Copyright reserved - Hong Kong SAR Government

SMO-P01 20210513145611 10

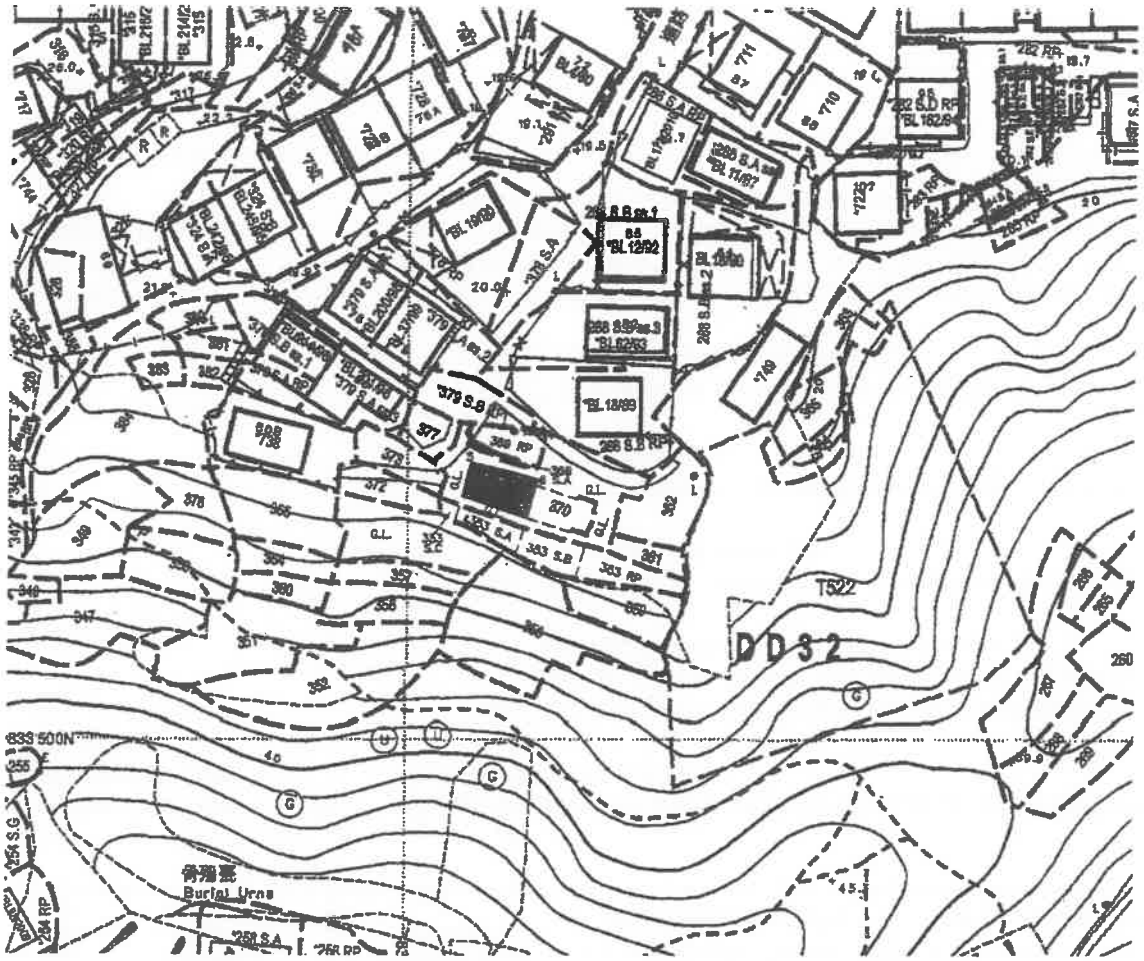
摘要說明：本地段索引圖在其背景的地形圖上標示了各種永久和短期持有的土地的圖像界線。這些土地包括私人地段、政府撥地、短期租約批地，以及其他作核准用途的土地。請注意：(1)本索引圖上的資料會被不時更新而不作事先通知；(2)索引圖的更新或會延後於有關資料的實際變更；以及(3)本索引圖中顯示的界線僅供識別之用，資料是否準確可靠，應徵詢專業土地測量師的意見。

免責說明：如因使用本地段索引圖，或因所依據的本索引圖資料出錯、遺漏、過時或有誤差而引致任何損失或損害，政府概不承擔任何法律責任。

Explanatory notes : This plan shows the graphical boundaries of different kinds of permanent and temporary land holdings with the topographic map in the backdrop. The land holdings as shown may include private lots, government land allocations, short term tenancies and other permitted uses of land. It must be noted that: (1) the information shown on this plan is subject to update without prior notification; (2) there may be time lag between an update and the related changes taken place, and (3) the graphical boundaries as shown are for identification purpose only and interpretation of their accuracy and reliability requires the advice from professional land surveyor.

Disclaimer : The Government shall not be responsible for any loss or damage howsoever arising from the use of this plan or in reliance upon its correctness, completeness, timeliness or accuracy.

Dimension Plan of the Proposed Rebuilding on Lot 371 in D.D. 32 Tai Po



Coloured Pink Area 37.6 Square Metres (About)

Scale 1 : 1000

Balcony

to be connected to the Public Sewage

Side	Bearing ° ' "	Distance in Metres	Pt	Co-ordinate Data (1980 Datum) N	E	Remarks
1 - 2	104 21 25	9.234	1	833536.312	836208.105	
2 - 3	196 18 36	4.499	2	833534.023	836217.051	
3 - 4	288 56 48	8.994	3	833529.705	836215.787	
4 - 1	12 37 08	3.778	4	833532.625	836207.280	
Co-ordinates of the balcony						
5 - 6	104 21 25	9.234	5	833537.184	836208.329	
6 - 2	194 21 25	0.900	6	833534.894	836217.274	
2 - 1	284 21 25	9.234	2	833534.023	836217.051	
1 - 5	14 21 25	0.900	1	833536.312	836208.105	

T.H. & ASSOCIATES LIMITED
(陳德慶測量有限公司)
Approved By

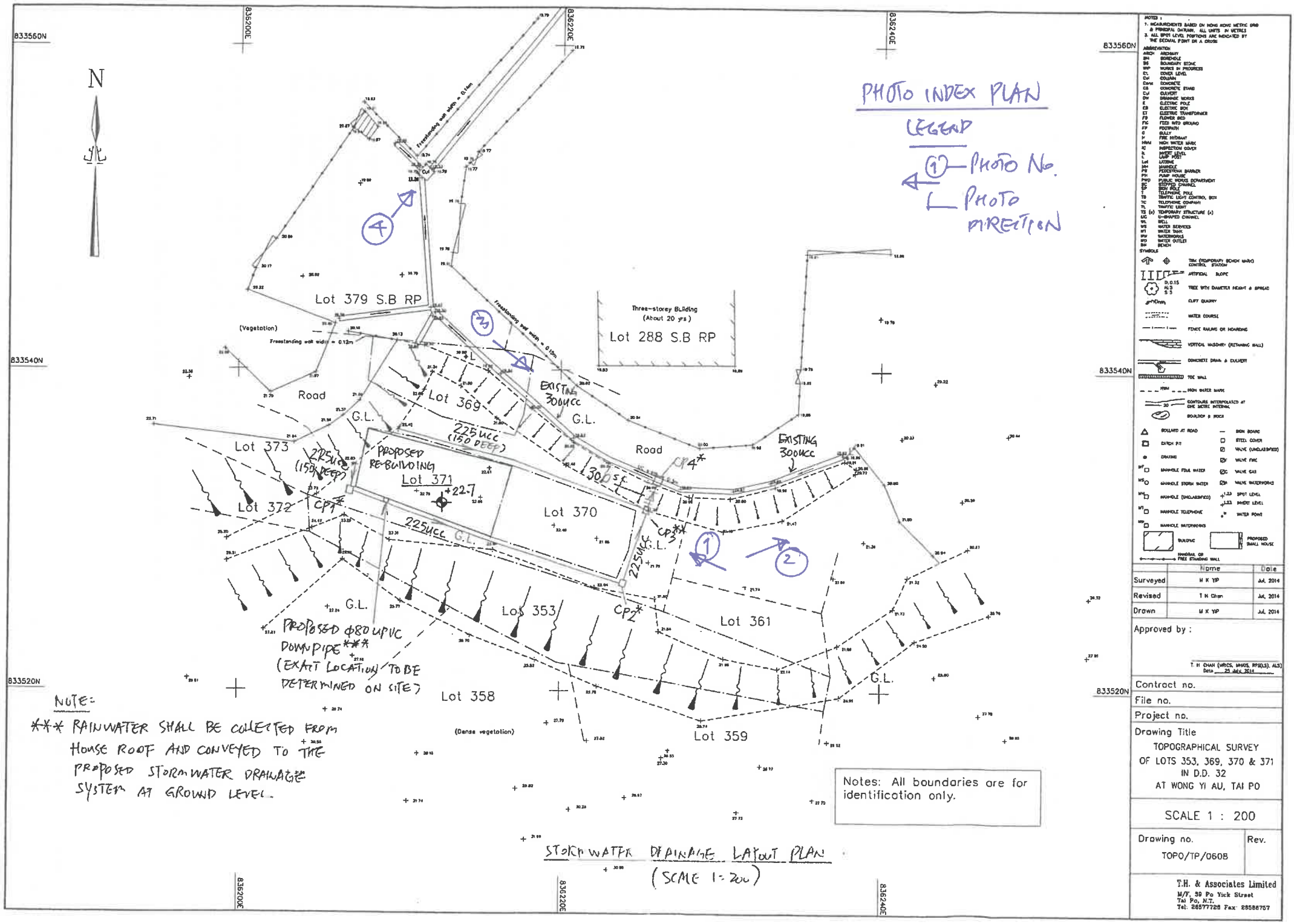
T.H.CHAN (ALS, MHKIS, MRICS,RPS(LS))
Authorized Land Surveyor
Tel: 26577726 Fax: 26588757 e-mail: thchan_survey@yahoo.com

Survey Sheet No.: 7-NW-15A

Plan No.: TP/32/371-RE

Date : 21-07-2020

Site Photos



NOTES :
1. MEASUREMENTS BASED ON HONG KONG METRIC GRID & PRINCIPAL DATUM. ALL UNITS IN METRES
3. ALL SPOT LEVEL POSITIONS ARE INDICATED BY THE DECIMAL POINT OR A CROSS

ABBREVIATION

ARCH	ARCHWAY
BH	BOREHOLE
BS	BOUNDARY STONE
WIP	WORKS IN PROGRESS
CL	COVER LEVEL
Col	COLUMN
Conc	CONCRETE
CS	CONCRETE STAND
CV	CULVERT
DW	DRAINAGE WORKS
E	ELECTRIC POLE
EB	ELECTRIC BOX
ET	ELECTRIC TRANSFORMER
FB	FLOWER BED
FG	FEED INTO GROUND
FP	FOOTPATH
G	GULLY
H	FIRE HYDRANT
HWM	HIGH WATER MARK
IC	INSPECTION COVER
IL	INVERT LEVEL
L	LAMP POST
LS	LATRINE
M	MANHOLE
PB	PEDESTRIAN BARRIER
PH	PUMP HOUSE
PWD	PUBLIC WORKS DEPARTMENT
SC	STEPPED CHANNEL
TB	TECH BOLT
T	TELEPHONE POLE
TB	TRAFFIC LIGHT CONTROL BOX
TC	TELEPHONE COMPANY
TL	TRAFFIC LIGHT
TS (x)	TEMPORARY STRUCTURE (x)
US	U-SHAPED CHANNEL
W	WELL
WS	WATER SERVICES
WT	WATER TANK
WW	WATERWORKS
WO	WATER OUTLET
BM	BENCH

SYMBOLS

TBM (TEMPORARY BENCH MARK) CONTROL STATION
ARTIFICIAL SLOPE
D 0.15 H 3 S 5 TREE WITH DIAMETER HEIGHT & SPREAD
CLIFF QUARRY
WATER COURSE
FENCE RAILING OR HOARDING
VERTICAL MASONRY (RETAINING WALL)
CONCRETE DRAIN & CULVERT
TOE WALL
HWM HIGH WATER MARK
CONTOURS INTERPOLATED AT ONE METRE INTERVAL
BOULDER & ROCK
BOLLARD AT ROAD
SIGN BOARD
CATCH PIT
STEEL COVER
GRATING
VALVE (UNCLASSIFIED)
MANHOLE FOUL WATER
VALVE FWC
MANHOLE STORM WATER
VALVE GAS
MANHOLE (UNCLASSIFIED)
VALVE WATERWORKS
MANHOLE TELEPHONE
SPOT LEVEL
PAVEMENT LEVEL
MANHOLE WATERWORKS
WATER POINT
BUILDING
PROPOSED SMALL HOUSE
HANDRAIL OR FREE STANDING WALL

	Name	Date
Surveyed	M K YIP	Jul, 2014
Revised	T H Chan	Jul, 2014
Drawn	M K YIP	Jul, 2014

Approved by :

T. H. CHAN (MRICS, MHKIS, RPS(LS), ALS)
Date 25 JULY 2014

Contract no.

File no.

Project no.

Drawing Title

TOPOGRAPHICAL SURVEY
OF LOTS 353, 369, 370 & 371
IN D.D. 32
AT WONG YI AU, TAI PO

SCALE 1 : 200

Drawing no. TOPO/TP/060B

Rev.

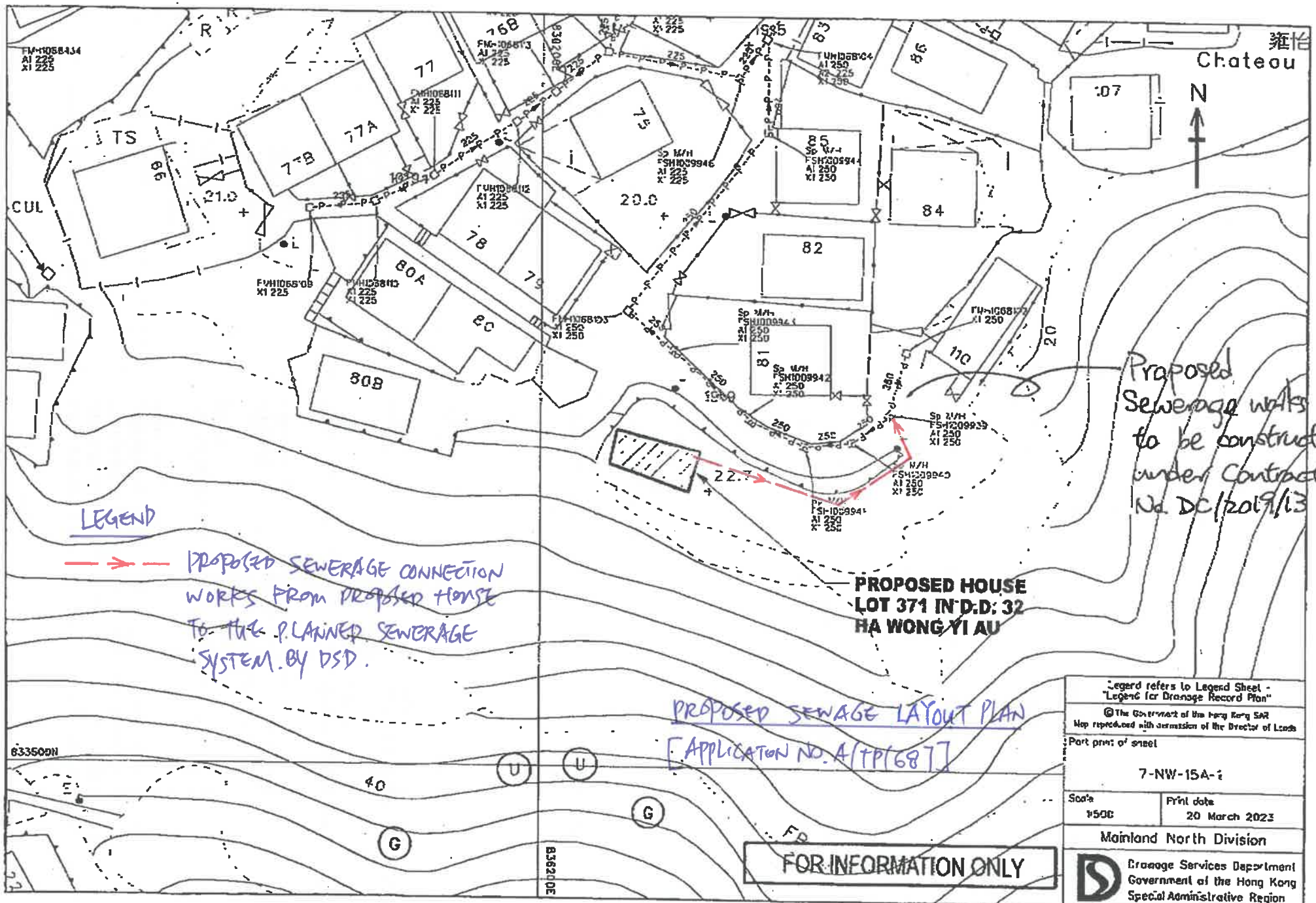
T.H. & Associates Limited
M/F, 58 Po Yick Street
Tai Po, N.T.
Tel: 26577728 Fax: 26586757

Photo No. 1 – General view of the Site
(looking northwest) [ref. no. DSCN3882 dated 27 March 2023]

Photo No. 2 –General view of the Site
(looking northeast) [ref. no. DSCN3879 dated 27 March 2023]

Photo No. 3 - General view of the Site
(looking southeast) [ref. no. DSCN3890 dated 27 March 2023]

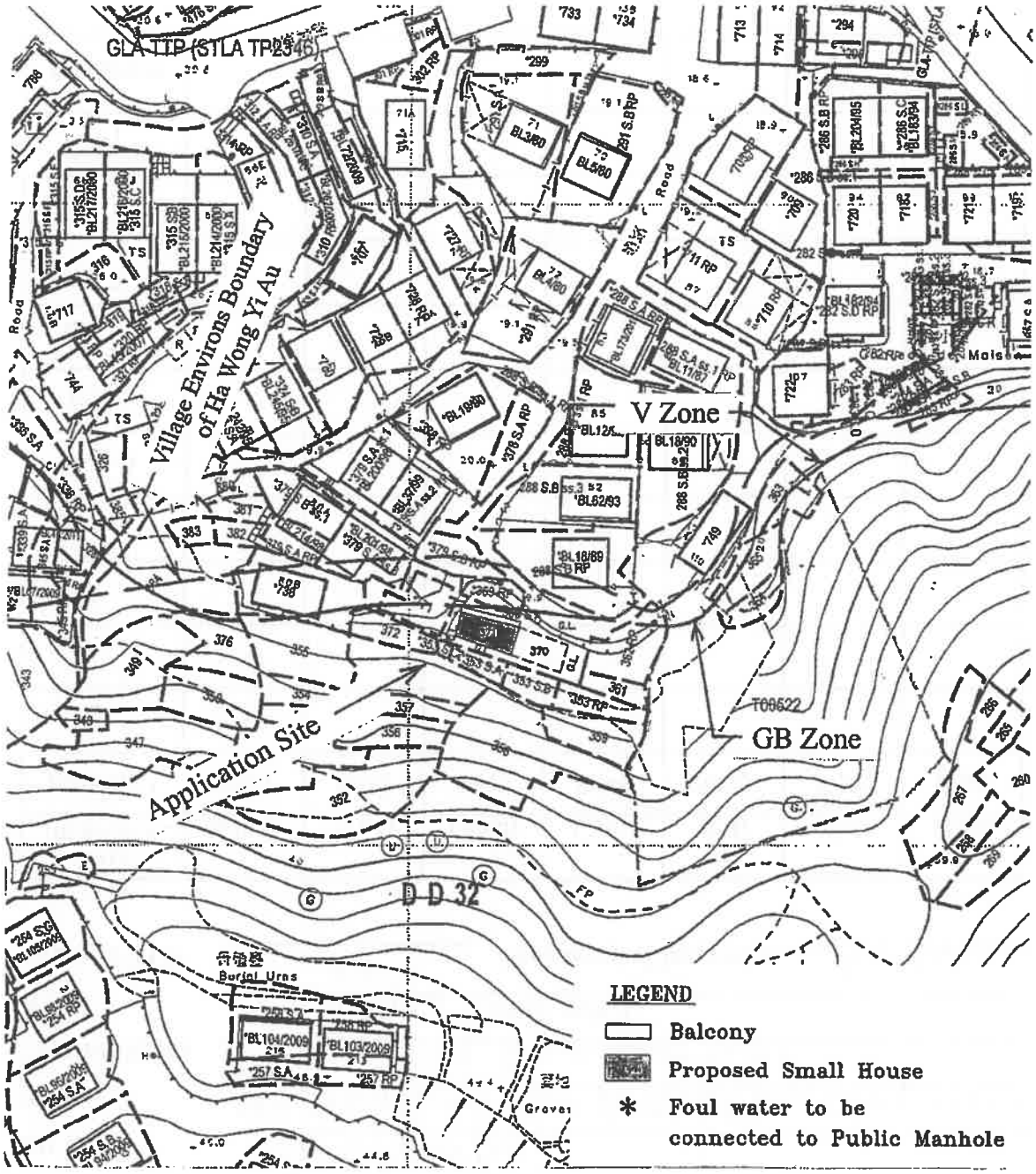
Photo No. 4 - General view of the Site with existing stormwater drainage system
(looking northeast) [ref. no. DSCN3891 dated 27 March 2023]



21-MAR-2023 15:27 + 852 2783 8754 P.02/02
TOTAL P.02

Proposed Small House Plan of

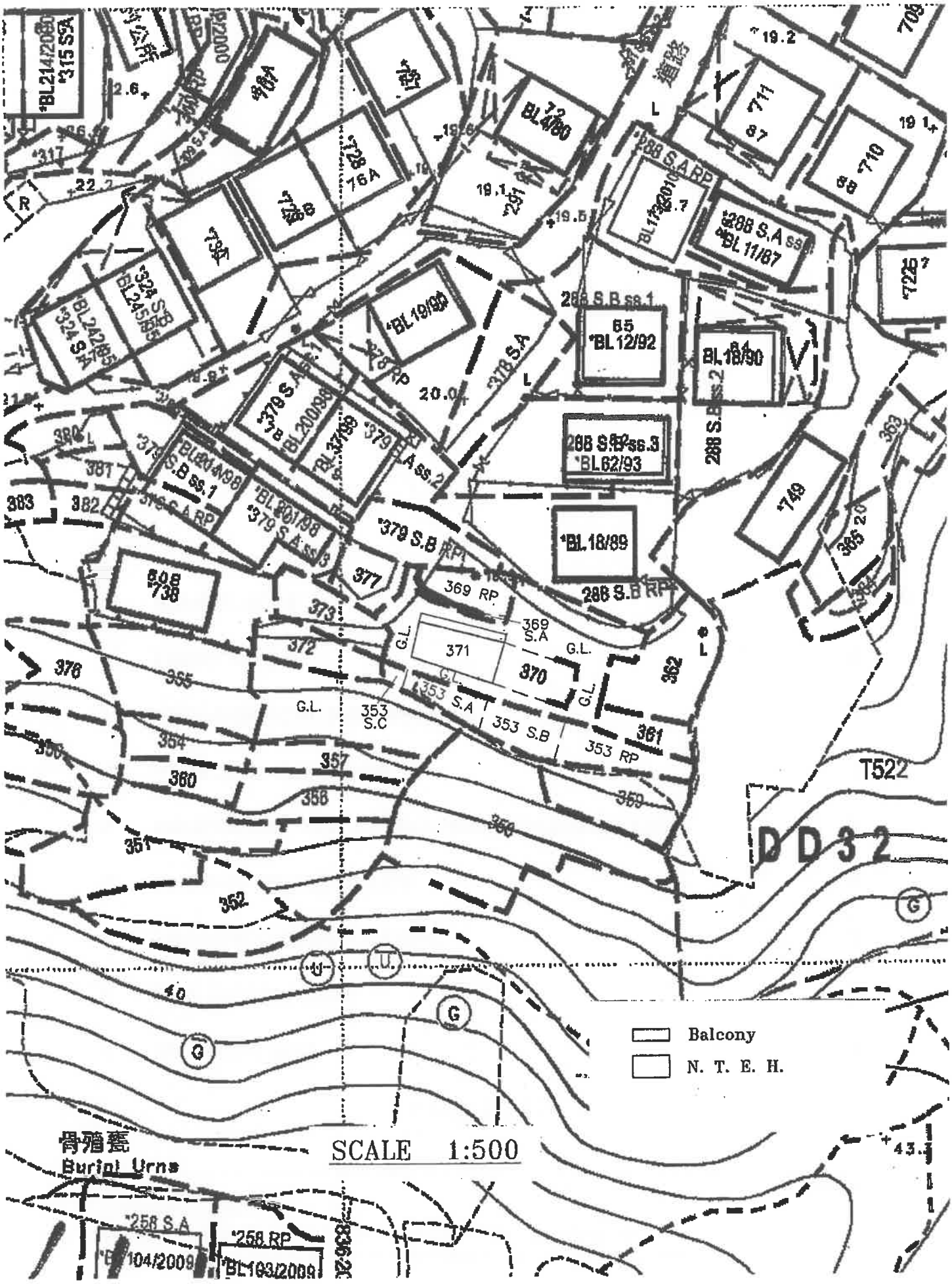
Lot No. 371 in D.D. 32



SCALE 1:1000

LOT NO. 371 in D.D. 32

Appendix H



Geotechnical Planning Review Report for Proposed Small House Development on Lot No. 371 in D.D. 32, Ha Wong Yi Au, Tai Po, New Territories

JDF Engineering Consultants Limited

June 2023

Contents

1 INTRODUCTION 1

2 SITE DESCRIPTION 1
2.1 Site Location 1

3 DESK STUDY 1
3.1 Geological Maps 1
3.1.1 Solid Geology 1
3.1.2 Superficial Geology 1
3.1.3 Structural Geology 1
3.2 GASP Report 1
3.3 Enhanced Natural Terrain Inventory 2
3.4 Historical Landslide Catchment Inventory 2
3.5 Hillside Pocket 2
3.6 Reported Landslide Incidents 3
3.7 Registered Man-made Slopes 3

4 REVIEW OF NATURAL TERRAIN OVERLOOKING THE SITE 3

5 IMPACTS OF PROPOSED WORKS ON EXISTING SLOPES AND RETAINING WALL 3

6 RECOMMENDATIONS AND CONCLUSIONS 3

7 REFERENCES 4

FIGURES
PLATES

APPENDIX
Appendix A Incident Records

1 INTRODUCTION

A small house is proposed to be constructed within Lot No. 371 in D.D. 32, Ha Wong Yi Au, Tai Po, N.T. This report documented the assessment of the geotechnical feasibility of the proposed development and outline of further studies that may be required.

2 SITE DESCRIPTION

2.1 Site Location

The Site, where the proposed small house is to be constructed, is located on a platform at Ha Wong Yi Au, Tai Po (**Plate 1 and Plate 2**). The Site is covered by concrete surface and is retained by a small non-registered retaining wall with maximum high of about 1.1m at its northern corner. The approximate location of the lot boundary is shown in **Figure 1**. A natural terrain overgrown with dense vegetation is overlooking the Site at the southern direction (**Plate 3**). Further details on the discussion of these features are given in Section 4 and 5 below.

3 DESK STUDY

3.1 Geological Maps

The geology of the Site is shown on the Hong Kong Geological Survey (HKGS) Map Sheet 7 (Shatin), Second Edition, 1:20,000-scale HGM20 series. The local geology of the Study Area is presented in **Figure 2** and described below.

3.1.1 Solid Geology

The 1:20,000 scale geological map sheet 7 (HKGS, 2010, Second Edition) indicated that the Site is likely to be underlain by Lapilli Lithic-bearing Coarse Ash Crystal Tuff (Jty_cat) of the Yim Tin Tsai Formation under the Tsuen Wan Volcanic Group in Middle Jurassic.

3.1.2 Superficial Geology

No superficial deposit has been recorded within the Site.

3.1.3 Structural Geology

No fault or photolineament has been recorded within or in vicinity of the Site.

3.2 GASP Report

The Geotechnical Area Studies Programme (GASP) comprised a systematic geotechnical information and assessment for land management and development planning of the Territory of Hong Kong. The findings were based on terrain classification techniques using aerial photographs, examination of geotechnical data collected from existing Site

investigation records and available literature and field reconnaissance. The study was based on the bedrock geology given on the 1:50,000 scale geological map produced by Allen & Stephens (1971) 'Report on the Geological Survey of Hong Kong', which has subsequently been superseded. The following are extracts from the relevant GASP report (GASP Report V, North New Territories, 1988):

a) Physical Constraints Map – This map has indicated the Site area is designated as zone of colluvium which are subject to overland flow and periodic inundation. Evidence of unusual groundwater regime.

b) Engineering Geology Map – This map indicates that the Site is covered by colluvium.

c) Geotechnical Land Use Map –This map indicates that the Site area is designated as Class III, which has high geotechnical limitations and is low suitable for development.

3.3 Enhanced Natural Terrain Landslide Inventory

In 1995, the GEO compiled the Natural Terrain Landslide Inventory (NTLI) from an interpretation of high-altitude (8,000ft and above) aerial photographs dated from 1945 to 1994 (King, 1999). In 2007, the GEO produced an Enhanced Natural Terrain Landslide Inventory (ENTLI) using low-altitude (8,000ft and below) aerial photographs to update the NTLI.

In accordance with **GEO Report No. 138** (GEO, 2003), landslides are classed as either "Relict" or "Recent", depending on their appearance in aerial photographs. "Relict" landslides are defined as those where the main scarp is well-defined but vegetation has re-established on the scar on the earliest set of available aerial photographs. "Recent" landslides are defined as having occurred within the timespan of the aerial photograph coverage. These are typically identified as having a light tone on the aerial photographs and are bare of vegetation.

No ENTLI has been recorded within or in the vicinity of the Site.

3.4 Historical Landslide Catchment (HLC) Inventory

Historical Landslide Catchments (HLCs) have been defined by GEO based on the results of the ENTLI. No HLC present within or in the vicinity of the Site.

3.5 Hillside Pocket

Hillside Pockets (HP) are defined as small tracts of predominantly natural hillside within developed areas (defined as areas with more than 10% of development within 200 m searching radius) and satisfying all three of the following criteria:

i) have an elevation difference greater than 8 m,

ii) have a maximum gradient greater than 20°, and

iii) have a plan area of greater than 400 m².

The HP Catalogue was compiled between 2013 and 2016 under Agreement No. CE 11/2013 (GE) Feasibility Study on Cataloguing and Ranking of Hillside Pockets, based on the review of 4 sets of aerial photographs, records of past instabilities (mainly the GEO landslide incident records and ENTLI features), presence of registered disturbed terrain, facilities in close proximity to the HP and site inspection.

No Hillside Pocket has been recorded within or in the vicinity of the Site.

3.6 Reported Landslide Incidents

The GEO landslide incidents database has indicated one incident record located at about 30m to the east of the Site (**Figure 3**). The incident was recorded as 2020/07/2727 and it involved a small slope failure ($4m^3$) within a disturbed terrain adjoining to an access road in July 2020. Detailed information of the feature extracted from SIS is presented in **Appendix A**.

3.7 Registered Man-made Slopes

No man-made feature has been registered within or in the vicinity of the Site, **Figure 4**.

4 REVIEW OF NATURAL TERRAIN OVERLOOKING THE SITE

It is noted that the Site may be affected by natural hazard aroused from a natural terrain above the Site from the elevation of about +49mPD to +24mPD. An initial screening exercise has been carried out to assess whether the proposed development falls within the "In-principle Objection Criteria" or the "Alert Criteria" with respect to the concerned natural terrain according to the guideline given in GEO Report No. 138 Second Edition. The potential hillside catchment that may affect the proposed development has been delineated based on the 1:1000 topographic map and is presented in **Figure 5**. The measured angular elevation from the top of the natural terrain to the nearest boundary of Lot no. 371 is about 28° and therefore satisfied the "Alert Criteria" and therefore further study of the natural terrain hazards arouse from the natural terrain to the Site is required.

5 IMPACTS OF PROPOSED WORKS ON EXISTING SLOPES AND RETAINING WALL

Although there is no man-made feature has been registered within or in the vicinity of the Site, the Site platform was retained by a retaining wall at its eastern and northern side with a maximum height of about 1.1m (**Plate 2**). There is also a small cut slope (about 1.2m high) with chunam surface below the retaining wall. No major sign of distress can be identified at the retaining wall and the cut slope during the inspection. However, the stability of these retaining wall and cut slope have to be checked with respect to the proposed development based on the subsurface conditions and shear strength parameters of soil/rock obtained from a site specific ground investigation. If found necessary, appropriate improvement/upgrading works, including slope re-profiling, installation of soil nails, and thickening of the retaining wall shall be carried out so as to meet the current geotechnical standard.

6 RECOMMENDATIONS AND CONCLUSIONS

A desk study has been carried out for the proposed small houses development within Lot No 371 in D.D. 32, Tai Po on all available geological and geotechnical information in GEO and relevant publications. A review on the proximities of the natural slope and man-made slope feature were conducted to assess whether the proposed development will be affected by the adjacent slope including natural terrain.

Based on the results of the review, the angular elevation from the natural terrain to the Site is 28°. According to GEO report No.138, the proposed development satisfied the "Alert Criteria" and therefore a further study of the natural terrain hazards posing to the proposed development is required. The proposed extent of the natural terrain hazards study is delineated in **Figure 5**. A proper natural terrain hazard mitigation measure shall be implemented, if found necessary, as part of the proposed development.

In addition, it is essential to search and review the background information of existing building, geotechnical feature (retaining wall and cut slope below the Site) and underground services within and in the vicinity of the Site. Site investigation is proposed to reveal/confirm the subsoils and the ground profile within and in the vicinity of the Site as well as to determine the engineering properties of the soils and rock.

For safety and cost effectiveness, the foundation design, retaining wall stability assessment, excavation plan ning as well as the design of geotechnical structure should be based on the geological horizons obtained from the ground investigation results, groundwater table interpreted from the piezometer/standpipe monitoring records, and the geotechnical parameters determined from the field and laboratory testing. A geotechnical assessment report (GAR) is required to deal with the above issues in the later stage.

7 REFERENCES

Geotechnical Engineering Office (1987). Geotechnical Area Studies Programme – North New Territories. Geotechnical Control Office, Hong Kong, GASP Report No. V.

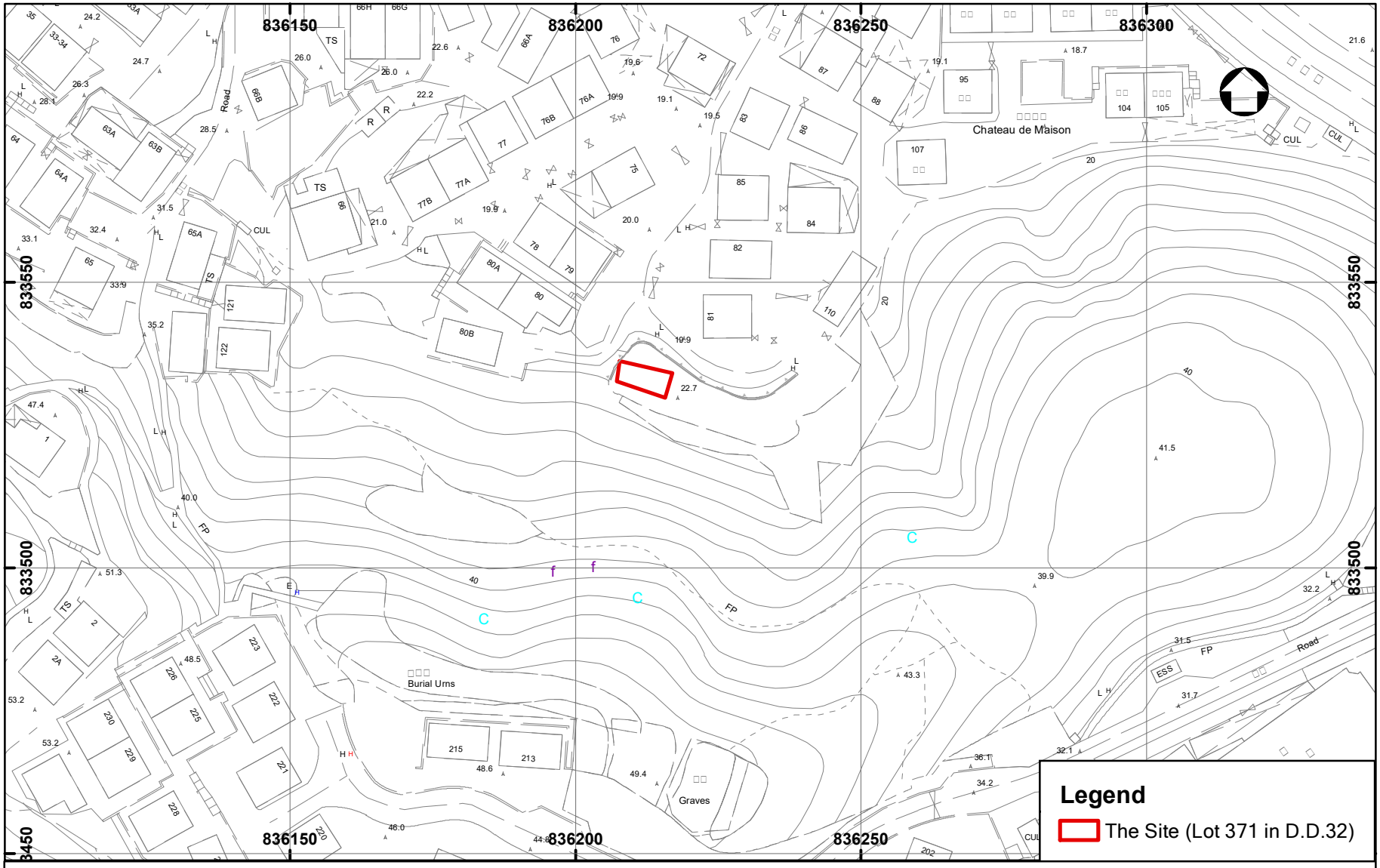
Geotechnical Engineering Office (2016). Guidelines for Natural Terrain Hazard Studies. Geotechnical Engineering Office, Hong Kong. GEO Report No. 138, Second Edition.

Geotechnical Engineering Office (2004). Guidelines for Classification of Consequence-to-Life Category for Slope Features. Geotechnical Engineering Office, Hong Kong. GEO Technical Guidance Note No. 15 (TGN15).

Geotechnical Engineering Office (2010), Map 7 (Shatin) Solid and Superficial Deposits, 1:20,000 scale, HGM20 series.

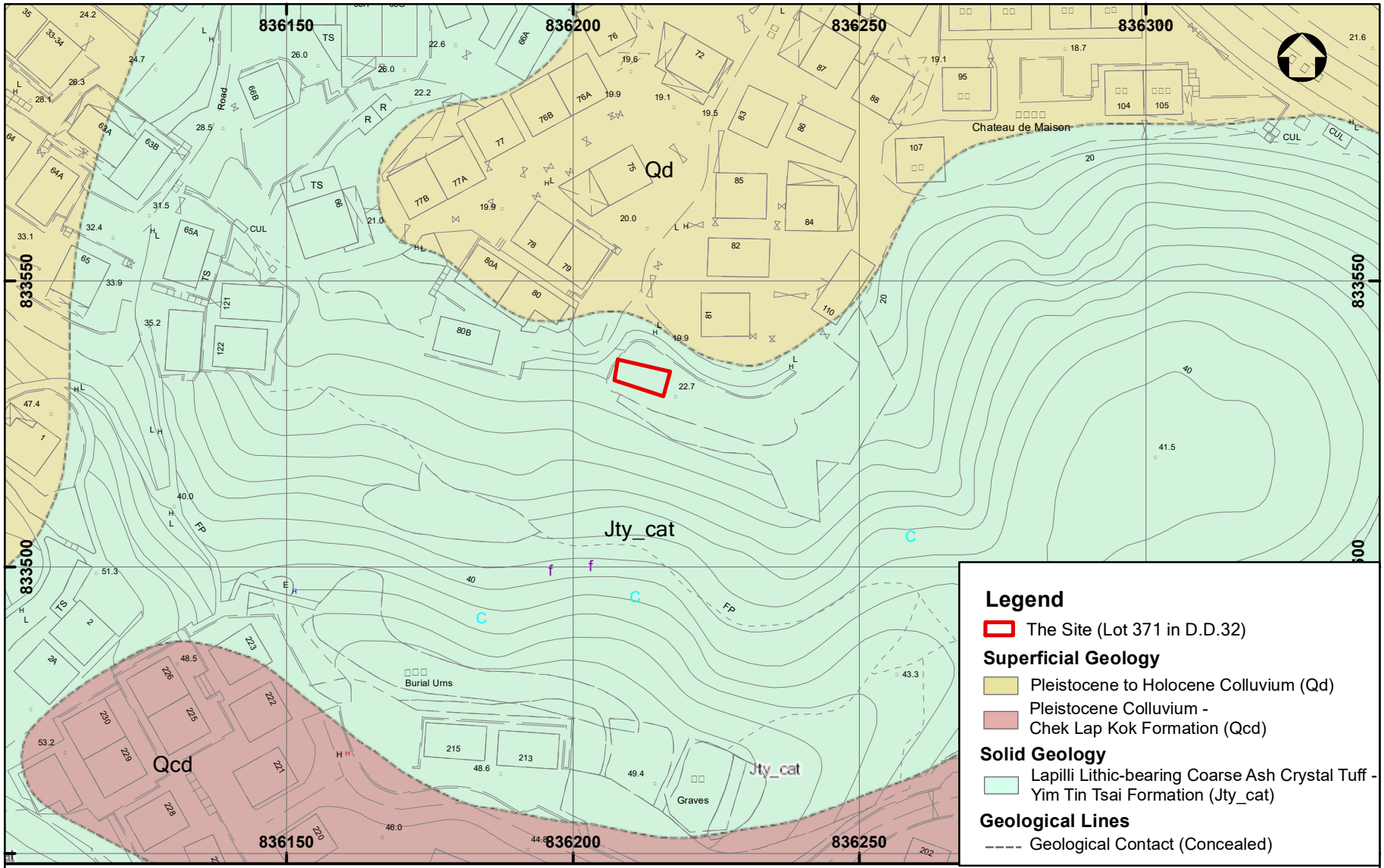
LIST OF FIGURES

Figure No.	
1	Location Plan of the Site
2	Geological Map (1:20,000)
3	Recorded Past Instabilities
4	Registered Man-made Features
5	Angular Elevation from Natural Terrain



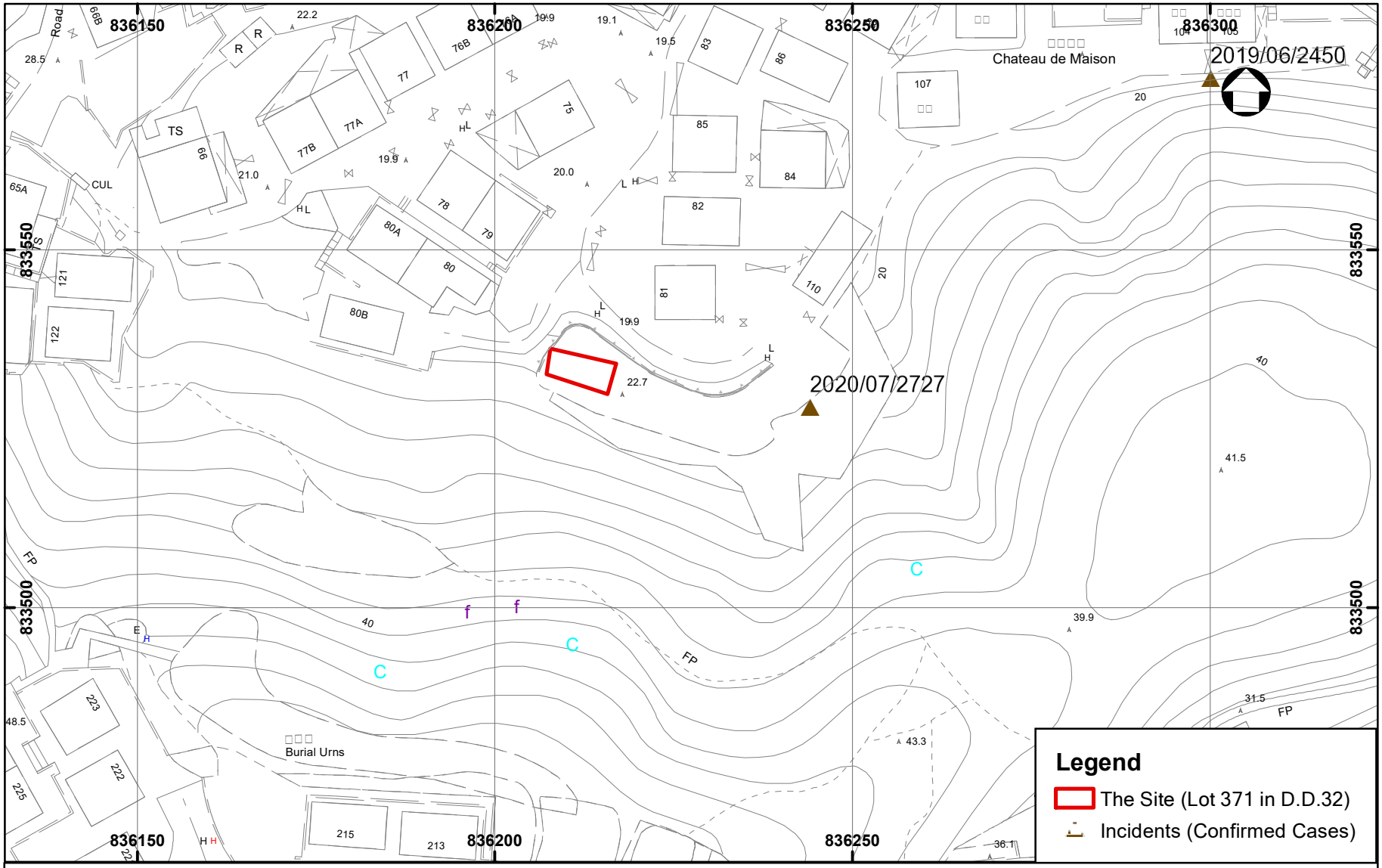
PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Location Plan of the Site	SCALE: 1 : 1000	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 1



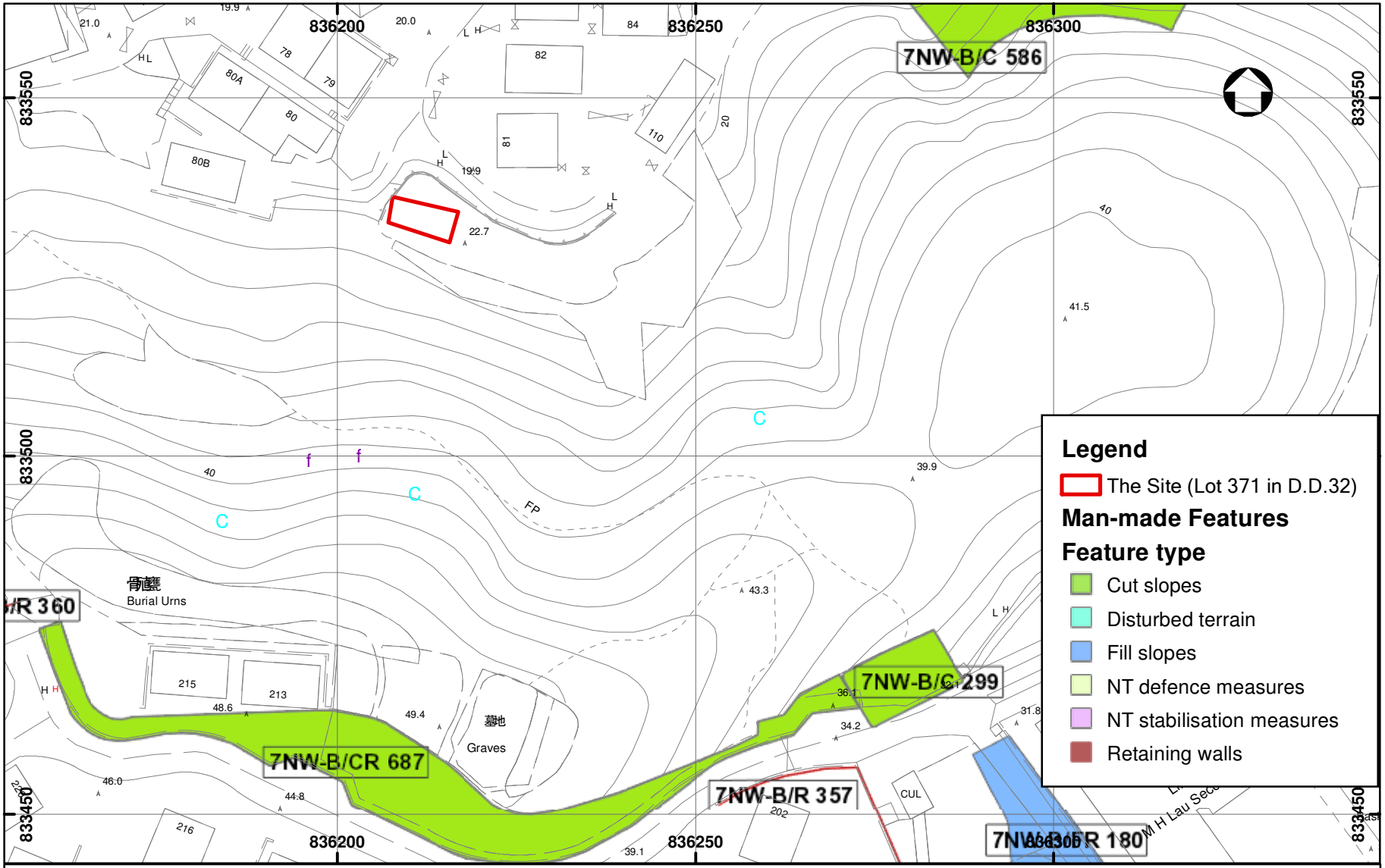
PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Geological Map	SCALE: 1 : 1000	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 2



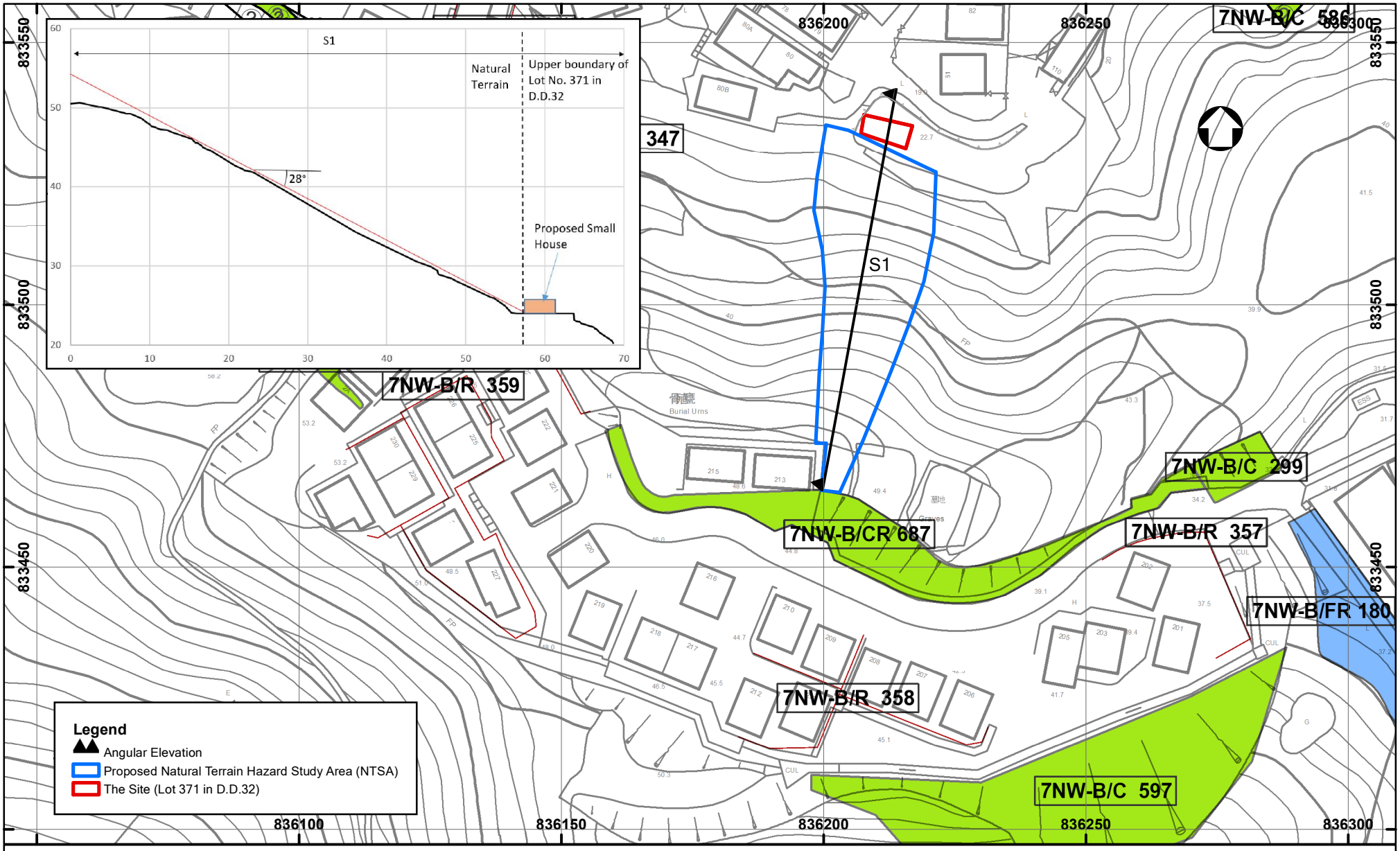
PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Recorded Past Instabilities	SCALE: 1 : 800	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 3



PROJECT: Proposed Small House Development on Lot No. 371 in D.D.32, Tai Po

TITLE: Registered Man-made Features	**SCALE:** 1 : 800	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	**FIGURE NO :** FIGURE 4

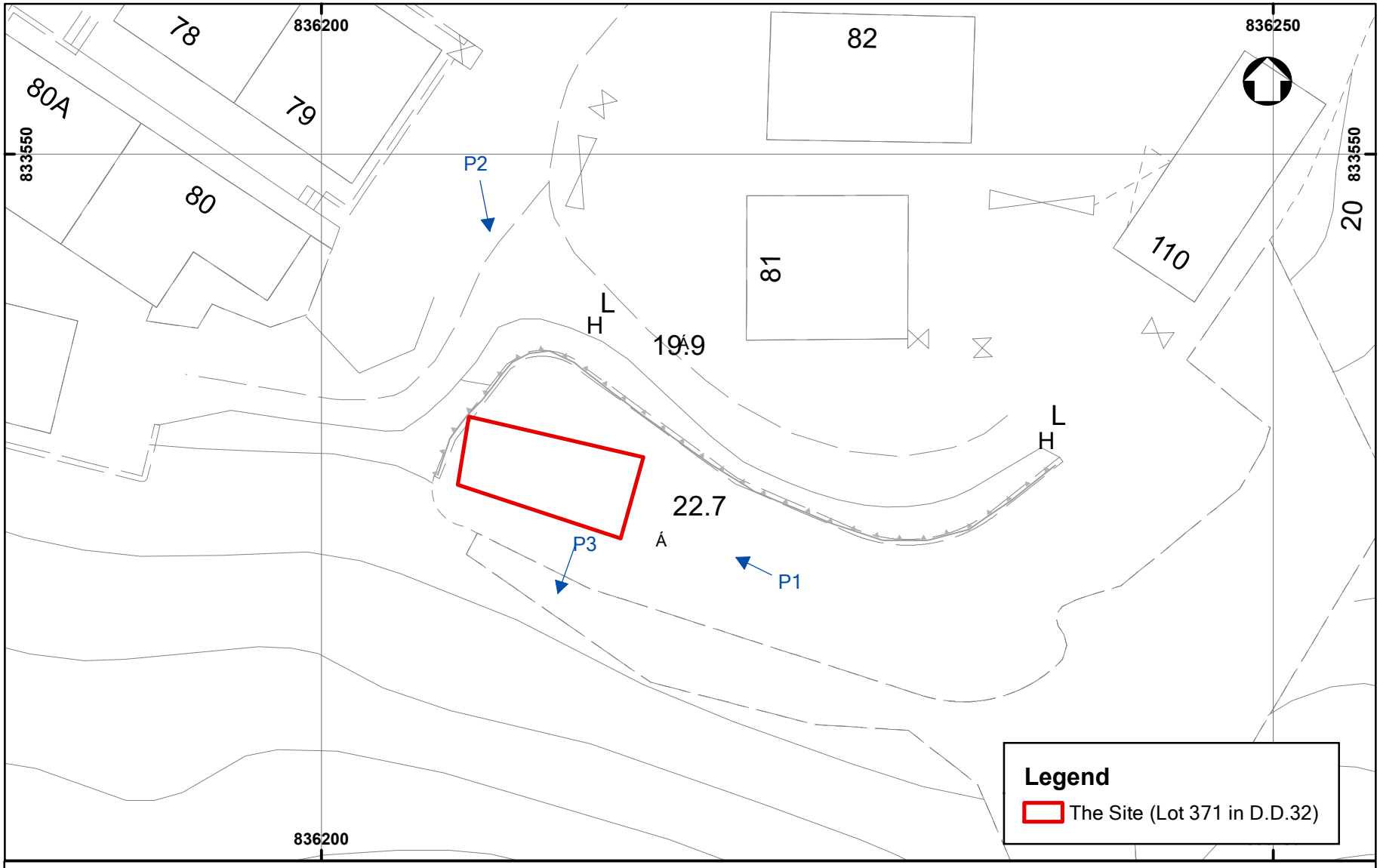


PROJECT: Proposed Small House on Lot No. 371 in D.D.32, Tai Po

TITLE: Angular Elevation from Natural Terrain	SCALE: 1 : 1000	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 5

LIST OF PLATES

Plate No.	
Plate 1	General View of the Site
Plate 2	General View of the Site, the non-registered retaining wall and cut slope.
Plate 3	Natural Terrain Overlooking the Site



PROJECT: Proposed Small House on Lot No. 371 in D.D.32, Tai Po

TITLE: Location of Plates	SCALE: 1 : 300	鼎耀工程顧問有限公司 JDF ENGINEERING CONSULTANTS LIMITED	FIGURE NO : FIGURE 6

Plate 1 General View of the Site

Plate 2 General View of the Site, the non-registered retaining wall and the cut slope

Plate 3 Natural Terrain Overlooking the Site

Appendix A

Incident Records

(19)

GEOTECHNICAL ENGINEERING OFFICE
LANDSLIDE INCIDENT REPORT

GEO Incident No. 2020/07/2727 **ECC Ref:**

PART 1 --- REGISTRATION

The contents should be updated when further information is received (e.g. following site inspection) [Note 1.1]

(1.1) INCIDENT REPORTED TO GEO	
(1.1.1) Duplicate Incident No. (if any) [Note 1.1.1]	
(1.1.2) Location [Note 1.1.2] * (Confirmed with Police/FSD or GEO staff on site : **Yes**) **下黃宜坳81號** Co-ordinates of landslide Easting : **836244** Northing : **833528**	
(1.1.3) Nearby Lamp Post No. :	
(1.1.4) Feature No.	(1.1.5) District Council **Tai Po District**
(1.1.6) Report date [Note 1.1.6] * **14/7/2020**	(1.1.7) Report time [Note 1.1.7] * **09:20**
(1.1.8) Best Estimated Date and Time of Incident [Note 1.1.8] Source of Incident Date and Time	(1.1.9) 1823 Reference (if applicable) [Note 1.1.9]
(1.1.10) Reported by (Caller name) * **Ms.H Y LO**	(1.1.11) Contact No. of caller * **26541227**
(1.1.12) Affiliation **DLO**	(1.1.13) Affiliation remarks (if any)
(1.1.14) Incident Also Recorded in LandsD's Emergency System? [Note 1.1.14] **No**	(1.1.15) Corresponding LandsD's Incident No. [Note 1.1.14]

(1.2) TYPE OF INCIDENT
(1.2.1) Type of Incident **Slope Failure**
(1.2.2) Remarks (e.g. Approximate dimensions / Volume of landslide) **Nil Remark**

(1.3) CONSEQUENCE OF FAILURE	
(1.3.1) No. of deaths **0** persons	(1.3.2) No. of injuries **0** persons
(1.3.3) No. of road lanes closed [Note 1.3.3] **0** of **0** Nos.	(1.3.4) No. of persons evacuated **0** persons
(1.3.5) Traffic disruption / impact details [Note 1.3.5]	

(1.4) FACILITIES AFFECTED OR THREATENED
(1.4.1) Facilities affected or threatened **Open space**
(1.4.2) Details (e.g. No. of buildings damaged / name of road sections blocked / road type under TD classification / type of Government premises, facilities or private utility services) : **Nil Remark**

(1.5) CLASSIFICAION OF INCIDENT (Highest genuine classification) [Note 1.5]
(1.5.1) Incident classified to be * **Minor** Updated upon inspection : **No** Date : Time : by Name : Post :
(1.5.2) Media attention [Note 1.5.2] **Nil**

(1.6) INITIAL ACTION TAKEN [Note 1.6]
(1.6.1) Action taken **GEO inspection arranged**
(1.6.2) **LIN Wan Kwan, Carrie (Ms)** has been assigned to inspect the incident
(1.6.3) Remarks

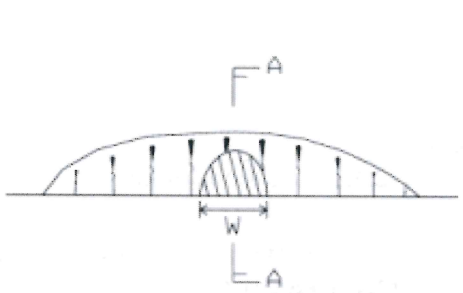
(1.7) DISTRICT INFORMATION	
(1.7.1) District Division : **ME**	(1.7.2) District GE : **LIN Wan Kwan, Carrie (Ms)**

(1.8) OTHER INFORMATION	
(1.8.1) Incoming call received by **District** Name : **LIN Wan Kwan, Carrie (Ms)** Post : **GE/ME23** Tel : **2762 5236**	(1.8.2) Registered by **District GE** Name : **LIN Wan Kwan, Carrie (Ms)** Post : **GE/ME23** Tel : **2762 5236**

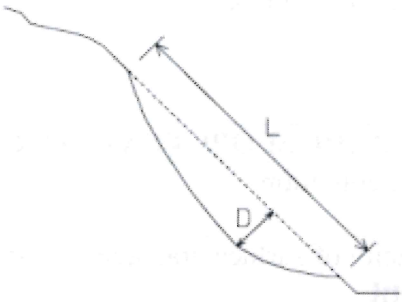
For serious incidents, the Inspection GE should provide information for completion of all key fields (item 2.7.1 and 2.8.1) marked with '*' and seek agreement from ETC/SGE(District)/Emergency Manager whoever is appropriate, before leaving the landslide site.

PART 2 --- INSPECTION

(2.1) DETAILS OF FIRST INSPECTION [Note 2.1]	
(2.1.1) GEO Inspection by **LIN Wan Kwan, Carrie (Ms)**	(2.1.2) Inspection date **17/7/2020**
(2.1.3) Time arrived on site **11:15**	(2.1.4) Time left site **11:30**
(2.1.5) With of	(2.1.6) Contact No. (mobile)
(2.1.7) Weather condition at time of inspection **Sunny**	(2.1.8) Feature type **Disturbed terrain**



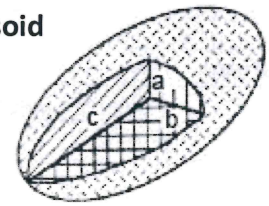
Plan



Section A – A

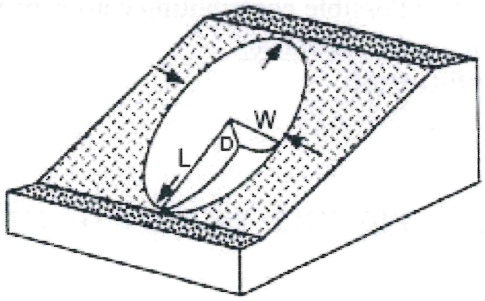
(2.1.9) Scar length (L) [Notes 2.1.9] **4.00** m	(2.1.10) Scar depth (D) **0.25** m
(2.1.11) Scar width (W) **8.00** m	(2.1.12) Volume of landslide debris [Notes 2.1.12] **4.000** m^3

(a) Ellipsoid



$$VOL_{ls} = \frac{4}{6}\pi a \cdot b \cdot c$$
$$= \frac{1}{6}\pi D \cdot W \cdot L$$

(b) Landslide



Extracted from "Turner & Schuster (1996). Landslides Investiagtion and Mitigation. Transportation Research Board, Specical Report 247" Chapter 3 Landslide Types and Process, p36-71.

(2.1.13) Media on site

(2.1.14) Non-landslide Incident [Note 2.1.14]
No

(2.2) MATERIAL AND MASS DESCRIPTION OF THE EXPOSURE
(2.2.1) Material and mass description of the exposure [refer to Geoguide 3 for soil/rock classification] **Residual Soil**
(2.2.2) Detailed descriptions

(2.3) BOULDER FALL CASES [Note 2.3]
(2.3.1) Number of boulders involved
(2.3.2) Dimensions of boulders Shape of boulders

(2.4) MAN-MADE SLOPE FEATURE CASES	
(2.4.1) Slope condition	(2.4.2) Locations of matters described in item 2.4.1
(2.4.3) Capacity of surface drainage system **Not present**	(2.4.4) Coverage of hard protection **Not present**
(2.4.5) Surface protection material **vegetation**	(2.4.6) Field evidence of past instability at or adjoining the failure location **No**
(2.4.7) Groundwater seepage observed at the failure location **No**	(2.4.8) Location of seepage / past instability

(2.5) CAUSES OF FAILURE	
(2.5.1) Possible contributing causes of failure	
Geotechnical causes **Infiltration**	Non-geotechnical causes
(2.5.2) Remarks	

(2.6) FURTHER DETAILS OF THE INCIDENT [Note 2.6]

(2.7) IMMEDIATE ADVICE GIVEN
(2.7.1) Immediate advice given [Note 2.7.1] * **Cordon off area in danger** **Cover failure scar with tarpaulin properly secured against wind** **Provide hard surface protection (with weepholes) to trimmed failure surface** **Remove landslide debris which threatens life or property**
(2.7.2) Responsible Works Department [Note 2.7.2] **Lands Department Slope Maintenance Section (SMS)** SMRIS (MR) : NPRS Score : SC Nos. :
(2.7.3) Remarks

(2.8) EMERGENCY ACTION TAKEN
(2.8.1) Emergency action taken at Rescue Phase [Note 2.8.1] * **Emergency inspection by GEO completed and recommendation given**
(2.8.2) Remarks

(2.9) ADVICE ON SUBSEQUENT EMERGENCY WORKS / ACTIONS
(2.9.1) Subsequent advice given [Note 2.9.1] NDC Cat 1 on squatter structures SC Nos. : To allow re-occupation of property / re-opening of roads : To complete recovery :
(2.9.2) Responsible Works Department [Note 2.9.2]
(2.9.3) Remarks

(3.1) FEATURE REGISTRATION (to be completed by District GE / Technical Staff)
(3.1.1) Has the feature been registered? **No**
(3.1.2) Was the feature registrable before failure? [refer to DEVB TC(W) No. 2/2018 for slope registration] **No**

(3.2) STATUS OF LANDSLIDE INCIDENT [Note 3.2]
(3.2.1) Status **Closed**

ATTACHMENTS
Attachment Type # **Photo** **Location Plan**
Attachment / Remarks

Inspection Officer's Signature	CARRIE W K LIN, GE/ME23 Name in Block Letter , Post	30 / 10 / 2020 Date

Information reviewed by:

District GE	(Signature)	CARRIE W K LIN (Name)	30/10/2020 (Date)
District SGE	(Signature)	CHRIS C W CHAN (Name)	2/11/2020 (Date)
District CGE	(Signature)	JENNY F YEUNG (Name)	2/11/2020 (Date)

c.c. ~~STO(G)~~/ME2 - please update information in EILIS as necessary

- Delete as appropriate (For significant and serious cases, plan and cross-section(s) of the landslide shall be prepared with Form ECC7 and uploaded to EILIS)

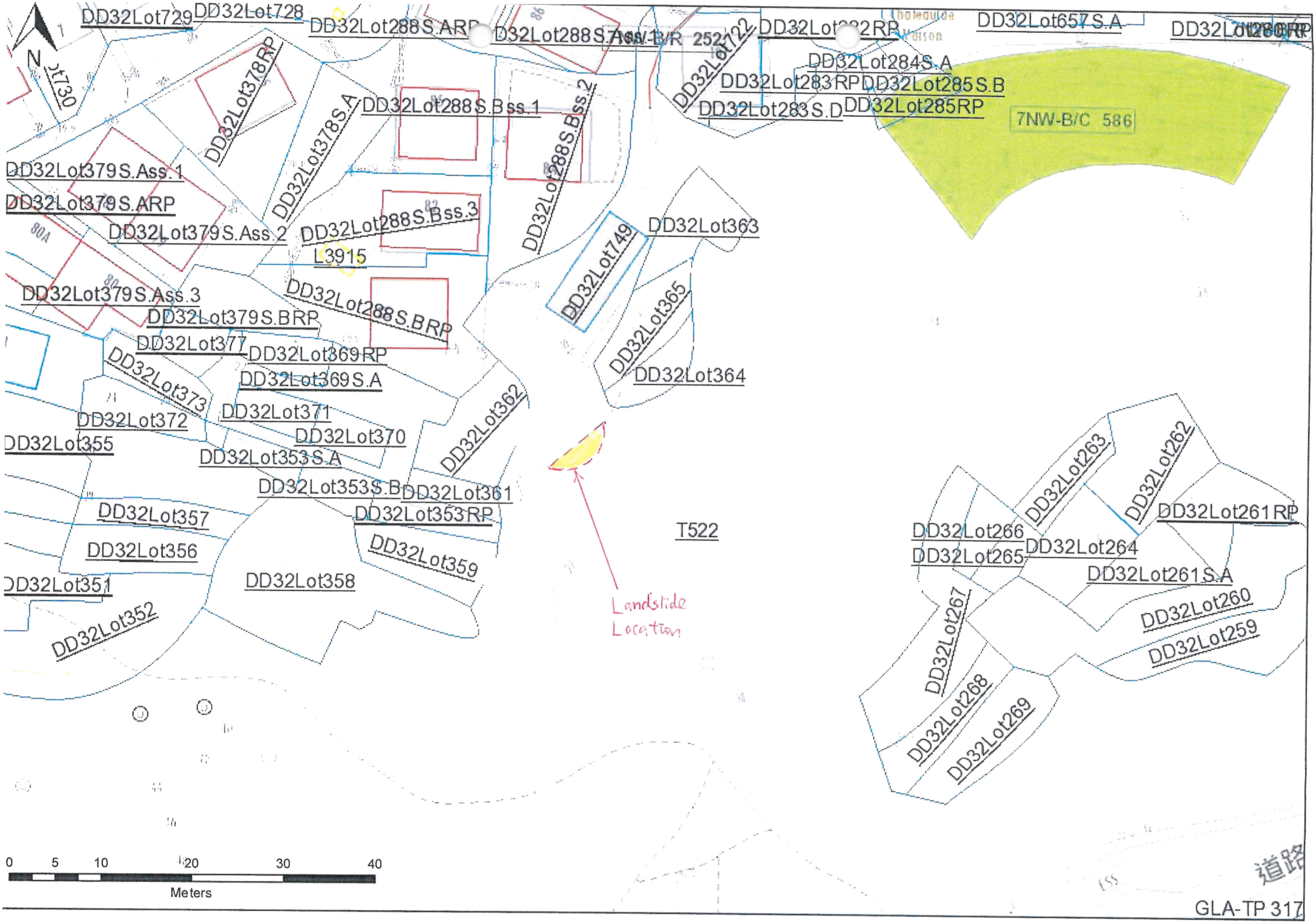

DD32Lot729
DD32Lot728
DD32Lot288S.ARP
DD32Lot288S.Ass.1
DD32Lot657S.A
DD32Lot284S.A
DD32Lot283RP
DD32Lot285S.B
DD32Lot283S.D
DD32Lot285RP
7NW-B/C 586
DD32Lot730
DD32Lot378RP
DD32Lot378S.A
DD32Lot288S.Bss.1
DD32Lot288S.Bss.2
DD32Lot379S.Ass.1
DD32Lot379S.ARP
DD32Lot379S.Ass.2
DD32Lot288S.Bss.3
L3915
DD32Lot363
DD32Lot749
DD32Lot379S.Ass.3
DD32Lot379S.BRP
DD32Lot288S.BRP
DD32Lot365
DD32Lot377
DD32Lot369RP
DD32Lot364
DD32Lot373
DD32Lot369S.A
DD32Lot362
DD32Lot372
DD32Lot371
DD32Lot370
DD32Lot355
DD32Lot353S.A
DD32Lot353S.B
DD32Lot361
DD32Lot357
DD32Lot353RP
T522
DD32Lot356
DD32Lot359
DD32Lot351
DD32Lot358
DD32Lot352
Landslide Location
DD32Lot263
DD32Lot262
DD32Lot261RP
DD32Lot266
DD32Lot265
DD32Lot264
DD32Lot261S.A
DD32Lot267
DD32Lot260
DD32Lot259
DD32Lot268
DD32Lot269
0 5 10 20 30 40
Meters
GLA-TP 317

Photo 1

Photo 2

Comment Provided by GEO	Response
2. Sections 3.2 & 7 – The reference document should be Geotechnical Area Studies Programme (GASP) Report V – North New Territories instead of GASP Report II – Central New Territories. Please revise the text in these sections.	Section 3.2 & 7 have been revised accordingly.
3. Section 6 – The GPRR should indicate a commitment to provide any necessary mitigation measures, if found necessary, as part of the proposed development.	A statement of the commitment has been added in Section 6.
4. Figure 5 – It is noted that the applicant has marked the proposed extent of the study area for the natural terrain hazard study (NTHS) on base map. However, the proposed study area does not cover the entire natural terrain catchment overlooking the application site. Please ask the applicant to review and revise the extent of study area.	Figure 5 has been revised so that the proposed natural terrain hazard study area cover the entire natural terrain catchment that overlooking the application site.

DLO Ref.: (26) in DLO/TP 284/TLT/94

Re-building of Village House
Lot No. 371 in D.D.32
Ha Wong Yi Au, Tai Po, N.T.

Stormwater Drainage Proposal
(Revised)

JDF Engineering Consultants Ltd.
G/F., No. 202
Ha Wong Yi Au,
Tai Po, N.T.

Registered Professional
Engineer:
Ir. WONG Wai Lun
MHKIE RPE(Civil)

June 2023

Catchment Area Plan

DD 32
骨殖甕
Burial Urns
墓地
Graves
CATCHMENT AREA PLAN
(SCALE 1:500) (REVISED)
836.200E
*BL104/2009
*BL103/2009
*BL19/90
BL18/90
*BL12/92
*BL62/93
288 S.B RP
*379 S.B RP
*379 S.A RP
*257 S.A
*257 RP
*254 S.B
*BL94/2008
*254 S.F
*254 S.D
*254 S.C
*379 S.A
*BL91/2008
*BL214/98
*BL201/98
*BL200/98
*BL37/98
*324 S.A
*BL242/98
*324 S.B
*BL245/98
*288 S.A
*288 S.B
*BL18/89
*353 S.A
*353 S.B
*353 RP
*370
*377
*378 S.A RP
*379 S.A ss.1
*379 S.A ss.3
*379 S.B ss.1
*379 S.B ss.2
*379 S.B ss.3
*379 S.B ss.4
*379 S.B ss.5
*379 S.B ss.6
*379 S.B ss.7
*379 S.B ss.8
*379 S.B ss.9
*379 S.B ss.10
*379 S.B ss.11
*379 S.B ss.12
*379 S.B ss.13
*379 S.B ss.14
*379 S.B ss.15
*379 S.B ss.16
*379 S.B ss.17
*379 S.B ss.18
*379 S.B ss.19
*379 S.B ss.20
*379 S.B ss.21
*379 S.B ss.22
*379 S.B ss.23
*379 S.B ss.24
*379 S.B ss.25
*379 S.B ss.26
*379 S.B ss.27
*379 S.B ss.28
*379 S.B ss.29
*379 S.B ss.30
*379 S.B ss.31
*379 S.B ss.32
*379 S.B ss.33
*379 S.B ss.34
*379 S.B ss.35
*379 S.B ss.36
*379 S.B ss.37
*379 S.B ss.38
*379 S.B ss.39
*379 S.B ss.40
*379 S.B ss.41
*379 S.B ss.42
*379 S.B ss.43
*379 S.B ss.44
*379 S.B ss.45
*379 S.B ss.46
*379 S.B ss.47
*379 S.B ss.48
*379 S.B ss.49
*379 S.B ss.50
*379 S.B ss.51
*379 S.B ss.52
*379 S.B ss.53
*379 S.B ss.54
*379 S.B ss.55
*379 S.B ss.56
*379 S.B ss.57
*379 S.B ss.58
*379 S.B ss.59
*379 S.B ss.60
*379 S.B ss.61
*379 S.B ss.62
*379 S.B ss.63
*379 S.B ss.64
*379 S.B ss.65
*379 S.B ss.66
*379 S.B ss.67
*379 S.B ss.68
*379 S.B ss.69
*379 S.B ss.70
*379 S.B ss.71
*379 S.B ss.72
*379 S.B ss.73
*379 S.B ss.74
*379 S.B ss.75
*379 S.B ss.76
*379 S.B ss.77
*379 S.B ss.78
*379 S.B ss.79
*379 S.B ss.80
*379 S.B ss.81
*379 S.B ss.82
*379 S.B ss.83
*379 S.B ss.84
*379 S.B ss.85
*379 S.B ss.86
*379 S.B ss.87
*379 S.B ss.88
*379 S.B ss.89
*379 S.B ss.90
*379 S.B ss.91
*379 S.B ss.92
*379 S.B ss.93
*379 S.B ss.94
*379 S.B ss.95
*379 S.B ss.96
*379 S.B ss.97
*379 S.B ss.98
*379 S.B ss.99
*379 S.B ss.100
*379 S.B ss.101
*379 S.B ss.102
*379 S.B ss.103
*379 S.B ss.104
*379 S.B ss.105
*379 S.B ss.106
*379 S.B ss.107
*379 S.B ss.108
*379 S.B ss.109
*379 S.B ss.110
*379 S.B ss.111
*379 S.B ss.112
*379 S.B ss.113
*379 S.B ss.114
*379 S.B ss.115
*379 S.B ss.116
*379 S.B ss.117
*379 S.B ss.118
*379 S.B ss.119
*379 S.B ss.120
*379 S.B ss.121
*379 S.B ss.122
*379 S.B ss.123
*379 S.B ss.124
*379 S.B ss.125
*379 S.B ss.126
*379 S.B ss.127
*379 S.B ss.128
*379 S.B ss.129
*379 S.B ss.130
*379 S.B ss.131
*379 S.B ss.132
*379 S.B ss.133
*379 S.B ss.134
*379 S.B ss.135
*379 S.B ss.136
*379 S.B ss.137
*379 S.B ss.138
*379 S.B ss.139
*379 S.B ss.140
*379 S.B ss.141
*379 S.B ss.142
*379 S.B ss.143
*379 S.B ss.144
*379 S.B ss.145
*379 S.B ss.146
*379 S.B ss.147
*379 S.B ss.148
*379 S.B ss.149
*379 S.B ss.150
*379 S.B ss.151
*379 S.B ss.152
*379 S.B ss.153
*379 S.B ss.154
*379 S.B ss.155
*379 S.B ss.156
*379 S.B ss.157
*379 S.B ss.158
*379 S.B ss.159
*379 S.B ss.160
*379 S.B ss.161
*379 S.B ss.162
*379 S.B ss.163
*379 S.B ss.164
*379 S.B ss.165
*379 S.B ss.166
*379 S.B ss.167
*379 S.B ss.168
*379 S.B ss.169
*379 S.B ss.170
*379 S.B ss.171
*379 S.B ss.172
*379 S.B ss.173
*379 S.B ss.174
*379 S.B ss.175
*379 S.B ss.176
*379 S.B ss.177
*379 S.B ss.178
*379 S.B ss.179
*379 S.B ss.180
*379 S.B ss.181
*379 S.B ss.182
*379 S.B ss.183
*379 S.B ss.184
*379 S.B ss.185
*379 S.B ss.186
*379 S.B ss.187
*379 S.B ss.188
*379 S.B ss.189
*379 S.B ss.190
*379 S.B ss.191
*379 S.B ss.192
*379 S.B ss.193
*379 S.B ss.194
*379 S.B ss.195
*379 S.B ss.196
*379 S.B ss.197
*379 S.B ss.198
*379 S.B ss.199
*379 S.B ss.200
*379 S.B ss.201
*379 S.B ss.202
*379 S.B ss.203
*379 S.B ss.204
*379 S.B ss.205
*379 S.B ss.206
*379 S.B ss.207
*379 S.B ss.208
*379 S.B ss.209
*379 S.B ss.210
*379 S.B ss.211
*379 S.B ss.212
*379 S.B ss.213
*379 S.B ss.214
*379 S.B ss.215
*379 S.B ss.216
*379 S.B ss.217
*379 S.B ss.218
*379 S.B ss.219
*379 S.B ss.220
*379 S.B ss.221
*379 S.B ss.222
*379 S.B ss.223
*379 S.B ss.224
*379 S.B ss.225
*379 S.B ss.226
*379 S.B ss.227
*379 S.B ss.228
*379 S.B ss.229
*379 S.B ss.230
*379 S.B ss.231
*379 S.B ss.232
*379 S.B ss.233
*379 S.B ss.234
*379 S.B ss.235
*379 S.B ss.236
*379 S.B ss.237
*379 S.B ss.238
*379 S.B ss.239
*379 S.B ss.240
*379 S.B ss.241
*379 S.B ss.242
*379 S.B ss.243
*379 S.B ss.244
*379 S.B ss.245
*379 S.B ss.246
*379 S.B ss.247
*379 S.B ss.248
*379 S.B ss.249
*379 S.B ss.250
*379 S.B ss.251
*379 S.B ss.252
*379 S.B ss.253
*379 S.B ss.254
*379 S.B ss.255
*379 S.B ss.256
*379 S.B ss.257
*379 S.B ss.258
*379 S.B ss.259
*379 S.B ss.260
*379 S.B ss.261
*379 S.B ss.262
*379 S.B ss.263
*379 S.B ss.264
*379 S.B ss.265
*379 S.B ss.266
*379 S.B ss.267
*379 S.B ss.268
*379 S.B ss.269
*379 S.B ss.270
*379 S.B ss.271
*379 S.B ss.272
*379 S.B ss.273
*379 S.B ss.274
*379 S.B ss.275
*379 S.B ss.276
*379 S.B ss.277
*379 S.B ss.278
*379 S.B ss.279
*379 S.B ss.280
*379 S.B ss.281
*379 S.B ss.282
*379 S.B ss.283
*379 S.B ss.284
*379 S.B ss.285
*379 S.B ss.286
*379 S.B ss.287
*379 S.B ss.288
*379 S.B ss.289
*379 S.B ss.290
*379 S.B ss.291
*379 S.B ss.292
*379 S.B ss.293
*379 S.B ss.294
*379 S.B ss.295
*379 S.B ss.296
*379 S.B ss.297
*379 S.B ss.298
*379 S.B ss.299
*379 S.B ss.300
*379 S.B ss.301
*379 S.B ss.302
*379 S.B ss.303
*379 S.B ss.304
*379 S.B ss.305
*379 S.B ss.306
*379 S.B ss.307
*379 S.B ss.308
*379 S.B ss.309
*379 S.B ss.310
*379 S.B ss.311
*379 S.B ss.312
*379 S.B ss.313
*379 S.B ss.314
*379 S.B ss.315
*379 S.B ss.316
*379 S.B ss.317
*379 S.B ss.318
*379 S.B ss.319
*379 S.B ss.320
*379 S.B ss.321
*379 S.B ss.322
*379 S.B ss.323
*379 S.B ss.324
*379 S.B ss.325
*379 S.B ss.326
*379 S.B ss.327
*379 S.B ss.328
*379 S.B ss.329
*379 S.B ss.330
*379 S.B ss.331
*379 S.B ss.332
*379 S.B ss.333
*379 S.B ss.334
*379 S.B ss.335
*379 S.B ss.336
*379 S.B ss.337
*379 S.B ss.338
*379 S.B ss.339
*379 S.B ss.340
*379 S.B ss.341
*379 S.B ss.342
*379 S.B ss.343
*379 S.B ss.344
*379 S.B ss.345
*379 S.B ss.346
*379 S.B ss.347
*379 S.B ss.348
*379 S.B ss.349
*379 S.B ss.350
*379 S.B ss.351
*379 S.B ss.352
*379 S.B ss.353
*379 S.B ss.354
*379 S.B ss.355
*379 S.B ss.356
*379 S.B ss.357
*379 S.B ss.358
*379 S.B ss.359
*379 S.B ss.360
*379 S.B ss.361
*379 S.B ss.362
*379 S.B ss.363
*379 S.B ss.364
*379 S.B ss.365
*379 S.B ss.366
*379 S.B ss.367
*379 S.B ss.368
*379 S.B ss.369
*379 S.B ss.370
*379 S.B ss.371
*379 S.B ss.372
*379 S.B ss.373
*379 S.B ss.374
*379 S.B ss.375
*379 S.B ss.376
*379 S.B ss.377
*379 S.B ss.378
*379 S.B ss.379
*379 S.B ss.380
*379 S.B ss.381
*379 S.B ss.382
*379 S.B ss.383
*379 S.B ss.384
*379 S.B ss.385
*379 S.B ss.386
*379 S.B ss.387
*379 S.B ss.388
*379 S.B ss.389
*379 S.B ss.390
*379 S.B ss.391
*379 S.B ss.392
*379 S.B ss.393
*379 S.B ss.394
*379 S.B ss.395
*379 S.B ss.396
*379 S.B ss.397
*379 S.B ss.398
*379 S.B ss.399
*379 S.B ss.400
*379 S.B ss.401
*379 S.B ss.402
*379 S.B ss.403
*379 S.B ss.404
*379 S.B ss.405
*379 S.B ss.406
*379 S.B ss.407
*379 S.B ss.408
*379 S.B ss.409
*379 S.B ss.410
*379 S.B ss.411
*379 S.B ss.412
*379 S.B ss.413
*379 S.B ss.414
*379 S.B ss.415
*379 S.B ss.416
*379 S.B ss.417
*379 S.B ss.418
*379 S.B ss.419
*379 S.B ss.420
*379 S.B ss.421
*379 S.B ss.422
*379 S.B ss.423
*379 S.B ss.424
*379 S.B ss.425
*379 S.B ss.426
*379 S.B ss.427
*379 S.B ss.428
*379 S.B ss.429
*379 S.B ss.430
*379 S.B ss.431
*379 S.B ss.432
*379 S.B ss.433
*379 S.B ss.434
*379 S.B ss.435
*379 S.B ss.436
*379 S.B ss.437
*379 S.B ss.438
*379 S.B ss.439
*379 S.B ss.440
*379 S.B ss.441
*379 S.B ss.442
*379 S.B ss.443
*379 S.B ss.444
*379 S.B ss.445
*379 S.B ss.446
*379 S.B ss.447
*379 S.B ss.448
*379 S.B ss.449
*379 S.B ss.450
*379 S.B ss.451
*379 S.B ss.452
*379 S.B ss.453
*379 S.B ss.454
*379 S.B ss.455
*379 S.B ss.456
*379 S.B ss.457
*379 S.B ss.458
*379 S.B ss.459
*379 S.B ss.460
*379 S.B ss.461
*379 S.B ss.462
*379 S.B ss.463
*379 S.B ss.464
*379 S.B ss.465
*379 S.B ss.466
*379 S.B ss.467
*379 S.B ss.468
*379 S.B ss.469
*379 S.B ss.470
*379 S.B ss.471
*379 S.B ss.472
*379 S.B ss.473
*379 S.B ss.474
*379 S.B ss.475
*379 S.B ss.476
*379 S.B ss.477
*379 S.B ss.478
*379 S.B ss.479
*379 S.B ss.480
*379 S.B ss.481
*379 S.B ss.482
*379 S.B ss.483
*379 S.B ss.484
*379 S.B ss.485
*379 S.B ss.486
*379 S.B ss.487
*379 S.B ss.488
*379 S.B ss.489
*379 S.B ss.490
*379 S.B ss.491
*379 S.B ss.492
*379 S.B ss.493
*379 S.B ss.494
*379 S.B ss.495
*379 S.B ss.496
*379 S.B ss.497
*379 S.B ss.498
*379 S.B ss.499
*379 S.B ss.500
*379 S.B ss.501
*379 S.B ss.502
*379 S.B ss.503
*379 S.B ss.504
*379 S.B ss.505
*379 S.B ss.506
*379 S.B ss.507
*379 S.B ss.508
*379 S.B ss.509
*379 S.B ss.510
*379 S.B ss.511
*379 S.B ss.512
*379 S.B ss.513
*379 S.B ss.514
*379 S.B ss.515
*379 S.B ss.516
*379 S.B ss.517
*379 S.B ss.518
*379 S.B ss.519
*379 S.B ss.520
*379 S.B ss.521
*379 S.B ss.522
*379 S.B ss.523
*379 S.B ss.524
*379 S.B ss.525
*379 S.B ss.526
*379 S.B ss.527
*379 S.B ss.528
*379 S.B ss.529
*379 S.B ss.530
*379 S.B ss.531
*379 S.B ss.532
*379 S.B ss.533
*379 S.B ss.534
*379 S.B ss.535
*379 S.B ss.536
*379 S.B ss.537
*379 S.B ss.538
*379 S.B ss.539
*379 S.B ss.540
*379 S.B ss.541
*379 S.B ss.542
*379 S.B ss.543
*379 S.B ss.544
*379 S.B ss.545
*379 S.B ss.546
*379 S.B ss.547
*379 S.B ss.548
*379 S.B ss.549
*379 S.B ss.550
*379 S.B ss.551
*379 S.B ss.552
*379 S.B ss.553
*379 S.B ss.554
*379 S.B ss.555
*379 S.B ss.556
*379 S.B ss.557
*379 S.B ss.558
*379 S.B ss.559
*379 S.B ss.560
*379 S.B ss.561
*379 S.B ss.562
*379 S.B ss.563
*379 S.B ss.564
*379 S.B ss.565
*379 S.B ss.566
*379 S.B ss.567
*379 S.B ss.568
*379 S.B ss.569
*379 S.B ss.570
*379 S.B ss.571
*379 S.B ss.572
*379 S.B ss.573
*379 S.B ss.574
*379 S.B ss.575
*379 S.B ss.576
*379 S.B ss.577
*379 S.B ss.578
*379 S.B ss.579
*379 S.B ss.580
*379 S.B ss.581
*379 S.B ss.582
*379 S.B ss.583
*379 S.B ss.584
*379 S.B ss.585
*379 S.B ss.586
*379 S.B ss.587
*379 S.B ss.588
*379 S.B ss.589
*379 S.B ss.590
*379 S.B ss.591
*379 S.B ss.592
*379 S.B ss.593
*379 S.B ss.594
*379 S.B ss.595
*379 S.B ss.596
*379 S.B ss.597
*379 S.B ss.598
*379 S.B ss.599
*379 S.B ss.600
*379 S.B ss.601
*379 S.B ss.602
*379 S.B ss.603
*379 S.B ss.604
*379 S.B ss.605
*379 S.B ss.606
*379 S.B ss.607
*379 S.B ss.608
*379 S.B ss.609
*379 S.B ss.610
*379 S.B ss.611
*379 S.B ss.612
*379 S.B ss.613
*379 S.B ss.614
*379 S.B ss.615
*379 S.B ss.616
*379 S.B ss.617
*379 S.B ss.618
*379 S.B ss.619
*379 S.B ss.620
*379 S.B ss.621
*379 S.B ss.622
*379 S.B ss.623
*379 S.B ss.624
*379 S.B ss.625
*379 S.B ss.626
*379 S.B ss.627
*379 S.B ss.628
*379 S.B ss.629
*379 S.B ss.630
*379 S.B ss.631
*379 S.B ss.632
*379 S.B ss.633
*379 S.B ss.634
*379 S.B ss.635
*379 S.B ss.636
*379 S.B ss.637
*379 S.B ss.638
*379 S.B ss.639
*379 S.B ss.640
*379 S.B ss.641
*379 S.B ss.642
*379 S.B ss.643
*379 S.B ss.644
*379 S.B ss.645
*379 S.B ss.646
*379 S.B ss.647
*379 S.B ss.648
*379 S.B ss.649
*379 S.B ss.650
*379 S.B ss.651
*379 S.B ss.652
*379 S.B ss.653
*379 S.B ss.654
*379 S.B ss.655
*379 S.B ss.656
*379 S.B ss.657
*379 S.B ss.658
*379 S.B ss.659
*379 S.B ss.660
*379 S.B ss.661
*379 S.B ss.662
*379 S.B ss.663
*379 S.B ss.664
*379 S.B ss.665
*379 S.B ss.666
*379 S.B ss.667
*379 S.B ss.668
*379 S.B ss.669
*379 S.B ss.670
*379 S.B ss.671
*379 S.B ss.672
*379 S.B ss.673
*379 S.B ss.674
*379 S.B ss.675
*379 S.B ss.676
*379 S.B ss.677
*379 S.B ss.678
*379 S.B ss.679
*379 S.B ss.680
*379 S.B ss.681
*379 S.B ss.682
*379 S.B ss.683
*379 S.B ss.684
*379 S.B ss.685
*379 S.B ss.686
*379 S.B ss.687
*379 S.B ss.688
*379 S.B ss.689
*379 S.B ss.690
*379 S.B ss.691
*379 S.B ss.692
*379 S.B ss.693
*379 S.B ss.694
*379 S.B ss.695
*379 S.B ss.696
*379 S.B ss.697
*379 S.B ss.698
*379 S.B ss.699
*379 S.B ss.700
*379 S.B ss.701
*379 S.B ss.702
*379 S.B ss.703
*379 S.B ss.704
*379 S.B ss.705
*379 S.B ss.706
*379 S.B ss.707
*379 S.B ss.708
*379 S.B ss.709
*379 S.B ss.710
*379 S.B ss.711
*379 S.B ss.712
*379 S.B ss.713
*379 S.B ss.714
*379 S.B ss.715
*379 S.B ss.716
*379 S.B ss.717
*379 S.B ss.718
*379 S.B ss.719
*379 S.B ss.720
*379 S.B ss.721
*379 S.B ss.722
*379 S.B ss.723
*379 S.B ss.724
*379 S.B ss.725
*379 S.B ss.726
*379 S.B ss.727
*379 S.B ss.728
*379 S.B ss.729
*379 S.B ss.730
*379 S.B ss.731
*379 S.B ss.732
*379 S.B ss.733
*379 S.B ss.734
*379 S.B ss.735
*379 S.B ss.736
*379 S.B ss.737
*379 S.B ss.738
*379 S.B ss.739
*379 S.B ss.740
*379 S.B ss.741
*379 S.B ss.742
*379 S.B ss.743
*379 S.B ss.744
*379 S.B ss.745
*379 S.B ss.746
*379 S.B ss.747
*379 S.B ss.748
*379 S.B ss.749
*379 S.B ss.750
*379 S.B ss.751
*379 S.B ss.752
*379 S.B ss.753
*379 S.B ss.754
*379 S.B ss.755
*379 S.B ss.756
*379 S.B ss.757
*379 S.B ss.758
*379 S.B ss.759
*379 S.B ss.760
*379 S.B ss.761
*379 S.B ss.762
*379 S.B ss.763
*379 S.B ss.764
*379 S.B ss.765
*379 S.B ss.766
*379 S.B ss.767
*379 S.B ss.768
*379 S.B ss.769
*379 S.B ss.770
*379 S.B ss.771
*379 S.B ss.772
*379 S.B ss.773
*379 S.B ss.774
*379 S.B ss.775
*379 S.B ss.776
*379 S.B ss.777
*379 S.B ss.778
*379 S.B ss.779
*379 S.B ss.780
*379 S.B ss.781
*379 S.B ss.782
*379 S.B ss.783
*379 S.B ss.784
*379 S.B ss.785
*379 S.B ss.786
*379 S.B ss.787
*379 S.B ss.788
*379 S.B ss.789
*379 S.B ss.790
*379 S.B ss.791
*379 S.B ss.792
*379 S.B ss.793
*379 S.B ss.794
*379 S.B ss.795
*379 S.B ss.796
*379 S.B ss.797
*379 S.B ss.798
*379 S.B ss.799
*379 S.B ss.800
*379 S.B ss.801
*379 S.B ss.802
*379 S.B ss.803
*379 S.B ss.804
*379 S.B ss.805
*379 S.B ss.806
*379 S.B ss.807
*379 S.B ss.808
*379 S.B ss.809
*379 S.B ss.810
*379 S.B ss.811
*379 S.B ss.812
*379 S.B ss.813
*379 S.B ss.814
*379 S.B ss.815
*379 S.B ss.816
*379 S.B ss.817
*379 S.B ss.818
*379 S.B ss.819
*379 S.B ss.820
*379 S.B ss.821
*379 S.B ss.822
*379 S.B ss.823
*379 S.B ss.824
*379 S.B ss.825
*379 S.B ss.826
*379 S.B ss.827
*379 S.B ss.828
*379 S.B ss.829
*379 S.B ss.830
*379 S.B ss.831
*379 S.B ss.832
*379 S.B ss.833
*379 S.B ss.834
*379 S.B ss.835
*379 S.B ss.836
*379 S.B ss.837
*379 S.B ss.838
*379 S.B ss.839
*379 S.B ss.840
*379 S.B ss.841
*379 S.B ss.842
*379 S.B ss.843
*379 S.B ss.844
*379 S.B ss.845
*379 S.B ss.846
*379 S.B ss.847
*379 S.B ss.848
*379 S.B ss.849
*379 S.B ss.850
*379 S.B ss.851
*379 S.B ss.852
*379 S.B ss.853
*379 S.B ss.854
*379 S.B ss.855
*379 S.B ss.856
*379 S.B ss.857
*379 S.B ss.858
*379 S.B ss.859
*379 S.B ss.860
*379 S.B ss.861
*379 S.B ss.862
*379 S.B ss.863
*379 S.B ss.864
*379 S.B ss.865
*379 S.B ss.866
*379 S.B ss.867
*379 S.B ss.868
*379 S.B ss.869
*379 S.B ss.870
*379 S.B ss.871
*379 S.B ss.872
*379 S.B ss.873
*379 S.B ss.874
*379 S.B ss.875
*379 S.B ss.876
*379 S.B ss.877
*379 S.B ss.878
*379 S.B ss.879
*379 S.B ss.880
*379 S.B ss.881
*379 S.B ss.882
*379 S.B ss.883
*379 S.B ss.884
*379 S.B ss.885
*379 S.B ss.886
*379 S.B ss.887
*379 S.B ss.888
*379 S.B ss.889
*379 S.B ss.890
*379 S.B ss.891
*379 S.B ss.892
*379 S.B ss.893
*379 S.B ss.894
*379 S.B ss.895
*379 S.B ss.896
*379 S.B ss.897
*379 S.B ss.898
*379 S.B ss.899
*379 S.B ss.900
*379 S.B ss.901
*379 S.B ss.902
*379 S.B ss.903
*379 S.B ss.904
*379 S.B ss.905
*379 S.B ss.906
*379 S.B ss.907
*379 S.B ss.908
*379 S.B ss.909
*379 S.B ss.910
*379 S.B ss.911
*379 S.B ss.912
*379 S.B ss.913
*379 S.B ss.914
*379 S.B ss.915
*379 S.B ss.916
*379 S.B ss.917
*379 S.B ss.918
*379 S.B ss.919
*379 S.B ss.920
*379 S.B ss.921
*379 S.B ss.922
*379 S.B ss.923
*379 S.B ss.924
*379 S.B ss.925
*379 S.B ss.926
*379 S.B ss.927
*379 S.B ss.928
*379 S.B ss.929
*379 S.B ss.930
*379 S.B ss.931
*379 S.B ss.932
*379 S.B ss.933
*379 S.B ss.934
*379 S.B ss.935
*379 S.B ss.936
*379 S.B ss.937
*379 S.B ss.938
*379 S.B ss.939
*379 S.B ss.940
*379 S.B ss.941
*379 S.B ss.942
*379 S.B ss.943
*379 S.B ss.944
*379 S.B ss.945
*379 S.B ss.946
*379 S.B ss.947
*379 S.B ss.948
*379 S.B ss.949
*379 S.B ss.950
*379 S.B ss.951
*379 S.B ss.952
*379 S.B ss.953
*379 S.B ss.954
*379 S.B ss.955
*379 S.B ss.956
*379 S.B ss.957
*379 S.B ss.958
*379 S.B ss.959
*379 S.B ss.960
*379 S.B ss.961
*379 S.B ss.962
*379 S.B ss.963
*379 S.B ss.964
*379 S.B ss.965
*379 S.B ss.966
*379 S.B ss.967
*379 S.B ss.968
*379 S.B ss.969
*379 S.B ss.970
*379 S.B ss.971
*379 S.B ss.972
*379 S.B ss.973
*379 S.B ss.974
*379 S.B ss.975
*379 S.B ss.976
*379 S.B ss.977
*379 S.B ss.978
*379 S.B ss.979
*379 S.B ss.980
*379 S.B ss.981
*379 S.B ss.982
*379 S.B ss.983
*379 S.B ss.984
*379 S.B ss.985
*379 S.B ss.986
*379 S.B ss.987
*379 S.B ss.988
*379 S.B ss.989
*379 S.B ss.990
*379 S.B ss.991
*379 S.B ss.992
*379 S.B ss.993
*379 S.B ss.994
*379 S.B ss.995
*379 S.B ss.996
*379 S.B ss.997
*379 S.B ss.998
*379 S.B ss.999
*379 S.B ss.1000

CATCHMENT AREA

(A1) $= (\frac{1}{2})(14.5)(3.5) + (\frac{1}{2})(10.5)(2) + (\frac{1}{2})(8)(1.5)$

$= 41.875 m^2$

(B1) $= (\frac{1}{2})(16)(3) + (\frac{1}{2})(32)(9) + (\frac{1}{2})(31)(3) + (\frac{1}{2})(29)(7) + (\frac{1}{2})(29)(10) + (\frac{1}{2})(29)(14)$

$= 818.9 m^2$

(C1) $= (\frac{1}{2})(18)(5)$

$= 45 m^2$

(D1) $= (\frac{1}{2})(18)(4.5)$

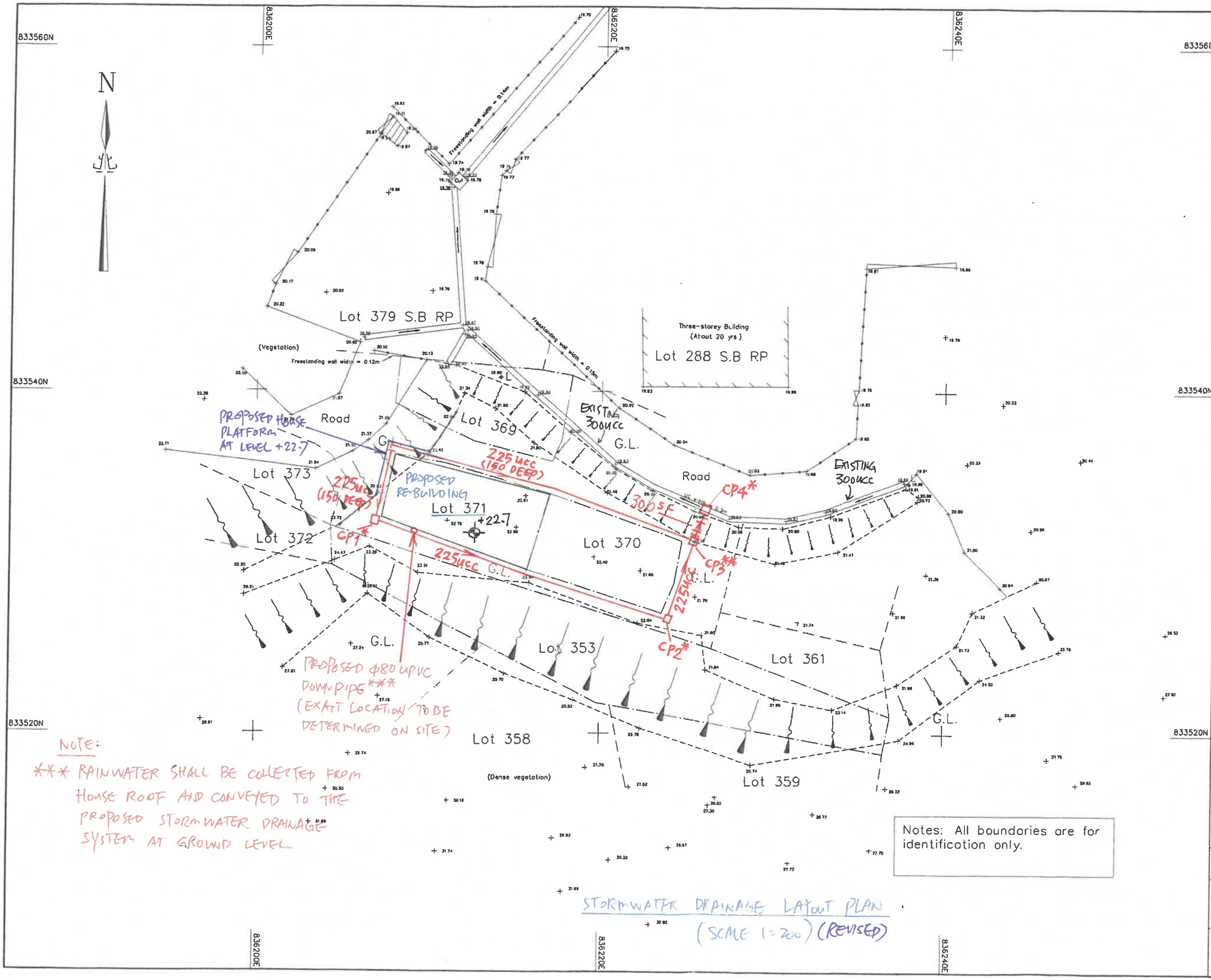
$= 40.5 m^2$

(E1) $= (\frac{1}{2})(7)(3.5) + (\frac{1}{2})(7)(4) + (\frac{1}{2})(9)(2) + (\frac{1}{2})(9)(4.5)$

$= 55.5 m^2$

Stormwater Drainage Layout Plan

(Showing with the position of proposed uPVC downpipe for collecting and conveying the rainwater from the house roof to the proposed stormwater drainage system at ground level, the runoff within the subject premise will be served by the proposed/ existing stormwater drainage system and shall not be drained to the public sewerage network.)



NOTE:

*** RAINWATER SHALL BE COLLECTED FROM HOUSE ROOF AND CONVEYED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM AT GROUND LEVEL

Notes: All boundaries are for identification only.

STORMWATER DRAINAGE LAYOUT PLAN
(SCALE 1:200) (REVISED)

NOTES :

1. MEASUREMENTS BASED ON HONG KONG METRIC GRID & PRINCIPAL DATUMN. ALL UNITS IN METRES
2. ALL SPOT LEVEL POSITIONS ARE INDICATED BY THE DECIMAL POINT OR A CROSS

ABBREVIATION

ARCH	ARCHWAY
BH	BOREHOLE
BS	BOUNDARY STONE
WIP	WORKS IN PROGRESS
CL	COVER LEVEL
Col	COLUMN
Conc	CONCRETE
CS	CONCRETE STAND
Cul	CULVERT
DW	DRAINAGE WORKS
E	ELECTRIC POLE
EB	ELECTRIC BOX
ET	ELECTRIC TRANSFORMER
FB	FLOWER BED
FIG	FEED INTO GROUND
FP	FOOTPATH
G	GULLY
H	FIRE HYDRANT
HWM	HIGH WATER MARK
IC	INSPECTION COVER
IL	INVERT LEVEL
L	LAMP POST
Lot	LATRINE
MH	MANHOLE
PB	PEDESTRIAN BARRIER
PH	PUMP HOUSE
PWD	PUBLIC WORKS DEPARTMENT
SC	STEPPED CHANNEL
SP	SIGN POLE
T	TELEPHONE POLE
TB	TRAFFIC LIGHT CONTROL BOX
TC	TELEPHONE COMPANY
TL	TRAFFIC LIGHT
TS (s)	TEMPORARY STRUCTURE (s)
UC	U-SHAPED CHANNEL
WL	WELL
WS	WATER SERVICES
WT	WATER TANK
WW	WATERWORKS
WO	WATER OUTLET
BM	BENCH

SYMBOLS

- TBM (TEMPORARY BENCH MARK) CONTROL STATION
- ARTIFICIAL SLOPE
- D:0.15 H:5 S:5 — TREE WITH DIAMETER HEIGHT & SPREAD
- CLIFF QUARRY
- WATER COURSE
- FENCE RAILING OR HOARDING
- VERTICAL MASONRY (RETAINING WALL)
- CONCRETE DRAIN & CULVERT
- TOE WALL
- HWM — HIGH WATER MARK
- 20 — CONTOURS INTERPOLATED AT ONE METRE INTERVAL
- BOULDER & ROCK
- BOLLARD AT ROAD
- CATCH PIT
- GRATING
- MF — MANHOLE FOUL WATER
- MS — MANHOLE STORM WATER
- MH — MANHOLE (UNCLASSIFIED)
- MT — MANHOLE TELEPHONE
- MW — MANHOLE WATERWORKS
- SIGN BOARD
- STEEL COVER
- VALVE (UNCLASSIFIED)
- VALVE FIRE
- VALVE GAS
- VALVE WATERWORKS
- 1.23 — SPOT LEVEL
- 1.23 — INVERT LEVEL
- W — WATER POINT
- BUILDING
- PROPOSED SMALL HOUSE
- HANDRAIL OR FREE STANDING WALL

	Name	Date
Surveyed	M K YIP	Jul, 2014
Revised	T H Chan	Jul, 2014
Drawn	M K YIP	Jul, 2014

Approved by :

T H CHAN (MRICS, MHKIS, RPS(LS), ALS)
Date 25 July 2014

Contract no.

File no.

Project no.

Drawing Title

TOPOGRAPHICAL SURVEY
OF LOTS 353, 369, 370 & 371
IN D.D. 32
AT WONG YI AU, TAI PO

SCALE 1 : 200

Drawing no. TOPO/TP/0608

Rev.

T.H. & Associates Limited
M/F, 39 Po Yick Street
Tai Po, N.T.
Tel: 26577726 Fax: 26588757

Project: Rebuilding on Lot No. 371 in D.D. 32, Ha Wong Yi Au, Tai Po, N.T.

Subject: Stormwater Drainage Proposal

Title: **Catchpit Schedule**

Ctachpit No.	Cover Level (mPD)	Inlet Invert Level (mPD)	Outlet Invert Level (mPD)
CP1*	+22.70	+22.35	+22.30
CP2*	+21.80	+21.40	+21.35
CP3** (with trap)	+21.35	+21.00	+20.95
CP4*	+20.40	+19.64	+19.63
			(I.L. of existing UC)

Notes:

1) CP1*,CP2*, CP4* - Standard catchpits (Complying with CEDD Standard Drawing No. C2405)

2) CP3** (with trap) - Catchpit with trap (Complying with CEDD Standard Drawing No. C2406)

3) Covers shall be provided for the U- channels and catchpits adjacent to existing footpath

Stormwater Drainage Calculation

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM (Revised 1)

DESIGN OF U-CHANNEL UA1 (For Area A1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

A1 = 41.875 m^2 H = 48.67 [(30 - 22.7/15]*100 L = 15 m

t_o = **0.69** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 4 m

t_f = **1.00** sec.

$t_c = t_o + t_f$ = 0.70 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.35 (Steep grassland assumed as heavy soil)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 318.57 mm/hr & i = 369.54 mm/hr (16% increased)

QUA1 = 1.30 l/s (Refer Table 28 in SDM)
= 0.001 m^3/s

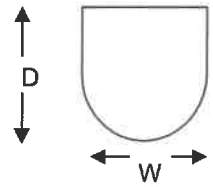
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 150 mm = 0.15 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.028 m^2
= 0.025 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.428 m

R = 0.059

S = 0.025 *(gradient of UC bet. start of UC & CP1, +22.45 - 22.35/ 4m)*

V = 1.49 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.042 m^3/s > Max. runoff = 0.001 m^3/s OK

Thus, Provide U-Channel with size of 225mm (150mm Deep)

DESIGN OF U-CHANNEL UB1 (For Area B1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

B1 = 819 m^2 H = 40.45 [(49.4 - 22.7)/66]*100 L = 69 m

t_o = **2.43** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 18 m

t_f = **4.50** sec.

$t_c = t_o + t_f$ = 2.51 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.350 (Steep grassland assumed as heavy soil)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 274.52 mm/hr & i = 318.44 mm/hr (16% increased)

QUB1 = 21.86 l/s (Refer Table 28 in SDM)
= 0.022 m^3/s

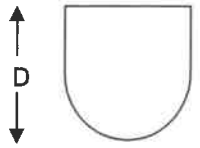
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 225 mm = 0.225 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.045 m^2
= 0.041 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.578 m

R = 0.070

S = 0.05 *(gradient of proposed UC between CP1 & CP2, +22.30 - +21.40/ 18m)*

V = 2.36 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.107 m^3/s > Max. runoff = 0.022 m^3/s OK

Thus, Provide U-Channel with size of 225mm

Summation QUA1, QUB1 = 0.023 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)

For channel UB1, Q = 0.107 m^3/s > Max. runoff = 0.023 m^3/s OK

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM (Revised 1)

DESIGN OF U-CHANNEL UC1 (For Area C1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

C1 = 45 m^2 H = 5.00 [(22.7 - 21.8)/18]*100 L = 18 m

t_o = **1.29** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 5 m

t_f = **1.25** sec.

$t_c = t_o + t_f$ = 1.31 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 300.38 mm/hr & i = 348.44 mm/hr (16% increased)

QUC1 = 3.57 l/s (Refer Table 28 in SDM)
= 0.004 m^3/s

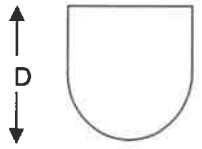
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 225 mm = 0.225 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.045 m^2
= 0.041 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.578 m

R = 0.070

S = 0.07 *(gradient of proposed UC between CP2 & CP3, +21.35 - +21.00/ 5m)*

V = 2.79 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.126 m^3/s > Max. runoff = 0.004 m^3/s OK

Thus, Provide U-Channel with size of 225mm

Summation QUA1, QUB1, QUC1 = 0.027 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)

For channel UC1, Q = 0.126 m^3/s > Max. runoff = 0.027 m^3/s OK

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM (Revised 1)

DESIGN OF U-CHANNEL UD1 (For Area D1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

D1 = 40.5 m^2 H = 5.00 [(22.7 - 21.8/18]*100 L = 18 m

t_o = **1.30** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 18 m

t_f = **4.50** sec.

$t_c = t_o + t_f$ = 1.38 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 298.62 mm/hr & i = 346.40 mm/hr (16% increased)

QUD1 = 3.19 l/s (Refer Table 28 in SDM)
= 0.003 m^3/s

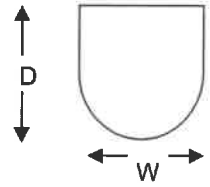
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 150 mm = 0.15 m
W = 225 mm = 0.225 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.028 m^2
= 0.025 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.428 m

R = 0.059

S = 0.08055 *(gradient of UC bet. start of UC & CP3, +22.45 - 21.00/ 18m)*

V = 2.68 m/s < Max. veolicity = 3.0 m^3/s Provide U-Channel

Q = A x V
= 0.076 m^3/s > Max. runoff = 0.003 m^3/s OK

Thus, Provide U-Channel with size of 225mm (150mm Deep)

Summation QUA1, QUB1, QUC, QUD1 = 0.030 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)
QUC1 = 0.004 m^3/s (Area C1)

According to GEO TGN 27, capacity of 300mm stepped channel is adequate.
(see attached sheet)

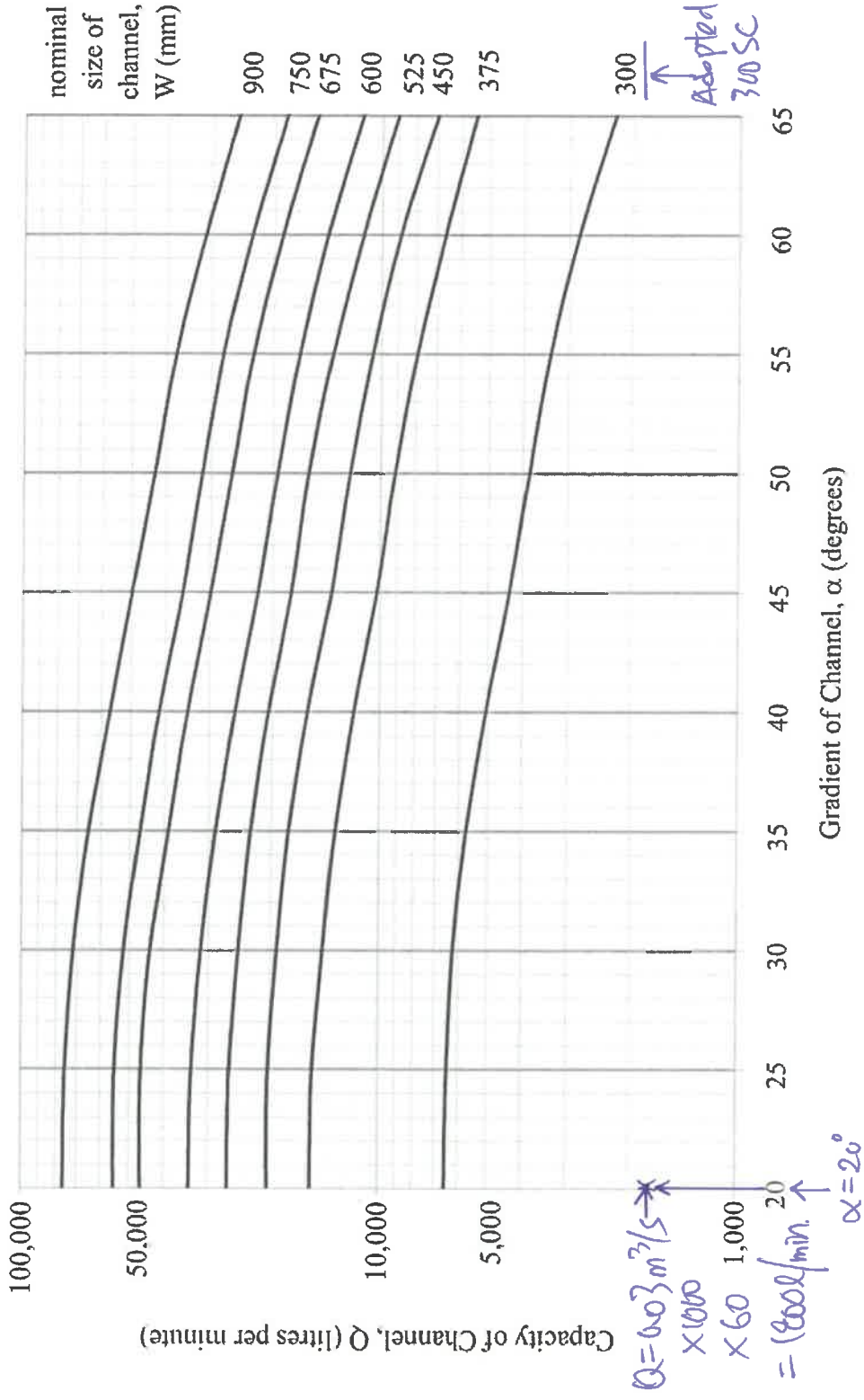
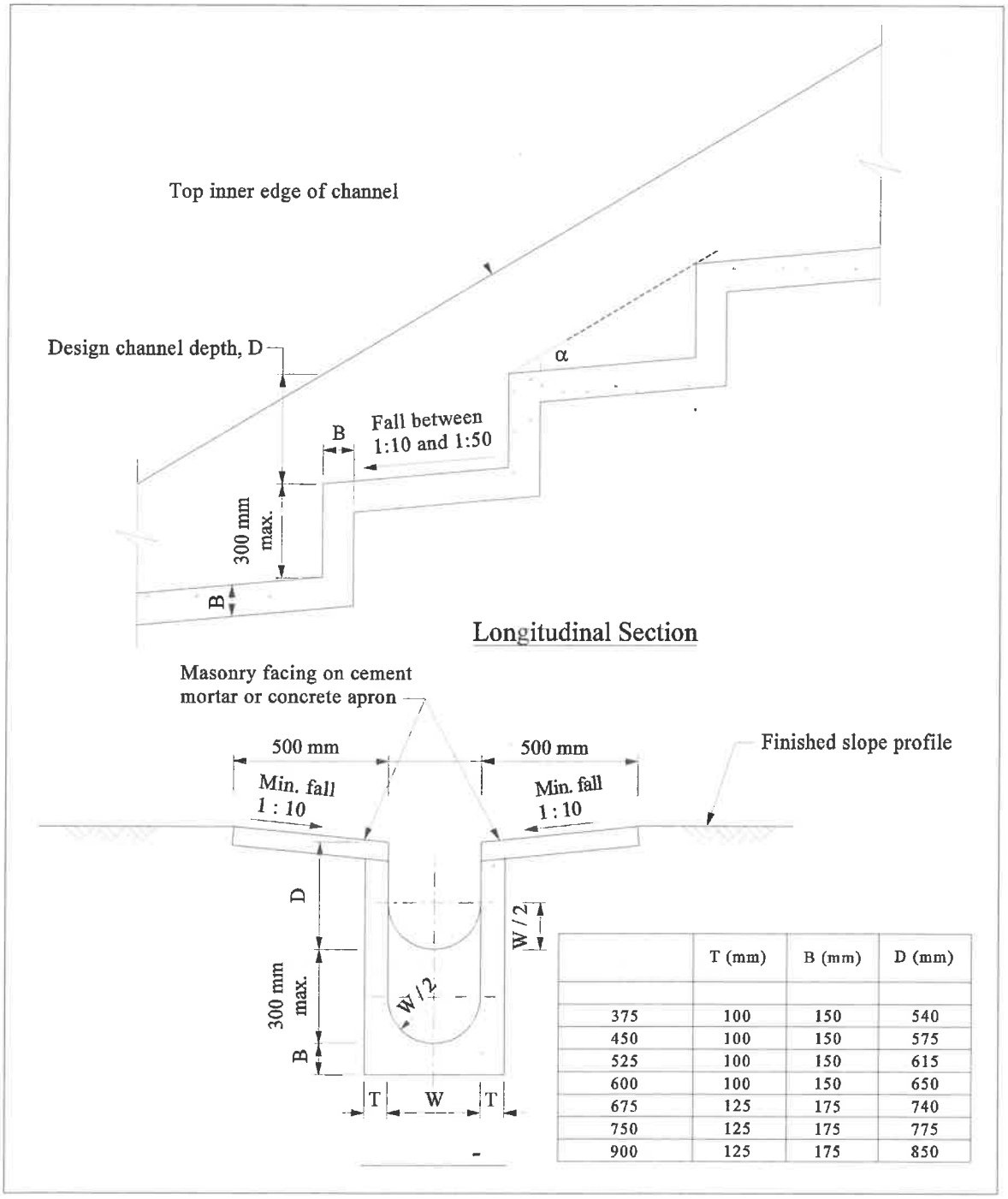


Figure 2 – Design Chart for Standard Sized Stepped Channels

300 SC (Between CP3 & CP4)

RESULT: CAPACITY OF 300SC IS ADEQUATE.

Figure 1 – Details of Standard Sized Stepped Channels



	T (mm)	B (mm)	D (mm)
375	100	150	540
450	100	150	575
525	100	150	615
600	100	150	650
675	125	175	740
750	125	175	775
900	125	175	850

DRAINAGE DESIGN FOR REBUILDING AT LOT NO. 371 IN DD32, HA WONG YI AU, TAI PO, N.T.
DESIGN OF DRAINAGE SYSTEM (Revised 1)

DESIGN OF U-CHANNEL UE1 (For Area E1)

1) TIME OF CONCENTRATION

$$t_o = 0.14465 \frac{L}{H^{0.2} A^{0.1}}$$ Equation (8.2) of Geotechnical Manual for Slopes

t_c = time of concentration (min)
t_o = inlet time (Time Taken for flow from the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time
A = area of catchment (m^2)
H = average fall (m per 100 m) from the summit of catchment to the point of design
L, Lc = distance in metres measured on the line of natural flow between the design section and that point of the catchment from which water would take the longest time to reach the design section

E1 = 55.5 m^2 H = 75.50 [(21.47 - 19.96/2]*100 L = 2 m

t_o = **0.08** min.

$t_f = \frac{Lc}{Vc}$ Vc = 4 m/s Lc = 12 m

t_f = **3.00** sec.

$t_c = t_o + t_f$ = 0.13 min.

2) MAXIMUM RUNOFF

$$Q = \frac{KiA}{3600}$$ Equation (8.1) of Geotechnical Manual for Slopes

Q = maximum runoff (litres/sec)
i = design mean intensity of rainfall (mm/hr) which is dependent upon the time of concentration
A = area of catchment (m^2)
K = runoff coefficient
K = 0.950 (Conservatively assumed as concrete surface)
(Ref. Stormwater Drainage Manual Section 7.5.2)

$i = a / (t_c+b)^c$ (The values of a, b and c in the determination of design rainfall intensity are based on the recommendations of "Stormwater Drainage Manual Table 3a)

For a 1 in 200 years retun period rainfall, a = 429.5 b = 2.05 c = 0.295

i = 341.22 mm/hr & i = 395.81 mm/hr (16% increased)

QUE1 = 5.00 l/s (Refer Table 28 in SDM)
= 0.005 m^3/s

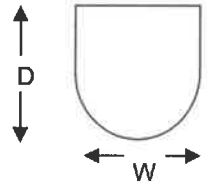
3) CAPACITY OF DESIGN U-CHANNEL

$$V = \frac{1}{n} R^{0.67} S^{0.5}$$ (Manning's Equation)

V = velocity (m/sec)
n = roughnes factor
R = hydraulic mean depth = A / P
A = wetted cross-sectional area (m^2)
P = wetted perimeter (m)
S = gradient of channel

n = 0.016 (Value recommended in Table 13 in SDM)

Size of U-channel, D = 300 mm = 0.3 m
W = 300 mm = 0.3 m



Assume the channel is full,

A = $(W/2)^2\pi/2 + (D-W/2)W$ = 0.080 m^2
= 0.072 m^2 (10% reduction in flow area)
(refer Section 9.3 in SDM)

P = $W\pi/2 + (D-W/2)2$ = 0.771 m

R = 0.094

S = 0.01 *(gradient of the existing UC, +19.67 - 19.64/ 3m, 1:100)*

V = 1.28 m/s < Max. veolicity = 4.0 m^3/s Provide U-Channel

Q = A x V
= 0.103 m^3/s > Max. runoff = 0.005 m^3/s OK

Thus, Provide U-Channel with size of 300mm (Existing)

Summation QUA1, QUB1, QUC, QUD1, QUE1 = 0.035 m^3/s
where QUA1 = 0.001 m^3/s (Area A1)
QUB1 = 0.022 m^3/s (Area B1)
QUC1 = 0.004 m^3/s (Area C1)
QUD1 = 0.003 m^3/s (Area D1)

For ex. 300 UC, Q = 0.103 m^3/s > Max. runoff = 0.035 m^3/s OK
Capacity of existing 300mm U-channel is adequate.

Copied from 'Stormwater Drainage Manual', 5th Edt. 2018.

routing through drainage channels. The same consideration shall also be applied when ground gradients vary greatly within the catchment.

(b) *Runoff Coefficient.* C is the least precisely known variable in the Rational Method. Proper selection of the runoff coefficient requires judgement and experience on the part of the designer. The value of C depends on the impermeability, slope and retention characteristics of the ground surface. It also depends on the characteristics and conditions of the soil, vegetation cover, the duration and intensity of rainfall, and the antecedent moisture conditions, etc. In Hong Kong, a value of C = 1.0 is commonly used in developed urban areas.

In less developed areas, the following C values may be used but it should be checked that the pertinent catchment area will not be changed to a developed area in the foreseeable future. Particular care should be taken when choosing a C value for unpaved surface as the uncertainties and variability of surface characteristics associated with this type of ground are known to be large. It is important for designer to investigate and ascertain the ground conditions before adopting an appropriate runoff coefficient. Designers may consider it appropriate to adopt a more conservative approach in estimation of C values for smaller catchments where any consequent increase in cost may not be significant. However, for larger catchments, the designers should exercise due care in the selection of appropriate C values in order to ensure that the design would be fully cost-effective.

Surface Characteristics	*Runoff coefficient, C**
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil**)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

* For steep natural slopes or areas where a shallow soil surface is underlain by an impervious rock layer, a higher C value of 0.4 - 0.9 may be applicable.

** Heavy soil refers to fine grain soil composed largely of silt and clay

(c) *Rainfall intensity.* i is the average rainfall intensity selected on the basis of the design rainfall duration and return period. The design rainfall duration is taken as the time of concentration, t_c. The Intensity-Duration-Frequency Relationship is given in Section 4.3.2.

(d) *Time of concentration.* t_c is the time for a drop of water to flow from the remotest point in the catchment to its outlet. For an urban drainage system,

$$t_c = t_o + t_f \qquad t_f = \sum_{j=1}^{n} \frac{L_j}{V_j}$$

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

Table 3a – Storm Constants for Different Return Periods of HKO Headquarters

Return Period T (years)	2	5	10	20	50	100	200	500	1000
a	499.8	480.2	471.9	463.6	451.3	440.8	429.5	414.0	402.1
b	4.26	3.36	3.02	2.76	2.46	2.26	2.05	1.77	1.55
c	0.494	0.429	0.397	0.369	0.337	0.316	0.295	0.269	0.251

Adopted

Table 3b – Storm Constants for Different Return Periods of Tai Mo Shan Area

Return Period T (years)	2	5	10	20	50	100	200
a	1743.9	2183.2	2251.3	2159.2	1740.1	1307.3	1005.0
b	22.12	27.12	27.46	25.79	19.78	12.85	7.01
c	0.694	0.682	0.661	0.633	0.570	0.501	0.434

Table 3c – Storm Constants for Different Return Periods of West Lantau Area

Return Period T (years)	2	5	10	20	50	100	200
a	2047.9	1994.1	1735.2	1445.6	1107.2	909.1	761.8
b	24.27	24.23	21.82	18.36	13.01	8.98	5.40
c	0.733	0.673	0.619	0.561	0.484	0.428	0.377

Table 3d – Storm Constants for Different Return Periods of North District Area

Return Period T (years)	2	5	10	20	50	100	200
a	1004.5	1112.2	1157.7	1178.6	1167.6	1131.2	1074.8
b	17.24	18.86	19.04	18.49	16.76	14.82	12.47
c	0.644	0.614	0.597	0.582	0.561	0.543	0.523

Table 12 - Frictional Resistance Equations

Equations	Formulation	Limit of Applications
Chézy	$\overline{V} = C\sqrt{RS_f}$	rough turbulent
Manning	$\overline{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$ Adopted	rough turbulent
Darcy-Weisbach	$\overline{V} = \sqrt{\frac{8g}{f}}\sqrt{RS_f}$	laminar/turbulent
Hagen-Poiseuille	$\overline{V} = \frac{gS_f R^2}{2\nu}$	laminar
Colebrook-White	$\overline{V} = -\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}}\right]$	transition between rough and smooth turbulent flow
Hazen-Williams	$\overline{V} = 0.85C_{HW}R^{0.63}S_f^{0.54}$	pipe flow $\overline{V} < 3m/s$, diameter > 0.05m

Table 13 - Values of n to be used with the Manning equation

Source: Brater, E.F. & King, H.W. (1976)

Surface	Best	Good	Fair	Bad
Uncoated cast-iron pipe	0.012	0.013	0.014	0.015
Coated cast-iron pipe	0.011	0.012*	0.013*	
Commercial wrought-iron pipe, black	0.012	0.013	0.014	0.015
Commercial wrought-iron pipe, galvanized	0.013	0.014	0.015	0.017
Smooth brass and glass pipe	0.009	0.010	0.011	0.013
Smooth lockbar and welded "OD" pipe	0.010	0.011*	0.013*	
Riveted and spiral steel pipe	0.013	0.015*	0.017*	
Vitrified sewer pipe	0.010	0.013*	0.015	0.017
Common clay drainage tile	0.011	0.012*	0.014*	0.017
Glazed brickwork	0.011	0.012	0.013*	0.015
Brick in cement mortar; brick sewers	0.012	0.013	0.015*	0.017
Neat cement surfaces	0.010	0.011	0.012	0.013
Cement mortar surfaces	0.011	0.012	0.013*	0.015
Concrete pipe	0.012	0.013	0.015*	0.016
Wood stave pipe	0.010	0.011	0.012	0.013
Plank flumes - Planed	0.010	0.012*	0.013	0.014
- Unplaned	0.011	0.013*	0.014	0.015
- With battens	0.012	0.015*	0.016	
Concrete-lined channels	0.012	0.014*	0.016*	0.018
Cement-rubble surface	0.017	0.020	0.025	0.030
Dry-rubble surface	0.025	0.030	0.033	0.035
Dressed-ashlar surface	0.013	0.014	0.015	0.017
Semicircular metal flumes, smooth	0.011	0.012	0.013	0.015
Semicircular metal flumes, corrugated	0.0225	0.025	0.0275	0.030
Canals and ditches				
1. Earth, straight and uniform	0.017	0.020	0.0225*	0.025
2. Rock cuts, smooth and uniform	0.025	0.030	0.033*	0.035
3. Rock cuts, jagged and irregular	0.035	0.040	0.045	
4. Winding sluggish canals	0.0225	0.025*	0.0275	0.030
5. Dredged-earth channels	0.025	0.0275*	0.030	0.033
6. Canals with rough stony beds, weeds on earth banks	0.025	0.030	0.035*	0.040
7. Earth bottom, rubble sides	0.028	0.030*	0.033*	0.035
Natural-stream channels				
1. Clean, straight bank, full stage, no rifts or deep pools	0.025	0.0275	0.030	0.033
2. Same as (1) but some weeds and stones	0.030	0.033	0.035	0.040
3. Winding some pools and shoals, clean	0.033	0.035	0.040	0.045
4. Same as (3), lower stages, more ineffective slope and sections	0.040	0.045	0.050	0.055

(k) Table 28 Rainfall Increase due to Climate Change

Replace the table with the following:

Table 28 – Rainfall Increase due to Climate Change

	Rainfall Increase
Mid 21st Century	11.1%
End of 21st Century	16.0%

Notes:
1. The rainfall increase is relative to the average of 1995-2014.
2. Mean projection values are adopted in the table.
3. Mid 21st century refers to years 2041 – 2060; end of 21st century refers to years 2081 – 2100.

(l) Table 29 Mean Sea Level Rise due to Climate Change

Add the following table:

Table 29 – Mean Sea Level Rise due to Climate Change

	Mean Sea Level Rise
Mid 21st Century	0.20 m
End of 21st Century	0.47 m

Notes:
1. The mean sea level rise is relative to the average of 1995-2014.
2. Median projection values are adopted in the table.
3. Mid 21st century refers to period around 2050; end of 21st century refers to period around 2090.

(m) Table 30 Storm Surge Increase due to Climate Change

Add the following table:

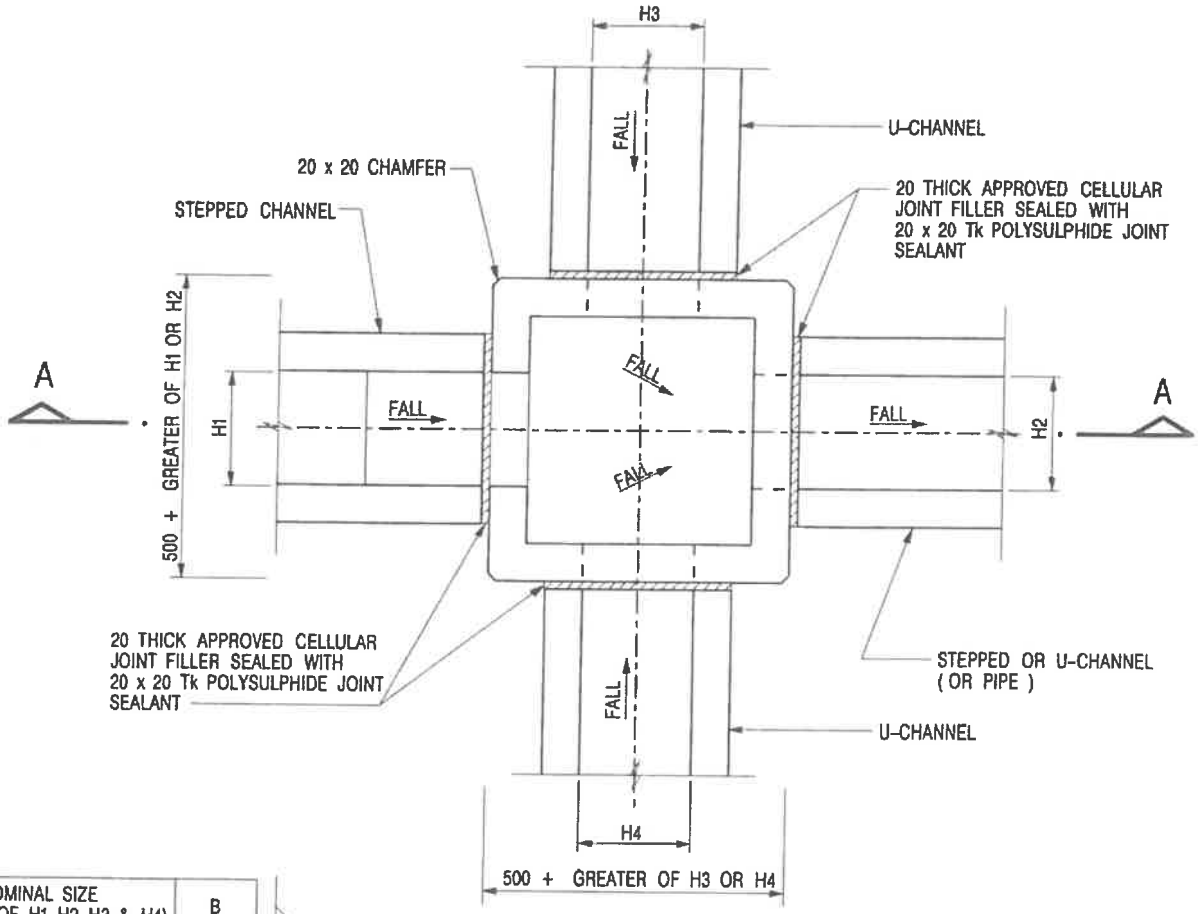
Table 30 –Storm Surge Increase due to Climate Change

Table 30a Storm Surge Increase in Mid 21st Century

Return Period (Years)	**North Point/ Quarry Bay (m)**	**Tai Po Kau (m)**	**Tsim Bei Tsui (m)**	**Tai O (m)**
2	0.04	0.05	0.05	0.03
5	0.05	0.07	0.06	0.05
10	0.06	0.08	0.08	0.05
20	0.07	0.10	0.09	0.06
50	0.08	0.13	0.11	0.08
100	0.09	0.15	0.12	0.09
200	0.10	0.17	0.13	0.10

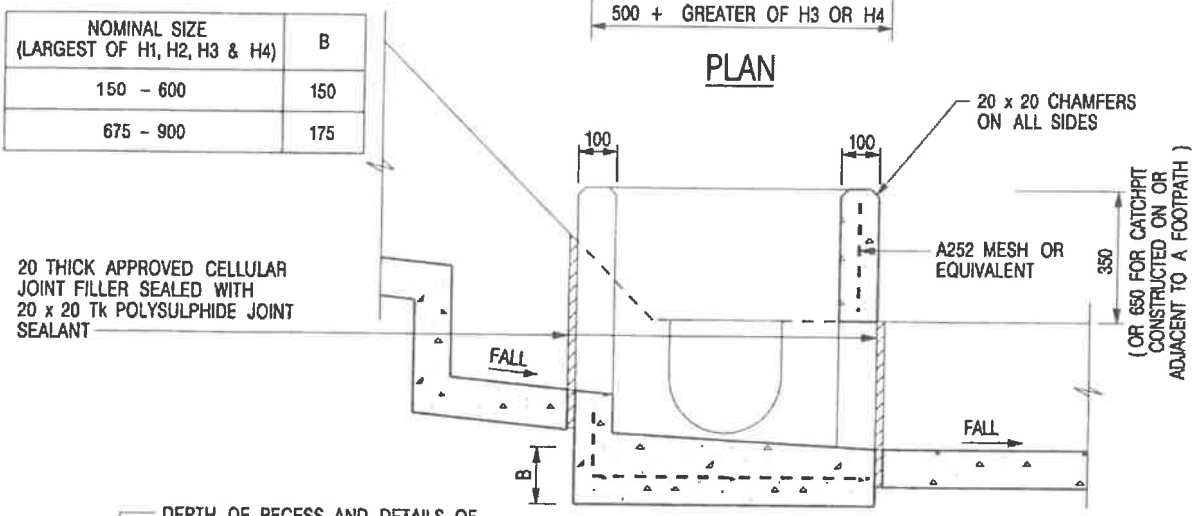
Notes: Mid 21st century refers to period around 2050.

CEDD Engineering and Development Department (CEDD) Standard Drawings (Reference Only)

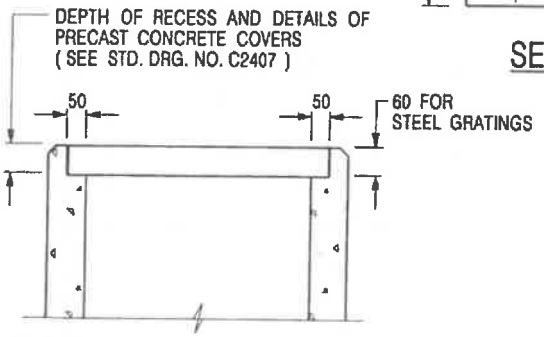


PLAN

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



SECTION A - A



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

REF.	REVISION	SIGNATURE	DATE
-	FORMER DRG. NO. C2405J.	Original Signed	03.2015

STANDARD CATCHPIT DETAILS

(SHEET 1 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

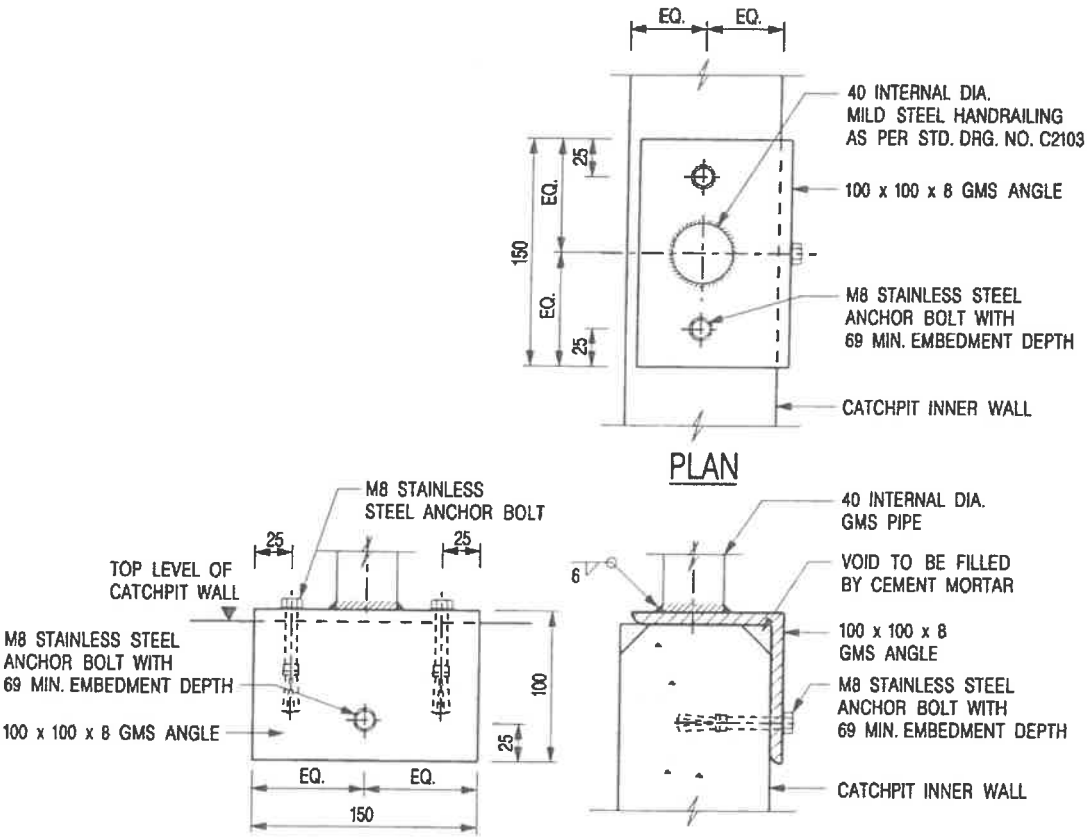
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2405 /1

卓越工程 建設香港

We Engineer Hong Kong's Development



DETAIL 'J' – FIXING DETAILS FOR HANDRAILING ON TOP OF CATCHPIT WALL

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAILS ON SHEET 2 OR SHEET 3) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
7. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON SHEET 5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
8. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 mm c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
9. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
10. ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
11. UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
12. ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
13. ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
14. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

REF.	REVISION	SIGNATURE	DATE
–	FORMER DRG. NO. C2405J.	Original Signed	03.2015

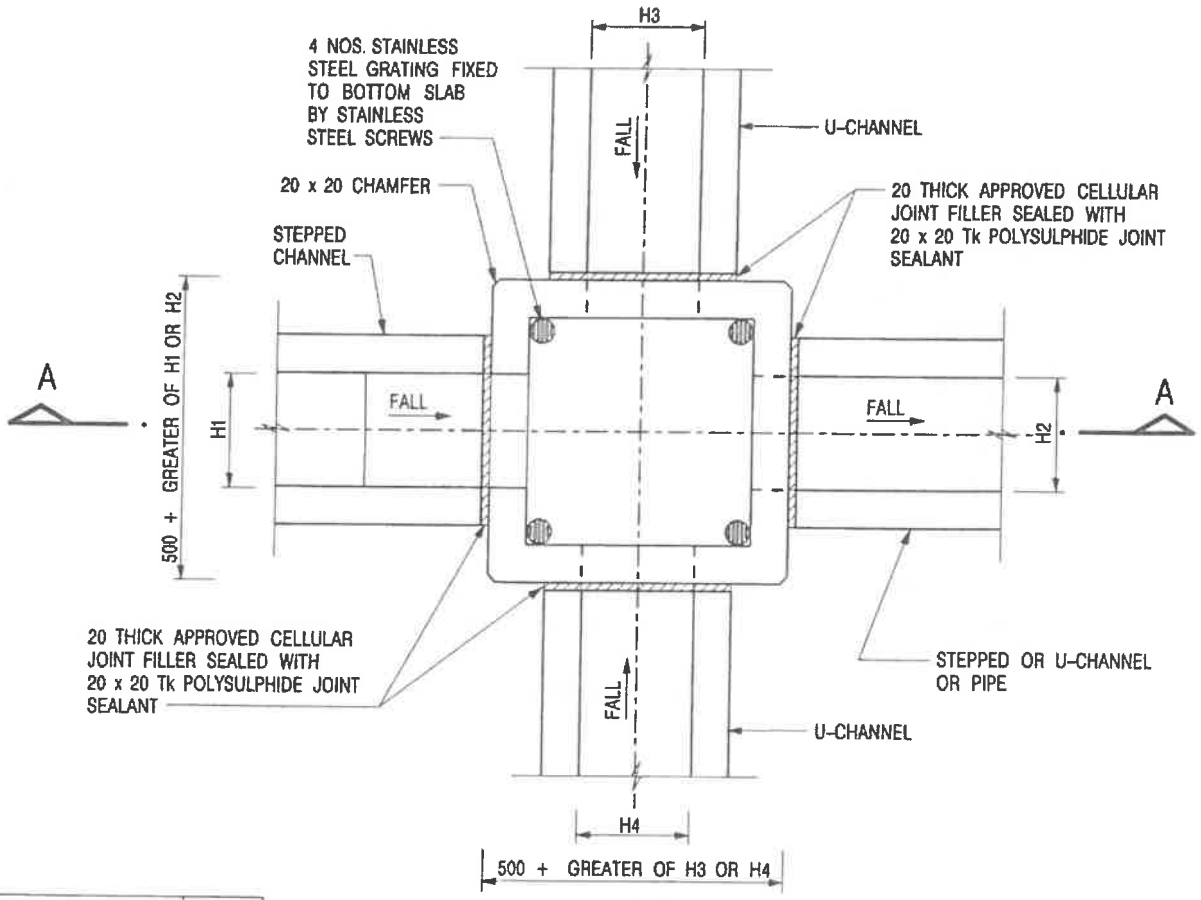
STANDARD CATCHPIT DETAILS

(SHEET 5 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

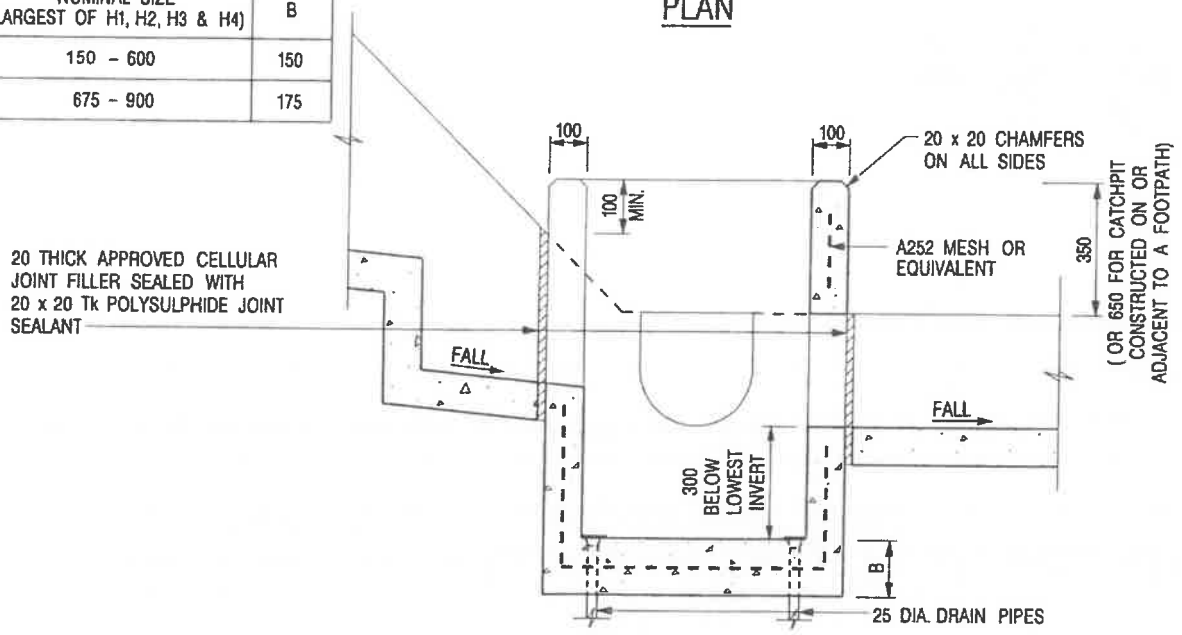
SCALE AS SHOWN	DRAWING NO. C2405 /5
DATE JAN 1991	

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



PLAN

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



SECTION A – A

NOTES:

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

REF.	REVISION	SIGNATURE	DATE
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015

CATCHPIT WITH TRAP

(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

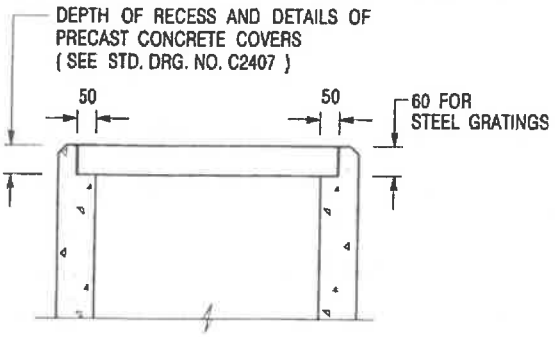
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1

卓越工程 建設香港

We Engineer Hong Kong's Development



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

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

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

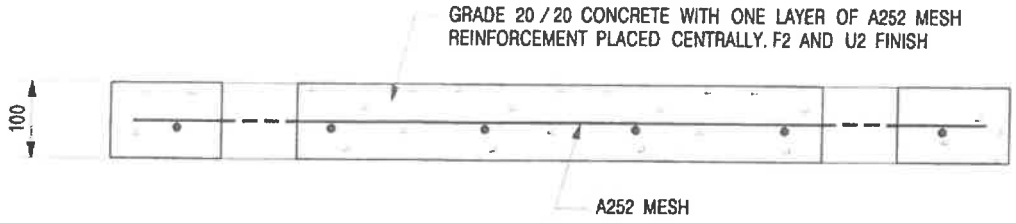
CATCHPIT WITH TRAP (SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

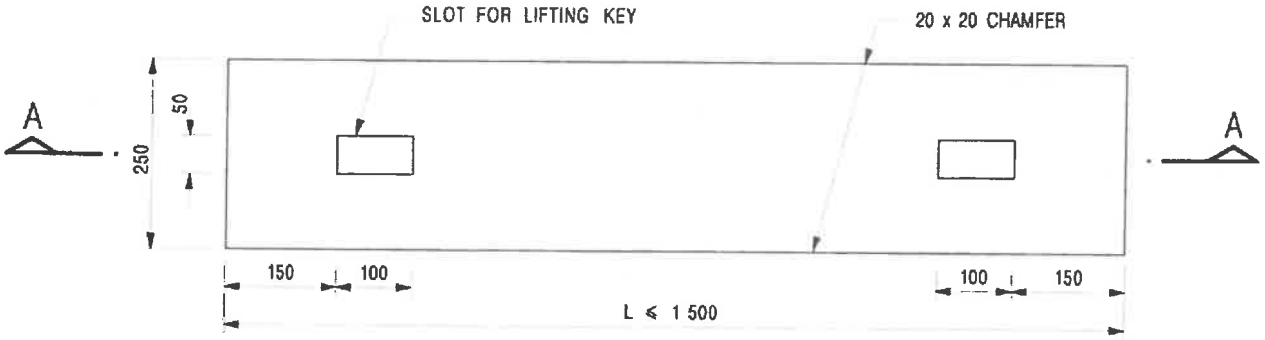
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /2A

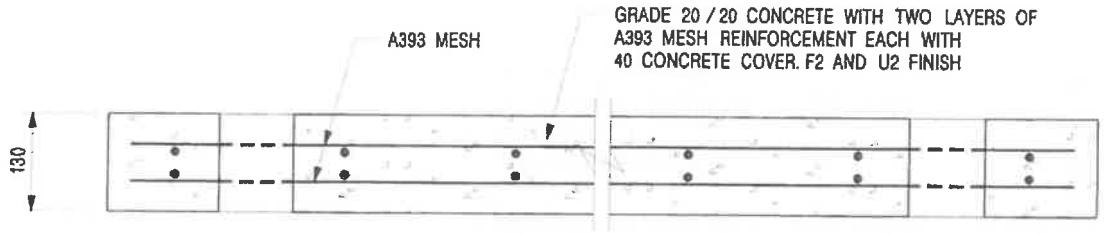


SECTION A - A

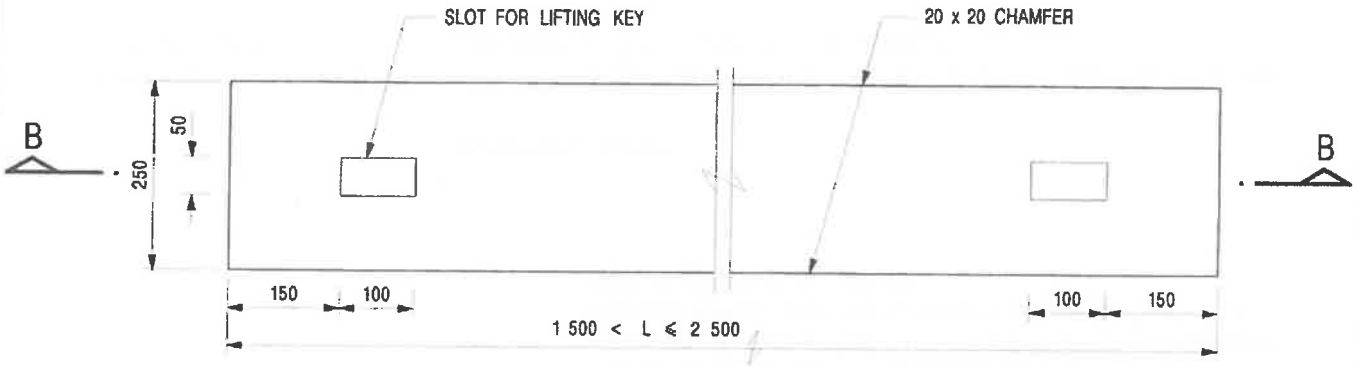


PLAN

TYPE 1 - FOR SPAN UP TO 1.5 m



SECTION B - B



PLAN

TYPE 2 - FOR SPANS 1.5 m TO 2.5 m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL EXTERNAL EDGES OF THE COVERS SHALL BE 20mm CHAMFERED.

REF.	REVISION	SIGNATURE	DATE
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002

PRECAST CONCRETE COVERS FOR CATCHPIT AND SAND TRAP

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

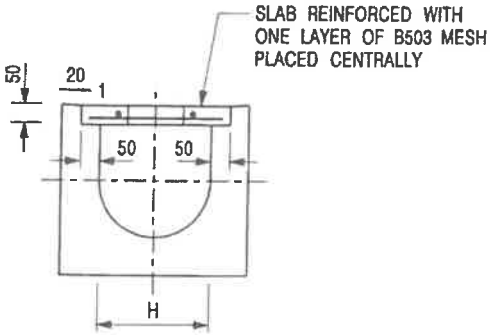
SCALE 1 : 10

DATE JAN 1991

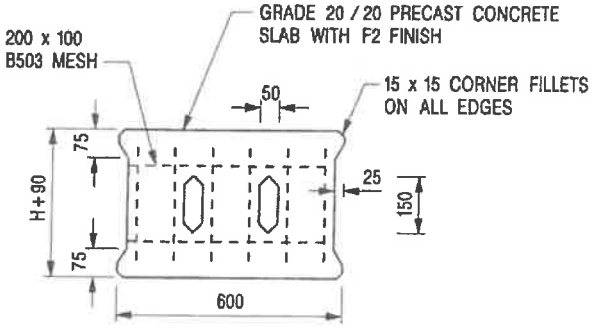
DRAWING NO. C2407B

興土木 利民生 齊拓展 創明天

We bring the best engineering to life



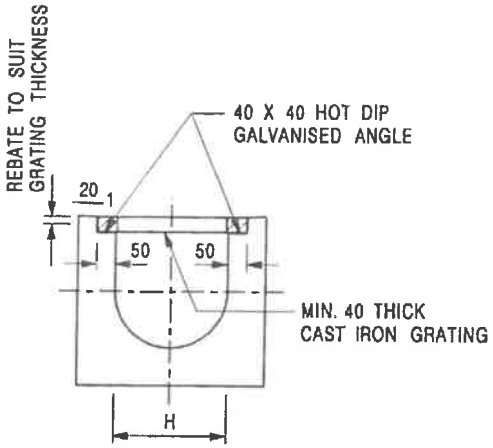
TYPICAL SECTION



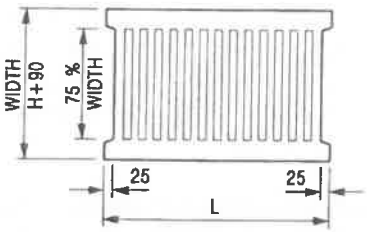
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

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

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

COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

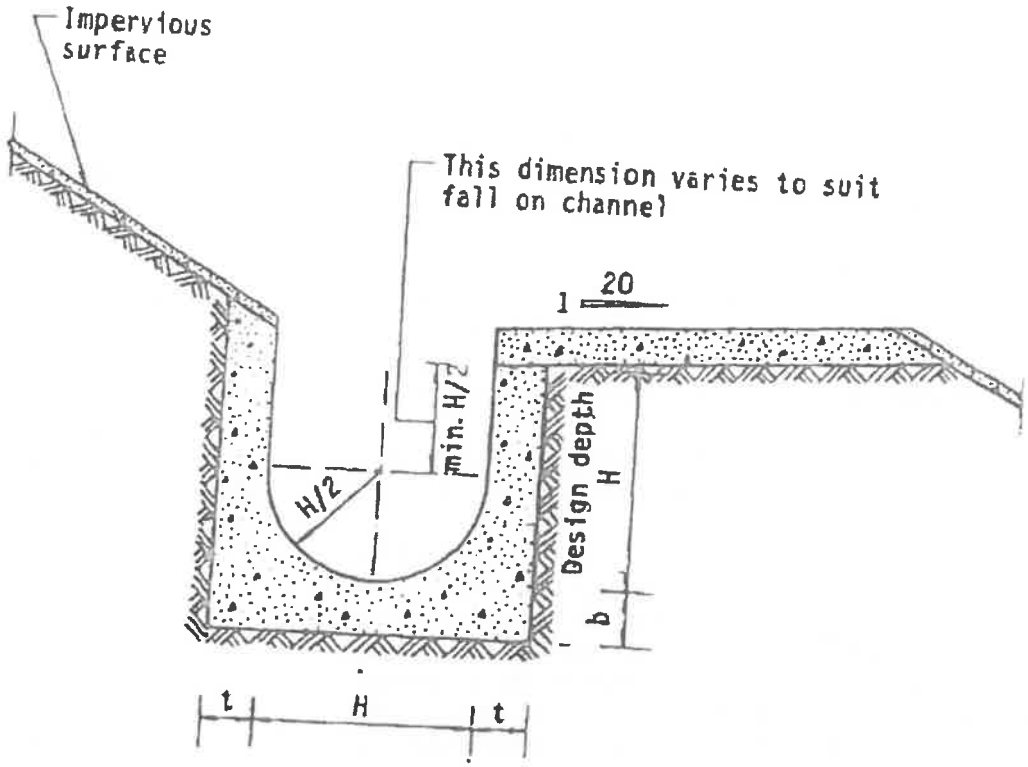
SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

卓越工程 建設香港

We Engineer Hong Kong's Development



Dimensions of U - channel		
Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
150 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

Copied from 'Geotechnical Manual for Slopes'

Lot Index Plan
&
Dimension Plan of Proposed Rebuilding on Lot 371

地段索引圖 LOT INDEX PLAN

地政總署測繪處 Survey and Mapping Office, Lands Department

比例尺 SCALE 1 : 1 000

米 metres 10 0 10 20 30 40 50 米 metres

Locality :

Lot Index Plan No. : ags_S00000073555_0001

District Survey Office : Lands Information Center

Date : 13-May-2021

Reference No. : 7-NW-10C,7-NW-15A

香港特別行政區政府 — 版權所有
© Copyright reserved - Hong Kong SAR Government

SMO-P01 20210513145611 10

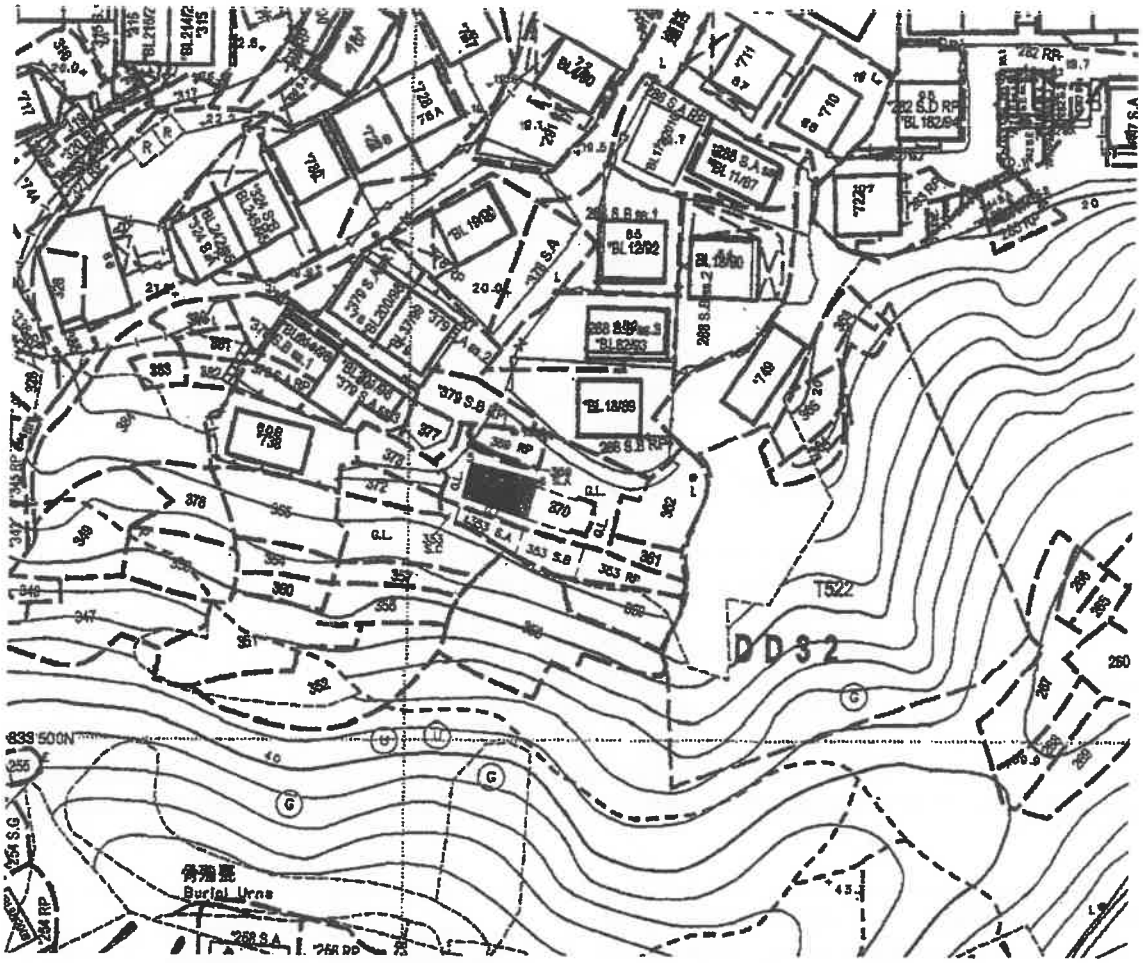
摘要說明：本地段索引圖在其背景的地形圖上標示了各種永久和短期持有的土地的圖像界線。這些土地包括私人地段、政府撥地、短期租約批地，以及其他作核准用途的土地。請注意：(1)本索引圖上的資料會被不時更新而不作事先通知；(2)索引圖的更新或會延後於有關資料的實際變更；以及(3)本索引圖中顯示的界線僅供識別之用，資料是否準確可靠，應徵詢專業土地測量師的意見。

免責說明：如因使用本地段索引圖，或因所依據的本索引圖資料出錯、遺漏、過時或有誤差而引致任何損失或損害，政府概不承擔任何法律責任。

Explanatory notes : This plan shows the graphical boundaries of different kinds of permanent and temporary land holdings with the topographic map in the backdrop. The land holdings as shown may include private lots, government land allocations, short term tenancies and other permitted uses of land. It must be noted that: (1) the information shown on this plan is subject to update without prior notification; (2) there may be time lag between an update and the related changes taken place, and (3) the graphical boundaries as shown are for identification purpose only and interpretation of their accuracy and reliability requires the advice from professional land surveyor.

Disclaimer : The Government shall not be responsible for any loss or damage howsoever arising from the use of this plan or in reliance upon its correctness, completeness, timeliness or accuracy.

Dimension Plan of the Proposed Rebuilding on Lot 371 in D.D. 32 Tai Po



Coloured Pink Area 37.6 Square Metres (About)

Scale 1 : 1000

Balcony

to be connected to the Public Sewage

Side	Bearing ° ' "	Distance in Metres	Pt	Co-ordinate Data (1980 Datum) N	E	Remarks
1 - 2	104 21 25	9.234	1	833536.312	836208.105	
2 - 3	196 18 36	4.499	2	833534.023	836217.051	
3 - 4	288 56 48	8.994	3	833529.705	836215.787	
4 - 1	12 37 08	3.778	4	833532.625	836207.280	
Co-ordinates of the balcony						
5 - 6	104 21 25	9.234	5	833537.184	836208.329	
6 - 2	194 21 25	0.900	6	833534.894	836217.274	
2 - 1	284 21 25	9.234	2	833534.023	836217.051	
1 - 5	14 21 25	0.900	1	833536.312	836208.105	

T.H. & ASSOCIATES LIMITED
(陳德慶測量有限公司)
Approved By

T.H.CHAN (ALS, MHKIS, MRICS,RPS(LS))
Authorized Land Surveyor
Tel: 26577726 Fax: 26588757 e-mail: thchan_survey@yahoo.com

Survey Sheet No.: 7-NW-15A

Plan No.: TP/32/371-RE

Date : 21-07-2020

Site Photos

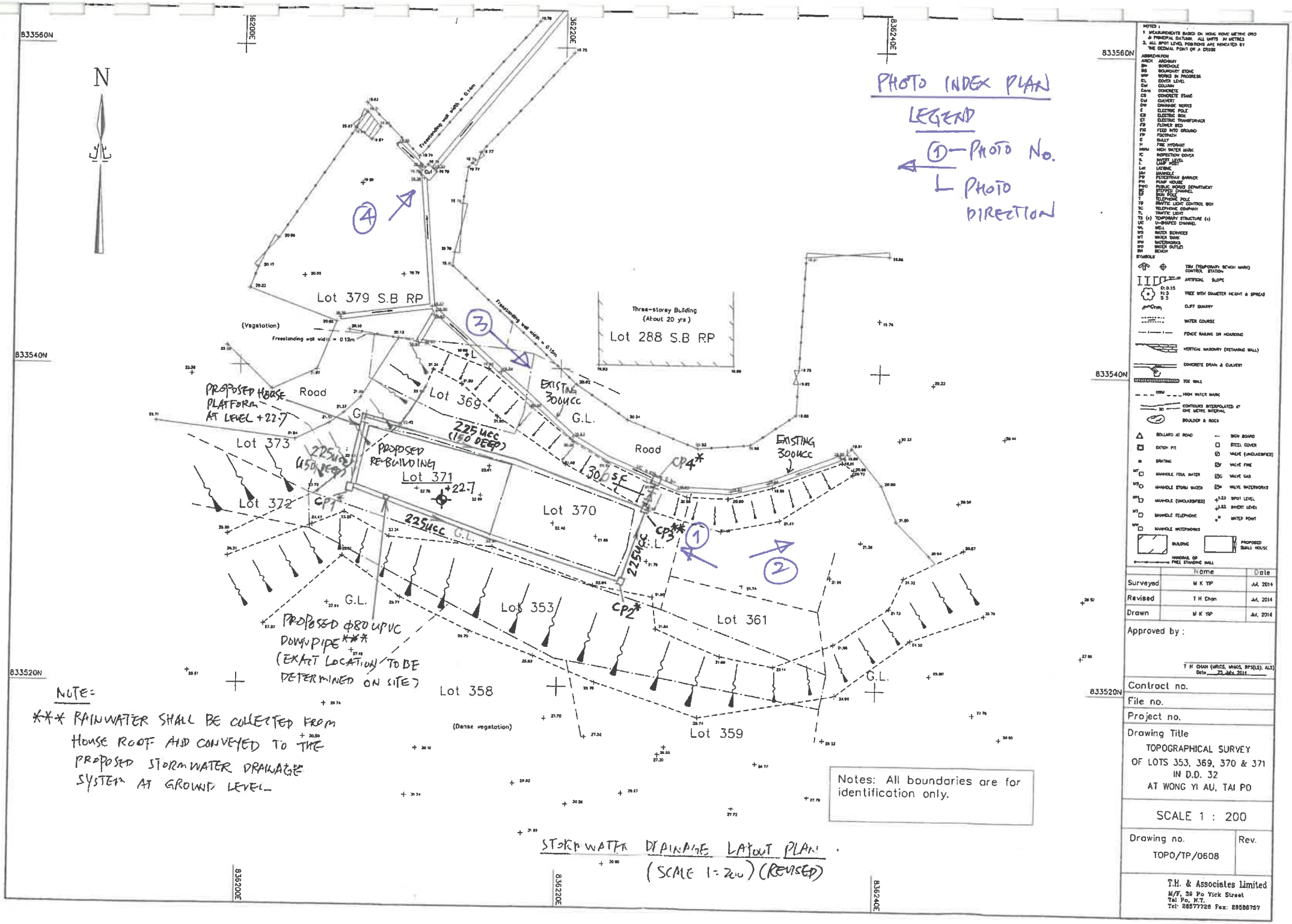

833560N
833540N
833520N
836200E
836220E
836240E
N
JL
PHOTO INDEX PLAN
LEGEND
① — PHOTO No.
PHOTO DIRECTION
Lot 379 S.B RP
(Vegetation)
Freestanding wall width = 0.12m
Freestanding wall width = 0.15m
Freestanding wall width = 0.14m
Three-storey Building
(About 20 yrs)
Lot 288 S.B RP
PROPOSED HOUSE PLATFORM AT LEVEL +22.7
Road
Lot 369
EXISTING 300ΦCC
G.L.
225ΦCC (150 DEEP)
Lot 373
PROPOSED RE-BUILDING
Lot 371
+22.7
Lot 372
CP1*
Lot 370
CP3**
CP4*
225ΦCC
Lot 353
CP2*
Lot 361
PROPOSED Φ80 UPVC DOWNPIPE*** (EXACT LOCATION TO BE DETERMINED ON SITE)
Lot 358
(Dense vegetation)
Lot 359
NOTE:
*** RAINWATER SHALL BE COLLECTED FROM HOUSE ROOF AND CONVEYED TO THE PROPOSED STORMWATER DRAINAGE SYSTEM AT GROUND LEVEL.
Notes: All boundaries are for identification only.
STORMWATER DRAINAGE LAYOUT PLAN
(SCALE 1:200) (REVISED)
NOTES :
1. MEASUREMENTS BASED ON HONG KONG METRIC GRID & PRINCIPAL DATUM. ALL UNITS IN METRES
2. ALL SPOT LEVEL POSITIONS ARE INDICATED BY THE DECIMAL POINT OF A CROSS
ABBREVIATION
SYMBOLS
Name
Date
Surveyed
M K YIP
Jul. 2014
Revised
T H Chan
Jul. 2014
Drawn
M K YIP
Jul. 2014
Approved by :
T H CHAN (MRICS, MHKIS, RPS(LS), ALS)
Date 25 July 2014
Contract no.
File no.
Project no.
Drawing Title
TOPOGRAPHICAL SURVEY
OF LOTS 353, 369, 370 & 371
IN D.D. 32
AT WONG YI AU, TAI PO
SCALE 1 : 200
Drawing no.
TOPO/TP/0608
Rev.
T.H. & Associates Limited
M/F, 39 Po Yick Street
Tai Po, N.T.
Tel: 26577726 Fax: 26586757

Photo No. 1 – General view of the Site
(looking northwest) [ref. no. DSCN3882 dated 27 March 2023]

Photo No. 2 –General view of the Site
(looking northeast) [ref. no. DSCN3879 dated 27 March 2023]

Photo No. 3 - General view of the Site
(looking southeast) [ref. no. DSCN3890 dated 27 March 2023]

Photo No. 4 - General view of the Site with existing stormwater drainage system
(looking northeast) [ref. no. DSCN3891 dated 27 March 2023]

T.H. & ASSOCIATES LIMITED
陳德慶測量有限公司

Managing Director
T. H. CHAN 陳德慶
MHKIS, MRICS, RPS (LS), ALS

Consultant
J. C. NG 吳佐材
MHKIS, MRICS, ALS

G/F, 37 Po Yick Street, Tai Po, N.T.
香港新界大埔蒲益街三十七號地下

Tel 電話: 26577726 Fax 傳真: 26588757
E-mail 電郵: thchan_survey@yahoo.com

Your ref:
Our ref:

Date: 10th July, 2023.

The Secretary of Town Planning Board,
Dear Sir/Madam

Sec. 16 Planning Application of Lot 371 in D.D. 32
Ref: A/TP/687

We were informed by Miss Wu (Tel: 2158 6381) that the title of the application should be proposed New Territories Exempted House (App. B refers).

Now, the Plan Title had been amended and fresh copy is forwarded by Fax to you for your notification.

We are sorry for any inconvenience caused.

T.H. & Associates Ltd.

Fax: 2877 0245

RECEIVED
10 JUL 2023
Town Planning Board

Appendix B

Proposed New Territories Exempted House Plan of LOT NO. 371 in D.D. 32

SCALE 1:1000