METRO PLANNING COMMITTEE
OF THE TOWN PLANNING BOARD

MPC Paper No. 8/16

For Consideration by the
Metro Planning Committee on 10.6.2016

VARIATION OF APPROVAL CONDITIONS OF THE PLANNING PERMISSION FOR THE APPROVED HONG KONG POLYTECHNIC UNIVERSITY (PHASE 8) DEVELOPMENT AT THE JUNCTION OF CHATHAM ROAD SOUTH AND PRINCESS MARGARET ROAD, YAU MA TEI, KOWLOON UNDER APPLICATION NO. A/K2/184-2

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Variation of Approval Conditions of the Planning Permission for the Approved Hong Kong Polytechnic University (Phase 8) Development at the Junction of Chatham Road South and Princess Margaret Road, Yau Ma Tei, Kowloon under Application No. A/K2/184-2

1. Purpose and Background

1.1 This paper is to invite Members to consider the request from the applicant, the Hong Kong Polytechnic University (HKPU), submitted on 1.6.2016 (**Appendix I**) for variation of approval conditions (a) and (b) of the planning permission under Application No. A/K2/184-2. The applicant proposed to replace the proposed 'underpass' by 'footbridge' under the above approval conditions.

1.2 The concerned approval conditions (a) and (b) under No. A/K2/184-2 are recapitulated below:

(a) the submission of a risk assessment plan and contingency plan in relation to the construction of the proposed underpass at Chatham Road South to the satisfaction of the Director of Highways or of the Town Planning Board (the Board); and

(b) the design, implementation and maintenance of the proposed underpass to the satisfaction of the Commissioner for Transport (C for T) or of the Board.

The approval letter of Application No. A/K2/184-2 dated 18.5.2010 is at **Appendix II**.

1.3 For background information, Application No. A/K2/184 for proposed education institution and minor relaxation of maximum gross floor area (GFA) restriction for the HKPU Phase 8 development, including the underpass proposal (**Plan 2**) across Chatham Road South as the main pedestrian access for connecting the existing HKPU main campus to the HKPU Phase 8 development, within the "Government, Institution or Community (1)" ("G/IC(1)") zone on the draft Yau Ma Tei Outline Zoning Plan No. S/K2/22 (the OZP) (**Plans 1 and 2**) was approved with conditions by the Metro Planning Committee (the Committee) of the Board on 10.10.2008.

1.4 On 23.4.2010, the applicant submitted an application for minor amendments to the approved development scheme under section 16A of the Town Planning Ordinance (the Ordinance) (No. A/K2/184-2)[1], which was approved with conditions by the Director of Planning under the delegated authority of the Board

[1] Application No. A/K2/184-1 was withdrawn by the applicant.

on 13.5.2010 (**Appendix II**). The first set of general building plans for the proposed development was approved by the Building Authority (BA) in January 2009 and the development was deemed to have commenced. The phased occupation permit[2] for Phase 1 and Phase 2 of the HKPU Phase 8 development was issued by the BA on 8.5.2013. Most of the Phase 8 development has been completed except the covered area linking with the underpass. The layout at LG2/F, G/F and P/F under the approved scheme (No. A/K2/184-2) are shown in **Drawings 1 to 3**.

1.5 According to Section 46 of the Interpretation and General Clauses Ordinance (Cap. 1), the Committee has the power to amend the permission granted.

2. Justifications from the Applicant

The applicant has provided the following justifications for the proposed variation of approval conditions (a) and (b):

(a) A pedestrian underpass was originally planned under the approved scheme (No. A/K2/184-2). Despite that there is an existing underpass connecting the main campus to Phase 8 development, this link is not a barrier-free access, and is winding and narrow with level differences. The proposed underpass is intended to provide a direct, safe and barrier free pedestrian link. During the construction of the underpass, there was soil instability problem. The construction work was suspended since December 2011. Although the proposed underpass was technically feasible, there was unforeseeable high risk implication on Chatham Road South. The applicant did not proceed further with the underpass proposal. The technical difficulties in resuming the construction of the underpass are in Annex A of **Appendix I**.

(b) A technical feasibility study was conducted to investigate whether a footbridge can be constructed in lieu of an underpass in the vicinity of Phase 8 development (Annex B of **Appendix I**). Subsequently, the design of the proposed footbridge has been revised and submitted to the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS), and the proposal was ultimately accepted on 21.7.2015 (**Drawings 4 to 6**).

(c) Construction Traffic Impact Assessment (Annex F of **Appendix I**) and Visibility Study on Chatham Road South in relation to the proposed footbridge (Annex G of **Appendix I**) were submitted to the Transport Department (TD) and TD has no in-principle objection to the submissions.

(d) The footbridge design will not cause adverse visual impact or adverse air ventilation impact on the surroundings. Some trees will be affected, but this could be addressed via approval conditions. Upon approval of the proposed variation, comprehensive landscape proposals will be submitted to concerned department(s).

[2] Phase 1 covered area of LG2/F to 5/F except portions to be completed in Phase 3; Phase 2 covered area of 6/F to Top Roof/F; Phase 3 covered area linking with the underpass from LG2/F to 1/F.

(e) Other than the above changes, the development scheme remains unchanged. The proposed variation to approval conditions will not trigger material change to the approved scheme (No. A/K2/184-2). The applicant will be responsible for the design, construction and maintenance of the proposed footbridge.

(f) On 19.5.2016, the applicant consulted the Traffic, Transport and Housing Committee of the Yau Tsim Mong District Council (DC) regarding the proposed footbridge project. The proposal received general supports from the DC members at the meeting.

3. Comments from Relevant Government Departments

3.1 C for T noted that the applicant could not implement the construction of the proposed underpass in relation to condition (b) due to unforeseen ground conditions and has proposed to construct a footbridge as an alternative. In this connection, he has no objection in principle to the proposal of replacing the wording of 'underpass' in the original approval condition by 'footbridge' with a view to facilitating the implementation of the proposed footbridge provided that the applicant will submit a Traffic Impact Assessment to identify the traffic impacts associated with the proposed footbridge in lieu of underpass, and to propose and implement suitable remedial measures, if identified, in the design, construction and operation of the proposed footbridge to the satisfaction of the C for T.

3.2 The Chief Highway Engineer/Kowloon, Highways Department (CHE/K, HyD) noted that the project proponent had encountered technical difficulties causing undue settlement to the Chatham Road when pursuing the site investigation works of the underpass proposal, and thus has proposed to revise the underpass to footbridge proposal. He has no objection to the revised proposal and any associated variation to the approval conditions. Condition (a) shall be retained (allowing replacement of 'underpass' by 'footbridge') due to the potential risk to the section of heavily trafficked Chatham Road upon implementation of the associated works for the proposed footbridge in view of the said previous damage to Chatham Road. Condition (b) is under TD's jurisdiction and he has no objection to replacing 'underpass' by 'footbridge' in the content.

3.3 The District Lands Officer/Kowloon West, Lands Department (LandsD) indicated that the applicant has submitted a lease modification application to construct a footbridge across Chatham Road South in lieu of the pedestrian underpass. Such application is being processed by LandsD in the capacity of the Landlord. There is no guarantee that such application would be approved and if approved, it would be subject to such terms and conditions as may be imposed by LandsD as its discretion. The road works in connection with the proposed footbridge will also invoke statutory procedure under the Roads (Works, Use and Compensation) Ordinance (Cap. 370). There is no guarantee that authorisation will be given to the road works associated with the proposed footbridge by the appropriate authority. Other detailed comments are in **Appendix III**.

3.4 Other Government departments/bureau consulted including the District Officer (Yau Tsim Mong), Home Affairs Department, the Project Manager/Kowloon, Civil Engineering and Development Department, and the Education Bureau either have no objection to or no comment on the proposed variations.

4. Planning Department's Views

4.1 The imposition of approval condition (b) (i.e. 'the design, implementation and maintenance of the proposed underpass') was to take forward the underpass proposal submitted by the applicant, whereas condition (a) (i.e. 'the submission of a risk assessment plan and contingency plan in relation to the construction of the proposed underpass at Chatham Road South') was a request by CHE/K, HyD in response to the original underpass proposal submitted by the applicant. However, as advised by the applicant, due to problem of soil instability and unforeseeable high risk implication on Chatham Road South, the construction of the underpass was suspended since December 2011. C for T and CHE/K, HyD have no in-principle objection to the proposed variation of the concerned approval conditions (a) and (b) to replace 'underpass' by 'footbridge'.

4.2 The variation of approval conditions (a) and (b) would not jeopardise the planning intention of the "G/IC(1)" zone on the OZP and the HKPU Phase 8 development that has mostly been completed[3]. The original underpass was proposed at LG2/F of the Phase 8 development (**Drawing 1**). Under the latest proposal, the footbridge is proposed at 2/F of the Phase 8 development for connection to the main campus. While the latest proposal will have impact on some existing trees at the two landing areas of the proposed footbridge, this can be addressed by approval condition (j) (**Appendix II**) which requires the applicant to submit and implement a landscape master plan, a tree preservation plan and bimonthly tree monitoring reports to the satisfaction of the Director of Planning or of the Board. On the visual aspect of the proposed footbridge, it is noted that the ACABAS has accepted the footbridge design (**Drawings 4 and 6**).

4.3 Based on the assessment above, the Planning Department has no objection to the proposed variation of the approval conditions (a) and (b) to replace the originally proposed underpass by a footbridge.

4.4 Should the Committee decide to approve the proposed variation to approval conditions (a) and (b) of the planning permission under application No. A/K2/184-2, they are suggested to be revised as follows:

(a) the submission of a risk assessment plan and contingency plan in relation to the construction of the proposed ~~*underpass*~~ *footbridge* at Chatham Road South to the satisfaction of the Director of Highways or of the Board; and

[3] Phase 1 covered area of LG2/F to 5/F except portions to be completed in Phase 3; Phase 2 covered area of 6/F to Top Roof/F; Phase 3 covered area linking with the underpass from LG2/F to 1/F.

(b) the design, implementation and maintenance of the proposed ~~*underpass*~~ *footbridge* to the satisfaction of the Commissioner for Transport or of the Board.

Other approval conditions and advisory clauses of the planning permission under application No. A/K2/184-2 will remain unchanged (**Appendix II**).

4.5 There is no strong planning reason to recommend rejection of the request.

5. Decision Sought

5.1 Members are invited to consider the request and decide whether to approve or reject the request for variation of the approval conditions.

5.2 Should the Committee decide to approve the request, Members are invited to consider the revised approval conditions to be attached to the approval.

5.3 Alternatively, should the Committee decide to reject the application, Members are invited to advise what reason(s) for rejection should be given to the applicant.

6. Attachments

Appendix I	Applicant's letter and submission dated 1.6.2016
Appendix II	Approval Letter of Application No. A/K2/184-2 dated 18.5.2010
Appendix III	Detailed Comments of the District Lands Officer/Kowloon West, Lands Department
Drawing 1	LG2/F Plan under Application No. A/K2/184-2
Drawing 2	G/F Plan under Application No. A/K2/184-2
Drawing 3	P/F Plan under Application No. A/K2/184-2
Drawings 4 to 6	Footbridge Proposal accepted by ACABAS
Plan 1	Location Plan
Plan 2	Site Plan
Plans 3 and 4	Site Photos

PLANNING DEPARTMENT
JUNE 2016

VISION PLANNING CONSULTANTS LTD.
弘域城市規劃顧問有限公司

Our Ref: K2-P8/CC/HKPU/14-25
Your Ref:TPB/A/K2/184-2
Date: 1 June 2016

By Hand

The Secretary,
Town Planning Board,
c/o Town Planning Board Section,
Planning Department,
15/F, North Point Government Offices,
333 Java Road,
North Point,
Hong Kong.

Dear Sirs,

Application for Variation to Approval Conditions (a) and (b) Imposed by the Town Planning Board on the Approved Development Scheme under Application No. A/K2/184-2

1. In view of the reasons outlined in para. 2 below, we act for the Hong Kong Polytechnic University ("**the Applicant**") to seek a permission of the Town Planning Board ("**TPB**") to allow the proposed variation to approval conditions (a) and (b) imposed on an approved development in Application No. A/K2/184-2. The proposed variations in both conditions (a) and (b) is to change "underpass" to "footbridge" as shown below:

   i. For approval condition (a), "*the submission of a risk assessment plan and contingency plan in relation to the construction of the proposed ~~underpass~~ footbridge at Chatham Road South to the satisfaction of the Director of Highways or of the Town Planning Board*".

   ii. For approval condition (b), "*the design, implementation and maintenance of the proposed ~~underpass~~ footbridge to the satisfaction of the Commissioner for Transport or of the Town Planning Board*".

2. The Applicant would like to seek TPB's approval on the proposed variations to approval conditions (a) and (b) due to the following reasons:

   i. A pedestrian underpass was originally planned as part of the approved development scheme under Application No. A/K2/184-2. An existing underpass is in place connecting the Main Campus to Phase 8 development, but it is relatively long, winding and narrow, with level differences at various sections. It is not a barrier-free access. The proposed underpass under Chatham Road South was therefore intended to provide a direct, safe and barrier free pedestrian link to connect Phase 8 Development to the Main Campus of The Hong Kong Polytechnic University.

   ii. A report on the risk assessment plan and contingency plan for the proposed

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underpass was submitted by the Applicant to the Highways Department ("**HyD**") on 18.3.2011. As indicated in the Applicant's letter dated 4.5.2011, HyD's Bridges & Structures Division has no in-principle objection to the risk assessment plan and contingency plan. As indicated in HyD's letter dated 14.4.2011 in response to HyD's comments, Transport Department ("**TD**"), Fire Services Department, Hong Kong Police Force and MTR also have no in-principle objection/comment on the risk assessment plan or contingency plan. However, during the construction of the proposed underpass, it was found and confirmed that there was a severe soil instability problem. The construction work of that underpass has been suspended since December 2011. **Annex A** summaries the reasons for the suspension of the construction of the underpass.

iii. Although the proposed underpass is technically sound and feasible, after due consideration of the unforeseeable high risk implication on Chatham Road South and the unpredictable construction cost that may be involved, the Applicant has decided not to proceed further with the underpass proposal. For the long-term operational purpose, the Applicant then conducted a Technical Feasibility Study ("**TFS**") to investigate whether a footbridge can be constructed in lieu of an underpass in the vicinity of Phase 8 development (**Annex B**). **Annex A** also summaries the technical difficulties in resuming the construction of the underpass.

iv. The proposed footbridge under application was recommended in the TFS as a means to connect Phase 8 Development (at 2/F; at 16.5mPD with clearance height of 2.86m) to Block X at the Main Campus (at UP/F). It will cause the least disturbance to the existing road network and the Main Campus (during both the construction and operational phases), and is a most direct and shortest link with adequate space for the construction work. It has also taken account of the trees affected, the visual effect, physical compatibility with its surrounding developments, and the cost implications to the Applicant.

v. During detailed design stage, the following refinement works have been incorporated to the original footbridge design:

- The connecting point at the Main Campus was slightly adjusted to suit proper foundation construction.
- The connecting point at Phase 8 campus was relocated to connect directly to the existing covered public open space at 2/F of the Phase 8 building, creating a better pedestrian connection than the original connection location with minimum disturbance to existing trees.
- A bow-arch design is a more effective structure as a smaller tonnage of structural steel was adopted to achieve the same span compared to conventional truss structure.
- The revised design reflects the architectural theme of 'a flying fish' to echo the design of the adjacent Innovation Tower, and is visually more compatible to the existing built environment than the conventional

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truss structure as recommended in the TFS.

vi. In June 2015, the Applicant submitted the revised alignment and design of the proposed footbridge to the Advisory Committee on the Appearance of Bridges and Associated Structures ("**ACABAS**")(**Annex C**). In its meeting dated 21.7.2015, ACABAS accepted the revised footbridge proposal (**Annex D**).

vii. The photomontages of the proposed footbridge provided in **Annex C** have demonstrated that its light structure, open-sided design, landscaping treatment and colour scheme enable the entire footbridge to blend in well with its surrounding developments. All these essential design elements have optimized the degree of visual permeability of this footbridge from various viewpoints. The proposed footbridge would not cause any adverse visual effect on the road users (i.e. drivers and passengers in vehicles) of Chatham Road South as the real time for them to see the footbridge will only be several seconds. Hence, no adverse visual effect due to the proposed footbridge is anticipated.

viii. The results of the Air Ventilation Assessment – Expert Evaluation ("**AVA-EE**") (**Annex E**) have demonstrated that the proposed footbridge will not result in any adverse air ventilation impact on the site and its surroundings. Upon approval of the present application, the AVA-EE will be submitted to discharge approval condition (n).

ix. A Construction Traffic Impact Assessment ("**CTIA**") (**Annex F**) and a Visibility Study on Chatham Road South in relation to the proposed footbridge (**Annex G**) were submitted to TD on 11.12.2014 and 7.1.2016 respectively. In its reply letters dated 29.12.2014 (**Annex H**) and 14.1.2016 (**Annex I**), TD has indicated no in-principle objection and no adverse comment on these two submissions.

x. It is noted that some trees will be affected at the two landing areas of the proposed footbridge. This could be handled via the proposed variation to approval condition (b) as outlined above, together with the approval condition (j). Upon approval of the present application, comprehensive landscape proposals will be submitted to concerned department(s).

3. Apart from the above changes, the rest of the development scheme remains unchanged. The proposed variation to approval conditions will not trigger material change to the approved A/K2/184-2 scheme. **Annex J** shows the approved plan of LG2/F, G/F and 2/F under A/K2/184-2 scheme.

4. The Applicant is responsible for the design, construction and maintenance of the footbridge. On 19.5.2016, the Applicant consulted the Traffic Transport and Housing Committee of the Yau Tsim Mong District Council regarding the proposed footbridge project. The proposal received general supports from District Council Members in the meeting.

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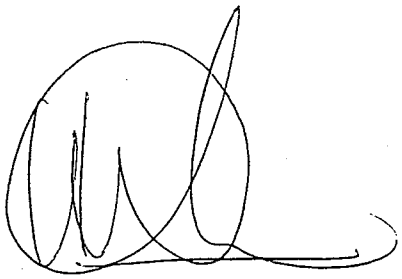
5. In view of the above, we would like to seek the permission of TPB to approve (i) the proposed variation to approval condition (a) and the proposed variation to approval condition (b) as outlined in para. 1 above.

Should you have any queries with regard to the above, please do not hesitate to contact our Miss Karen Tsui or the undersigned at 2566 9988.

Thank you very much for your kind attention.

Yours faithfully,
for and on behalf of
VISION PLANNING CONSULTANTS LTD.



Kim On CHAN
Managing Director
Encl. 50 copy set of the documents.
[KC/KT]
c.c. DPO/TWK By Hand w/20 set of documents
Project Team By Email
[HKPU-PY-AC-ltr25]

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Annex A

Suspension of Underpass Construction Work

1) Introduction

During construction of the underpass, considerable settlement was recorded along the footway at Chatham Road South westbound lane near to the present Jockey Club Innovation Tower of HKPU.

Chatham Road South is a primary distributor running in east-west direction. It is connected to Gascoigne Road to the west and Chatham Road North to the east. It is a dual carriageway with four traffic lanes for eastbound traffic and five traffic lanes with an elevated road connected from Princess Margaret Road Link. The existing road network in the vicinity of Chatham Road South is shown in Drawing No. 2.1 (Please refer to the **Appendix** attached). The access arrangements for both Chatham Road South eastbound and westbound traffic are illustrated in Drawing Nos. 2.2 and 2.3 respectively (Please refer to the **Appendix** attached).

The high and unexpected risk of further ground settlement after resume of underpass works will case potential closure of the road would result in serious consequences and unacceptable traffic impacts to the Territory.

Also, in considering the restricted construction access, limited construction space and disturbance to the occupied premised, the University decided to suspend the construction work of underpass.

2) Settlement Criteria

Readings of proposed settlement monitoring check points are to be taken daily during the works and 3 levels of settlement criteria to be followed:

	Alert Level	Alarm Level	Action Level
Settlement	15mm	20mm	25mm

3) Brief Chronology

October 2008 – January 2009	First General Building Plans approval for underpass (two sets: Main Campus side and Phase 8 side)
30 November 2009	Gazette of Construction Works for Underpass
September 2010 – February 2011	Campus Pit A excavation to -8.5mPD
3 March 2011 – 12 March 2011	Horizontal grouting under Chatham Road from Campus Pit A
12 March 2011 – 24 March 2011	Obvious settlement drop recorded from SSM2, SSM4, SSM5 (Existing retaining wall); USM2, USM3 (Utility settlement at Drainage Reserve Area); GSM23, GSM24 (Slope crest behind retaining wall) Settlement of GSM24 (max) > 15mm (alert level) **Site works was suspended
April 2011	Contingency proposals were explored to minimize risk in delay of Phase 8 main contract for first 3-3-4 University academic year in 2012:- - Contractor to complete only a trial TBM works for drainage & IT connection. -Portion A of Phase 8 site to be completed in phase 2 OP -remaining underpass works to be carried out in last phase.
16 June 2011	Contractor revised a more stringent method statement to control the potential disturbance of the ground during horizontal grouting.
11 July 2011 – 29 July 2011	Horizontal grouting under Chatham Road resumed from Campus Pit A.
10 July 2011- 22 July 2011	Settlement GSM23A=26mm } Slope crest behind retaining wall GSM24A=30mm } **>action level 25mm
4 October 2011 – 30 October 2011	Trial horizontal pipe pile by TBM works from Portion A to Campus Pit A
8 October 2011	Max. Settlement on 8 October 2011: SSM2 =16mm } SSM4=15mm } Existing Retaining Wall SSM5 = 19mm } USM2 = 10mm } Utility settlement at Drainage Reserve Area

	GSM23A>35mm GSM24A=38mm } Slope crest behind retaining wall GSM41 = 12mm } Road pavement
15 November 2011	Suspension of underpass works to allow for Phase 8 works The Underpass works was originally planned to occupy part of the Phase 8 construction site in the first 6 months only. Unfortunately, the settlement issue caused the underpass works to delay significantly and will obstruct the Phase 8 site for completion of works to meet the 3-3-4 programme. In view of the importance of the OP date for the Phase 8 building, the University decided to suspend the construction works of the underpass site. The non-completion of the underpass would not hinder the OP because there was another underpass being used as access to site.

A plan showing the settlement monitoring stations in concern is enclosed (Please refer to the **Appendix** attached). The magnitude of settlement caused concern in relevant Government Departments (Highways Department, Geotechnical Engineering Office of CEDD, Buildings Department, etc). Relevant letters from Highways Department dated 17 June 2011 and Buildings Department dated 5 September 2011 are enclosed (Please refer to the **Appendix** attached).

4) **The feasibility of resuming the Underpass works, and the cost, time and risks involved**

1. Site constraints and risk assessment to remaining underpass works

The underpass was originally planned to be constructed prior to construction of the Phase 8 building. However, due to the settlement delay and re-sequence of work, the resume of the underpass work would need to be carried out under portion of the completed Phase 8 building. The construction access and construction space will be difficult and very limited. In addition, the only access to the tunnel construction pit would be through the EVA which use is subject to time restriction under Lease. The access to the construction pit is also very close to the Tree Reserve Zone which has stringent requirements under the Lease.

A) Undue settlement

The high and unexpected risk of further ground settlement after resume of underpass works may affect the user of Chatham Road. The actual construction period will be

affected by unexpected ad-hoc suspension of site works due to undue settlement, making the construction period less controllable.

B) Restricted construction access

During the entire construction period, site access would be intensively required for delivery of construction materials/plants and disposal of construction debris/excavated materials. The EVA in Phase 8 development is the only access which use is subject to time restriction under Lease. The access to Portion A is close to Tree Reserve Zone which is under stringent requirements imposed by government departments.

C) Limited construction space

Construction spaces for underpass works are limited at both Main Campus Pit A and Phase 8 Portion A. Additional works space for delivery of construction materials / plants and temporary storage of construction debris / excavated materials are required. Further approval for tree felling and transplant for adequate space in Phase 8 Portion A will be difficult to obtain from government department.

D) Disturbance to occupied premises

As site works should be continuous upon resume of underpass works, the user in Phase 8 as well as Main Campus will more the less be disturbed by the site works. Construction program will need to be adjusted/rescheduled to deal with complaint received.

2. <u>Costs and Time for different options to resume the underpass works</u>

3 options for different arrangement to resume the underpass works were identified by consultants:-

Option 1 – All remaining works to be carried out from both Phase 8 and Main Campus
The total anticipated duration is about 28 months subject to site conditions and statutory conditions. The updated estimated cost (including MOD) for this Option is $139M. However, this option will have great impact to the Tree Reserve Zone which is unlikely be accepted by government department. Moreover, it will create disturbance to users in both Phase 8 and Main Campus.

Option 2 – Works for horizontal pipe piles by Tunnel Boring Machine (TBM) to be carried out from Main Campus, and remaining works to be carried out from both Phase 8 and Main Campus

The total anticipated duration is about 31 months subject to site conditions and statutory conditions. The updated estimated cost (including MOD) for this Option is $157M. Despite this option will have reduced impact to Tree Reserve Zone and mild disturbance to user in Phase 8, the revised TBM system and shorten pipe piles should be further studied.

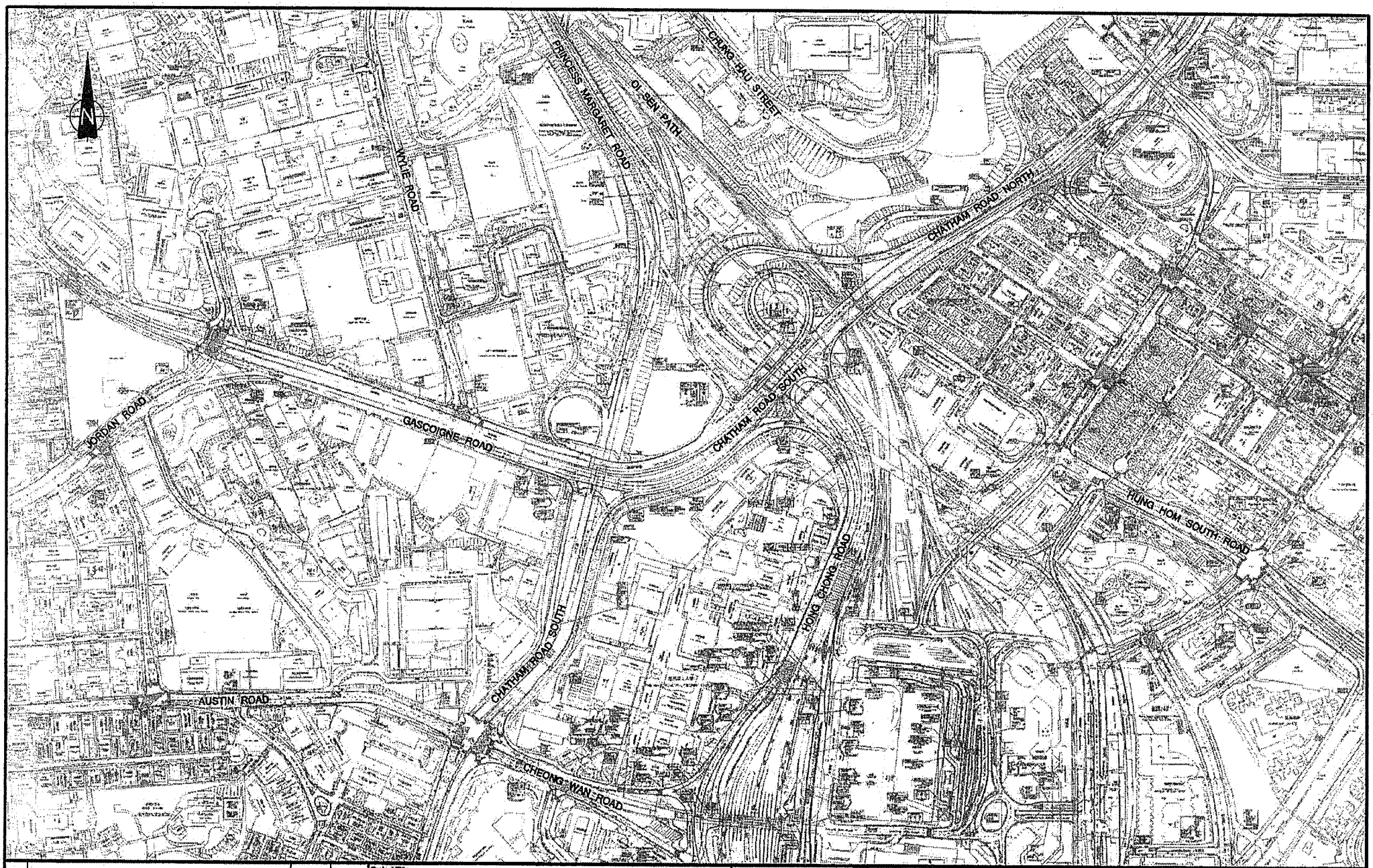
Option 3 – All works to be carried out from Main Campus

The total anticipated duration is about 41 months subject to site conditions and statutory conditions. The updated estimated cost (including MOD) for this Option is $165M. Despite this option will have less impact to Tree Reserve Zone and disturbance to user in Phase 8, directional drilling for horizontal grouting, revised TBM system and shorten pipe piles should be further studied.

We would like to conclude that all 3 options reviewed on resuming of the underpass will have high construction risk, difficult site constraint, high disturbance to users, prolonged construction timing and high cost for the Applicant.

After review and study of the footbridge option, the footbridge will have less construction risk, more accessible construction area and pose less disturbance to user. It is also more cost effective in terms of construction time and cost. It is advisable for the University to adopt the footbridge option.

Appendix



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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

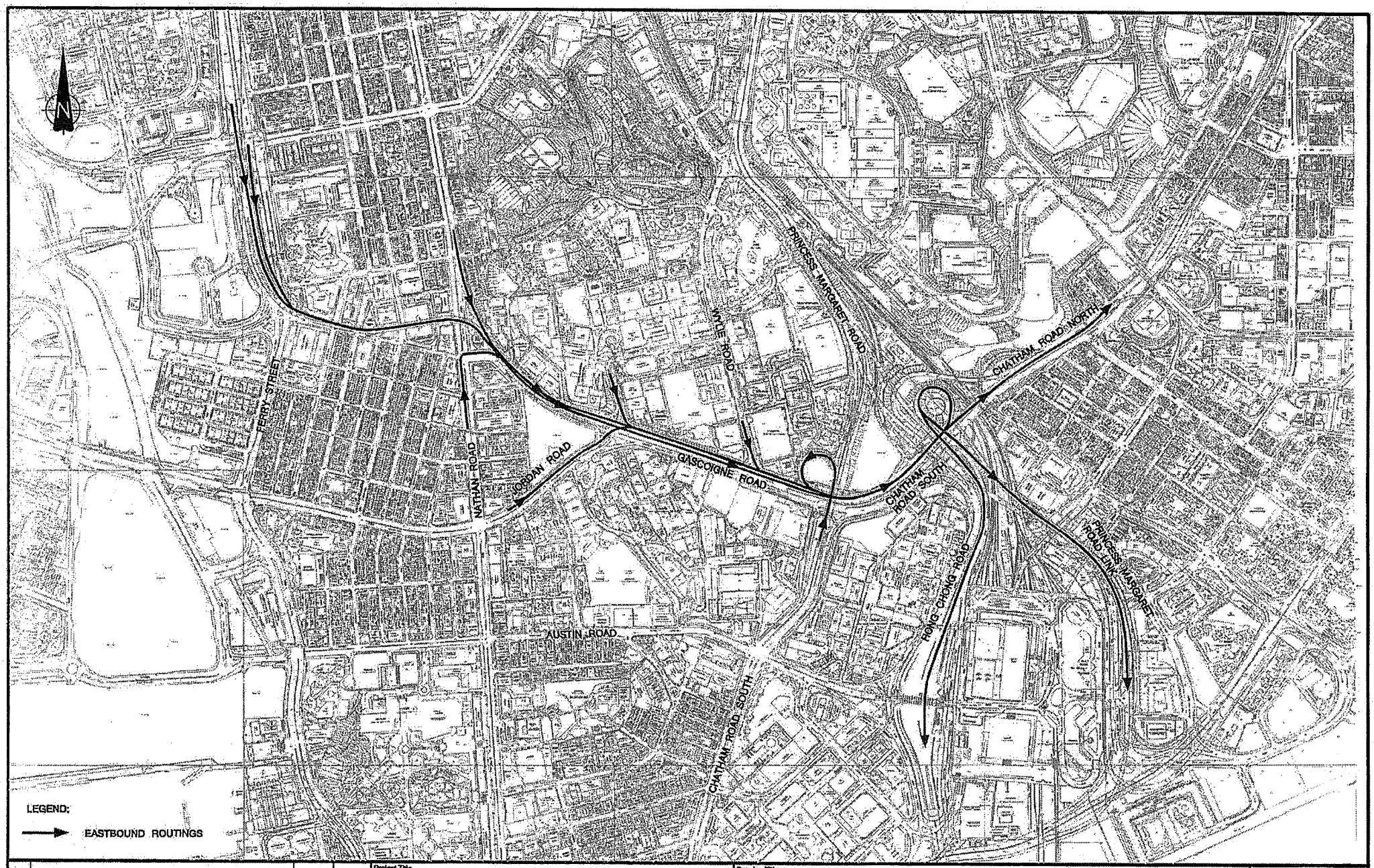
Drawing Title

EXISTING ROAD NETWORK

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	DEC 2014	2.1	-

MVA SYSTRA GROUP

CH/S0076010/TIA/F21.DGN/TUV/10DEC14



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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

CHATHAM ROAD SOUTH EASTBOUND TRAFFIC ARRANGEMENT

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	DEC 2014	2.2	-

MVA
SYSTRA GROUP

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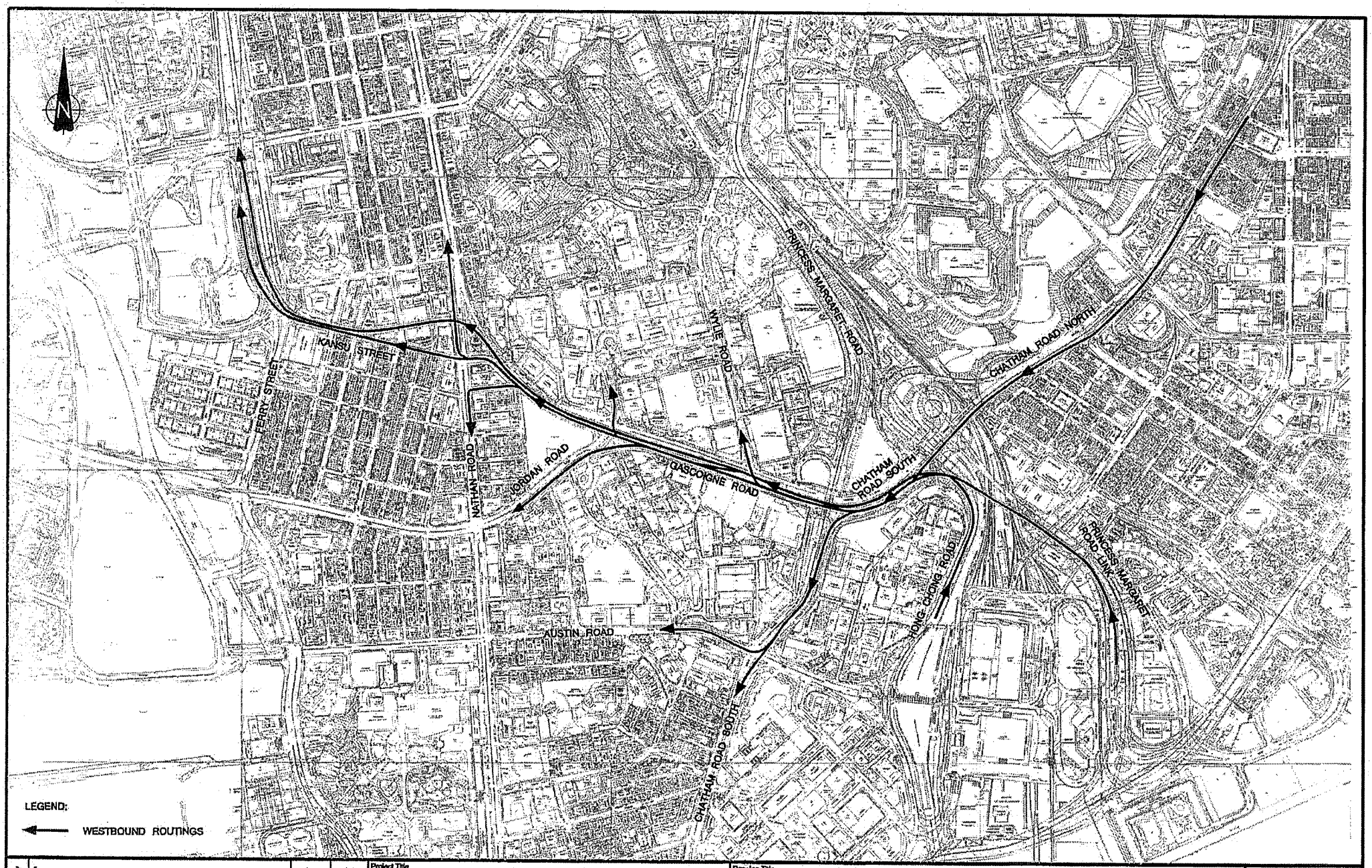

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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

CHATHAM ROAD SOUTH WESTBOUND TRAFFIC ARRANGEMENT

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	DEC 2014	2.3	-

MVA SYSTRA GROUP

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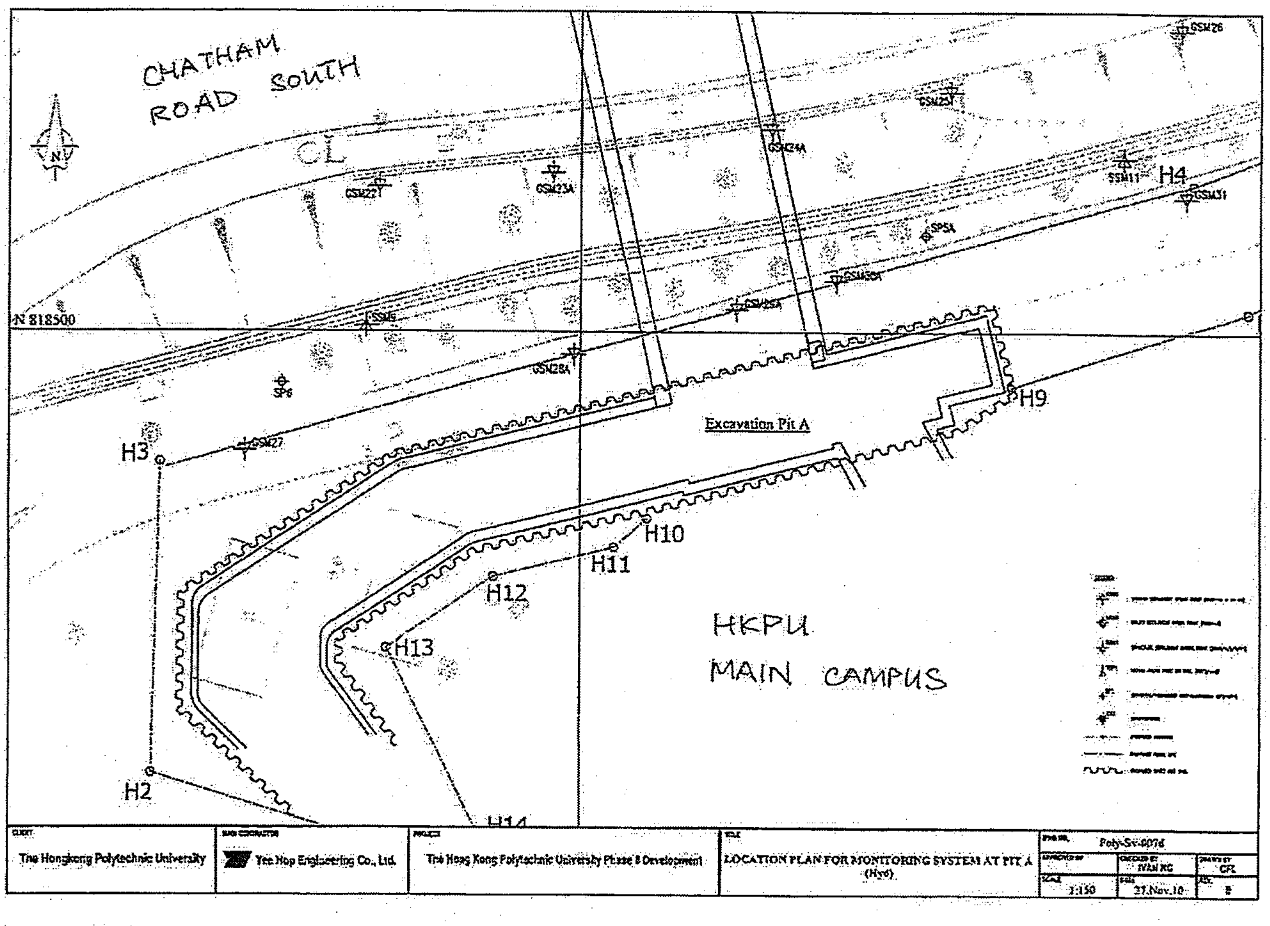
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SP5A
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GSM28A
SP6
H9
Excavation Pit A
H3
GSM27
H10
H11
H12
H13
HKPU
MAIN CAMPUS
H2
The Hongkong Polytechnic University
Yee Hop Engineering Co., Ltd.
The Hong Kong Polytechnic University Phase 8 Development
LOCATION PLAN FOR MONITORING SYSTEM AT PIT A (Hyd)
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CFL
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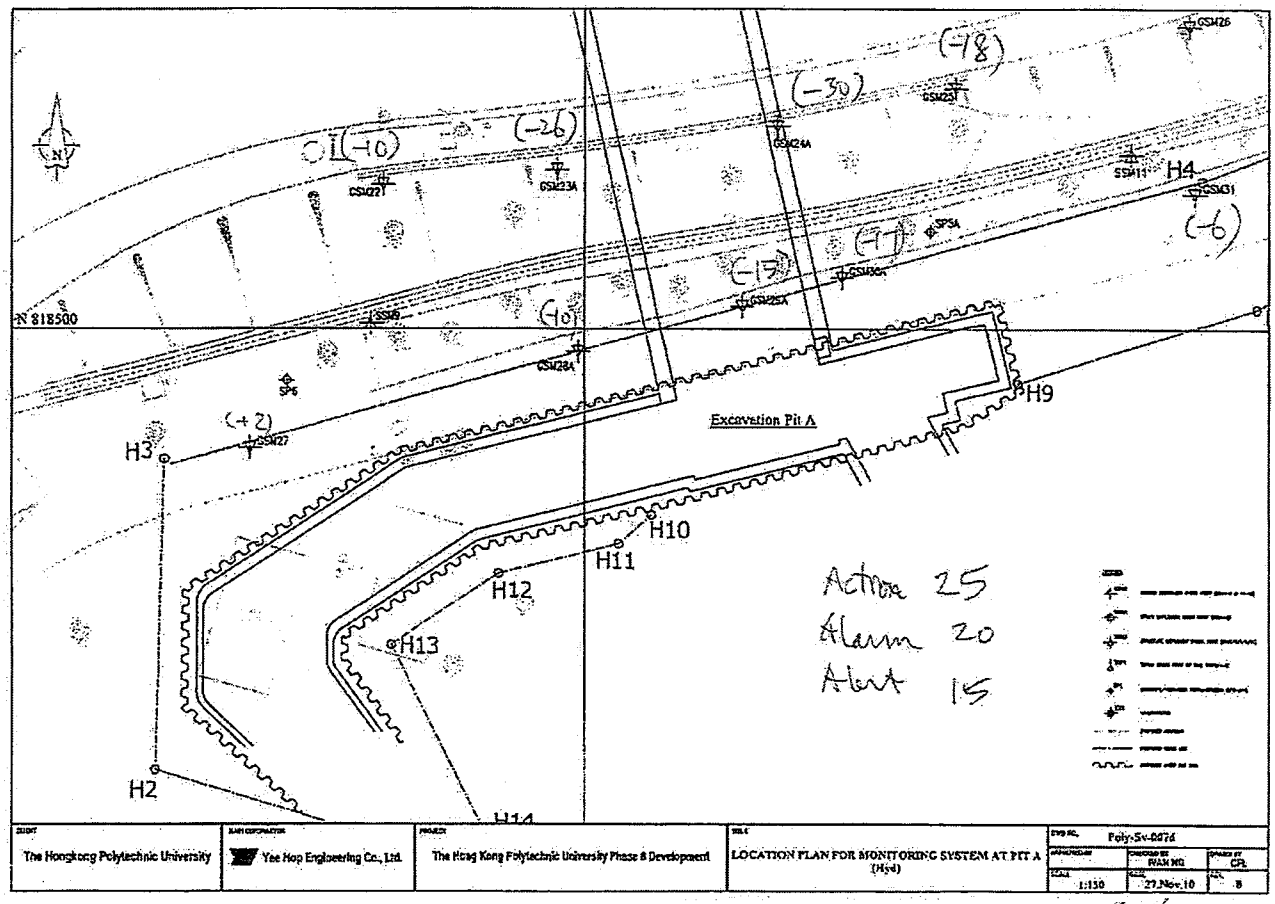
27.Nov.10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The Hongkong Polytechnic University
Yee Hop Engineering Co., Ltd.
The Hong Kong Polytechnic University Phase 8 Development
LOCATION PLAN FOR MONITORING SYSTEM AT PIT A
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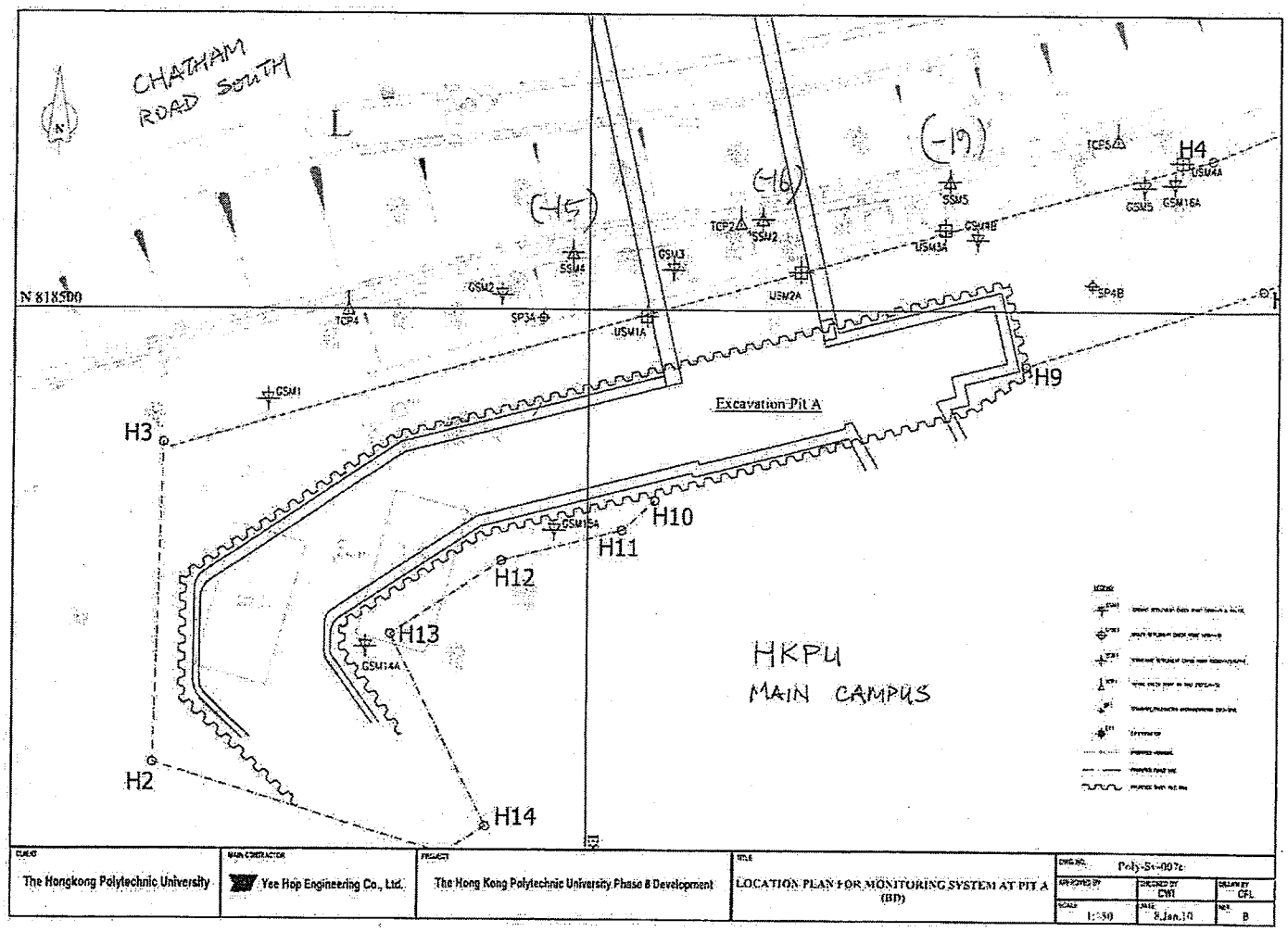
27.Nov.10

16/7/11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USM2A
SSM5
GSM13B
USM3A
TCP5
USM4A
GSM5
GSM16A
SP4B
GSM15A
GSM14A
The Hongkong Polytechnic University
Yee Hop Engineering Co., Ltd.
The Hong Kong Polytechnic University Phase 8 Development
LOCATION PLAN FOR MONITORING SYSTEM AT PIT A (BD)
Poly-S1-007c
DESIGNED BY CWI
DRAWN BY CFL
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B

HIGHWAYS DEPARTMENT
URBAN REGION (KOWLOON)
13TH FLOOR, NAN FUNG COMMERCIAL CENTRE
19 LAM LOK STREET, KOWLOON BAY, KOWLOON
Web site : http://www.hyd.gov.hk

Urgent by Fax
2571 3105

路政署
市區(九龍)
九龍灣臨樂街十九號
南豐商業中心十三樓
網址：http://www.hyd.gov.hk

[KGZ8C]

本署檔號 Our Ref.: (KGZ9U)KH1/15/35(DYT)
來函檔號 Your Ref.: P1827-480
電話 Tel. No.: 2707 7217
圖文傳真 Fax No.: 2758 3394

17 June 2011

GREG WONG & ASSOCIATES LTD.
DATE RECEIVED
17 JUN 2011
RECEIVED BY:

Greg Wong & Associates Ltd.
Unit D, 8/F, Seabright Plaza
No. 9-23 Shell Street
North Point
Hong Kong
(Attn.: Mr. Kevin Tang)

Dear Sirs/Madams,

J/O Chatham Road South & Princess Margaret Road, The Hong Kong Polytechnic University
Phase 8 - K.I.L. 1774 (to be known as K.I.L. 11201)
Acknowledgement of risk assessment and contingency plan
for commencement of grouting works for Underpass

I refer to your above referenced letter dated 15.6.2011 and the recent telephone conversations between the undersigned and your Mr. Kelvin Lai on 17.6.2011 and ADRG's Ms. Selah Au on 14.6.2011 and 16.6.2011 regarding the captioned subject.

Due to the likelihood and risk of road subsidence caused by the underpass works and as requested in my earlier letters and memos, you were requested to seek comment and agreement from Transport Department and Traffic Police as well as other concerned parties on your contingency plan and risk assessment. However, I note that you have yet to obtain agreement from TD and HKPF on your proposed contingency plan and supplementary TTA for closure of Chatham Road South. In this connection, you were suggested to arrange an urgent meeting to be held among TD/HKPF/BD/HyD/Parties related to your project and works in an attempt to work out a contingency plan and TTA that can be implemented in the event of your works resulting in any adverse effects on Chatham Road South causing partial closure and/or full closure of the road. Although vetting and agreement on TTA that is not related to our highway works is outside the jurisdiction of HyD, you have been reminded that the traffic from Hong Kong Island via Cross Harbour Tunnel to Westbound Chatham Road South appears to be missing and has not been catered for in your supplementary TTA.

As we have pointed out earlier, Chatham Road South is one of the major traffic routes in the Territory, the AP/RSE/RGE of the project should be responsible to closely supervise and monitor the underpass works in close vicinity of and underneath the Red Route as any adverse effects on Chatham Road South causing partial closure and/or full closure of the road would result in serious consequences and unacceptable traffic impacts to the Territory.

You are also reminded that you should address our comments given in our letter ref. (KGYT0)KIL11201(XPKW) dated 13.6.2011 (copy attached) regarding the required submission as stipulated in our guideline on "Control of Trenchless Works by Utility Undertakers affecting Public Roads".

You are urged to take immediate actions and provide prompt response to our requested submission without further delay. Meanwhile, please alert us immediately should you consider that there is likely to be any adverse impact to our existing carriageway, footpath and structure.

Yours faithfully,

(Clement Poon)
for Chief Highway Engineer/Kowloon
Highways Department

Encl.

c.c.	AC for T/U, TD	(Attn.: Mr. S.K. Tai)	– Fax No. 2397 8046
	CSE, BD	(Attn.: Mr. Wong Kam-dew)	– Fax No. 2845 1660
	CBS/K, BD	(Attn.: Mr. Leung Wing-hong)	– Fax No. 2845 1660
	HKPF	(Attn.: Mr. Henry Fung)	– Fax No. 2399 7659
	CGE/ME, GEO, CEDD	(Attn.: Mr. Patrick Chau)	– Fax No. 2714 0245
	AP	(Attn.: Mr. Bernard Lim)	– Fax No. 2219 7133
	AGC Design Ltd.	(Attn.: Mr. S.K. Ho)	– Fax No. 2808 0147

Internal ME/YT, ME/Str(KC), E/Slp(K)&G1, E/XP(KW), DE/MK, DE/YT

c.c. to file KIL11201

HIGHWAYS DEPARTMENT
URBAN REGION (KOWLOON)
13TH FLOOR, NAN FUNG COMMERCIAL CENTRE
19 LAM LOK STREET, KOWLOON BAY, KOWLOON
Web site : http://www.hyd.gov.hk

Original signed By Fax and Post 2808 0147

路政署
市區(九龍)
九龍灣臨樂街十九號
南豐商業中心十三樓
網址 : http://www.hyd.gov.hk

[KGXM2]

本署檔號 Our Ref.: (KGYT0)KIL11201(XPKW)
來函檔號 Your Ref.: A360/2H/042L
電 話 Tel. No.: 2707 7237
圖文傳真 Fax No.: 2758 3394

13 June 2011

AGC Design Ltd.
1002, 111 Leighton Road,
Causeway Bay, Hong Kong

(Attn: Mr. S. K. Ho)

Dear Sirs,

The HK Polytechnic University - Phase 8 Development – KX 1774
J/O Chatham Road South and Princess Margaret Road, Kowloon K.I.L. 11201 and Chatham Road South, Underpass to the Hong Kong Polytechnic University Phase 8-K.I.L. 9853 R.P. & The Extension Thereto

Control of Trenchless Works by Utility Undertakers Affecting Public Roads

I refer to your letter on the captioned subject dated 31 May 2011 (received by this office on 2 June 2011) together with a copy of additional material for the captioned submission (First submission was made to this office on 20 April 2011). In accordance with the "Control of Trenchless Works by Utility Undertakers affecting Public Roads" issued by HyD in May 2008, we have the following comments on the submission:-

Submission and Technical Standards

(i) The submission does not contain information on the existing nature of the site (including an accurate survey plan with ground level contours, road levels, geological conditions, groundwater conditions and surface water conditions) and details of streets, structures, foundations, public utilities and other services. Please refer to section 4(b)(ii) of the "Control of Trenchless Works by Utility Undertakers affecting Public Roads".

2. You are reminded again to obtain TD's and RMO's agreement on the supplementary TTA for full closure of Chatham Road South (Item 4(c) - Risk Assessment Report and Contingency Plans and your previous letter ref. A360/2H/034L dated 04.04.2011 refers). Also, please be reminded to seek approval of the proposed underpass/trenchless works from Geotechnical Engineering Office of Civil Engineering Development Department.

..../2

Please revise your submission to address our comments and submit again as soon as possible.

Yours faithfully,

(LEE Ting Man Edward)
for Chief Highway Engineer/Kowloon
Highways Department

c.c.

Internal DE/YT, DE/MK

Appendix 1

BUILDINGS DEPARTMENT

BD 3/4054/08(Pt.III)
2845 1660
2626 1542
www.bd.gov.hk

5 September 2011

LIM Wan-fung Bernard Vincent
Room 1002, 10th Floor,
111 Leighton Road,
Causeway Bay, Hong Kong.

Dear Sir,

Chatham Road South, Underpass to The Hong Kong Polytechnic University Phase 8 - K.I.L. 9853 R.P. & The Extension Thereto

Further to my letter dated 17 August 2011, we have been informed by the Highways Department (HyD) that sudden increase in horizontal movements with cumulative readings up to 15mm were recorded recently at check points installed by HyD on both sides of Chatham Road South directly above the proposed underpass.

2. HyD had expressed great concern of such magnitude of movement occurred at Chatham Road South in the vicinity of the captioned site. Therefore you and your RSE/RGE should take appropriate action to ensure that no further movement/settlement will occur due to the works at the captioned site which may adversely affect the condition of Chatham Road South.

3. The investigation report submitted by your RSE on 26 August 2011 had been circulated to HyD and GEO for comment/consideration, and the consolidated comments will be conveyed to you when available. Meanwhile, you and your RSE/RGE are required to perform close monitoring to the trend of settlement and the conditions of Chatham Road South and review the investigation report and design of the works, taking into account the above-mentioned movement, if necessary.

Yours sincerely,

(WONG Kam-dew)
Senior Structural Engineer
for Building Authority

c.c. The Hong Kong Polytechnic University
Hung Hom, Kowloon

RSE - TANG, Kevin
Unit D, 8th Floor, Seabright Plaza,
9-23 Shell Street, North Point, Hong Kong

RGE - WONG Chak-yan Greg
Unit D, 8th Floor, Seabright Plaza,
9-23 Shell Street, North Point, Hong Kong.

CO/SM
GEO
CHE/K, HyD

BUILDINGS DEPARTMENT

YOUR REF :
OUR REF : BD 3/4054/08(Pt.III)
FAX : 2845 1660
TEL : 2626 1542
www.bd.gov.hk

TANG, Kevin
Unit D, 8th Floor,
Seabright Plaza,
North Point, Hong Kong

5 September 2011

Dear Sir,

Chatham Road South, Underpass to The Hong Kong Polytechnic University Phase 8 - K.I.L. 9853 R.P. & The Extension Thereto

1 refer to your letter dated 11 August 2011, and received on 12 August 2011 enclosing the Registered Geotechnical Engineer's TCP T5 & DSS report no.10 and 11 for the period of 1 June 2011 to 31 July 2011.

2. It is noted that some settlement check points reached alert level. You are reminded to closely monitor the trend of settlement and the condition of Chatham Road South.

3. You are also reminded to promptly report all significant signs of distress and/or notable landslides during the construction works to this department and the Geotechnical Engineering Office.

3. Should you have any queries, please contact Miss P.L. AU at telephone no. 2626 1542 and the Geotechnical Engineer, Mr. H.P. LO of the Geotechnical Engineering Office, Civil Engineering and Development Department at telephone no. 2762 5243 regarding the above.

Yours sincerely,

(WONG Kam-dew)
Senior Structural Engineer
for Building Authority

c.c. The Hong Kong Polytechnic University
Hung Hom, Kowloon

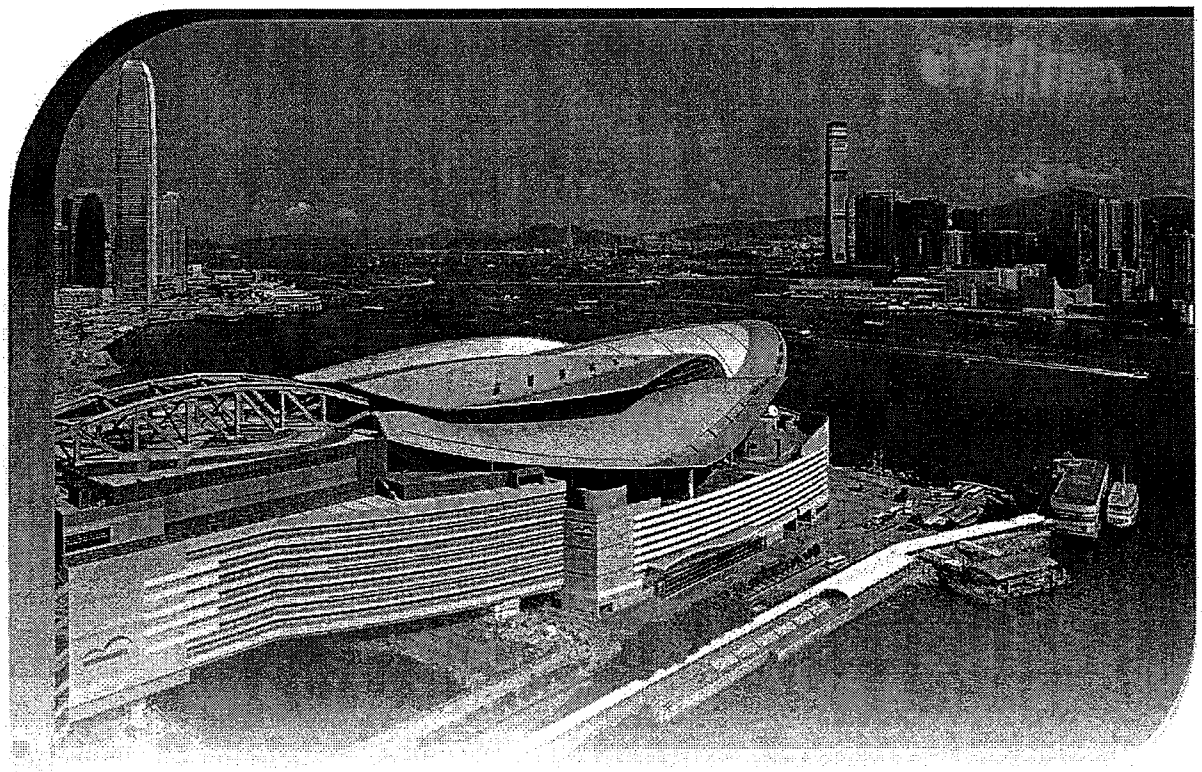
AP - LIM Wan-fung Bernard Vincent
Room 1002, 10th Floor,
111 Leighton Road,
Causeway Bay,
Hong Kong.

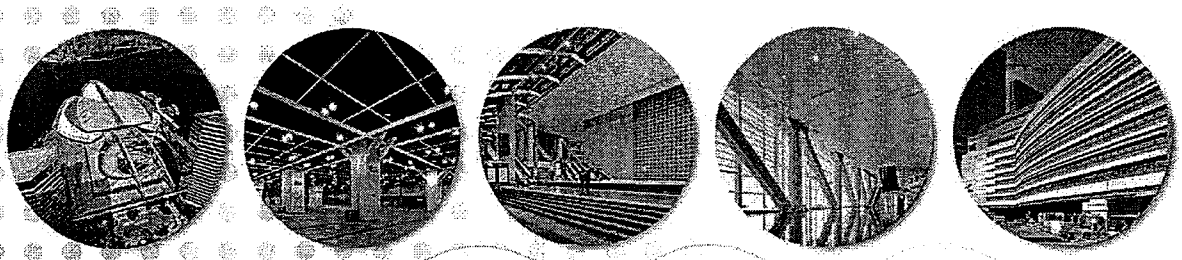
RGE - Greg C.Y. WONG
Unit D, 8th Floor,
Seabright Plaza,
North Point, Hong Kong

* delete as appropriate

SE-SL5 (07/2002)

Annex B





THE HONG KONG POLYTECHNIC UNIVERSITY
INTERIM REPORT FOR
FEASIBILITY STUDY OF PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT

submitted by
王歐陽(土木結構工程)有限公司
WONG & OUYANG (CIVIL+STRUCTURAL ENGINEERING) LTD

WONG & OUYANG (CIVIL-STRUCTURAL ENGINEERING) LTD
27/F, DORSET HOUSE, TAIKOO PLACE, 979 KING'S ROAD, HONG KONG FAX: 2968 1771 TEL: 2968 1881

Contents

Executive Summary

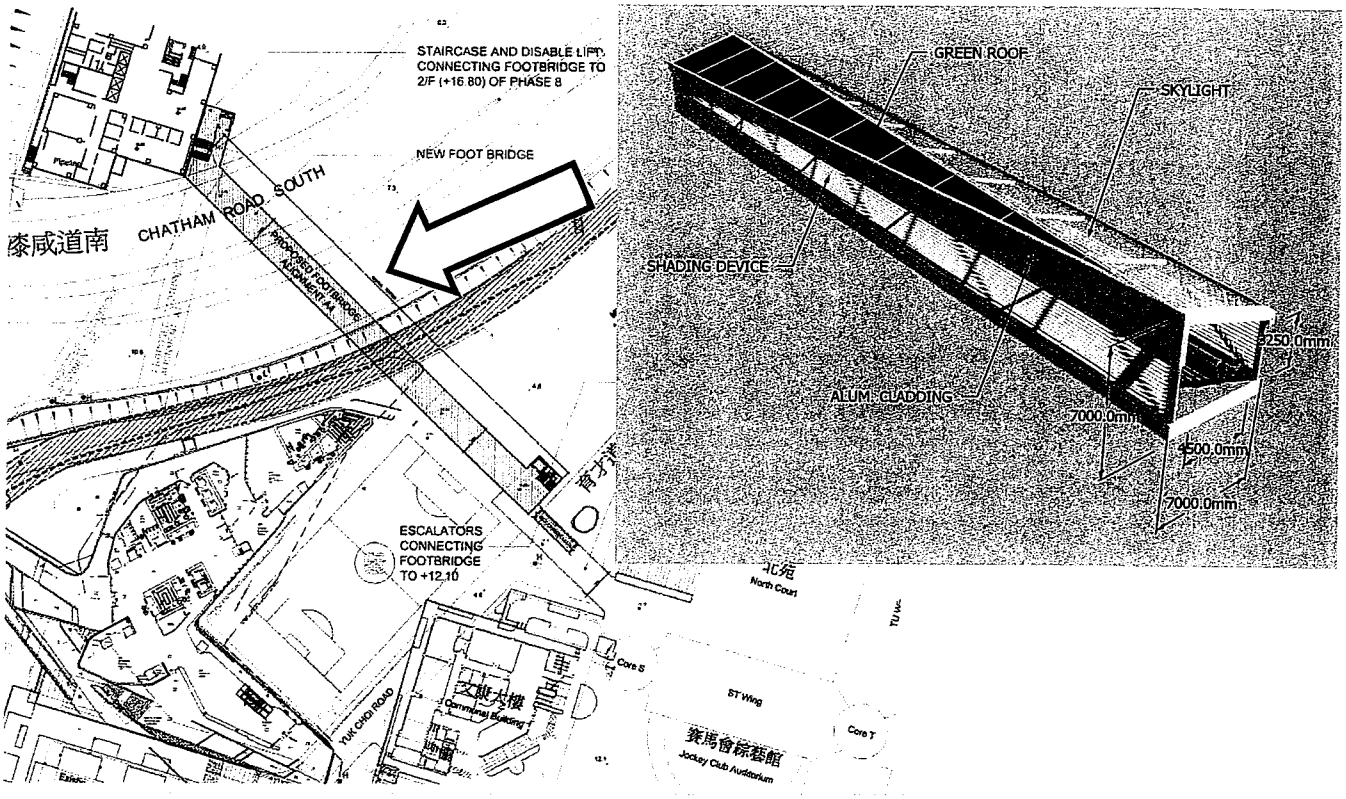
WONG & OUYANG (CIVIL-STRUCTURAL ENGINEERING) LTD
27/F, DORSET HOUSE, TAIKOO PLACE, 979 KING'S ROAD, HONG KONG FAX: 2968 1771 TEL: 2968 1881

Executive Summary

This interim report has reviewed viable options for footbridge construction over Chatham Road and provides the following basic recommendation:

Skewed Truss Form

- *Buildable by prefabrication and lifting in place, with minimum interference with road traffic*
- *Distinctive appearance incorporating green features*
- *Shortest path linking Innovation Tower and Phase 8 development*
- *Within reasonable budget and timeframe*



1. INTRODUCTION

1.1 The Hong Kong Polytechnic University (PolyU) has been developing 2 new expansions at the north end of the campus, namely

- Innovation Tower, which is within the main campus
- Phase 8 development, situated across Chatham Road.

1.2 A pedestrian underpass across Chatham Road was originally planned to link up the detached Phase 8 development with the main campus. However, due to a technical hurdle of ground stability, the construction of the underpass has been suspended.

1.3 Campus Development Office initiates this study to explore the viability of a footbridge alternative to replace the underpass.

1.4 The consultant team is led by Wong & Ouyang (Civil-Structural Engineering) Ltd and supported by Wong & Ouyang (HK) Ltd for architectural service and MVA HK Ltd for traffic study. Two leading specialists on bridge construction, Gammon Construction Ltd and VSL Intrafor Hong Kong Ltd are consulted on the buildabilty aspect.

2. OBJECTIVES

3.1 The aim of the study is to identify an elevated pedestrian route, as a link across Chatham Road between Phase 8 and main campus.

3.2 The recommended solution should be able to offer the following characteristics:

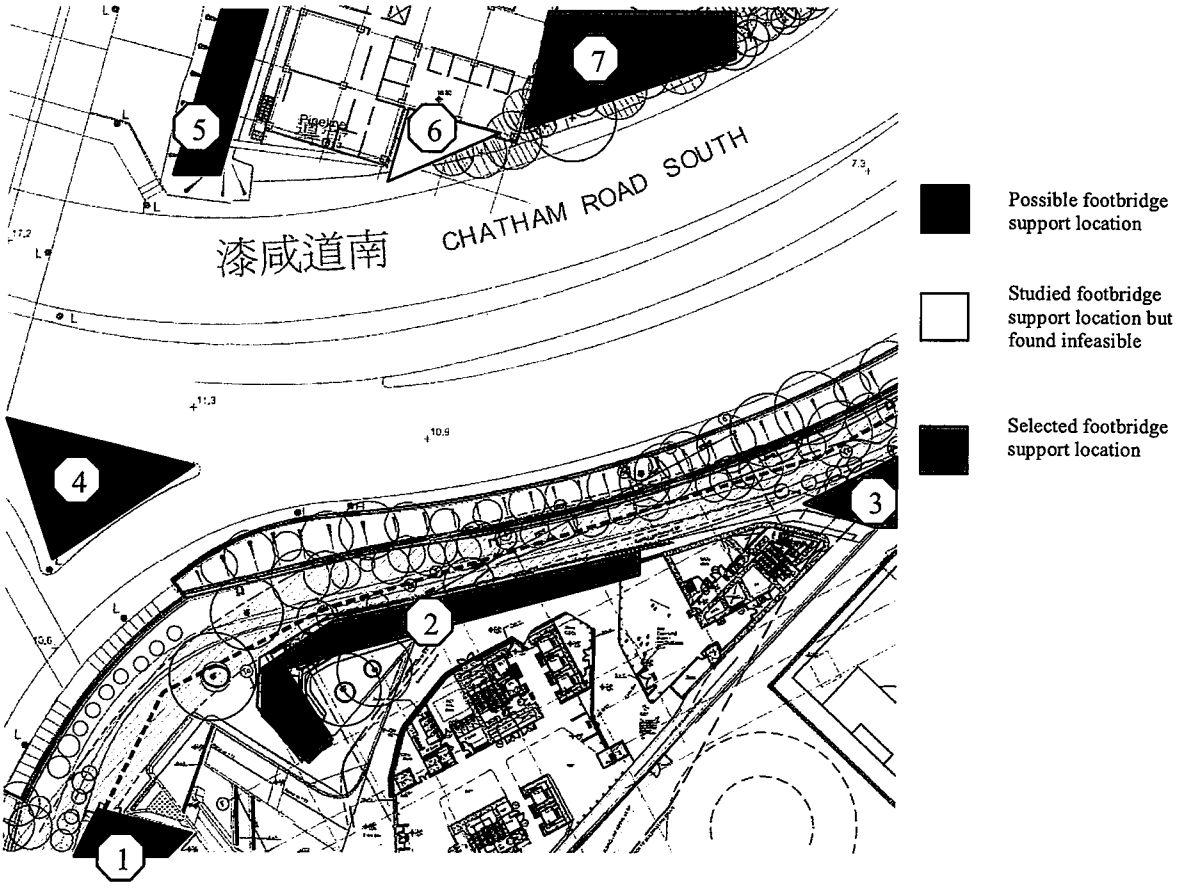
- Direct and shortest link to Phase 8
- Least disruption to Chatham Road in terms of construction methodology
- Harmonized appearance with the Innovation Tower & Phase 8 Development
- Viable cost and programme parameters

3. FOOTBRIDGE OPTIONS

The main focus of the study will be the search for viable alignments, forms and construction methodologies for the footbridge.

3.1 Bridge Support Locations

Innovation Tower and Phase 8 Development have occupied most of the space on the two sides of Chatham Road. There are only a few restrictive locations which can accommodate the footbridge supports.



On Innovation Tower side, possible footbridge support locations will be at

- Area 1: Space beside swimming pool
- Area 2: Current excavation pit of underpass
- Area 3: Beside Innovation Tower

Area 2 & 3 are the preferred location which offers the shortest path to Phase 8 and less disruptive to the campus during construction.

In the middle of the road,

- Area 4: Traffic island beside Princess Road

Area 3 can provide an immediate support for the backup option of Alignment 3 (see 3.2 below).

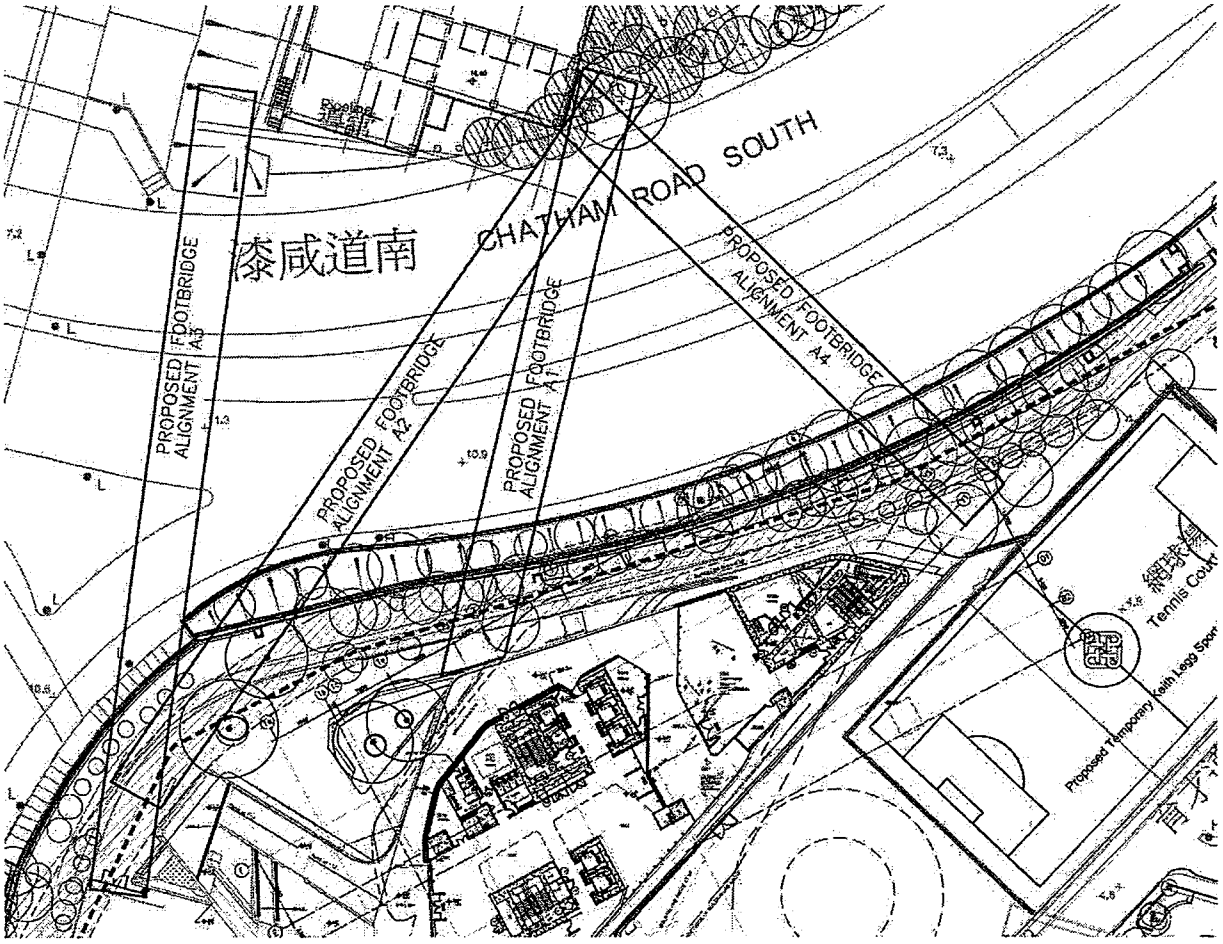
On Phase 8 development side,

- Area 5: Space beside Princess Road. This space is outside lot boundary. Land acquisition from Highways Department would be required.
- Area 6: In front of Phase 8 building. This is not feasible as working space is too small and there are extensive shoring system left underneath the excavation pit which will obstruct piling works.
- Area 7: Open space area beside the building. There are trees to be transplanted.

Area 7 is preferred, as the bridge can be shortest and provide direct access to Phase 8 building.

3.2 Bridge Alignment

With the identified footbridge support locations, 3 different footbridge alignments have been examined.



Alignment	Length	Intermediate Support	Construction Difficulty	Recommendation
A1	74m, single span	Not required	Fair (tree transplant required)	**Recommended** as main option
A2	107m, single span	Not required	Very high (excessive single span, slanted alignment)	Not recommended
A3	100m, double spans	Required	High (additional support occupying traffic island beside Princess Road	Recommended as backup option
A4	74m, single span	Not required but link bridge required	Fair (tree transplant required)	**Recommended** as main option

Alignment A1 & A4 will be the main focus of study. Alignment A2 is given up and alignment A3 will be kept as a backup option.

3.3 Bridge Form

The long span of the footbridge has limited the choice of bridge form to only a few viable categories

- Steel truss and steel arch forms are considered viable.
- Cable-stayed form with central support is considered viable for Alignment 3 only.
- Traditional girder type or upstand beam type footbridges are not viable due to >70m span. Precast concrete is too heavy for lifting whereas in-situ concrete is not buildable across busy road.

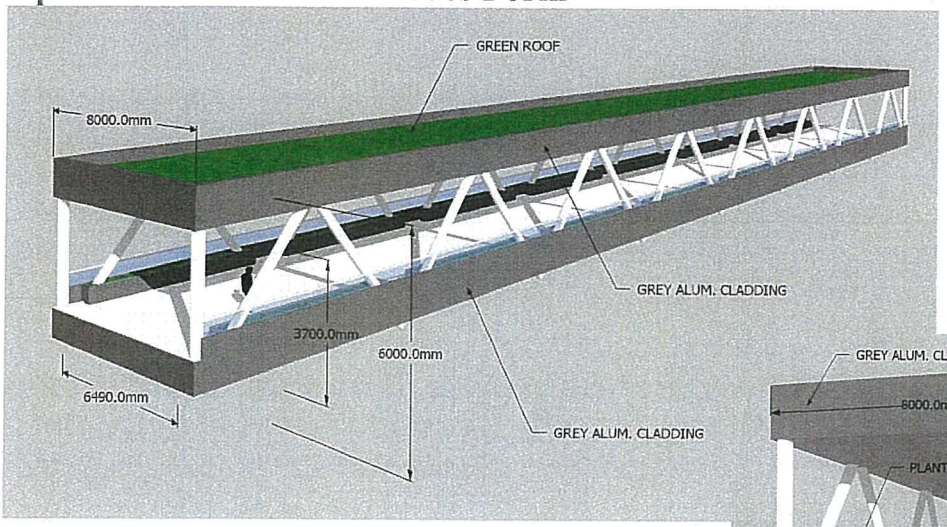
6 different bridge forms have been studied.

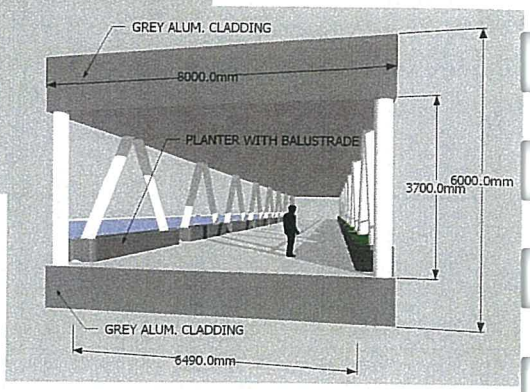
The first 3 options B1, B2, B3 are steel truss forms which are relatively straightforward to prefabricate and put into place with minimum interference with road traffic. As these 3 options are similar in nature, the construction time would be more or less the same. A 22 months construction period has been estimated for all these options.

Costing for these options is still in progress. A ball park costing figure is listed below for discussion only.

Options	Notional Cost	Constraint
B1	HK$50M	1. Tree transplant at Phase 8 2. Highways Department allows erection of temporary platform above the slope at Innovation Tower
B2	HK$60M	
B3	HK$60M	

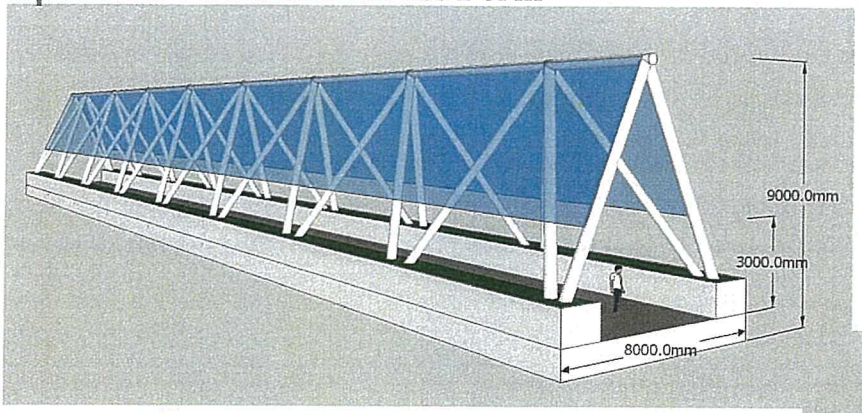
Option B1 – Traditional Truss Form

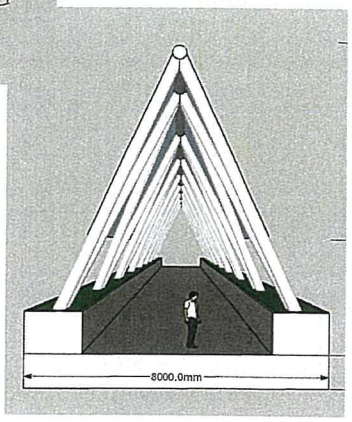




This is a very traditional bridge form which is structurally efficient and easy to fabricate. However, the **appearance is mundane** and less attractive.

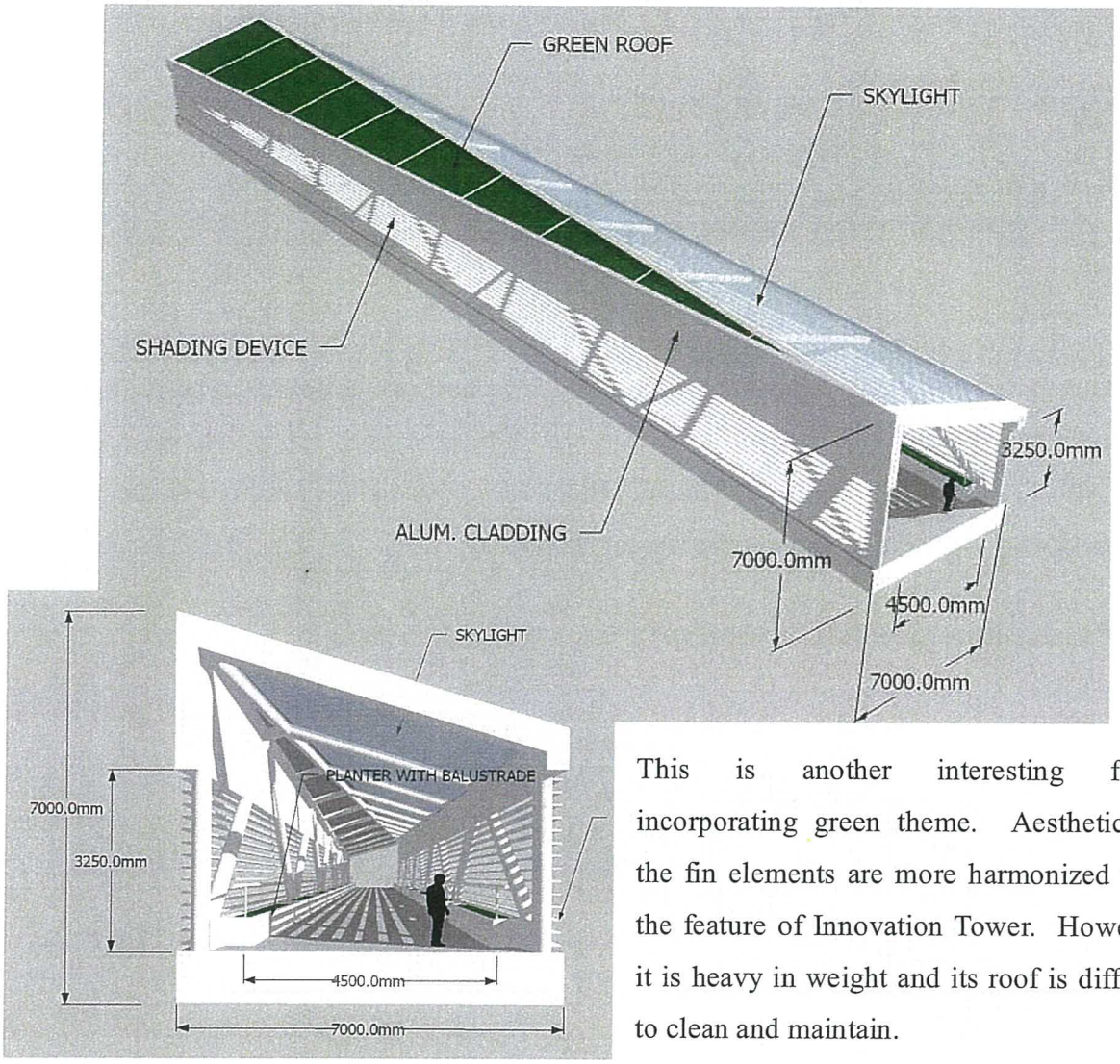
Option B2 – Prismatic Truss Form





This is an interesting form incorporating green theme. However, its tapering roof geometry **limits the effective passage width**. To maintain a reasonable passage, it has to be the widest and tallest section among all the options. The roof is also difficult to maintain and clean.

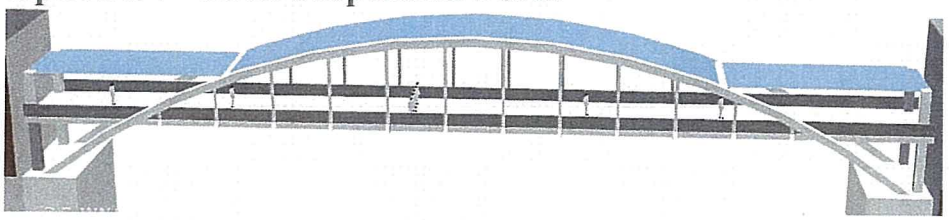
Option B3 – Skewed Truss Form



This is another interesting form, incorporating green theme. Aesthetically, the fin elements are more harmonized with the feature of Innovation Tower. However, it is heavy in weight and its roof is difficult to clean and maintain.

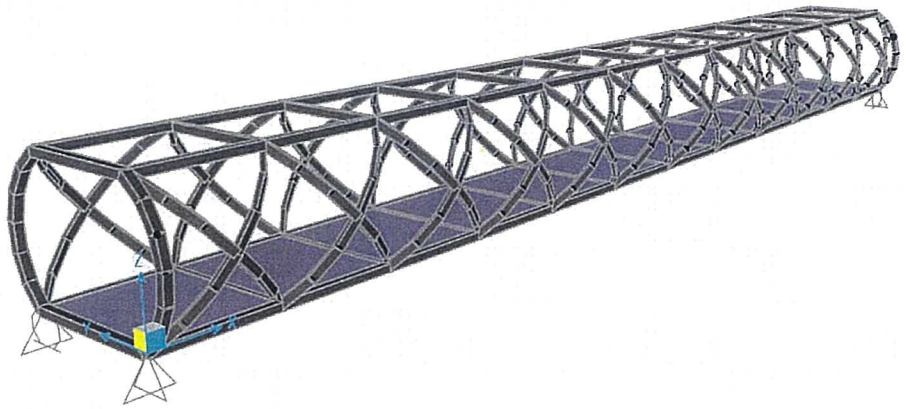
The following options B4, B5, B6 are considered marginally viable only due to construction difficulties and excessive costs. They are not recommended.

Option B4 – Arch Suspension Form



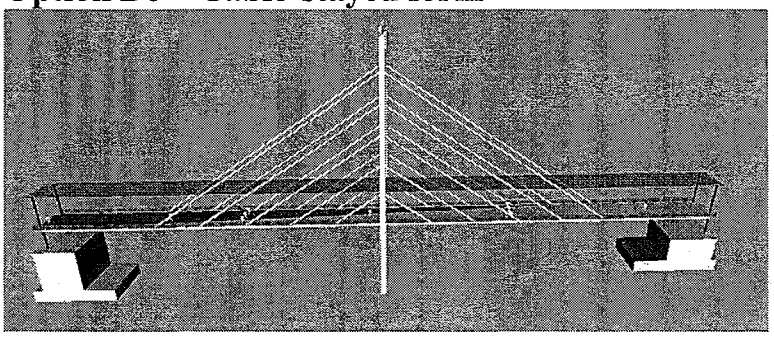
This is an interesting form but its appearance is **not compatible** with adjoining buildings. Structurally, the arch induces a huge horizontal force at support, which in turn calls for a very heavy foundation. Its erection also requires heavy temporary bracing. Therefore, this option is not recommended.

Option B5 – Tubular Truss Form



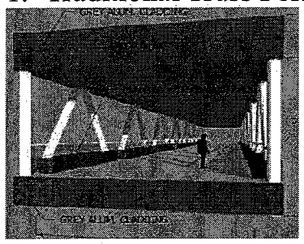
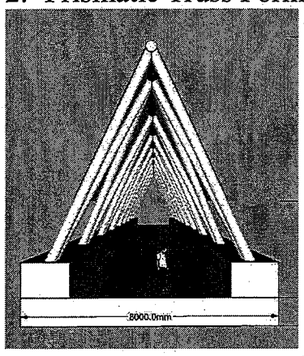
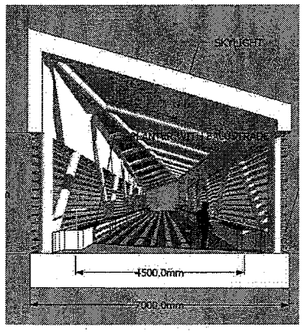
Another interesting form but it is structurally inefficient. Its curvy members are difficult to fabricate, resulting in **high cost**. Therefore, this option is not recommended.

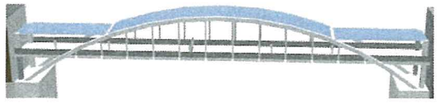
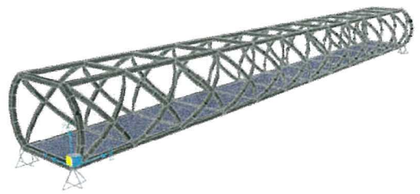
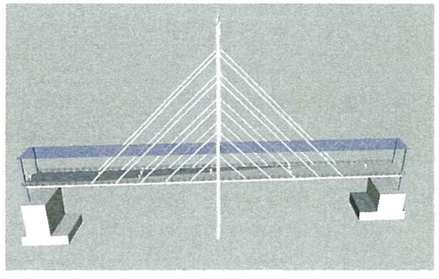
Option B6 – Cable-stayed form



This is an iconic form. The only viable location (with viable central support) is at alignment A3 which is detached from adjoining buildings and therefore less conflict in appearance. However, it is the **most expensive** scheme and requires special erection technique. This option is therefore not recommended.

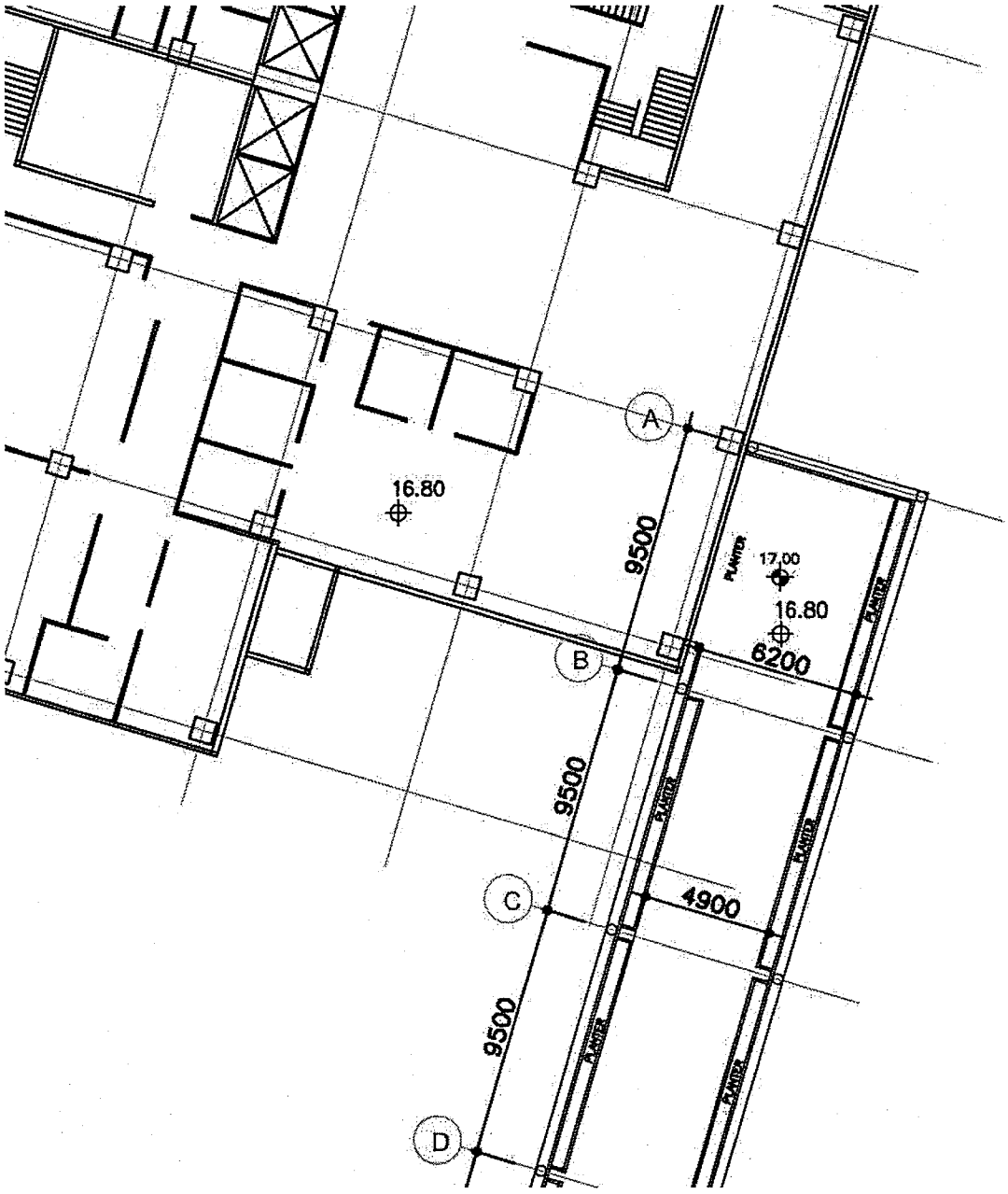
3.4 Comparison

Feasible Options (These are considered buildable within reasonable budget)	Architectural	Structural	Buildability	Overall Rating
1. Traditional Truss Form 	Pros: - Cons: 1. Mundane appearance, less attractive ☒	Pros: 1. Structurally efficient, traditional design Cons: - ☑	Pros: 1. Easy to fabricate and erect 2. Lowest cost Cons: - ☑☑	☑☑ Notional cost 50M Best Buildability
2. Prismatic Truss Form 	Pros: 1. Can incorporate green theme 2. Interesting form Cons: 1. Passage width is limited by bracing 2. Difficult to clean and maintain -	Pros: 1. Light weight Cons: 1. Tallest and widest structural truss among all forms -	Pros: 1. Easy to fabricate and erect 2. Reasonable cost Cons: - ☑☑	☑☑ Notional cost 60M Good Buildability
3. Skewed Truss Form 	Pros: 1. Can incorporate green theme 2. Interesting form 3. Horizontally harmonized with Innovation Centre Cons: 1. Difficult to clean and maintain ☑☑	Pros: - Cons: 1. Heavy weight ☒	Pros: 1. Easy to fabricate and erect 2. Reasonable cost Cons: - ☑☑	☑☑☑ Notional cost 60M Good Buildability **Recommended**

Marginally Feasible Options (These are theoretically buildable but entail specialist skills and heavy expenditure)	Architectural	Structural	Buildability	Overall Rating
4. Arch Suspension Form 	Pros: 1. Interesting form Cons: 1. Appearance not compatible with adjoining buildings -	Pros: - Cons: 1. Large horizontal force at support entails heavy foundation ☒	Pros: - Cons: 1. Need extensive bracing during erection 2. Expensive ☒☒	☒☒☒ Notional cost 70M Poor Buildability
5. Tubular Truss Form 	Pros: 1. Interesting form ☑	Pros: - Cons: 1. Structurally inefficient ☒	Pros: - Cons: 1. Heavy for lifting 2. Curved members difficult to fabricate within tolerance 3. Expensive ☒☒☒	☒☒☒ Notional cost 70M Poor Buildability
6. Cable-stayed Form 	Pros: 1. Iconic form 2. Alignment detached from adjoining building so less conflict in appearance ☑☑	Pros: - Cons: 1. Only feasible for longest alignment A3 2. Occupy government land 3. Additional central support ☒☒☒	Pros: - Cons: 1. Special launching method required to avoid full road closure 2. Very Expensive 3. Long construction time ☒☒☒	☒☒☒☒ Notional cost 90M Poor Buildability

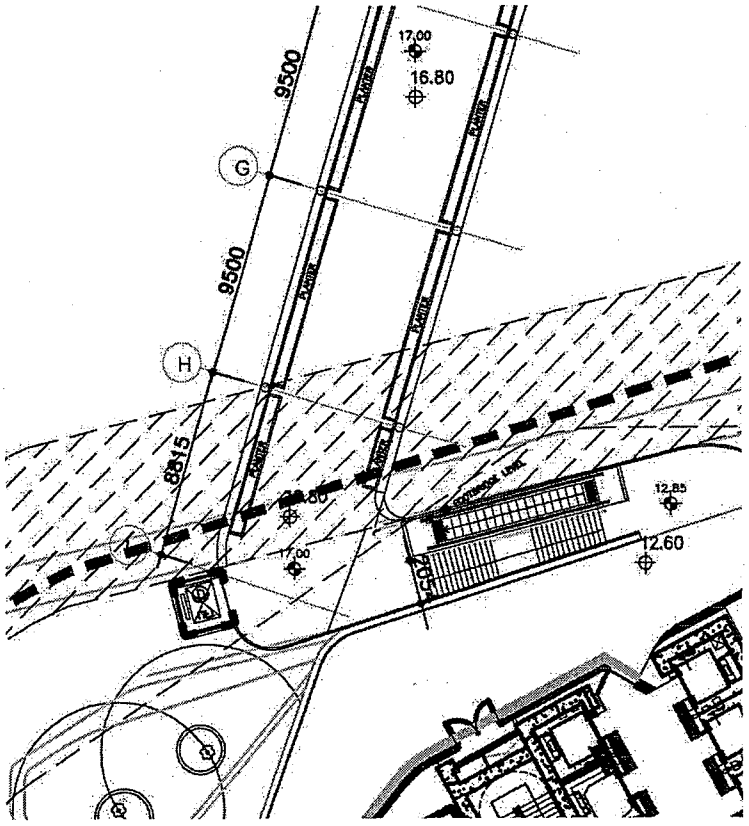
3.5 Link Access

Alignment A1 – Phase 8 interface

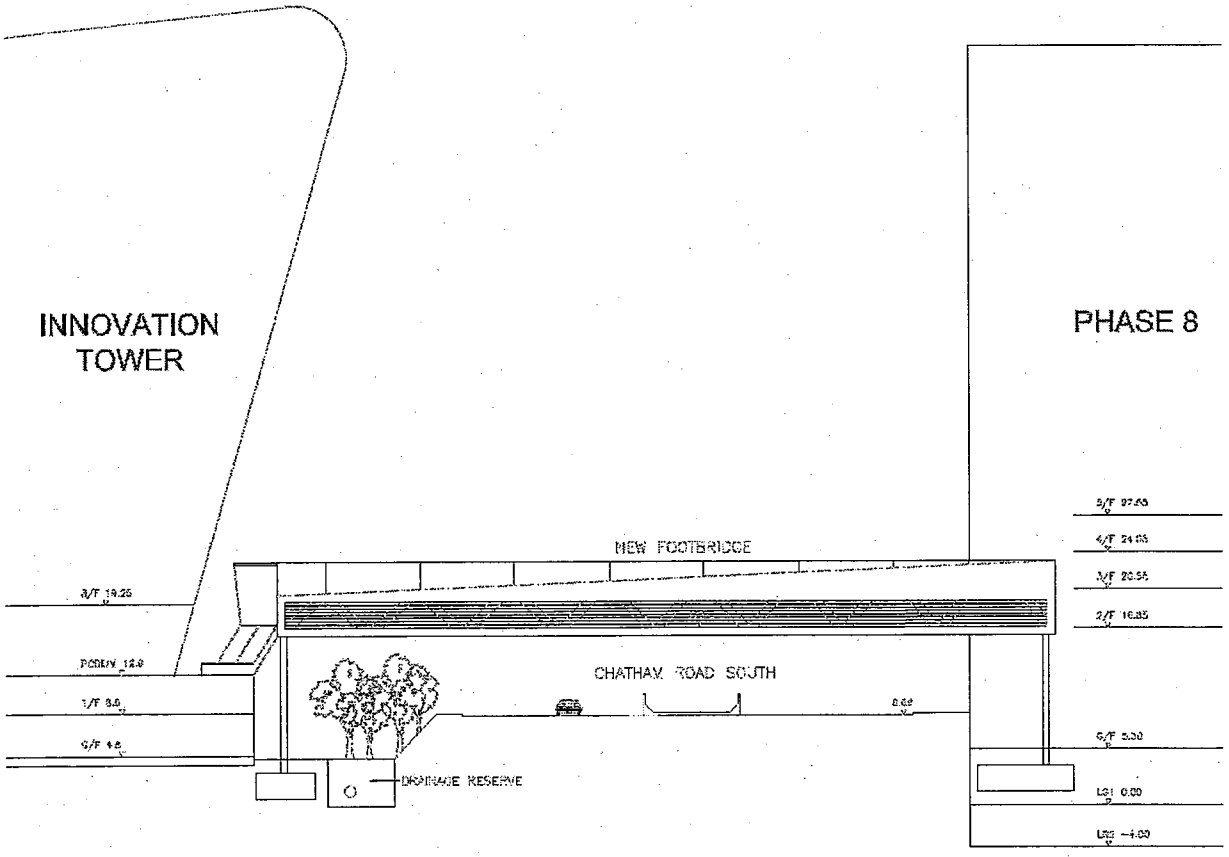


Footbridge will have same level as 2/F of Phase 8 Development – a smooth link access.

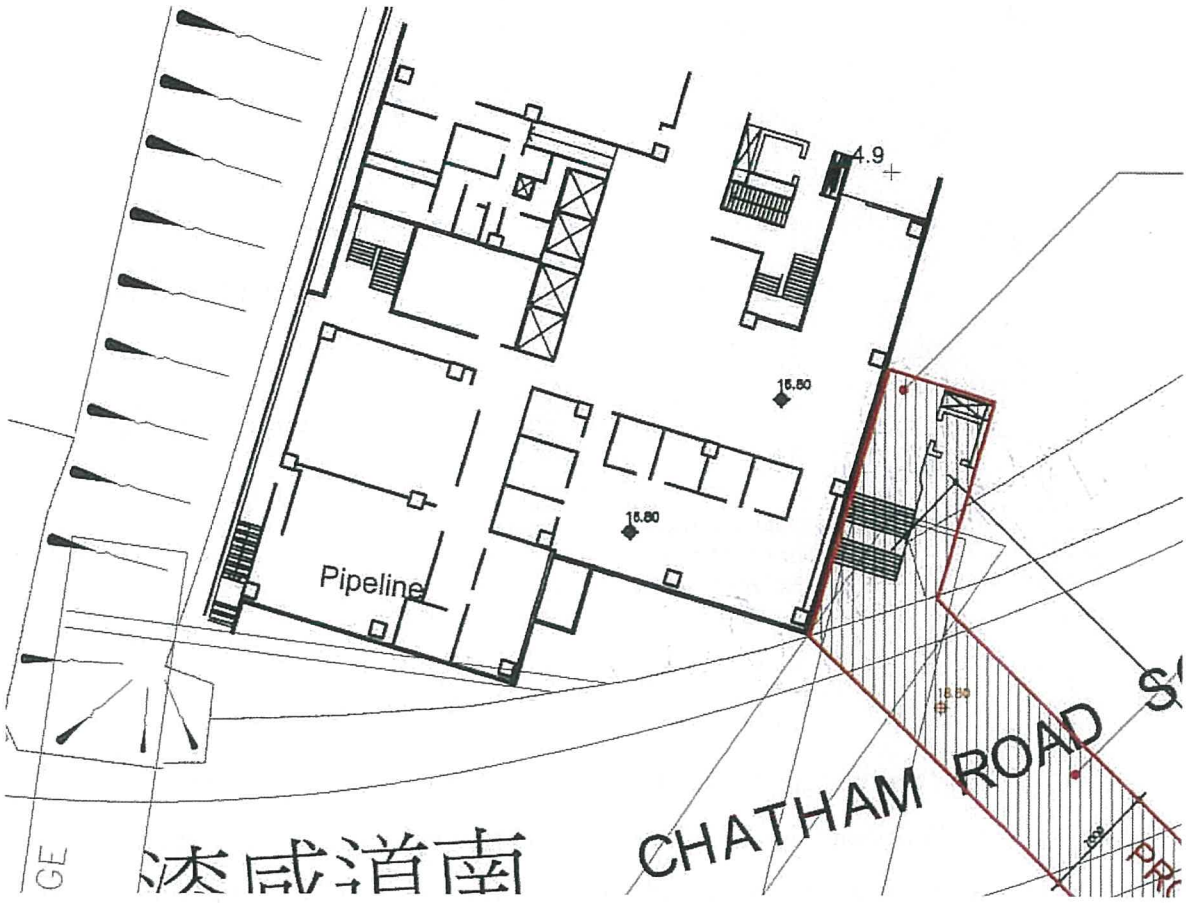
Alignment A1 – Innovation Tower interface



Footbridge is 4.4m higher that podium level of Innovation Tower. Escalator and stair are needed to link the footbridge and the podium.

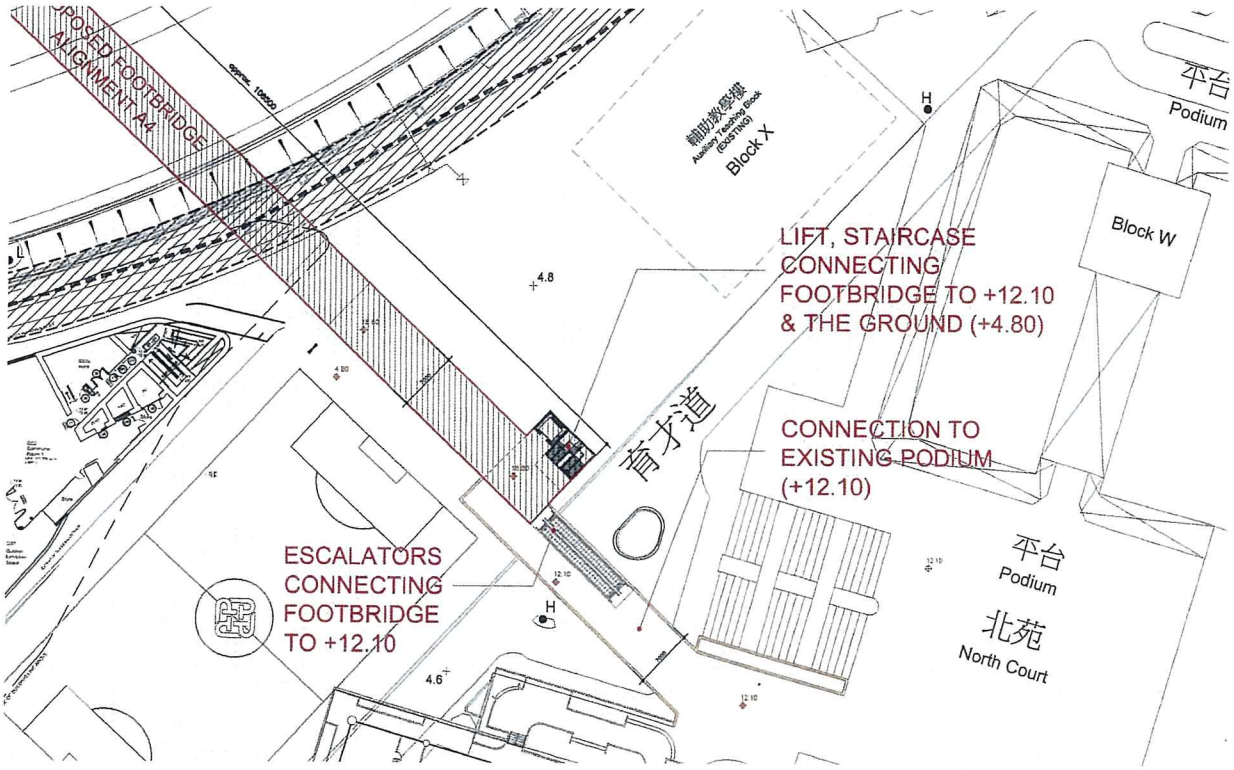


Alignment A4 – Phase 8 interface

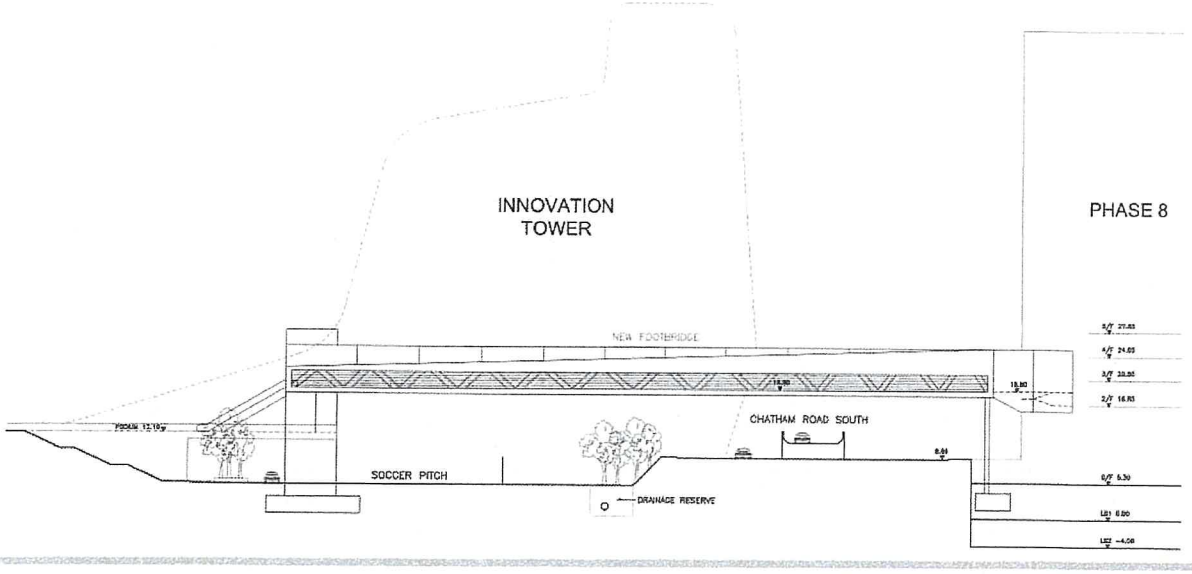


The footbridge is 2m higher than 2/F of Phase 8 development. Stair and disable lift are to be provided.

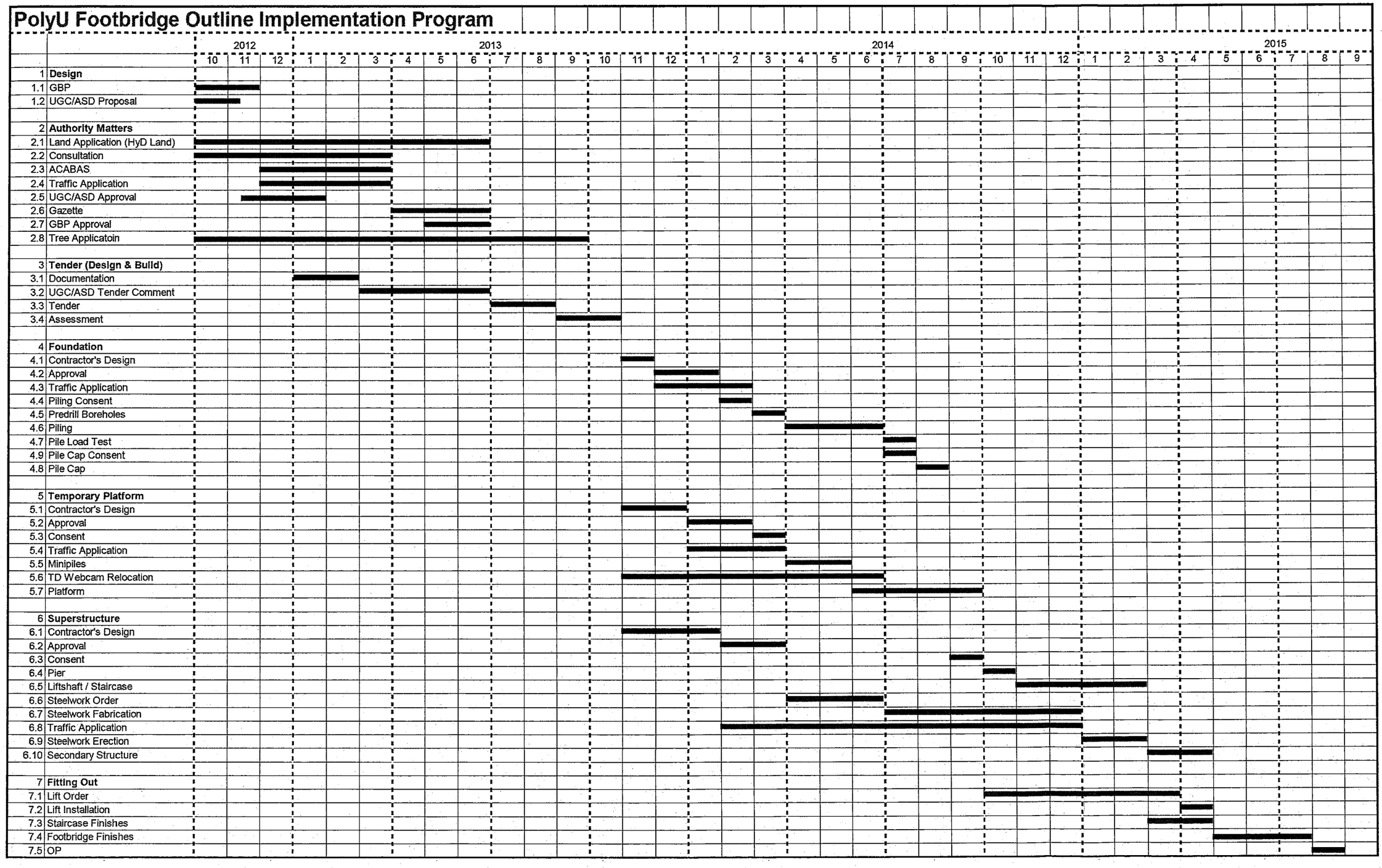
Alignment A4 – Main Campus interface



The footbridge is linked by a link bridge inside the campus and joins the podium near Core S. However, the bridge level is 6.7m higher than podium level. A lift, staircase and escalator tower is proposed at the side of Yuk Choi Road. This arrangement can achieve an efficient pedestrian flow to the footbridge and the main campus.



4. Outline Implementation Programme



5. On-going Studies

5.1 Tree conservation and traffic issues are identified as major constraints. These 2 major issues will be the focus of the remaining portion of study.

5.2 Configuration of north and south approaches is still being examined.

5.3 Cost estimation will be done by Rider Levett Bucknall who is engaged by PolyU under separated agreement. (Notional costs given in this interim report are for comparative discussion purpose only and subject to further assessment.)

5.4 Implementation programme is to be further developed.

5.5 Preliminary consultation with Highways Department, Transport Department and other authorities will be initiated.

6. Interim Conclusion

6.1 This interim report has reviewed options for footbridge construction over Chatham Road.

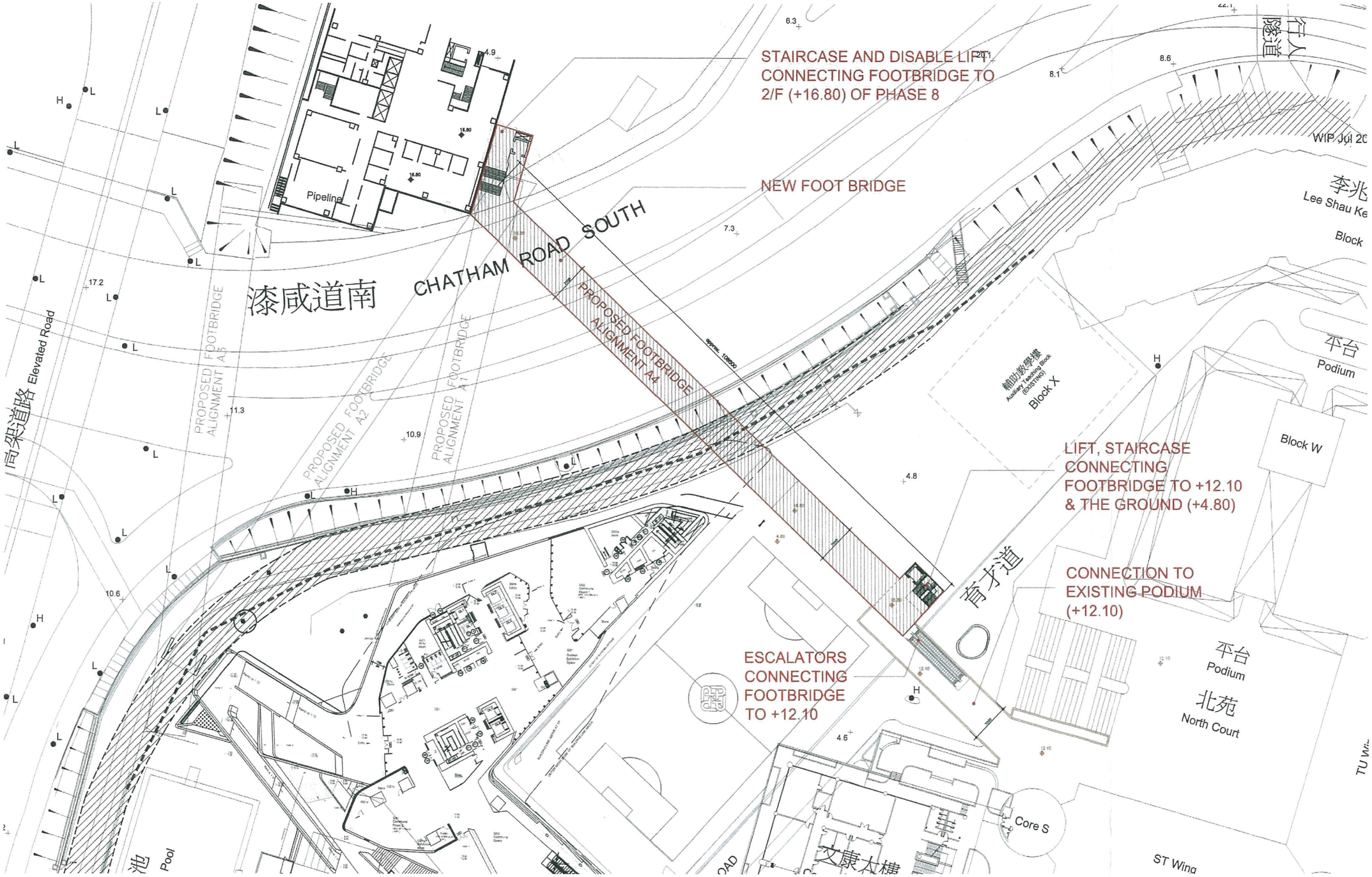
6.2 Buildability issues have consulted leading bridge specialist contractors Gammon Construction Limited and VSL Intrafor Hong Kong Ltd. They opined that, **from technical perspective**, the proposed footbridge Options B1, B2 and B3 are buildable with minimum interference to road traffic.

6.3 On Phase 8 side, 3 number of trees need to **transplant** for the construction of foundation and pier support.

6.4 Temporary fabrication platform will be constructed above the slope on Innovation Tower side. This platform will be in the form of a series of portal frames sitting between the existing trees. The portal frames will be taller than the treetop in order to avoid the need of any tree transplant. As this platform is inside Highways Department area, **agreement from Highways Department must be sought**.

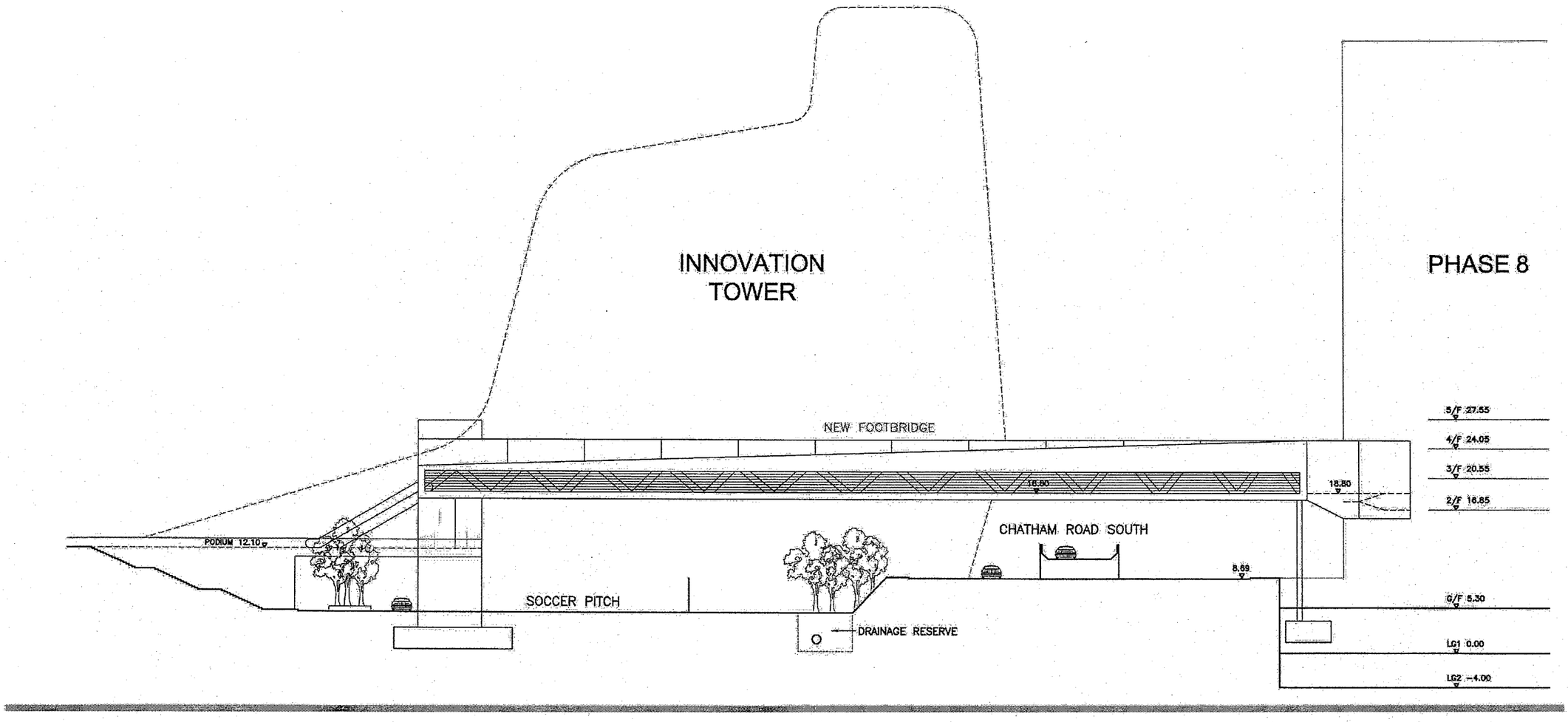
6.5 Footbridge will be installed on this temporary platform and lift to position in one night. There will be one night full road closure of Chatham Road. The traffic subconsultant MVA is now working on the details.

6.6 **Alignment A4 and Option B3** is recommended in terms of aesthetic and buildability considerations.



PLAN – ALIGNMENT A4

WONG & OUYANG (CIVIL-STRUCTURAL ENGINEERING) LTD
27/F, DORSET HOUSE, TAIKOO PLACE, 979 KING'S ROAD, HONG KONG FAX: 2968 1771 TEL: 2968 1881



SECTION

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27/F, DORSET HOUSE, TAIKOO PLACE, 979 KING'S ROAD, HONG KONG FAX: 2968 1771 TEL: 2968 1881

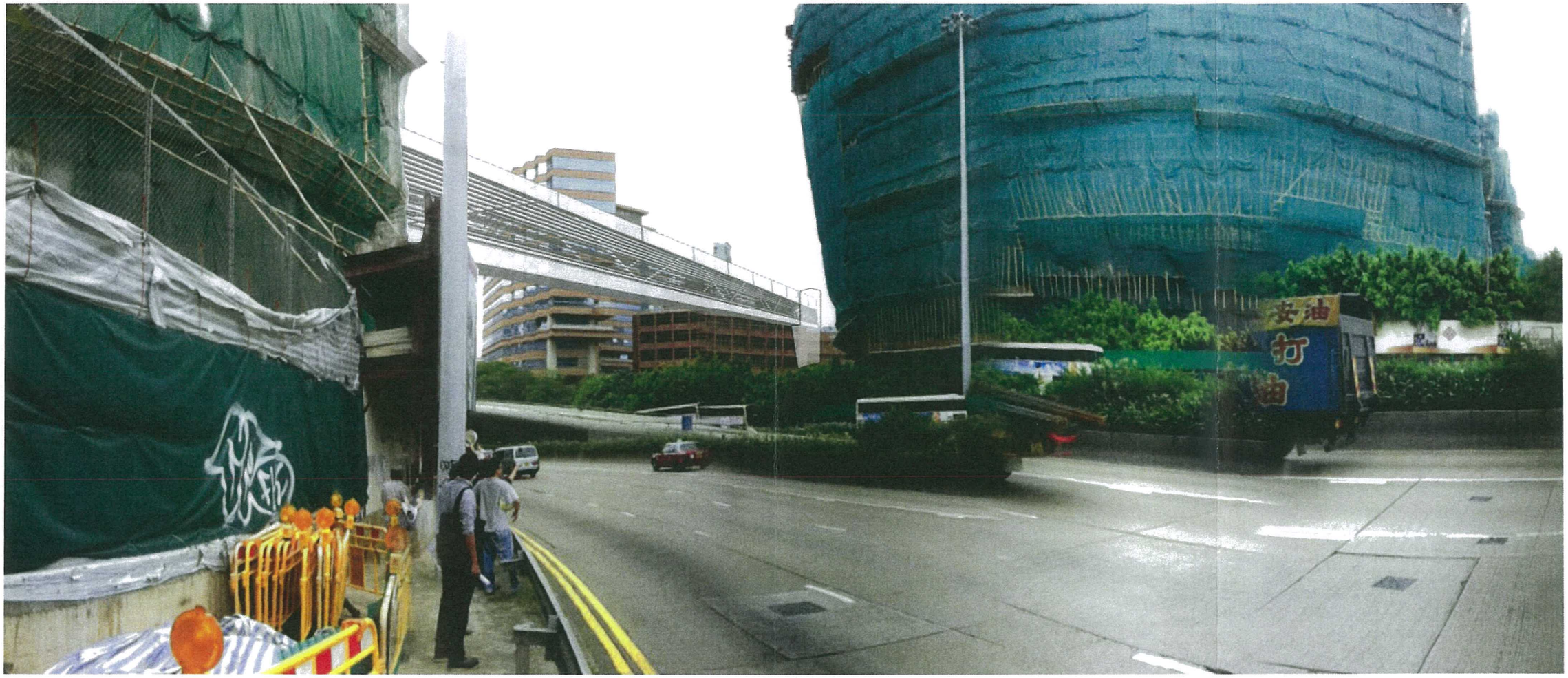


PHOTO MONTAGE

Annex C

Proposed Pedestrian Footbridge Linking Phase 8 and Main Campus of The Hong Kong Polytechnic University, Hung Hom

1. The Site

1.1 The subject site is located at Hung Hom, partly within and in-between the existing Main Campus and Phase 8 Campus of the Hong Kong Polytechnic University (PolyU). The northern end of the proposed footbridge falls within the lease boundary of K.I.L. No. 11201(KIL 11201) and the southern end falls within the lease boundary of The Remaining Portion and Extensions of K.I.L. No. 9853 (KIL 9853 RP & Exts), where the lift tower is located. At the northern end, the footbridge will connect to an existing covered open space at 2/F of the existing Block Z of PolyU. The above affected portions of lands are both owned by PolyU.

1.2 The footbridge will span entirely over and across the pavements and driveways of Chatham Road South, where no structure will sit on the government land. The footbridge will also span over Highways Department's Geotechnical Feature no. 11NW-C/FR86(1) adjacent to KIL 9853 RP & Exts. Creation of Easement under the Road (Works, Use and Compensation) Ordinance area is required for the construction of the footbridge.

1.3 At the southern end and within the Lot KIL 9853 RP & Exts, the proposed footbridge will span over the Drainage Reserve Zone, where no structure will sit on this zone.

2. Background and Pedestrian Flow

2.1 A pedestrian underpass was originally planned to be constructed as part of the works under PolyU Phase 8 development project to link the development with the Main Campus of PolyU. Due to unforeseen underground conditions, undue settlement was found during the initial construction period and the underpass construction works was suspended since December 2011. After due consideration on the high risk in further settlement should underpass works be resumed, It was decided to construct a footbridge as a replacement of the originally planned underpass.

2.2 After completion, the proposed pedestrian footbridge shall form the major pedestrian link between Phase 8 Campus and the Main Campus of PolyU.

3. Architectural Design

3.1 General Arrangement

3.1.1 The proposed footbridge link has a total span of approximately 86 metres and an overall width of about 7m.

3.1.2 A continuous single-pitch glass canopy of width approximately 5.5m will be provided for the entire length of the footbridge, enabling nature lighting and providing shelter from weather. The minimum headroom underneath the lower end of the pitch is approximately 2.65m.

3.1.3 The footbridge is open-sided, with glass balustrade along the entire length of the footbridge, enabling nature lighting and ventilation as well as views to the surrounding, encouraging the use of the footbridge as a safe and pleasant means of passageway between Phase 8 and Main Campus of PolyU.

3.1.4 The footbridge and access have been fully designed for Barrier Free Access, including the provision of accessible lift, guide paths, ramps and suitable lighting levels.

3.2 Materials, Finishes and Colour Scheme

3.2.1 The steel structural members of the footbridge will be finished in grey paint. The steel posts and beams for the canopy will be finished in light grey paint. The aluminum cladding underneath and at the edge of the footbridge will be in grey color.

3.2.2 The R.C. pier of the footbridge will be finished in combination of fair faced concrete and black colour paint.

3.2.3 Glass balustrade with stainless steel capping and handrails would be provided on both sides of the footbridge.

3.2.4 Synthetic timber deck flooring would be provided at the entire length of the footbridge.

3.2.5 The lift tower will be finished in combination of light grey aluminum cladding and fare face concrete finish. Glass balustrade with stainless steel cap to be provided at the edges and open staircase of the lift tower.

3.2.6 Granolithic flooring would be provided at the landing and staircase of the lift tower.

3.2.7 Planters along the entire length of the footbridge and green roof on the lift tower will be provided for visual pleasance and environmental enhancement. The green roof will be irrigated by automatic irrigation systems. Protective railing will be provided to the green roof and planters respectively to facilitate safe maintenance.

4. Structural Design

4.1 The proposed footbridge consists of two spans where the major span of approximate 65m spanning across Chatham Road South , while the shorter span of about 20m spans from the immediate support within Block Z site area to existing Block Z building.

4.2 The main span of footbridge is in bow-string form supported on bearings at both proposed lift tower adjacent to Block X and the intermediate reinforced concrete supporting pier inside Block Z site area. All vertical loads will be supported by the composite deck hung to the two main arch beams by high-tensioned steel rods. It transfers the loads as axial loads mainly which is beneficial to the overall structural efficiency. Spread out forces of the two arches are tied back by the bottom chord of the footbridge. The second span is a composite deck continuously connected to the intermediate supporting pier and simply supported on bearings at brackets to be installed at Block Z. It transfers loads simply as beams to the two end supports.

4.3 The new lift tower will be of reinforced concrete construction next to Block X. It will provide a smooth transition from the proposed Block X (under construction) in the main campus to the footbridge. Cantilevered platform with cover will be constructed at the connection level to the footbridge.

4.4 The bridge will directly connect to the existing floor at Block Z. A&A works will be carried out in Block Z to provide access to the footbridge.

4.5 As the footbridge is un-enclosed, application of fire protection material is unnecessary.

5. Building Services Design

5.1 Lighting

The footbridge is designed for natural lighting during day time with open sides. The walkway is provided with energy-saving LED tube with different control modes which are mounted at the glass canopy level and lift tower. The design lighting lux level at floor level is about 100 lux.

The lightings at external areas will be controlled by PolyU's CCMS time programming and existing central photo sensor.

5.2 Electrical, ELV and Security

Power provisions for the footbridge will be supplied from the existing electrical system of PolyU Block Z. Fused connection units, power sockets, data points and CCTV cameras will be installed along the walkway and in the lift tower. All CCTV signal for monitoring public areas will be transmitted back to PolyU's Central Security Control Room through LAN.

BIPV system will be installed at the glass canopy of the footbridge. The BIPV system shall be operated in grid-connected mode.

5.3 Ventilation and Air-conditioning
The walkway is naturally ventilated while the lift car is ventilated by exhaust fan. Lift shaft is provided with a mechanical ventilation system.

5.4 Plumbing
No plumbing provision is allowed for this project.

5.5 Drainage
Down pipes and surface channels collect the rainwater from the canopy, footbridge level and the lift tower block. Almost half of the rainwater will further drain to existing PolyU's internal manhole next to Block X while the remaining will drain to the existing PolyU's manhole inside Block Z. Both of them will finally connect to the existing box culvert at the east side of campus.

5.6 Fire Services
Subject to Fire Services Department's approval, no fire services provision is installed for this project.

5.7 Towngas
A towngas pipe with associated accessories will be provided along the footbridge and in the lift tower, connecting from Block Z to the main campus for future connection.

6. Development Programme

6.1 The proposed footbridge is planned to be constructed under a single contract and is scheduled to be complete around the 1st quarter of 2017.

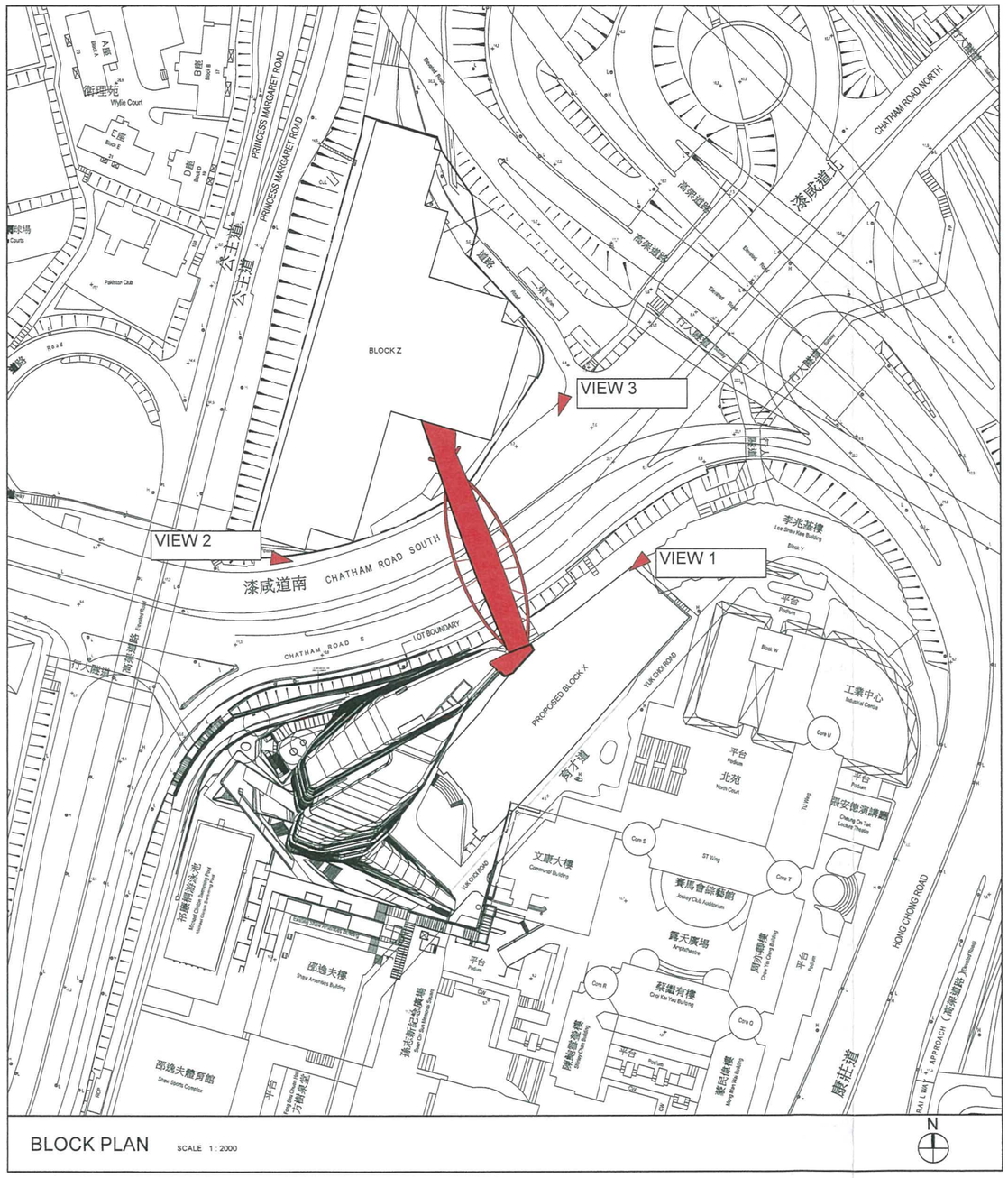
7. Drawings

Drawing Number	Title
A1418/ACABUS/FB-00	Cover
A1418/ACABUS/FB-00A	Summary of Previous ACABAS Submission
A1418/ACABUS/FB-00B	Summary of Previous ACABAS Submission
A1418/ACABUS/FB-01	Street View 1
A1418/ACABUS/FB-02	Street View 2
A1418/ACABUS/FB-03	Street View 3
A1418/ACABUS/FB-04	Perspective of Footbridge (From Block X)
A1418/ACABUS/FB-05	Perspective of Footbridge (From Phase 8)
A1418/ACABUS/FB-05A	Perspective of Footbridge (From EVA of Block Z)
A1418/ACABUS/FB-06	Existing Street Views
A1418/ACABUS/FB-07	Site Layout Plan
A1418/ACABUS/FB-08	Ground Floor Plan
A1418/ACABUS/FB-09	Ground Floor, Mezzanine Floor, Podium Floor Plans
A1418/ACABUS/FB-10	Footbridge Level Floor Plan
A1418/ACABUS/FB-11	Roof Plan
A1418/ACABUS/FB-12	Elevation A
A1418/ACABUS/FB-13	Elevation B
A1418/ACABUS/FB-13A	Plan and Section of Pier of Footbridge at Block Z
A1418/ACABUS/FB-14	Elevation D
A1418/ACABUS/FB-14A	Elevation C, Section X-X
A1418/ACABUS/FB-15	Section Y-Y
A1418/ACABUS/FB-16	Footbridge Link Typical Section Z-Z
A1418/ACABUS/FB-17	Balustrade Details at Footbridge
A1418/ACABUS/FB-17A	Planter Details at Footbridge
A1418/ACABUS/FB-18	Floor Finishing & Landscape Plan
A1418/ACABUS/FB-19	Reflected Ceiling Plan

VIEW 1

VIEW 2

VIEW 3



BLOCK PLAN SCALE 1 : 2000

ACABAS Submission (Rev. B)

PEDESTRIAN FOOTBRIDGE CONNECTING
PHASE 8 & MAIN CAMPUS
FOR
THE HONG KONG POLYTECHNIC UNIVERSITY

EMPLOYER
THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
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PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	COVER	27/05/2015	A-1418	A1418/ACABAS/FB-00	B

Summary of previous ACABAS submission and comments:

Issue Date	Date of Meeting		Primary Comments from ACABAS Committee	Response to ACABAS Committee Comments	Result
27 March 2015	17 March 2015	1.	Project team was required to ensure compliance of DEVB's TC(W) No. 2/2013 by providing greening along the footbridge.	In order to comply with DEVB's TC(W) No.2/2013, a continuous strip of planter was allocated on the eastern side of the footbridge alongside of the glass balustrade. (Drawing **A1418/ACABAS/FB-01,18**)	Acceptable in Principle, With further comments to be addressed.
		2.	The Committee commented that the level of the highest point of the footbridge deck should be clearly shown.	The level of the highest point of the footbridge had been shown on Section Y-Y . (Drawing **A1418/ACABAS/FB-15**)	
		3.	The Committee commented that the form of the footbridge and the canopy was different as the asymmetrical canopy and symmetrical footbridge did not match well. Project team was required to review the structural design for an integrated design.	The structural form of the footbridge was designed according to our design concept of a "**Flying Fish**", of which the dynamic leaping form echoes with the surrounding iconic buildings such as The Innovation Tower, and the future Block X. The **Flying Fish** structure has also integrated the most efficient structural design layout, and solutions to suit with many of the current site constraints. Firstly, the structure imitates a fish flying over the river (road). The footbridge consists of a symmetric arch structure at the main span across Chatham Road South (the Fish Body), then have an immediate support provided by the columns which we call the "Fish Tail"; while the Fish Fins, the last span of the footbridge integrate to Block Z. Secondly, the current location of the arch extension / column supports at Block Z minimised the disturbance to the existing EVA and trees of Block Z, and the compacted size of structural steel members occupy lesser space within the limited working area in Block Z. (Drawing **A1418/ACABAS/FB-00C**) The structure of the asymmetrical canopy was designed to enrich the pedestrian experience by providing an uncovered portion along the footbridge where pedestrian could fully appreciate the skyline of the neighborhood and the arch structure of the footbridge. The semi-open design also means that the vegetation could receive better sunlight and natural rain water for irrigation. (Drawing **A1418/ACABAS/FB-04, 07**)	
		4.	The Committee commented that the proposed arch which landed on deck level at one end while landing on street level at the other end appeared odd, particularly with another column supporting the deck as shown on Section Y-Y on drawing **A1418/ACABAS/FB-15**. Project team was required to review the structural design for a more balance structural design.		
		5.	The Committee commented that the Perspective of the proposed internal view as shown on drawing **A1418/ACABAS/FB-04** appeared very busy since there were so many elements and features enclosing the footbridge deck. Project team was required to review the structural design for a more simple structure with integrated design.	In response to the Committee's comments, the visual disturbance to the pedestrians was addressed by removing the aluminum fins at the western side. Simple and neat glass balustrade was provided instead. (Drawing **A1418/ACABAS/FB-04, 07**)	
		6.	The Committee commented that proposed sun shading grilles along the footbridge made the footbridge look bulky. Project team was required to review the necessity of the sun shading grilles since they would also attract litter and rubbish as the grilles would be very handy.	The sun shading grilles on the western side of the footbridge were removed from the design, a simple, neat glass balustrade was provided instead of the grilles. (Drawing **A1418/ACABAS/FB-04, 16**)	
		7.	The Committee commented that the proposed staircases as shown on drawing **A1418/ACABAS/FB-05** were not necessity but create funny dead corner at the entrance of footbridge. Project team was required to review the necessity of the staircase and review the design at the entrance from Phase 8 for smooth circulation.	After reviewing the connection at Phase 8, the ramp was widened to provide a spacious path. The steps is retained as an alternative option for non-wheelchair users. The area and extent of the staircase cum ramp were redesigned to provide a more inviting connection. (Drawing **A1418/ACABAS/FB-05, 07**)	
		8.	Project team was required to review the alignment of the deck for a smooth alignment at the western end of the footbridge. (Drawing **A1418/ACABAS/FB-18**)	The profiles at Grid-22 were smoothen. (Drawing **A1418/ACABAS/FB-01, 07**)	
13 May 2015	21 April 2015	1.	Project team was required to ensure adequate soil depth would be provided to ensure healthy plant growth to achieve the greening provision along the footbridge.	The proposed tray planter system has integrated water retention cell that would enhance the growing conditions. The proposed system was adopted in various government projects. (Some of which were shown in the submission for reference) The suitable species of plants were also listed for reference. (Drawing **A1418/ACABAS/FB-17A**)	--
		2.	The Committee commented that the canopy looked retro-fit structure and should be integrated with the structure of the footbridge. Project team was required to review the structural design for an integrated design.	A cantilever design was adopted for the canopy and the central column had been removed. A higher level of integration between the structure of footbridge and canopy was achieved. (Drawing **A1418/ACABAS/FB-05, 16**)	
		3.	The Committee commented that the previous comment 4 (i.e. the Committee commented that the proposed arch which landed on deck level at one end while landing on street level at the other end appeared odd particularly with another column supporting the deck as shown on Section Y-Y on Drawing **A1418/ACABAS/FB-15**. Project team was required to review the structural design for a more balanced structural design) was not addressed in the latest design. Project team was required to further review the structural integrity of the design, particularly the structural landing at street level, for a more balanced structural design.	The pier of the footbridge at Block Z had been revised. The previous design of steel supports were replaced by an R.C. support. (Drawing **A1418/ACABAS/FB-05A, 13A, 15**)	
		4.	Project team was required to provide photomontage showing view from the EVA towards the structural landing at the street level.	A perspective of footbridge from the EVA was provided for the Committee's review. (Drawing **A1418/ACABAS/FB-05A**)	

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	**SUMMARY OF PREVIOUS ACABAS SUBMISSION**	**27/05/2015**	**A-1418**	**A1418/ACABAS/FB-00A**	**A**

Summary of previous ACABAS submission (21 April 2015):

VIEW 1

VIEW 2

VIEW 3

VIEW FROM PHASE 8

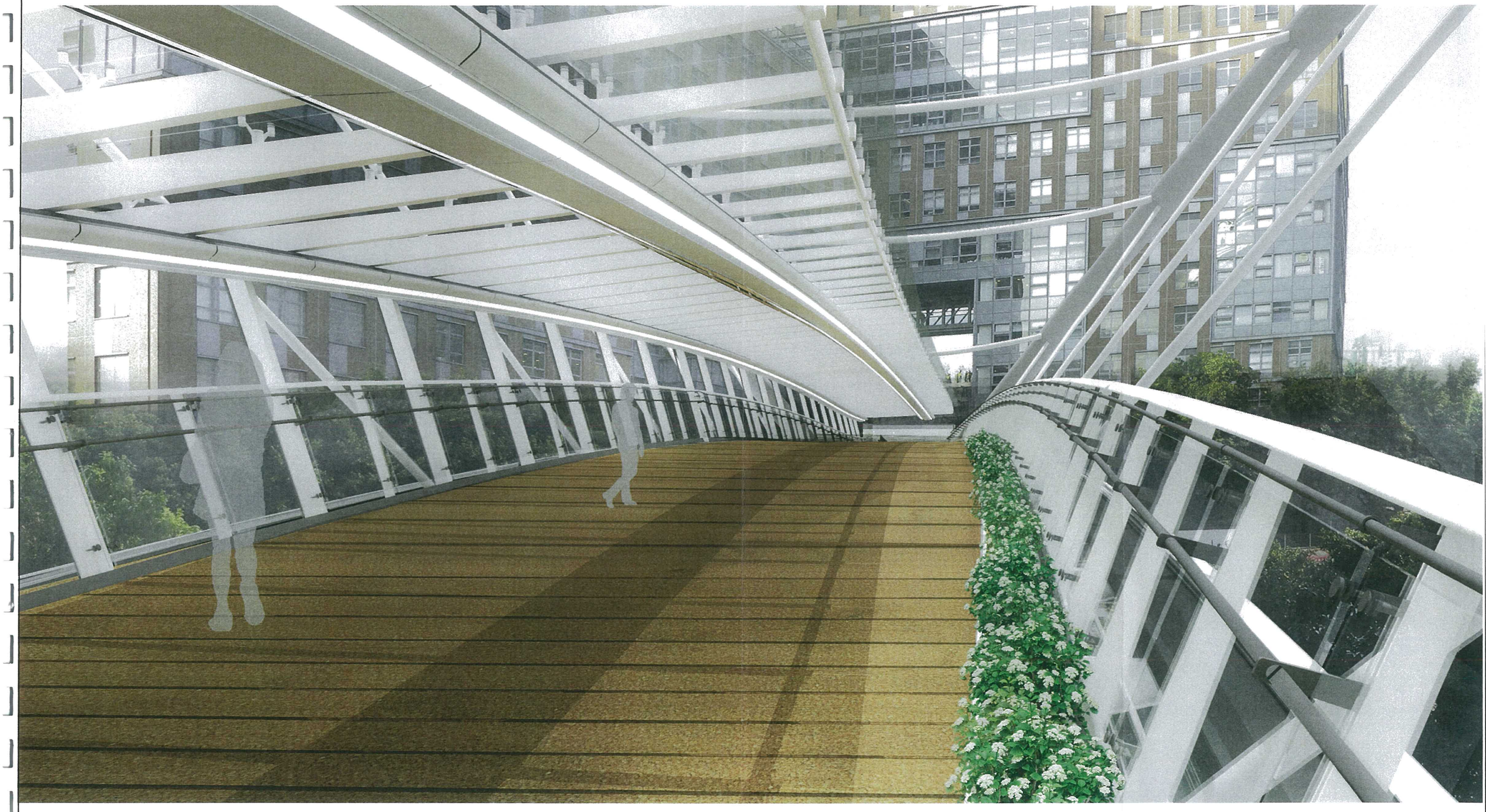
VIEW FROM BLOCK X

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	SUMMARY OF PREVIOUS ACABAS SUBMISSION	27/05/2015	A-1418	A1418/ACABAS/FB-00B	A

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	STREET VIEW 1	27/05/2015	A-1418	A1418/ACABAS/FB-01	B

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	STREET VIEW 2	27/05/2015	A-1418	A1418/ACABAS/FB-02	B

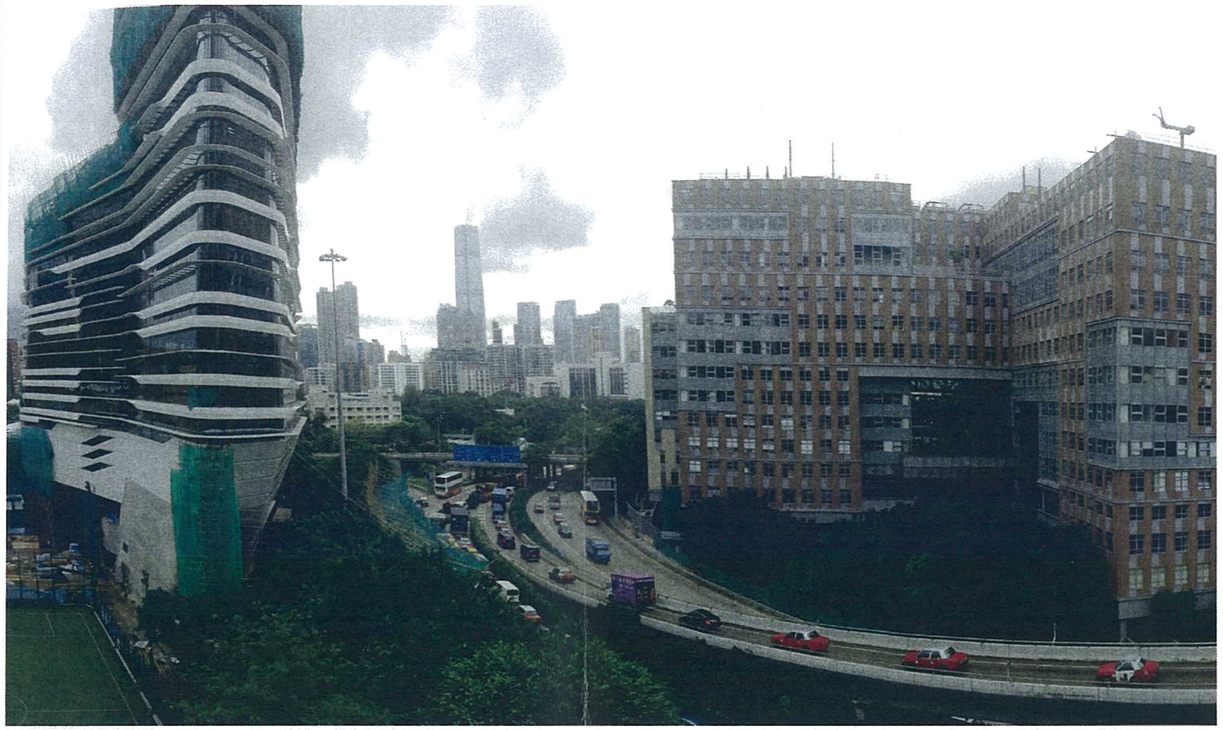
PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	STREET VIEW 3	27/05/2015	A-1418	A1418/ACABAS/FB-03	B



PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	PERSPECTIVE OF FOOTBRIDGE (FROM BLOCK X)	27/05/2015	A-1418	A1418/ACABAS/FB-04	B

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	PERSPECTIVE OF FOOTBRIDGE (FROM PHASE 8)	27/05/2015	A-1418	A1418/ACABAS/FB-05	B

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	PERSPECTIVE OF FOOTBRIDGE (FROM EVA OF BLOCK Z)	27/05/2015	A-1418	A1418/ACABAS/FB-05A	0



STREET VIEW 1

STREET VIEW 2

STREET VIEW 3

BRIDGE TO PHASE 8

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	EXISTING STREET VIEWS	04/02/2015	A-1418	A1418/ACABAS/FB-06	0

EXISTING BUILDING OF BLOCK Z

LOT BOUNDARY OF K.I.L. 11201

PROPOSED PLANTER

PROPOSED FOOTBRIDGE LINK

SLOPE FEATURE
11NW-D/FR86(1)

EXISTING
INNOVATION TOWER

PROPOSED LIFT TOWER

SITE BOUNDARY OF
ADJACENT DEVELOPMENT

CHATHAM ROAD SOUTH

LOT BOUNDARY OF K.I.L. 9853 R.P. &
EXTS.

SLOPE FEATURE
11NW-D/FR86(2)

DRAINAGE RESERVE ZONE

PROPOSED REDEVELOPMENT OF BLOCK X

LEGEND — — — — LOT BOUNDARY ▭ SLOPE

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	SITE LAYOUT PLAN	1:400 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-07	B

EXISTING BUILDING OF BLOCK Z

E.V.A

LOT BOUNDARY OF K.I.L. 11201

PROPOSED FOOTBRIDGE PIER

PROPOSED FOOTBRIDGE LINK DOTTED ABOVE

MAX. LEVEL UNDER FOOTBRIDGE: 13.39m

MAX. LEVEL UNDER FOOTBRIDGE: 13.39m

SLOPE FEATURE 11NW-D/FR86(1)

EXISTING INNOVATION TOWER

1100 HIGH FREE STANDING GLASS BALUSTRADE

GRANOLITHIC FLOOR FINISHES

F.L.6.800

F.L.4.700

F.L.4.850

SITE BOUNDARY OF ADJACENT DEVELOPMENT

ALUM. CLADDING (DETACHABLE)

PROPOSED LIFT TOWER

CHATHAM ROAD SOUTH

LOT BOUNDARY OF K.I.L. 9853 R.P. & EXTS.

SLOPE FEATURE 11NW-D/FR86(2)

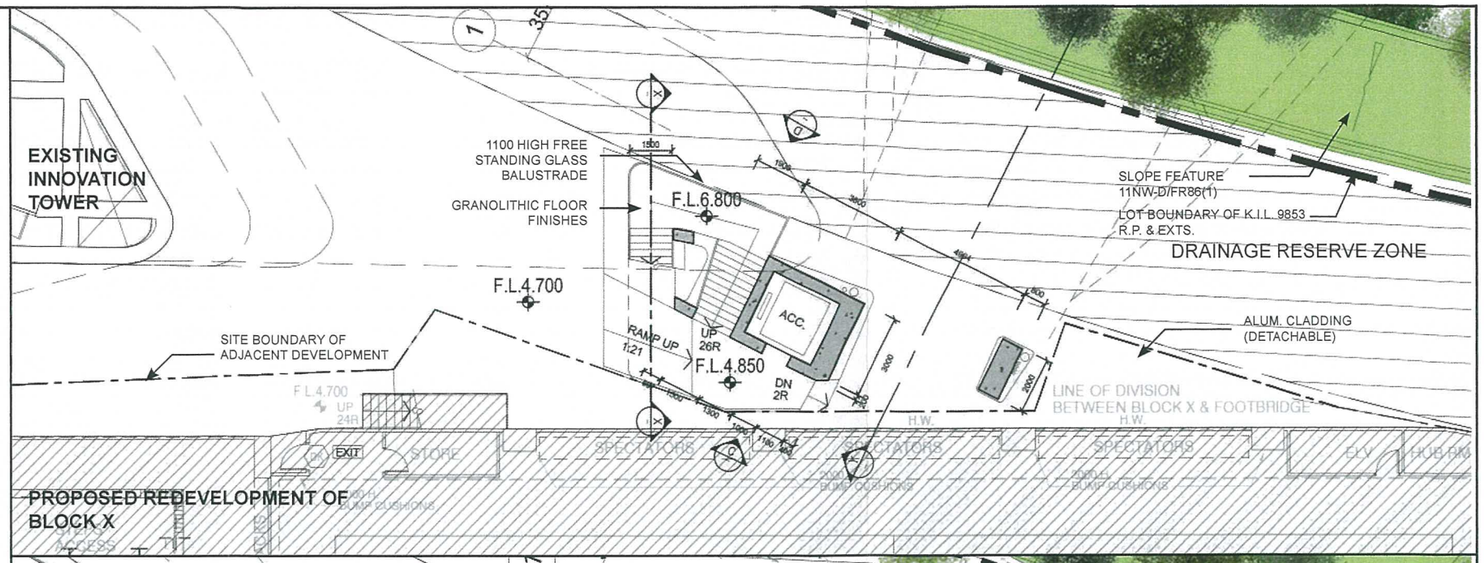
DRAINAGE RESERVE ZONE

PROPOSED REDEVELOPMENT OF BLOCK X

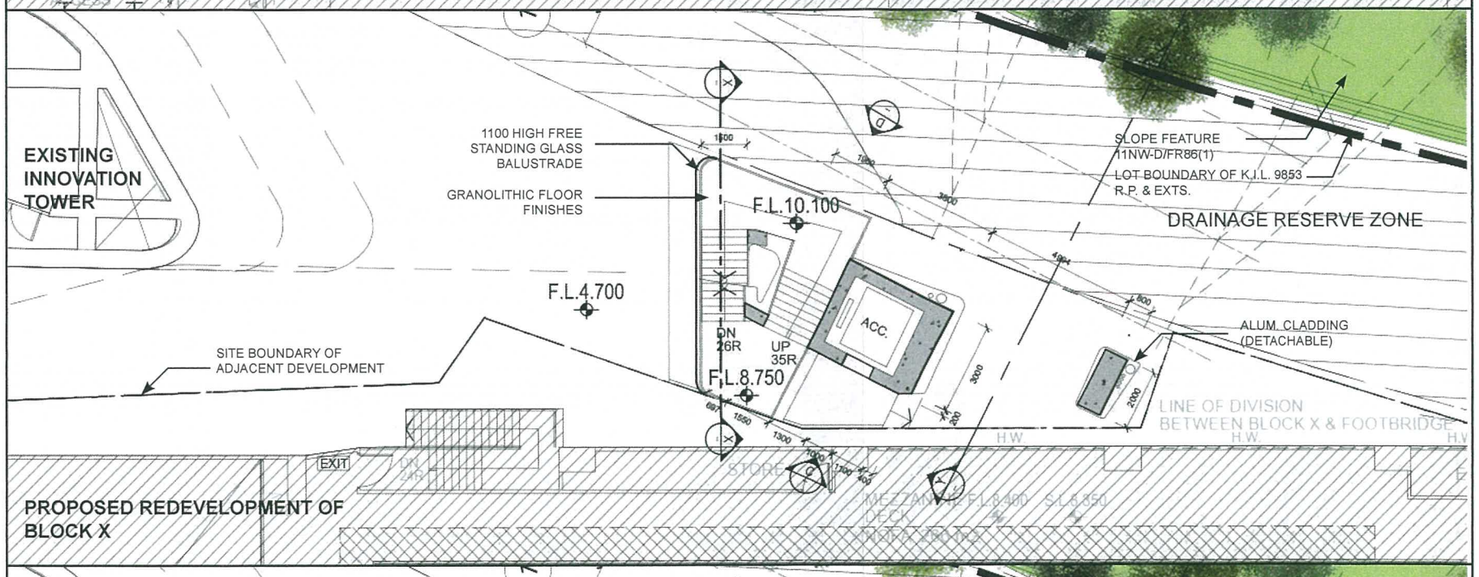
LEGEND — — — — LOT BOUNDARY ▭ SLOPE

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	GROUND FLOOR PLAN	1:400 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-08	A

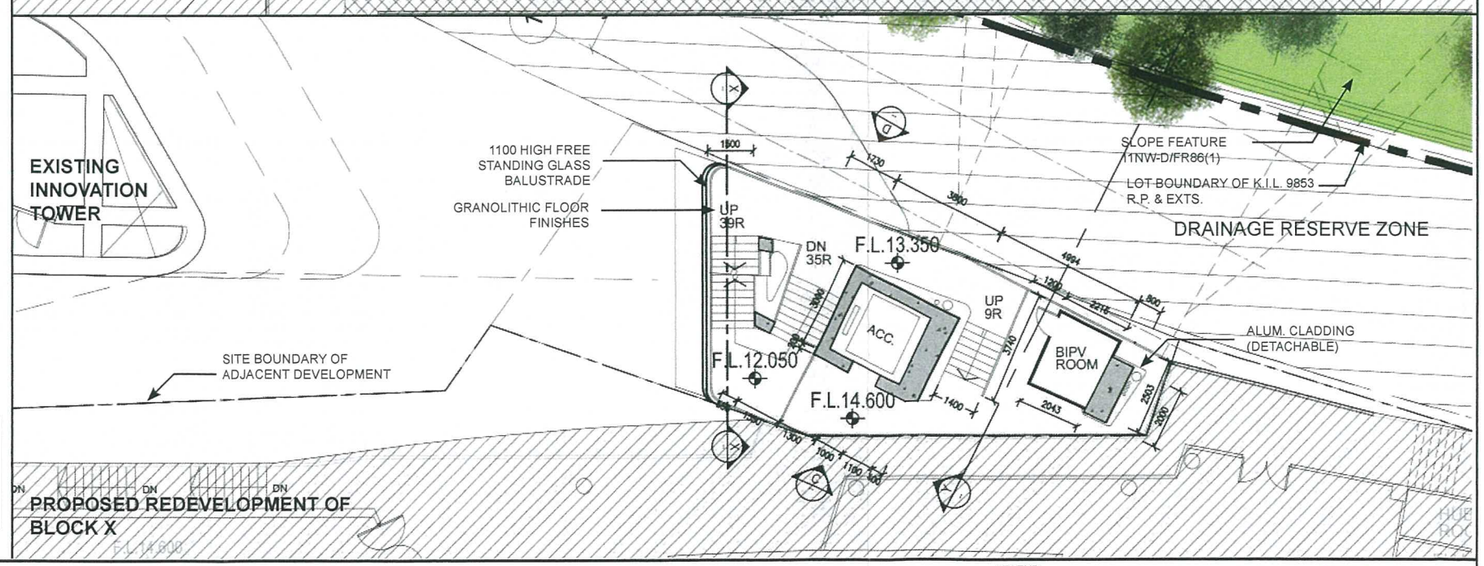
GROUND FLOOR PLAN



MEZZANINE FLOOR PLAN



PODIUM FLOOR PLAN



LEGEND — LOT BOUNDARY — SLOPE

SCHEDULE OF MINIMUM DIMENSIONS FOR LIFT INSTALLATIONS

	RATED LOAD	NO. OF PASSENGERS	RATED SPEED	WELL MIN. DIMENSIONS		CLEAR ENTRANCE		CAR INTERNAL SIZES				PIT DEPTH
			PRO. (M/S)	WIDTH Ww	DEPTH Wd	WIDTH Ew	HEIGHT Eh	WIDTH Cw	DEPTH Cd	MAX. AREA Ca	HEIGHT	PRO.
				PRO.	PRO.	PRO.	PRO.	PRO.	PRO.	PRO.	PRO.	
LIFT 1	1600	21	1.75	3200	2600	1200	2300	2000	1750	3.56	2300	1900

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	GROUND FLOOR, MEZZANINE FLOOR, PODIUM FLOOR PLANS	1:200 (A3)	04/02/2015	A-1418	A1418/ACABAS/FB-09	0

EXISTING INNOVATION TOWER

SLOPE FEATURE 11NW-D/FR86(1)

EXISTING BUILDING OF BLOCK Z

LOT BOUNDARY OF K.I.L. 11201

SITE BOUNDARY OF ADJACENT DEVELOPMENT

1100 HIGH FREE STANDING GLASS BALUSTRAADE

GRANOLITHIC FLOOR FINISHES

1400 HIGH GLASS BALLUSTRADE WITH STEEL POST

900H S.S. RAILING ON BOTH SIDES OF RAMP

EXISTING PLANTER TO BE RETAINED

PROPOSED REDEVELOPMENT OF BLOCK X

ALUM. CLADDING (DETACHABLE)

DRAINAGE RESERVE ZONE

CHATHAM ROAD SOUTH

LOT BOUNDARY OF K.I.L. 9853 R.P. & EXTS.

SLOPE FEATURE 11NW-D/FR86(2)

PROPOSED PLANTER

STEEL POST OF CANOPY

1400 HIGH GLASS BALUSTRADE WITH STEEL POST

RECYCLED TIMBER DECK WITH PEDESTAL SYSTEM ON 130mm THK. COMPOSITE SLAB

RAMP UP 1 : 21

RAMP UP 1 : 12

LEGEND — — — — LOT BOUNDARY SLOPE

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	FOOTBRIDGE LEVEL FLOOR PLAN	SCALE 1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-10	B

EXISTING INNOVATION TOWER

SLOPE FEATURE 11NW-D/FR86(1)

EXISTING BUILDING OF BLOCK Z

LOT BOUNDARY OF K.I.L. 11201

SITE BOUNDARY OF ADJACENT DEVELOPMENT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

3579 3584 3585 3586 3587 3587 3587 3587 3587 3586 3585 3584 3583 3582 3580 3578 3301 3299 3207 3209 3211 3213 3214

GREEN ROOF F.L.25.500

PROPOSED REDEVELOPMENT OF BLOCK X

GLASS CANOPY

GLASS CANOPY w/. BIPV PANELS

STEEL ARCH OF FOOTBRIDGE STRUCTURE

CHATHAM ROAD SOUTH

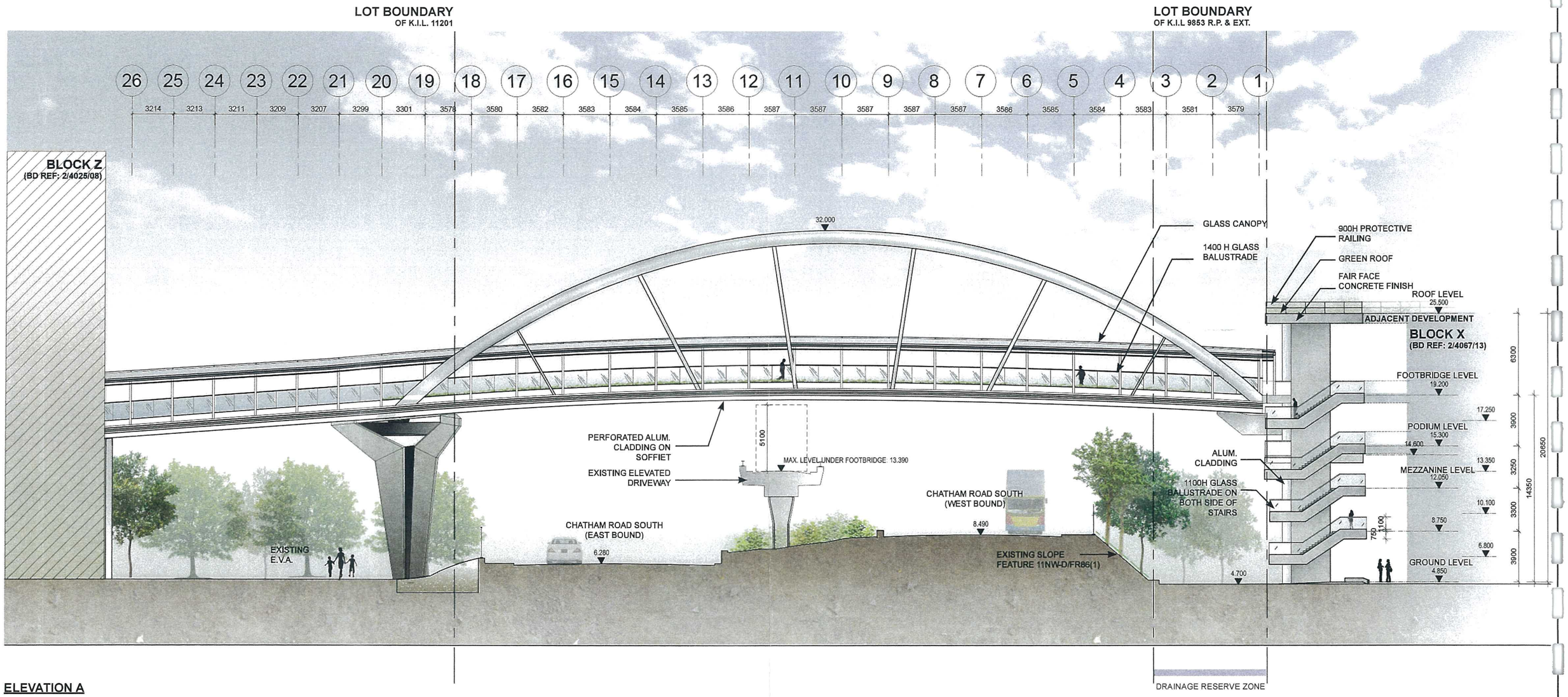
DRAINAGE RESERVE ZONE

LOT BOUNDARY OF K.I.L. 9853 R.P. & EXTS.

SLOPE FEATURE 11NW-D/FR86(2)

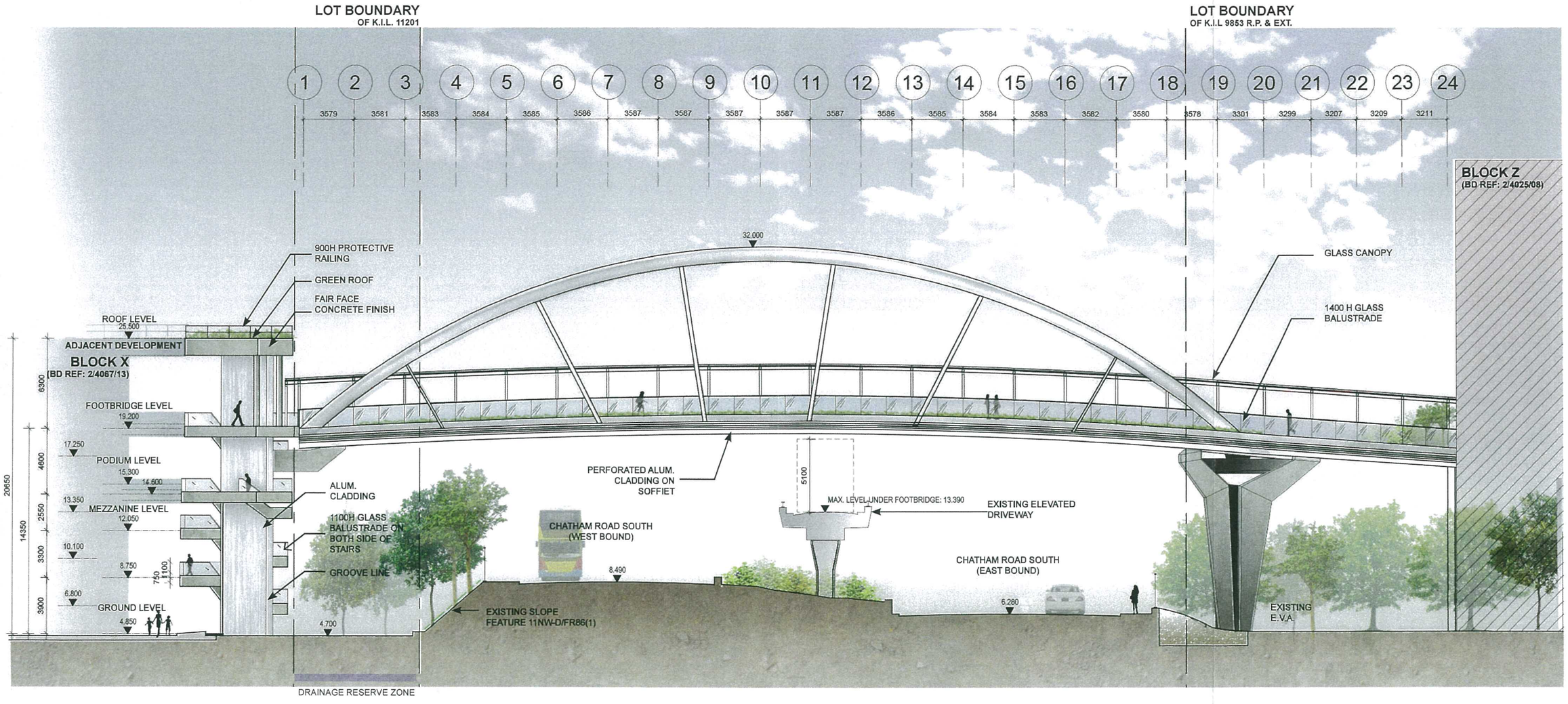
LEGEND — — — — LOT BOUNDARY SLOPE

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ROOF PLAN	1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-11	B



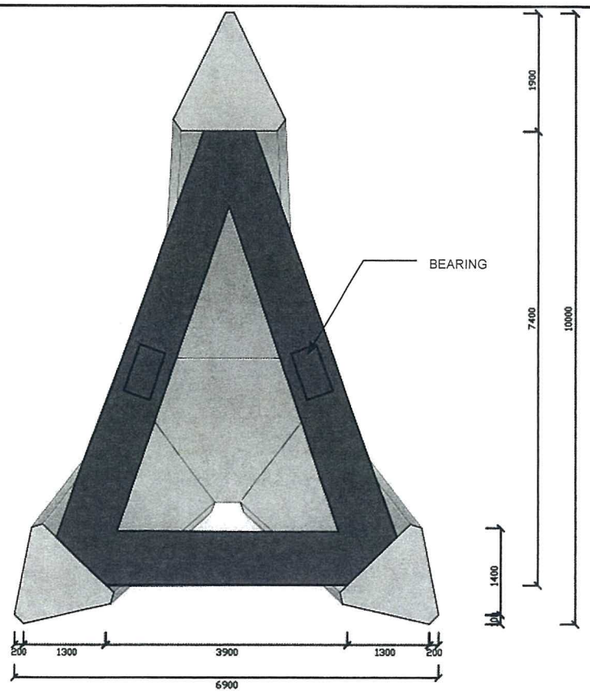
ELEVATION A

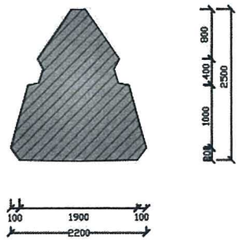
PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ELEVATION A	1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-12	B



ELEVATION B

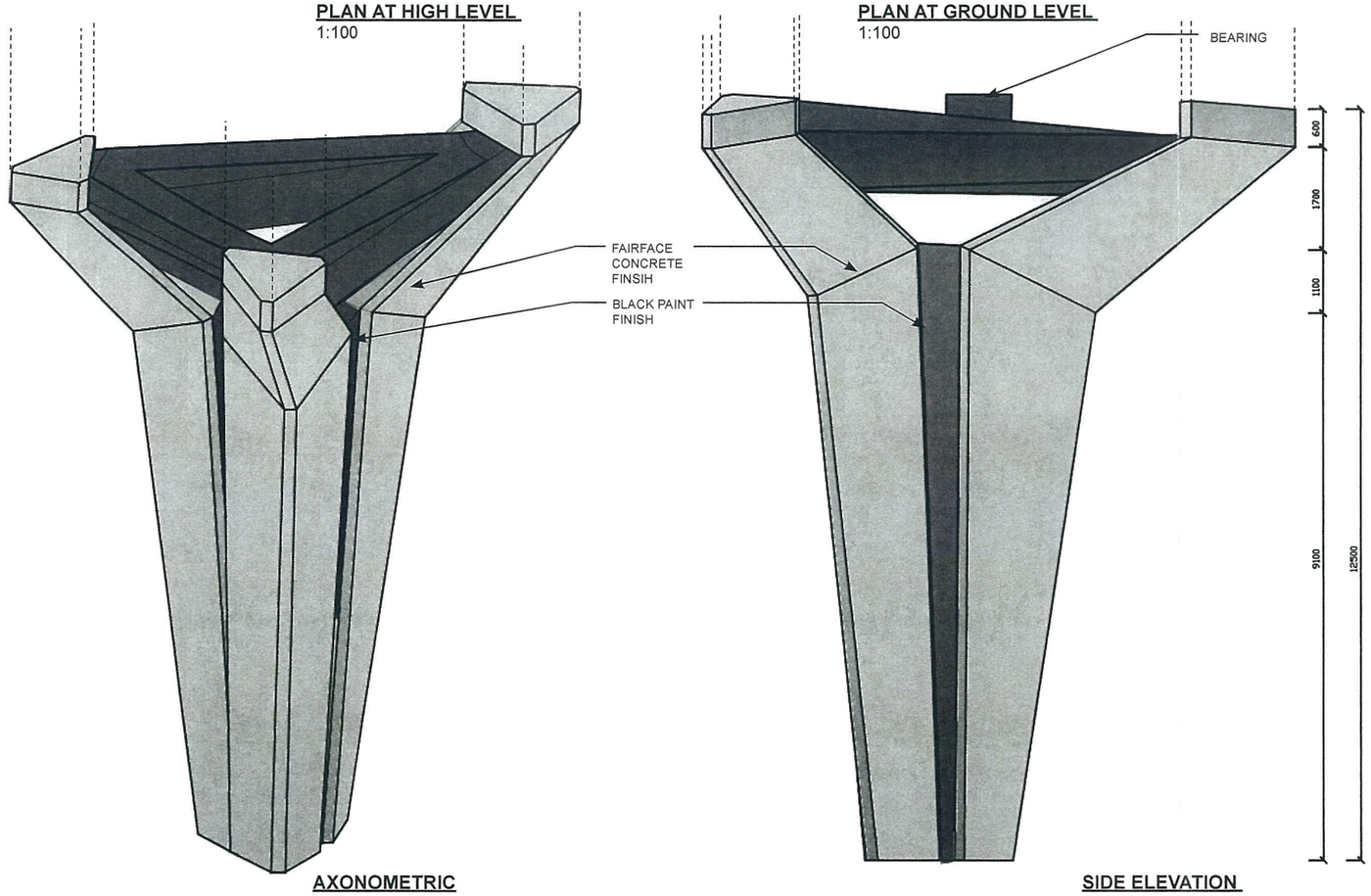
PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ELEVATION B	1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-13	B





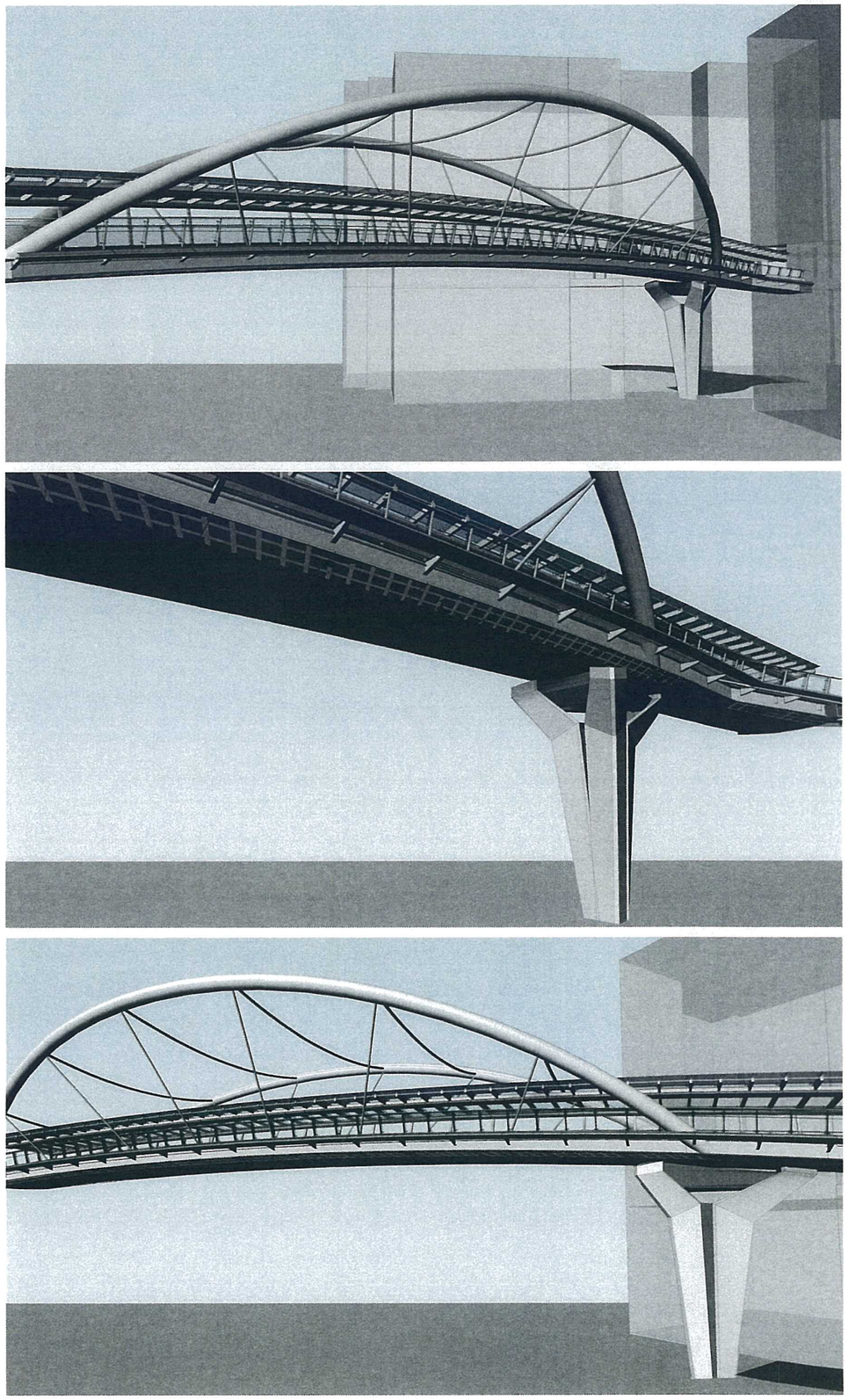
PLAN AT HIGH LEVEL
1:100

PLAN AT GROUND LEVEL
1:100



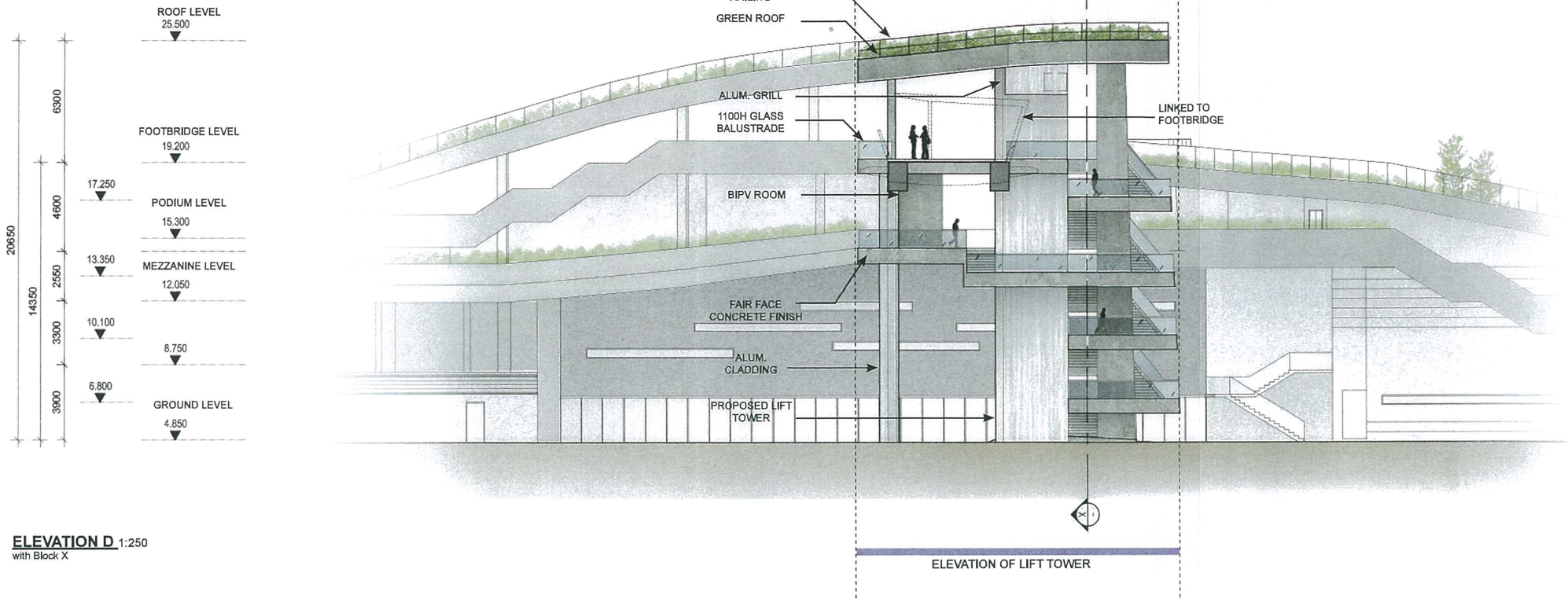
AXONOMETRIC

SIDE ELEVATION
1:100

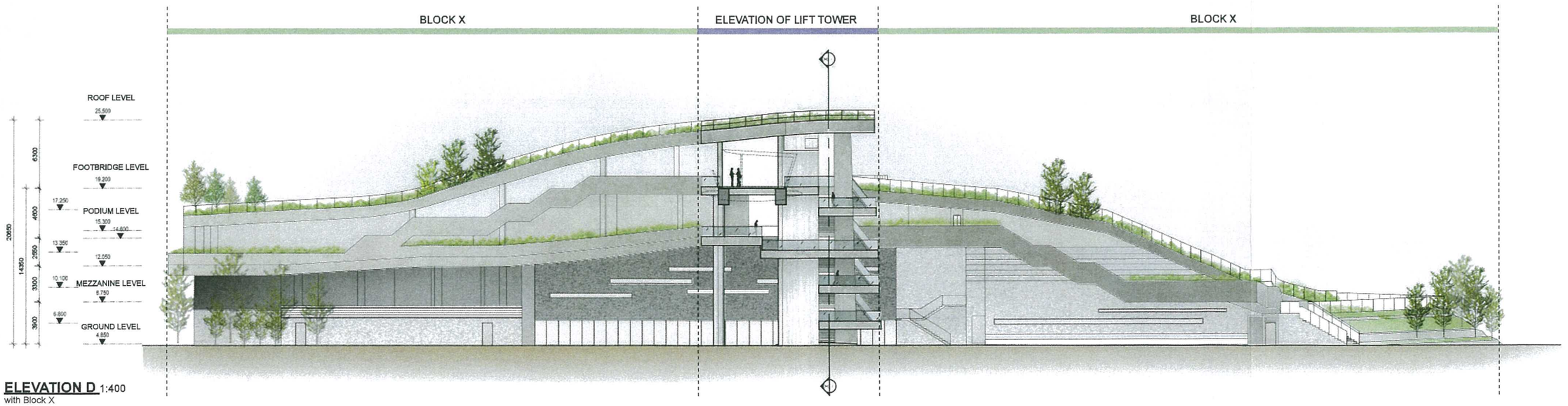


VISUALIZATIONS

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	PLAN AND SECTION OF PIER OF FOOTBRIDGE AT BLOCK Z	27/05/2015	A-1418	A1418/ACABAS/FB-13A	0

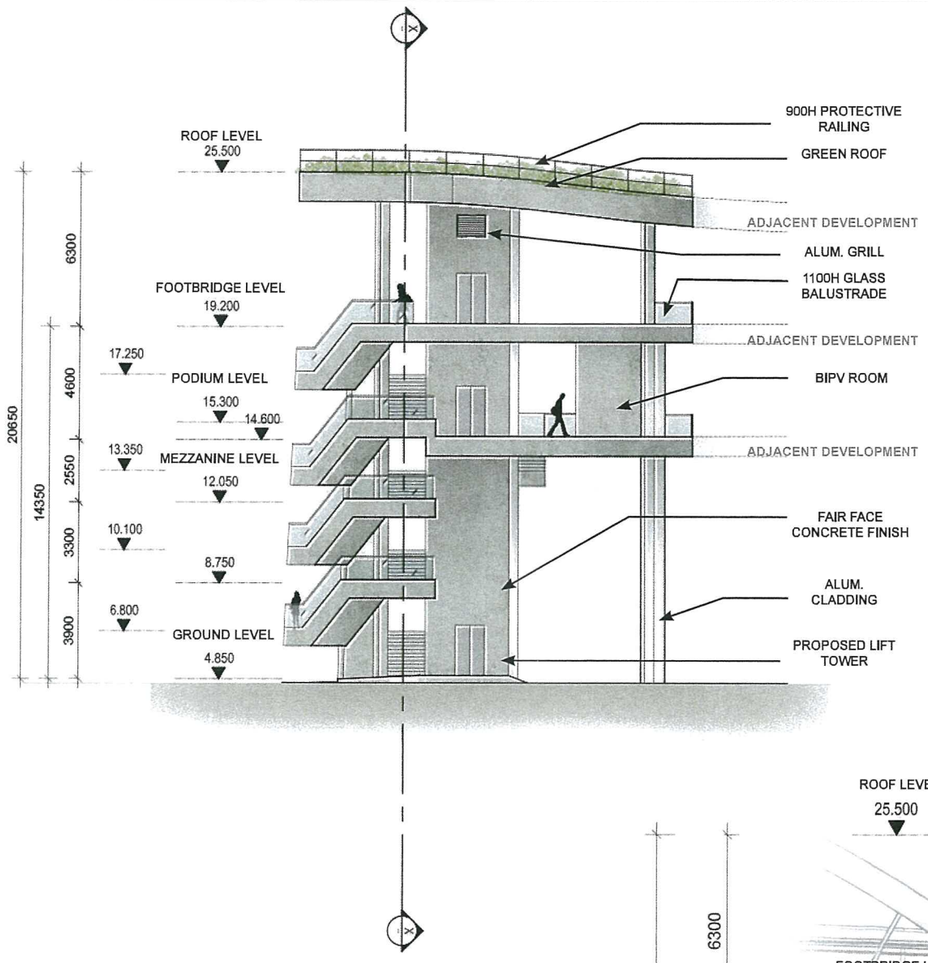


ELEVATION D 1:250
with Block X

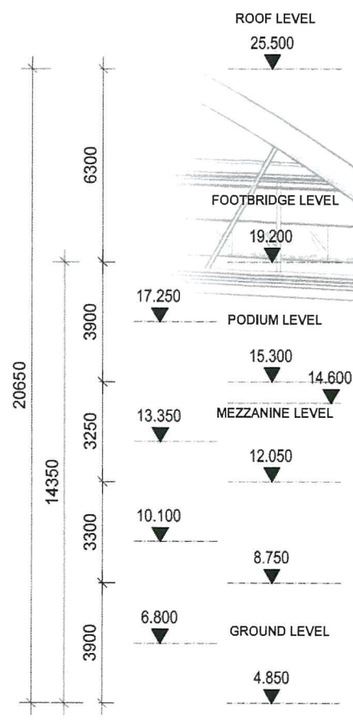


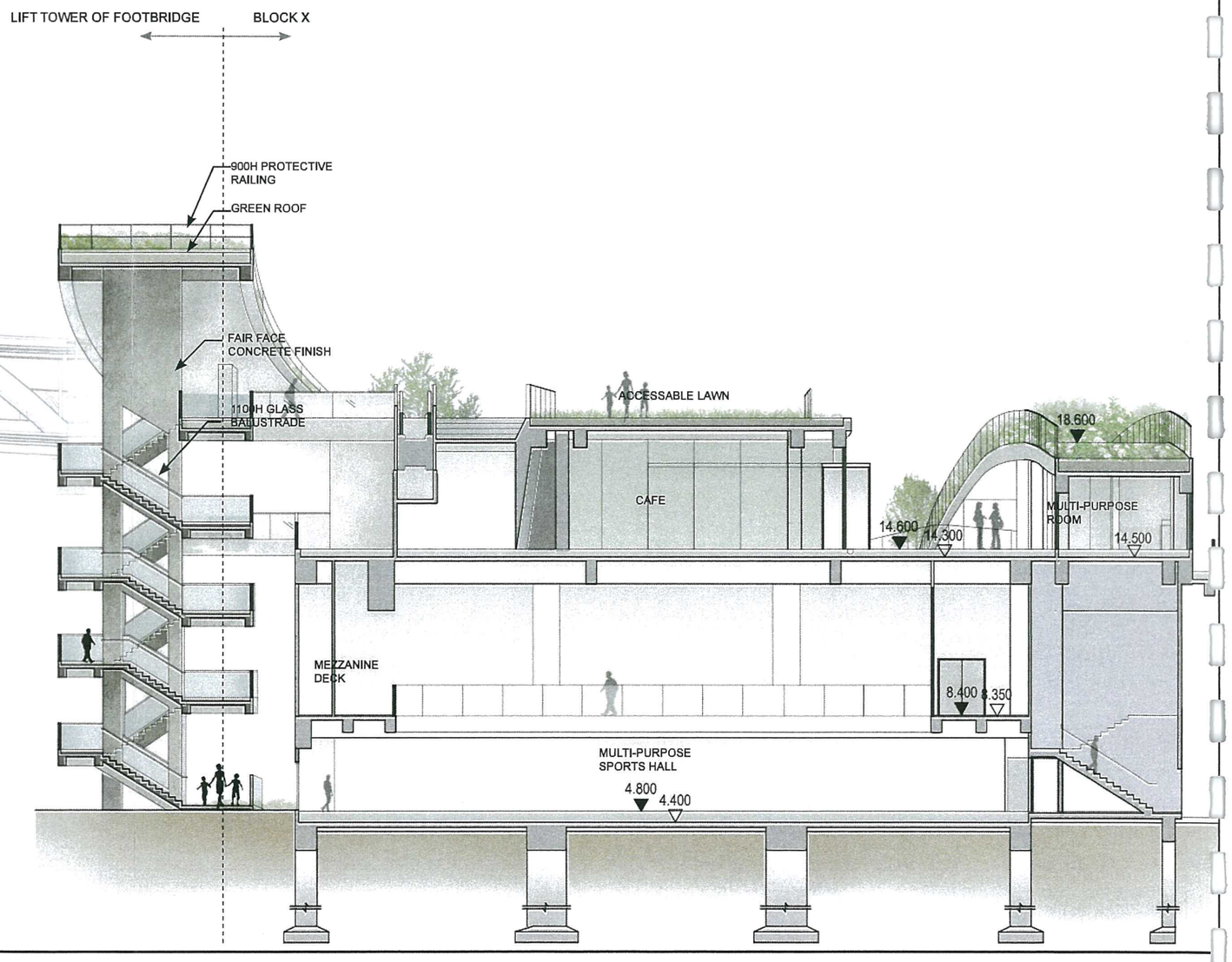
ELEVATION D 1:400
with Block X

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ELEVATION D	27/05/2015	A-1418	A1418/ACABAS/FB-14	A



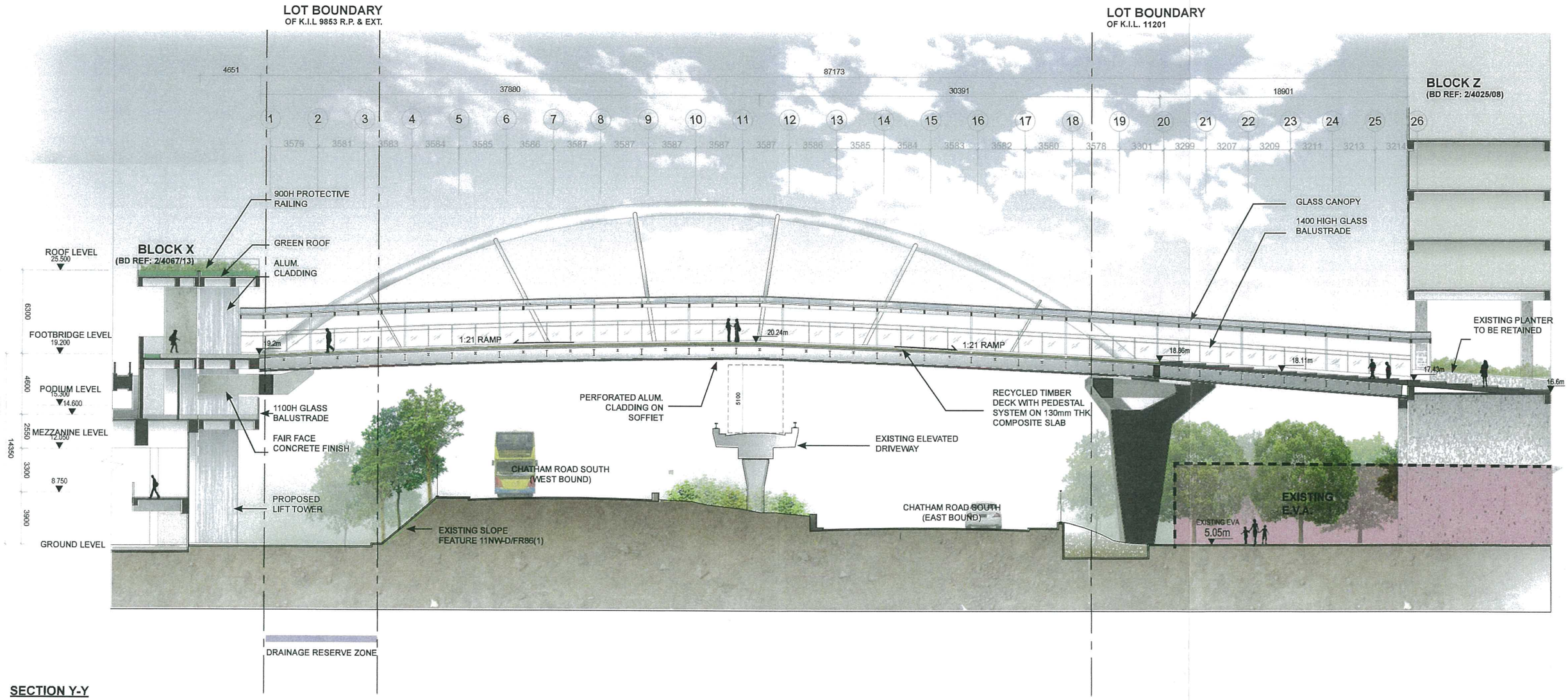
ELEVATION C 1:250





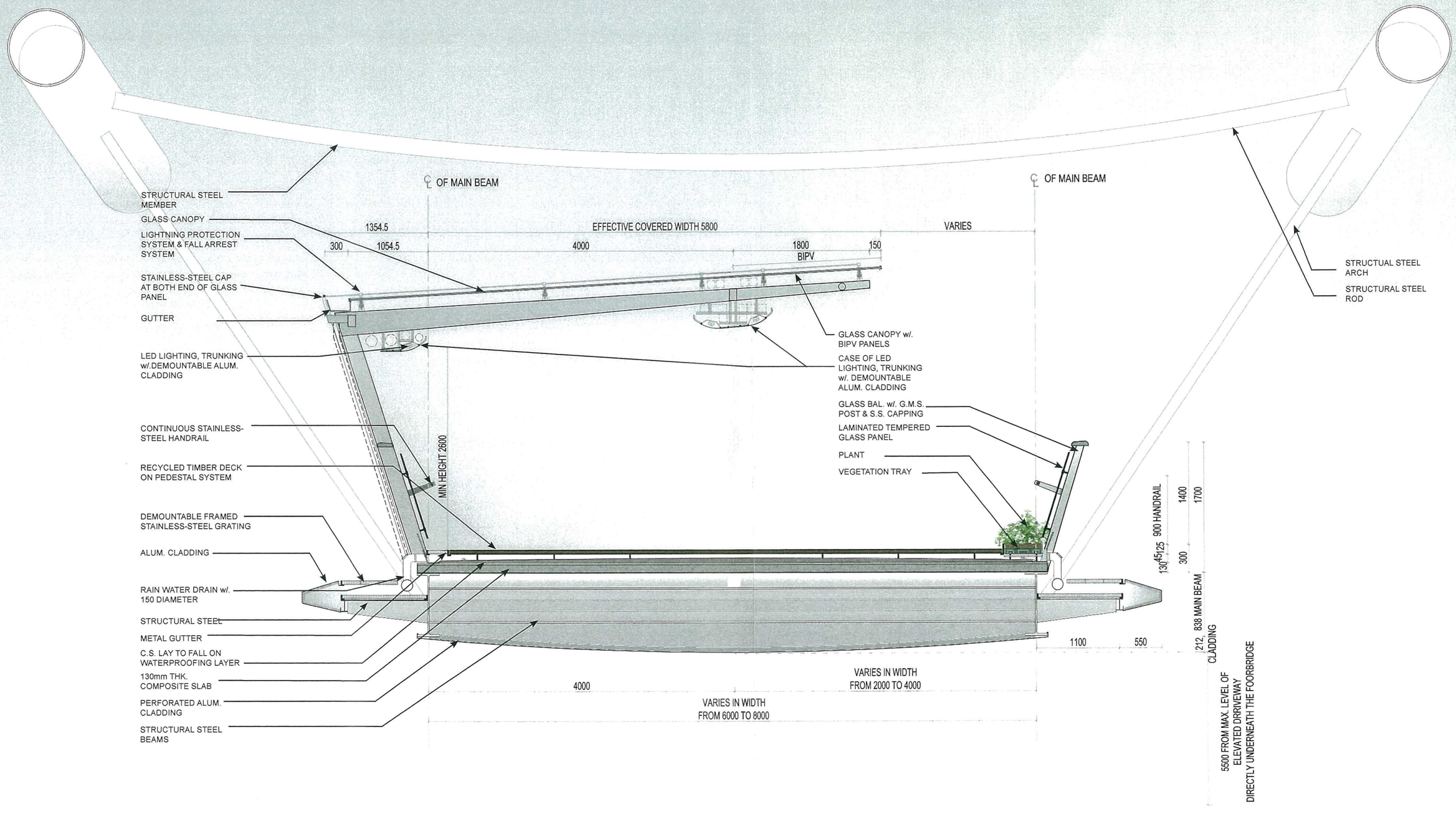
SECTION X-X 1:200
with Block X

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ELEVATION C, SECTION X-X	27/05/2015	A-1418	A1418/ACABAS/FB-14A	A

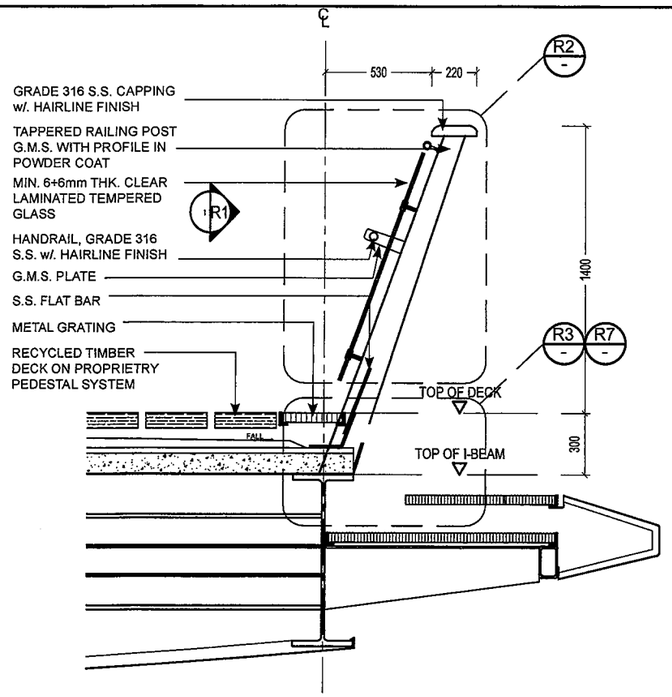


SECTION Y-Y

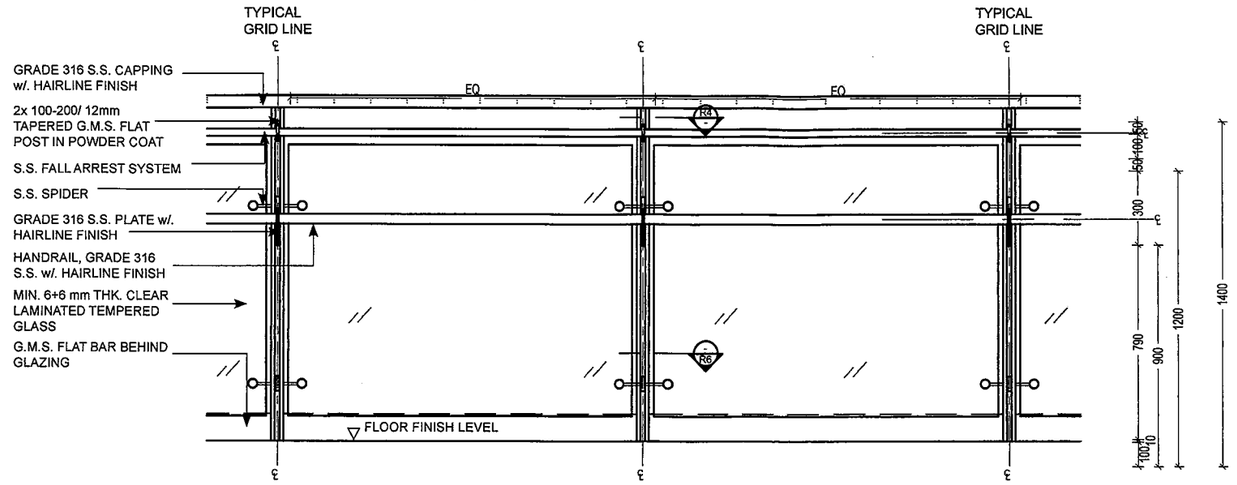
PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	SECTION Y-Y	1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-15	B



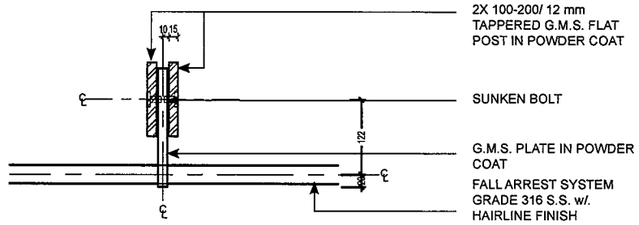
PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	FOOTBRIDGE LINK TYPICAL SECTION Z-Z SCALE 1:50(A3)	27/05/2015	A-1418	A1418/ACABAS/FB-16	B



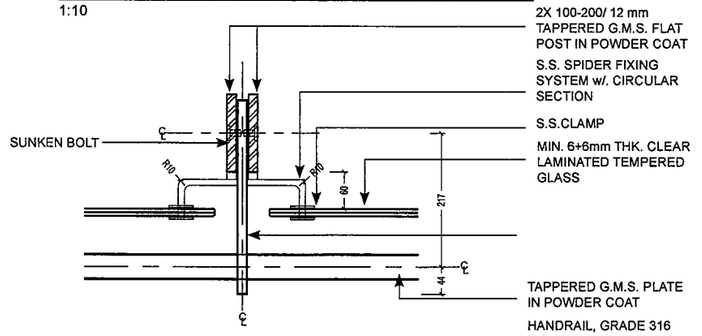
SECTION OF GLASS BALUSTRADE
1:30



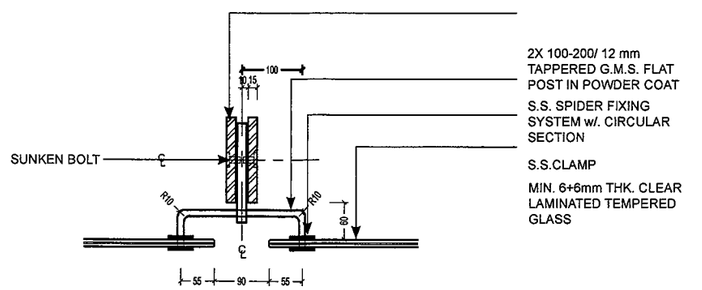
R1 ELEVATION FROM INSIDE
1:25



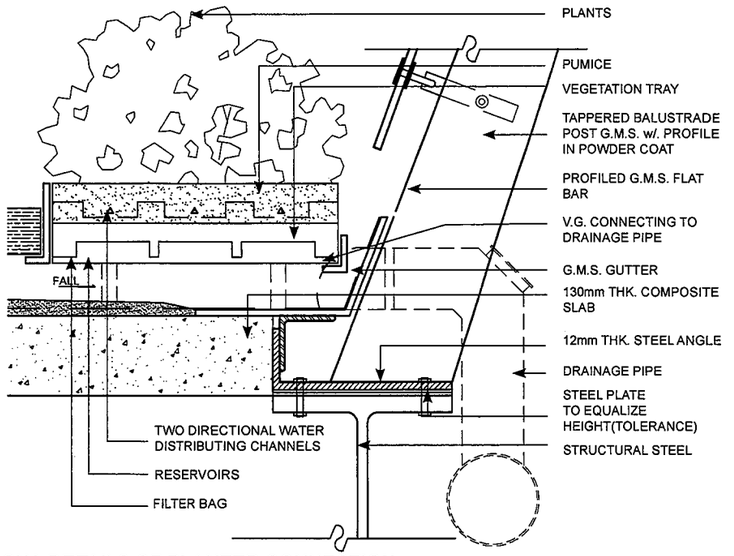
R4 SECTIONA DETAILS OF FALL ARREST SYSTEM
1:10



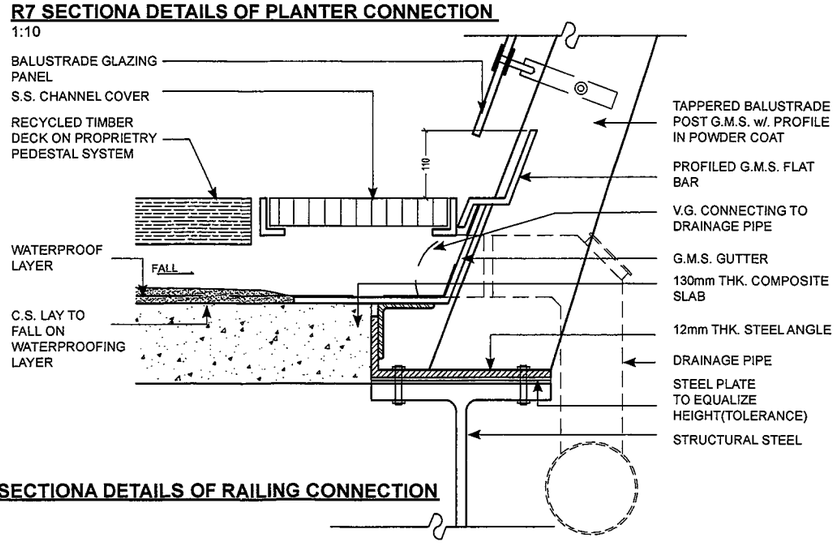
R5 SECTIONA DETAILS OF HANDRAIL CONNECTION
1:10



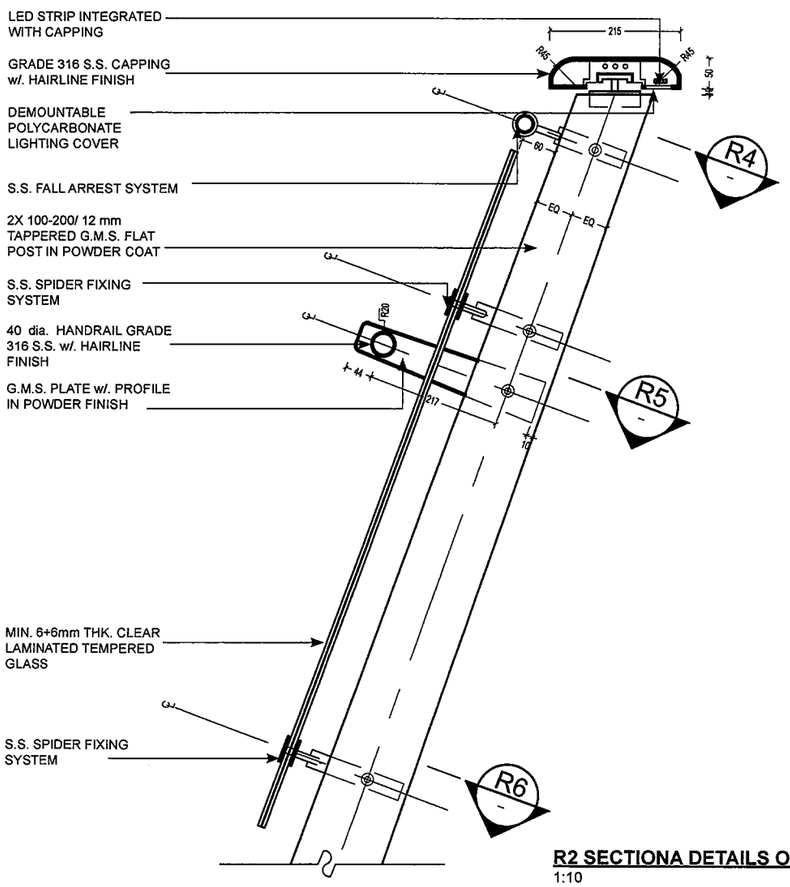
R6 SECTIONA DETAILS OF GLASS CONNECTION
1:10



R7 SECTIONA DETAILS OF PLANTER CONNECTION
1:10

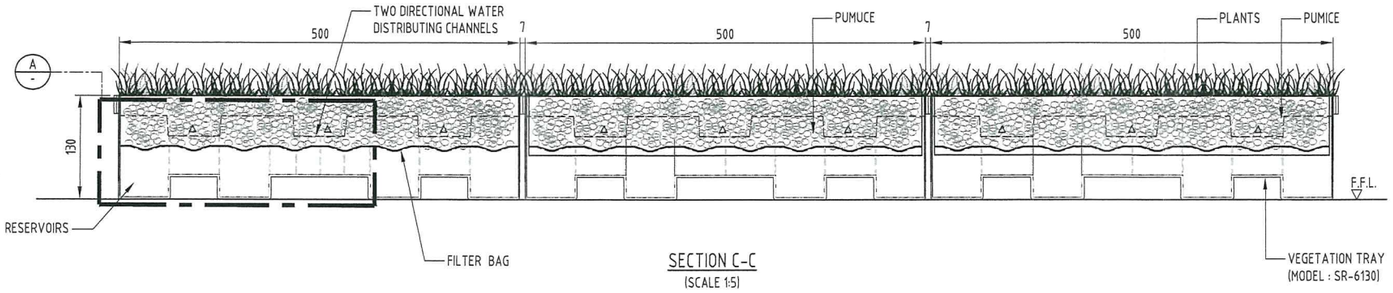


R3 SECTIONA DETAILS OF RAILING CONNECTION
1:10

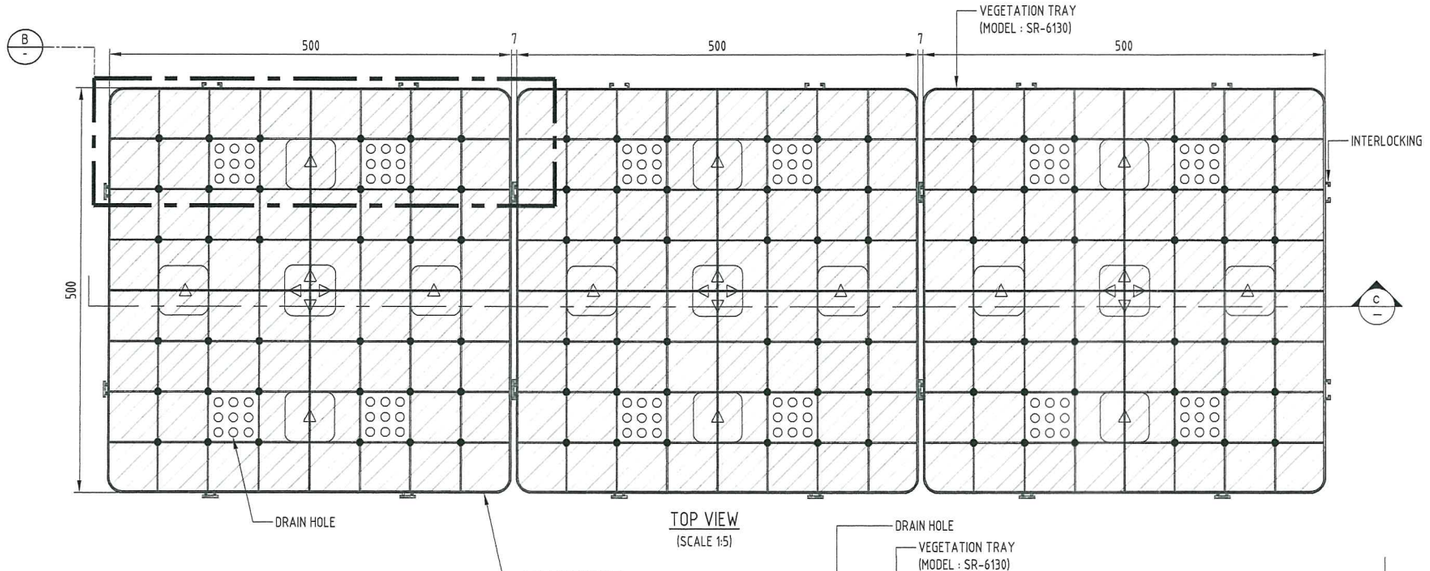


R2 SECTIONA DETAILS OF RAILING
1:10

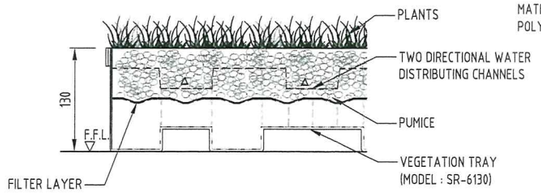
PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	BALUSTRADE DETAILS AT FOOTBRIDGE	29/03/2015	A-1418	A1418/ACABAS/FB-17	A



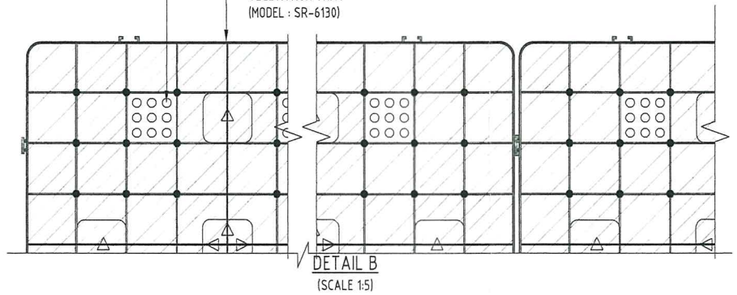
SECTION C-C
(SCALE 1:5)



TOP VIEW
(SCALE 1:5)



DETAIL A
(SCALE 1:5)



DETAIL B
(SCALE 1:5)

NOTES :

EACH TRAY
CONTAINS 64 RESERVOIRS FOR
WATER RETENTION.

LEGEND :

△ TWO DIRECTIONAL WATER DISTRIBUTING CHANNELS

RESERVOIRS

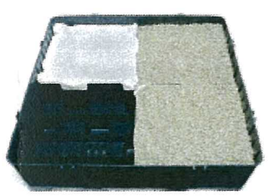
PROJECT REFERENCES

LUNG YAT ESTATE

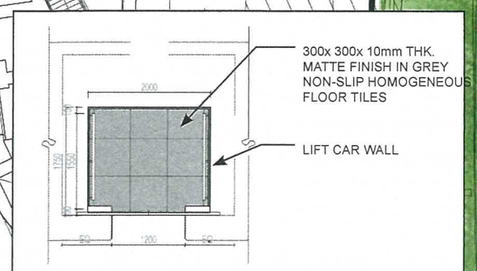
SHA TIN SECONDARY SCHOOL

LIST OF SUITABLE PLANTS FOR THE PROPOSED SYSTEM

 *Zoysia Tenuifolia* 中文名稱：台灣草	 *Liriope spicata* 中文名稱：溝草 /沿階草	 *Arachis Duranensis* 中文名稱：金花生
 *Scheffera Arboricola* 中文名稱：鵝掌藤	 *Schefflera arboricola 'Gold Capella'* 中文名稱：黃金鵝掌藤	 *Schefflera arboricola 'Variegata'* 中文名稱：花葉鵝掌藤
 *Sansevieria trifasciata hahnii variegate* 中文名稱：矮雅金邊虎尾蘭	 *Liriope spicata variegate* 中文名稱：花葉蒲草	 *Duranta repens Golden Leaves* 中文名稱：金葉連翹
 *Hibiscus Rosa-sinensis L. Cv. 'Cooper'* 中文名稱：七彩大紅花	 *Rhoeo Discolor 'Small'* 中文名稱：小蚌花	 *Codiaeum variegatum Bl.* 中文名稱：大葉變金榕



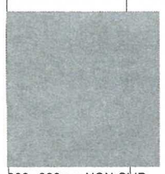
PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	PLANTER DETAILS AT FOOTBRIDGE	27/05/2015	A-1418	A1418/ACABAS/FB-17A	A

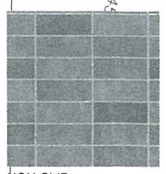


PLAN OF LIFT CAR
1:100


GRANOLITHIC FLOORING


RECYCLED TIMBER DECK PAVER


300x 300mm NON-SLIP HOMOGENEOUS TILE (GREY)


NON-SLIP HOMOGENEOUS TILE MATCHING EXISTING PAVING (GREY)

EXISTING BUILDING OF BLOCK Z

LOT BOUNDARY OF K.I.L. 11201

SITE BOUNDARY OF ADJACENT DEVELOPMENT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

3579 3581 3583 3584 3585 3586 3587 3587 3587 3587 3587 3586 3585 3584 3583 3582 3580 3578 3301 3299 3207 3209 3211 3213 3214

GRANOLITHIC FLOORING

S.S. GRATING

RECYCLED TIMBER DECK PAVER ON PEDESTAL SYSTEM

300 X 300mm S.S. TACTILE PLATES

EXISTING PLANTER TO BE RETAINED

NON-SLIP HOMOGENEOUS TILE MATCHING THE EXISTING PAVING

RAMP UP 1 : 21

RAMP UP 1 : 12

F.L.17.250

F.L.19.200

F.L.20.240

F.L.18.860

F.L.15.690

ACC.

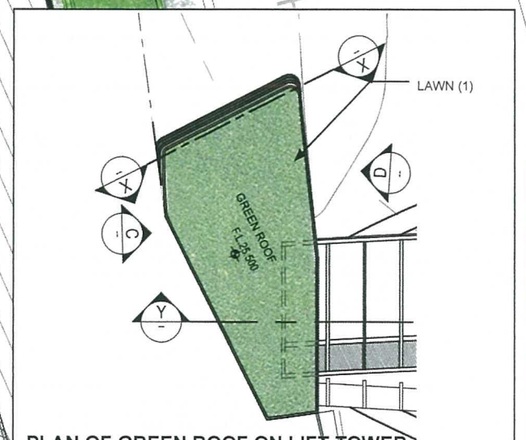
50mm EXPANSION JOINT

LOT BOUNDARY OF K.I.L. 9853 R.P. & EXTS.

DRAINAGE RESERVE ZONE

PROPOSED REDEVELOPMENT OF BLOCK X

PROPOSED PLANTER SHRUBS (2)



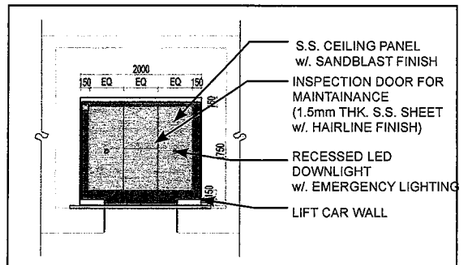
PLAN OF GREEN ROOF ON LIFT TOWER
1:300


ZOYSIA MATRELLA


SCHEFFERA ARBORICOLA

ITEM	LOCATION	TYPE OF PLANT	BOTANICAL NAME	CHINESE NAME	NOTE
1	GREEN ROOF AT FOOTBRIDGE LIFT TOWER	GRASS	ZOYSIA MATRELLA	溝葉結縷草	GREEN ROOF TO ENHANCE THE STREETSCAPE
2	PLANTER AT THE FOOTBRIDGE LINK	SHRUBS	SCHEFFERA ARBORICOLA	鵝掌藤	SMALL SHRUBS TO PROVIDE VISUAL INTEREST

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
FOOTBRIDGE LINKING PHASE 8 DEVELOPMENT FOR THE HONG KONG POLYTECHNIC UNIVERSITY	FLOOR FINISHING & LANDSCAPE PLAN	1:300 (A3)	27/05/2015	A-1418	A1418/ACABAS/FB-18	B



REFLECTED CEILING PLAN OF LIFT CAR
1:100

EXISTING BUILDING OF BLOCK Z

SITE BOUNDARY OF
ADJACENT DEVELOPMENT

LIGHT GREY PAINTED ON
SOFIT

RECESSED LED
DOWNLIGHT

PROPOSED REDEVELOPMENT OF BLOCK X

GLASS CANOPY

GLASS CANOPY w/. BIPV
PANEL

WHITE PAINTED G.M.S.
POST

LED LIGHTING w/.
DEMOUNTABLE ALUM.
CLADDING

EXISTING LIGHTING
FIXTURE TO BE RETAINED

PROJECT	DRAWING TITLE	SCALE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	REFLECTED CEILING PLAN	SCALE 1:300 (A3)	04/02/2015	A-1418	A1418/ACABAS/FB-19	0

Annex D

By Fax

MEMO

From	Secretary of ACABAS, HyD	To	Distribution
Ref.	(4L55) in HyD LU/14-1/2	(Attn.:	)
Tel. No.	3903 6665	Your Ref.	
Fax. No.	2310 8438	Dated	
Email.	sladu.lu@hyd.gov.hk	Fax No.	
Date	5 August 2015	Total Pages	2 + Encl.

Advisory Committee on the Appearance of Bridges and Associated Structures
Minutes of the 378th Meeting

I attached herewith the minutes of the captioned meeting held on Wednesday, 21 July 2015 for your record and action where appropriate. Please be advised that the Committee's comments would be classified into two categories, viz **primary comments which are comments relating to aesthetics and the project proponent should comply with, and secondary comments which are advices on functional or other requirements for project proponent's consideration.**

2. Please take note that **10 sets of documents with 10 copies of the covering letter / memo of your submission** for responses through correspondence / resubmission should be forwarded to the Secretary for distribution to ACABAS members. For ease of filing and minimizing the storage space, **a CD containing the soft copy of your documents in PDF / JPG format should also be submitted for record. Project Proponents are also encouraged to make use of power point and our visual facilities for presentation.**

3. All submission / resubmissions should follow the **Appendix A (Guidelines for Submissions to ACABAS) of ETWB TC (W) No. 36/2004. In order to conserve our environment, submission / resubmissions must be printed in double-sided format. Ring binding, transparent cover sheets, front covers, dividing sheets and / or back covers should also be avoided** for minimizing the use of materials. All ACABAS submissions should be condensed in **no larger than A3 size format of a simple stapled package**. Information to be submitted should be concisely selected with a view to enable the Committee to understand the design. Where a colour scheme is proposed, true colour samples should be submitted and presented at the meeting. Re-submission or follow-up submissions should quote the date, meeting number and item number of the previous submission. **A summary of responses to comments should be stated and amendments on drawings should be highlighted.** In case there is alternative design proposed, the project officers / proponents should vet the alternative design first and attach their statement of satisfaction to such submission / resubmissions.

(Karen NG)
Secretary of ACABAS, HyD

KN/JC/jc

13.0 Proposed New Footbridge Submission (3rd Submission) - Pedestrian Footbridge Connecting Phase 8 & Main Campus for The Hong Kong Polytechnic University, Hung Hom - KIL 9853 RP & Ext and KIL 11201
-Ref: item 4.0 of 375th meeting
(Andrew Lee King Fun & Associated Architects - Raymond Zhou, Derrick To and Serena Chan)
(Arup – Chris Cheng and Melody Wong)
Kaden – Jackie Leung and Felix Lu)
(Poly U – S K Chan, Daniel Suen and Susana Hung)

Further to the Committee's comments at the 375th meeting, the Project team made responses to the comments and briefly explained the latest design for the Committee's consideration:

(i) The proposed tray planter system integrated water retention cell that would enhance the growing conditions. The proposed system was adopted in various government projects. The suitable species of plants were also listed for reference. (**Drawing A1418/ACABAS/FB-17A**)

(ii) The central column had been removed. The posts of the canopy were integrated into the structural grid of the bridge deck for a higher level of integration between the structure of footbridge and canopy. (**Drawing A1418/ACABAS/FB-05 &16**)

(iii) After further review, the 2 pairs of the steel support were found most suitable to suit the site condition (i.e. existing trees and E.V.A.) The front pair of steel support of the bridge at Block Z was painted in a darker colour to differentiate from the other supports. The profiled corbel had been refined at the connection to Block X to achieve a more balanced design. (**Drawing A1418/ACABAS/FB-05A & 15**)

(iv) A perspective of footbridge from the EVA was provided. (**Drawing A1418/ACABAS/FB-05A**)

CONCLUSION: Based on the information submitted, the Committee considered the submission **acceptable**.

(Alfred YAU)
Chairman, ACABAS

Annex E

Air Ventilation Assessment Expert Evaluation Report

For

Footbridge Linking Phase 8 Development at The Hong Kong Polytechnic University

(Address: The Hong Kong Polytechnic University, Hung Hom)

(Revision: Issue 2)

Submitted by:

BXG

BEEXERGY CONSULTING LIMITED

Phone: (852) 3568-4701
Fax: (852) 3568-4704
E-mail: info@beexergy.com
Address: Unit 2608-09, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong

BXG

DOCUMENT VERIFICATION

Project Title		Air Ventilation Assessment Expert Evaluation Report for Footbridge Linking Phase 8 at Development The Hong Kong Polytechnic University			**Job number** BXG10169-15
Client		Kaden Construction Limited			
Document Title		AVA_PU (Kaden)			
Document Ref		BXG10169-15/RT01			
Revision	**Date**	**File Name**	20150915_AVA EE for PolyU Linking Bridge		
Issue 0	15-Sep-2015	**Description**	Expert Evaluation Interim Report for BD review		
			Prepared by	Reviewed by	Approval by
		Name	Mr. Tsang Hon Wai (BXG)	Dr. Daisy Chen (BXG)	Mr. Henry Mak (BXG)
		Signature			
Revision	**Date**	**File Name**	20151201_AVA EE for PolyU Linking Bridge		
Issue 1	01-Dec-2015	**Description**	Expert Evaluation Final Report for BD review		
			Prepared by	Reviewed by	Approval by
		Name	Mr. Tsang Hon Wai (BXG)	Dr. Daisy Chen (BXG)	Mr. Henry Mak (BXG)
		Signature			
Revision	**Date**	**File Name**	Expert Evaluation Final Report		
Issue 2	30-May-2016	**Description**	Expert Evaluation Final Report for BD review		
			Prepared by	Reviewed by	Approval by
		Name	Mr. Tsang Hon Wai (BXG)	Dr. Daisy Chen (BXG)	Mr. Henry Mak (BXG)
		Signature			

Table of Content

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was commissioned to undertake an Air Ventilation Assessment (AVA) Expert Evaluation (EE) Study for the proposed Footbridge development Footbridge development linking the redevelopment of Block X and existing Block Z (or Phase 8), at The Hong Kong Polytechnic University (namely the Project Area) in order to access the air ventilation performance of the proposed design and its impacts on the surrounding pedestrian accessible locations.

This EE study has made reference to the Technical Guide for AVA for Developments in Hong Kong in Housing, Planning and Lands Bureau and Environment, Transport and Works Bureau TC No. 1/06 (2006).

1.2 STUDY AIM AND OBJECTIVES

The Objectives of this EE study for the proposed Footbridge development linking the redevelopment of Block X and existing Block Z (or Phase 8), at The Hong Kong Polytechnic University (namely the Project development) are:

(a) to review the existing wind environment of Project development and the surroundings based on the site context and topography;

(b) to assess qualitatively the air ventilation impacts of the Project development;

(c) to identify major breezeway(s), air-path(s) and obvious problematic area(s);

(d) to comment on the localized wind effects of the potential development within the Project Area and its surroundings;

(e) to determine any potential wind stagnation and wind amplification causing uncomfortable and unsafe wind environment, if any;

(f) to propose possible mitigation measures for identified problematic area; and,

(g) to determine if further study in the form of Initial Study or Detail Study is required.

2 SITE ENVIRONMENT

2.1 SITE INFORMATION

The development is a proposed footbridge linking the redevelopment of Block X and existing Block Z (or Phase 8), at The Hong Kong Polytechnic University, Hung Hom, which is situated at the northeast of the Tsim Sha Tsui District and southeast of the Yau Ma Tei District of Hong Kong. The project includes a lift tower next to the Redevelopment of Block X and the proposed footbridge development across Chatham Road South (Figure 1 and Figure 2).

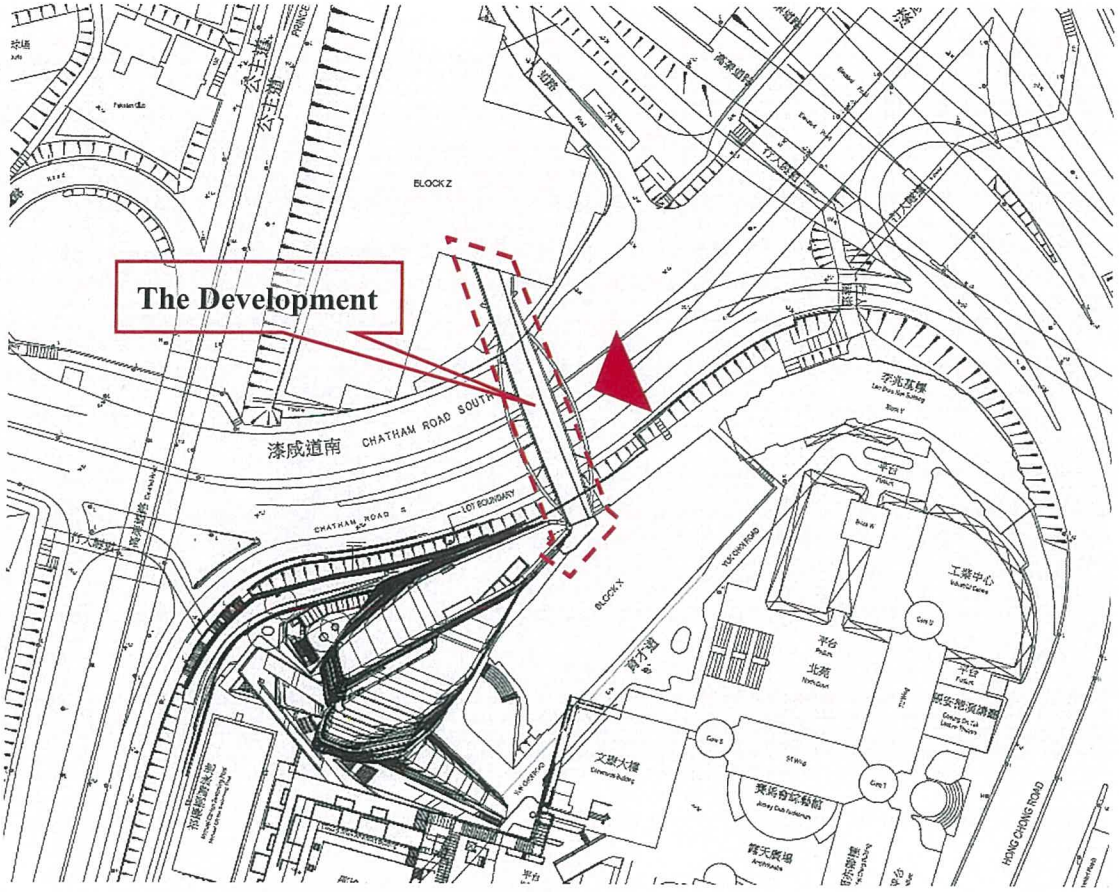


Figure 1: Location of the project site and surroundings

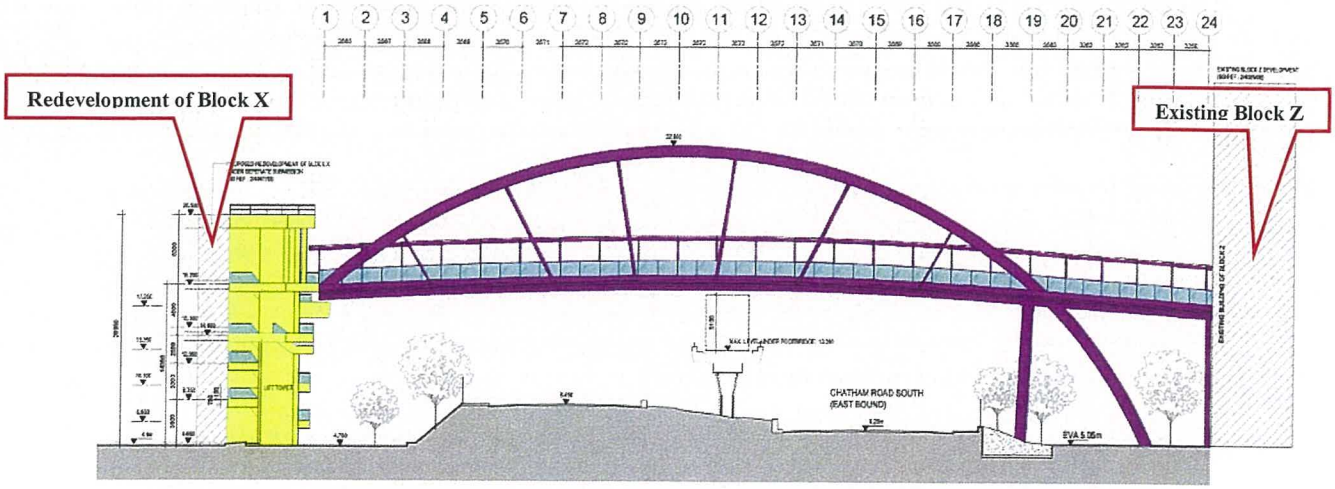


Figure 2: Elevation of the proposed footbridge linking

2.2 SURROUNDING AREA

The Project development (marked with red dot) is located within The Polytechnic University (HKPU) campus area highlighted in yellow. In considering the prevailing winds around the Project development and HKPU campus, the concerned area is proposed (circulated in solid blue lines in Figure 3) covering the south part of Kowloon Peninsula which compose 4 districts - Tsim Sha Tsui District (OZP No. S/K1/28), Yau Ma Tei District (OZP No. S/K2/22), Ho Man Tin (OZP No. S/K7/23) and Hung Hom (OZP No. S/K9/24).

The site inspection was conducted on 21 September 2015. Photo records were summarized in Appendix B.

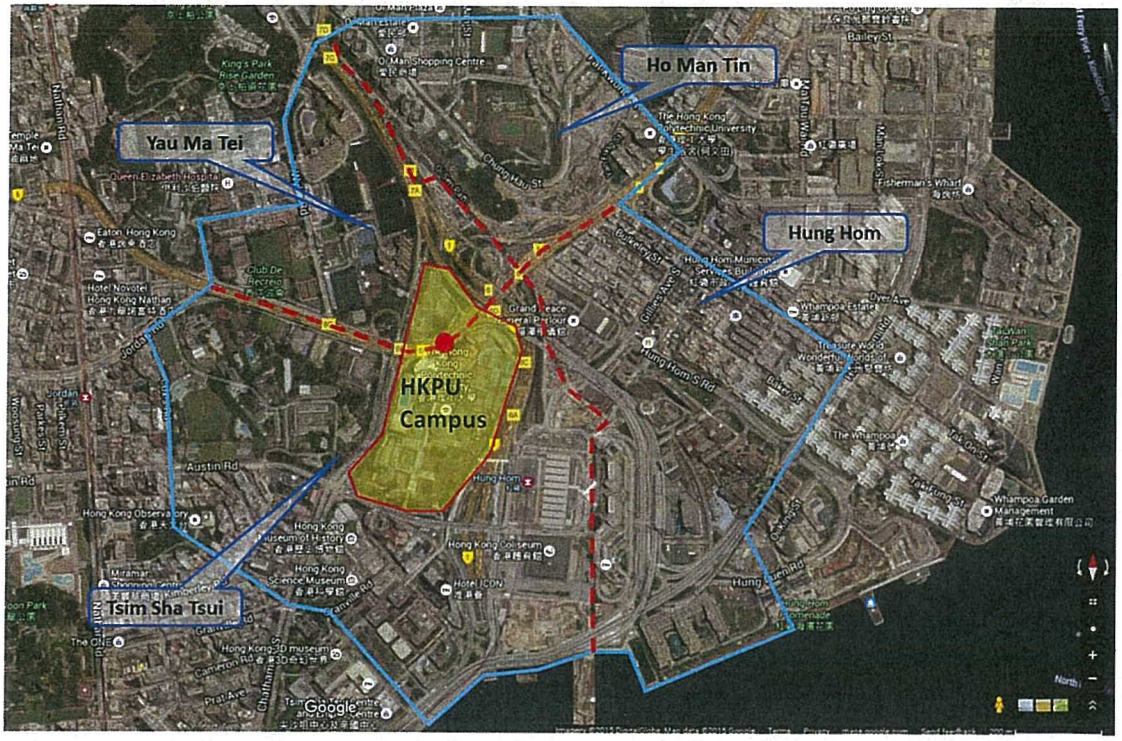


Figure 3: Concerned area of the proposed footbridge linking (Source: Google map accessed on 21 September 2015)

Tsim Sha Tsui area has been developed as an important commercial and tourist centre in Kowloon. It is gaining importance on educational, cultural and recreational purpose. Apart from predominantly uses for office, commercial and hotel, there is Kowloon Park to the west, Hong Kong Cultural Complex and Hong Kong Space Museum to the south, Hong Kong Science Museum and Hong Kong Polytechnic University to the east. In recent years, some of the high-rise redevelopments have been established due to the relocation of airport in Kai Tak and the removal of the airport height restrictions.

Yau Ma Tei area is located at the west Kowloon and forms the central part of the Yau Tsim Mong Administration District. The area to the west of Nathan Road is older parts of the urban area with predominantly residential use. Whereas the sites along Nathan Road are dominated by commercial or commercial/residential buildings. To the east of Nathan Road, flat land gives way to undulating ground. Developments are more dispersed and of more recent origin. Queen Elizabeth Hospital, a number of low-density residential developments, grass pitched and recreation clubs are found in this part of the area.

Hung Hom area is located in the southeastern part of Kowloon Peninsula which fronts onto Victoria Harbour from the east to the south. Hung Hom has been developed for a variety of uses including private residential, commercial, public housing and industrial. Whampoa Garden and Laguua Verde are two large private comprehensive residential developments in the area. The Hung Hom Bay Reclamation area provides land for the hotel/office developments, residential

developments, open space and Government, institution or/and community (GIC) facilities to help redress the current shortfall in the provision of such facilities in Hung Hom. The air ventilation problem includes overcrowded dilapidated housing stock and a generally poor urban built form. The problem areas are the existing built-up area located mainly along Baker Street and Bulkeley Street in the west.

Ho Man Tin area has been substantially developed including low and medium density private and public housing. The major private residential areas are located along Argyle Street, Princess Margaret Road and Waterloo Road. The major public housing developments include Oi Man Estate, Chun Man Court and Ho Man Tin Estate. Topographically, the area is relatively higher than the surrounding areas which is suitable for location of service reservoirs to supply potable water through gravity. Building height restrictions are to maintain a stepped building height concept recommended in the Urban Design Guidelines Study for wind penetration and circulation.

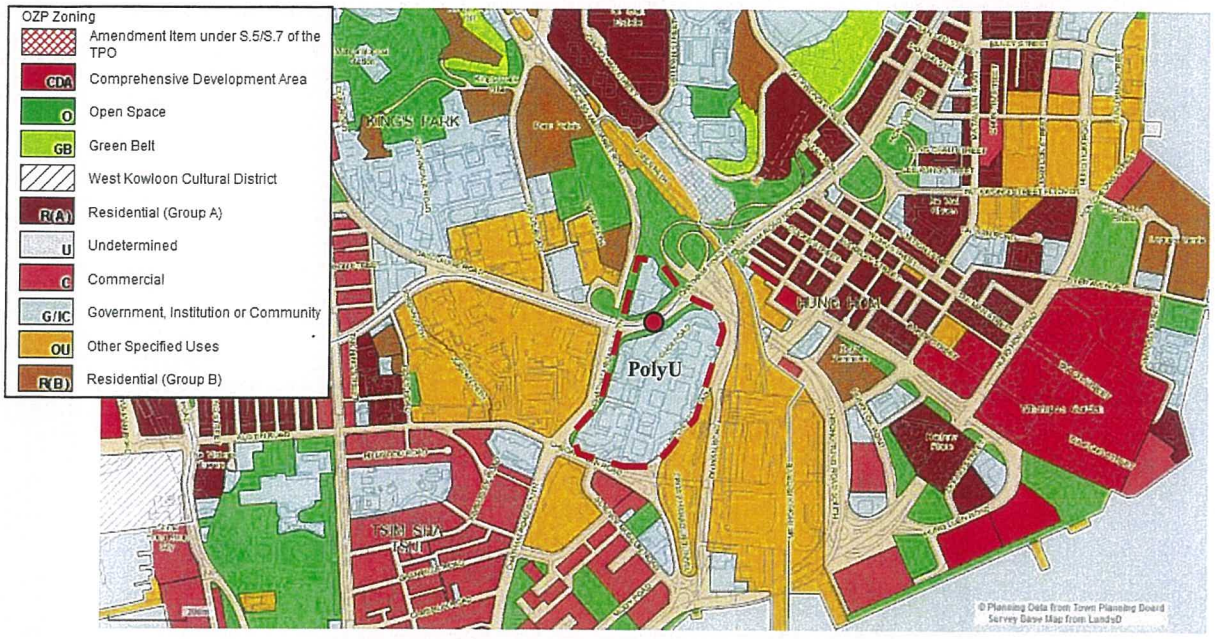


Figure 4: Outline Zoning Plan of surrounding (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

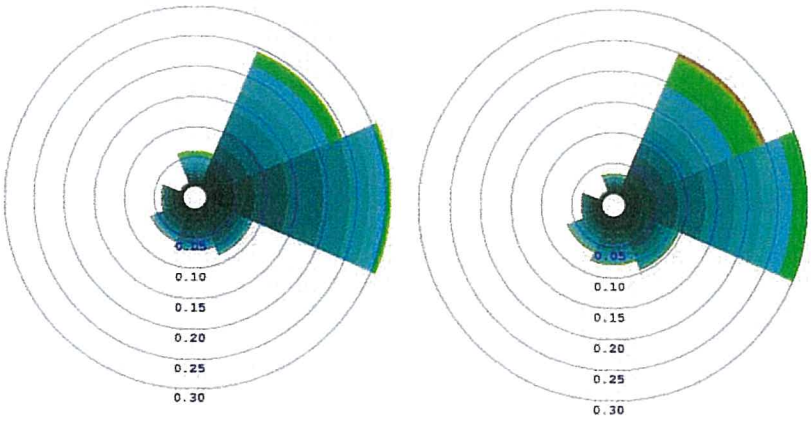
3 WIND ENVIRONMENT

3.1 PREVIOUS MM5 WIND DATA

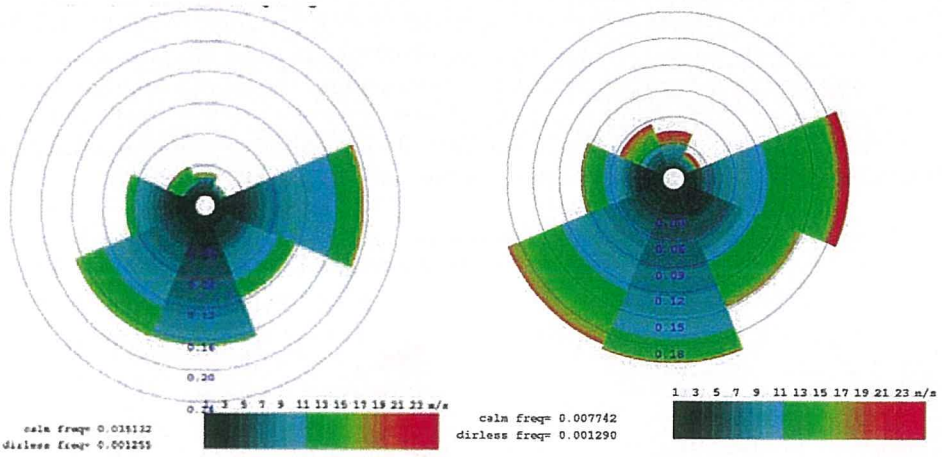
The Fifth-Generation NCAR/ Penn State Mesoscale Model (MM5), which is the former version of Site Wind availability data of PlanD, was adopted. The MM5 wind data from AVA Expert Evaluation Study for Hung Hom (2008) and AVA Expert Evaluation for Ho Man Tin Area (2008) are studied relevant to the proposed pedestrian footbridge due to proximity.

Based on this dataset, two wind roses locations (Point A and Point B in Figure 5) for Hung Hom AVA EE were extracted at 120m and 450m above ground. The annual wind of the Hung Hom study area is mainly from the East and North-East. The summer wind is mainly coming from the East, South and South-West.

Figure 5: The two locations of MM5 data reported in AVA EE for Hung Hom (2008)

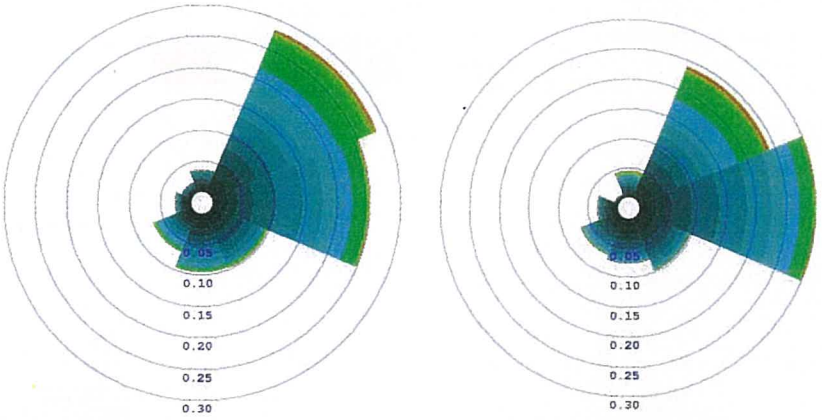


120m (Annual) 450m (Annual)

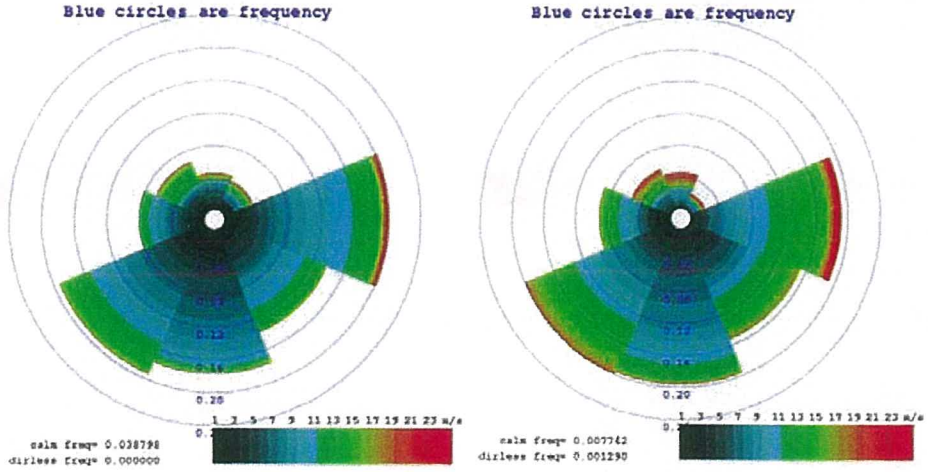


120m (Summer) 450m (Summer)

Figure 6: Wind roses in the study area at location A



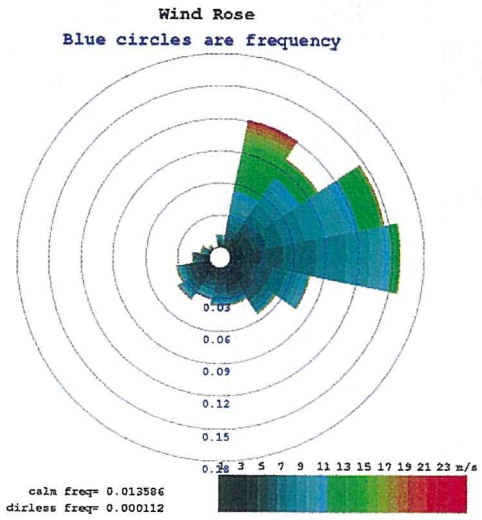
120m (Annual) 450m (Annual)



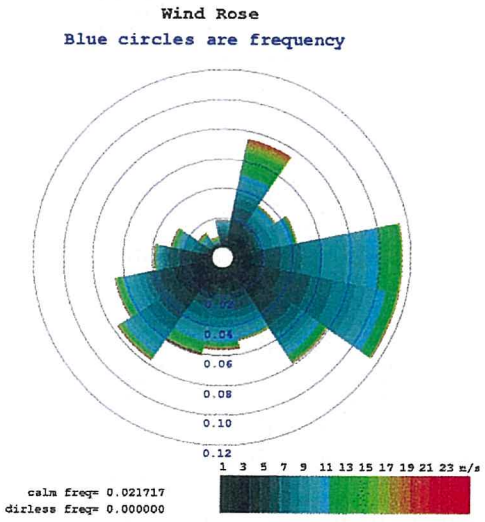
120m (Summer) 450m (Summer)

Figure 7: Wind roses in the study area at location B

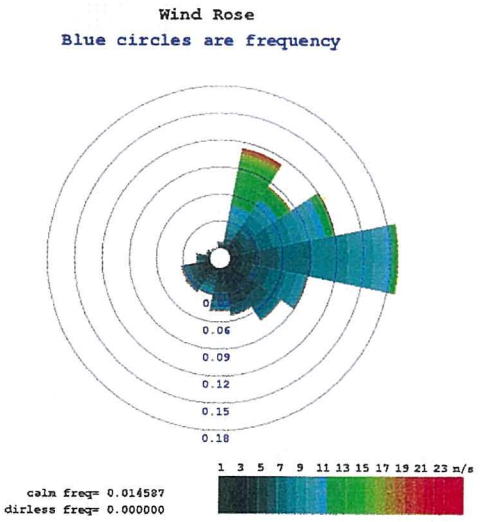
As for the AVA EE for Ho Man Tin Area, the wind data of MM5 simulation results at 230 m above Ho Man Tin Area from HKUST were selected to demonstrate the wind characteristic of the Ho Man Tin study area with the consideration of surrounding topographical impact on the wind direction. The annual prevailing wind is dominated by the East and North-East winds. The summer wind is mainly come from the South-West and East. Similar to the annual wind rose, East and North-East winds dominate in non-summer period.



Annual



Summer



Non-Summer

Figure 8: Annual and seasonal wind rose from MM5 data (230 m above Ho Man Tin Area)

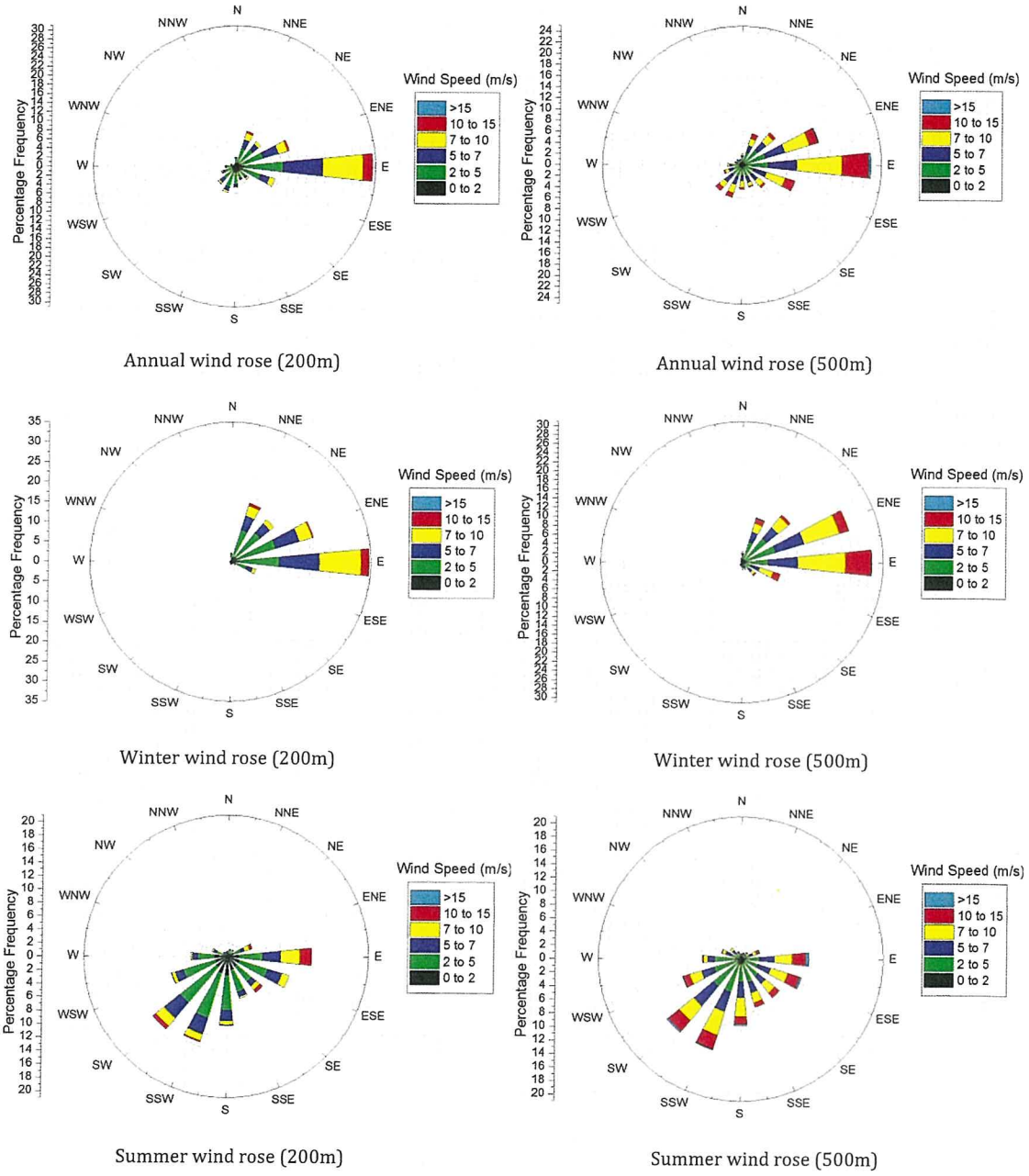
3.2 RAMS (REGIONAL ATMOSPHERIC MODELING SYSTEM)

The wind data of the concerned area can be achieved from two public sources, i.e. modeling worked by City University of Hong Kong (CityU).

"Consultancy Study on Establishment of Simulated Site Wind Availability Data for Air Ventilation Assessments in Hong Kong" has been conducted by CityU in March 2013 to setup Site Wind Availability System and Web based Site Wind Availability Database. The consultancy team, led by Prof Johnny Chan a meteorologist of CityU, have simulated a 10-year wind climate at the horizontal resolution of 0.5km×0.5km covering the whole territory of Hong Kong using Regional Atmospheric Modeling System (RAMS) Version 6.0. It was found that the simulated wind characteristics, turbulence intensity (TI) and vertical wind profiles for Hong Kong were comparable to those from HKO data and wind tunnel test. However, the limitation of meso-scale model was the over-estimation of wind speed which could be related to inadequate representation of the local buildings and surface topographic effects in the model.

Based on the archived dataset, wind statistics and wind roses for each 0.5km×0.5km gird box at different height levels were computed. Simulated data at site area (X081, Y039) is extracted at 200m and 500m above ground for Annual, Winter and Summer wind conditions. Wind roses of RAMS (Figure 8) were found reasonable with observation comparing to HKO data (Figure 9 and 10).

Figure 9: The location (X081, Y039) of RAMS extracted data (Source: http://www.pland.gov.hk/pland_en/info_serv/site_wind/site_wind/domain_e.html, accessed on 21 September 2015)



Annual wind rose (200m)

Annual wind rose (500m)

Winter wind rose (200m)

Winter wind rose (500m)

Summer wind rose (200m)

Summer wind rose (500m)

Figure 10: Urban canopy layer (UCL), 200m; wind boundary layer, 500m (Source: http://www.pland.gov.hk/pland_en/info_serv/site_wind/site_wind/081039.html, accessed on 21 September 2015)

From the RAMS wind rose data above, the annual mean wind speed is about 6.28 m/s at 500m. The predicted mean wind speed in the summer and in the winter at 500m is about 6.13 m/s and 6.31 m/s respectively. Details wind occurrences are summarized in Tables below.

Table 1: Annual Wind Availability from RAMS wind data set at location (X081, Y039)

Direction	Occurrence at 500m	Occurrence at 300m	Occurrence at 200m
N	2.10%	1.80%	2.00%
NNE	6.00%	8.10%	8.00%
NE	7.70%	7.30%	7.30%
ENE	14.30%	12.70%	12.60%
E	23.20%	30.10%	30.50%
ESE	10.10%	9.40%	9.20%
SE	5.40%	3.60%	3.60%
SSE	4.40%	3.10%	3.00%
S	4.40%	4.60%	4.50%
SSW	6.20%	5.90%	5.90%
SW	5.80%	5.10%	5.10%
WSW	3.70%	3.20%	3.20%
W	2.60%	2.50%	2.50%
WNW	1.50%	1.40%	1.30%
NW	1.30%	0.70%	0.60%
NNW	1.20%	0.70%	0.70%

Table 2: Winter Wind Availability from RAMS wind data set at location (X081, Y039)

Direction	Occurrence at 500m	Occurrence at 300m	Occurrence at 200m
N	2.50%	2.10%	2.30%
NNE	10.10%	15.60%	15.50%
NE	13.70%	13.60%	13.60%
ENE	24.60%	21.70%	21.50%
E	28.40%	34.20%	34.40%
ESE	8.90%	6.60%	6.60%
SE	3.80%	1.50%	1.50%
SSE	2.00%	0.70%	0.70%
S	1.50%	0.70%	0.70%
SSW	1.00%	0.80%	0.80%
SW	0.90%	0.60%	0.50%
WSW	0.40%	0.40%	0.40%
W	0.50%	0.50%	0.60%
WNW	0.40%	0.40%	0.40%
NW	0.50%	0.30%	0.20%
NNW	0.90%	0.40%	0.40%

Table 3: Summer Wind Availability from RAMS wind data set at location (X081, Y039)

Direction	Occurrence at 500m	Occurrence at 300m	Occurrence at 200m
N	0.90%	0.80%	0.80%
NNE	1.10%	1.30%	1.30%
NE	1.40%	1.50%	1.50%
ENE	3.00%	3.70%	4.10%

E	9.80%	12.40%	12.60%
ESE	9.20%	9.70%	9.70%
SE	7.40%	6.80%	6.90%
SSE	7.50%	6.80%	6.60%
S	9.60%	10.60%	10.30%
SSW	14.10%	13.50%	13.50%
SW	14.10%	14.10%	14.10%
WSW	9.10%	8.50%	8.60%
W	5.80%	5.70%	5.70%
WNW	3.00%	1.40%	1.30%
NW	2.30%	0.70%	0.60%
NNW	1.20%	0.70%	0.70%

3.3 KING'S PARK (HKO)

The wind environment could refer to the nearest weather station at King's Park (HKO). The height of the anemometer at King's Park Station is 90m above the mean sea level.

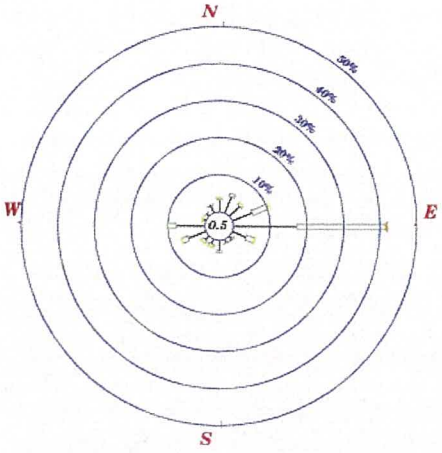


Figure 11: Annual wind rose at King's Park Weather Station from1981-2010 (Source: HKO)

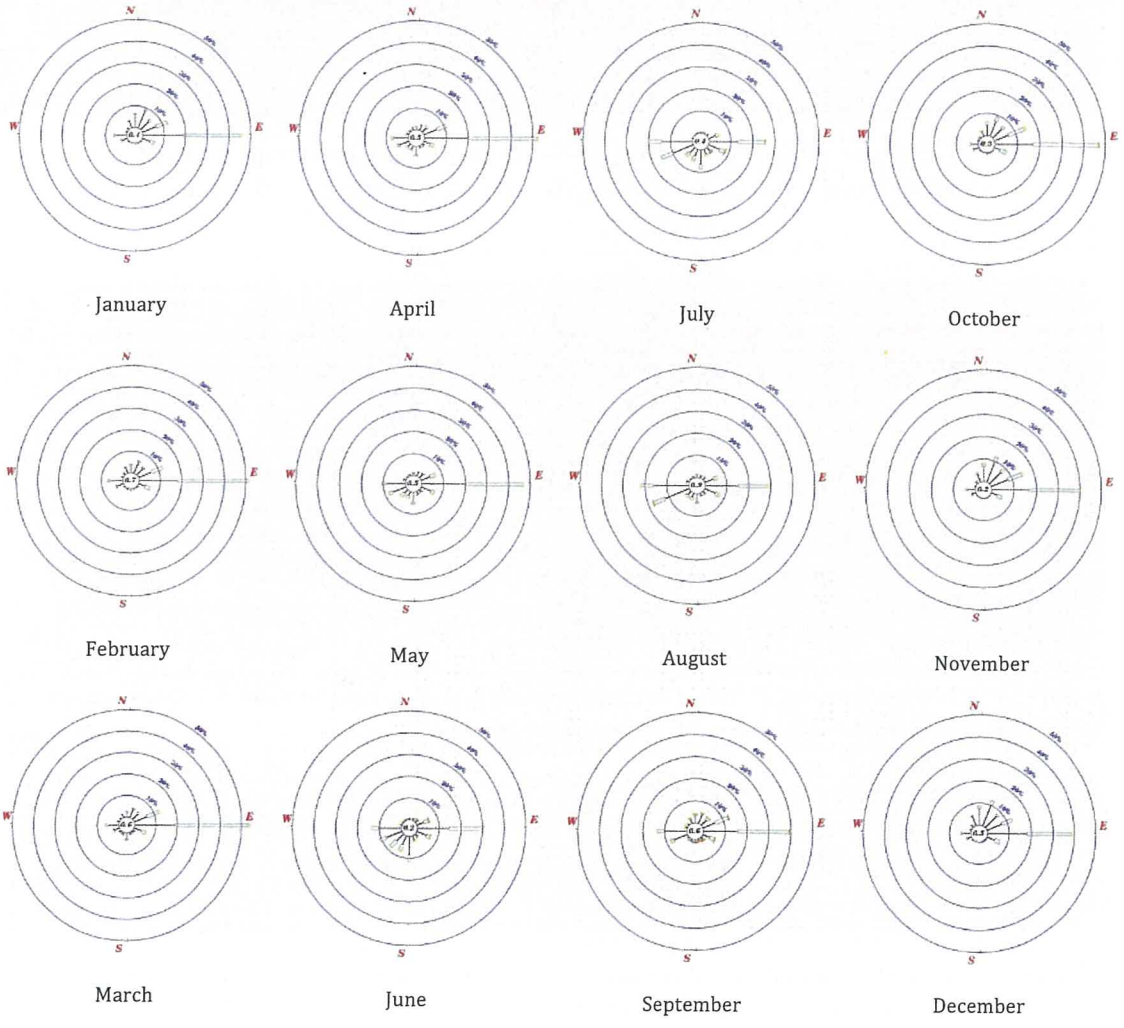


Figure 12: Monthly wind roses at King's Park Weather Station from1981-2010 (Source: HKO)

Based on the available wind data from the measurement by HKO and RAMS modeling by CityU, it could be summarized that the annual prevailing wind of the concerned area is mainly from the East and Northeast. The summer prevailing wind is mainly coming from the East, Southeast, South and Southwest.

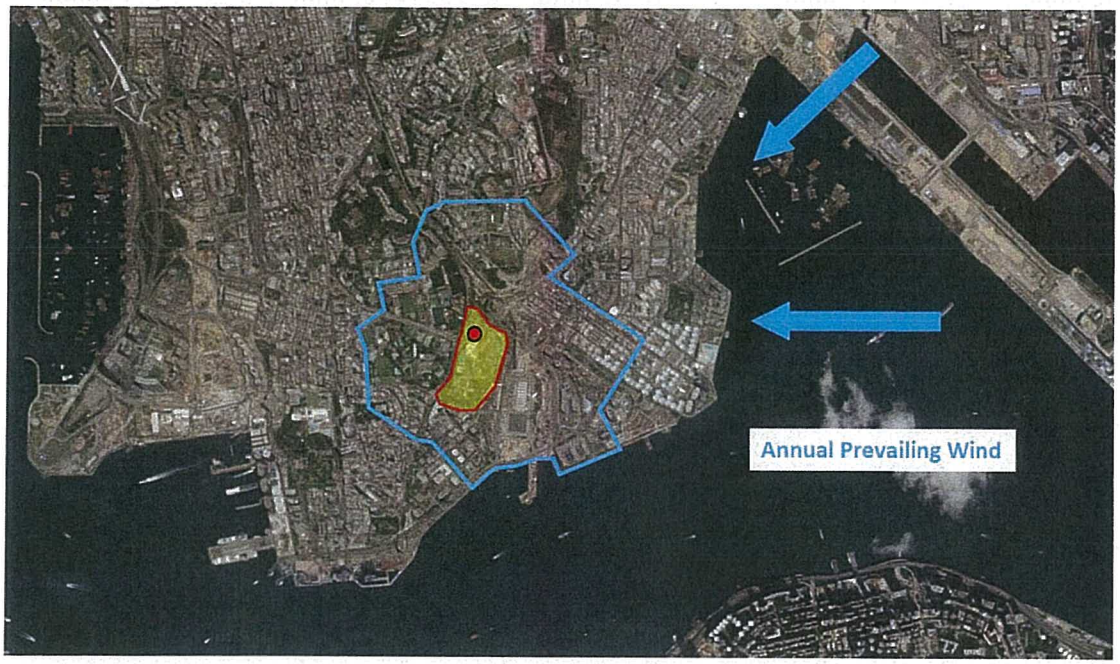


Figure 13: Annual prevailing winds of the concerned area (blue), PolyU Campus (yellow) and the proposed development (red) (Source: Google map accessed on 21 September 2015)

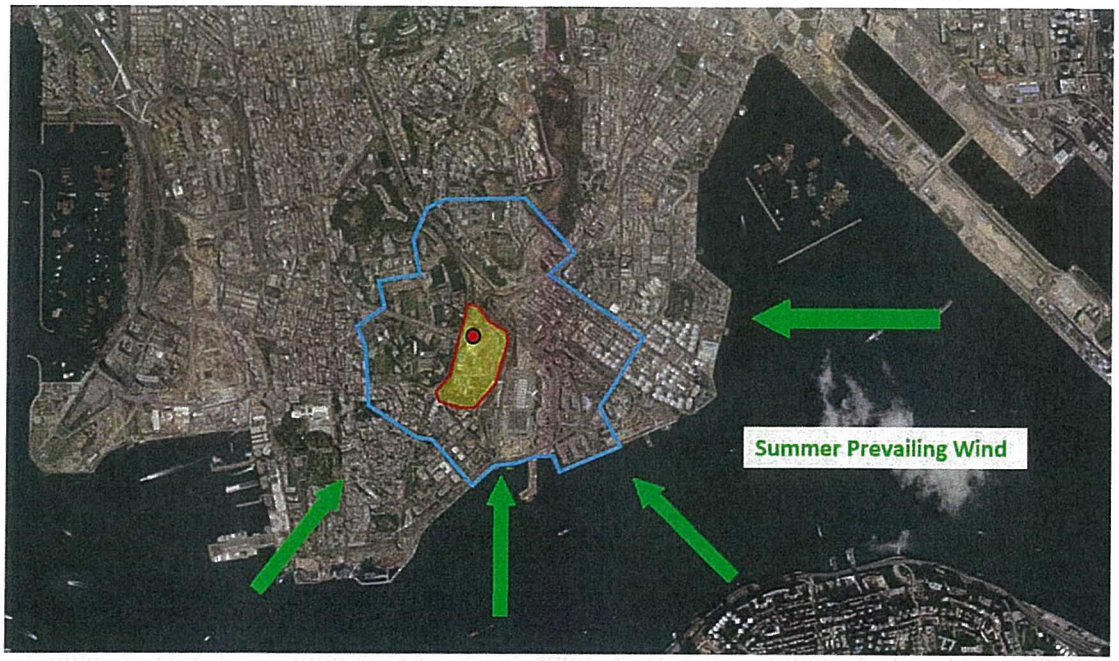


Figure 14: Summer prevailing winds of the concerned area (blue), PolyU Campus (yellow) and the proposed development (red) (Source: Google map accessed on 21 September 2015)

4 EXISTING CONDITIONS

4.1 EXISTING TOPOGRAPHY

The concerned area is located at the south of the part of Kowloon Peninsula surrounded by the Victoria Habour. Distant hilly terrain and urban fabric north of the site provides some shielding effect and the downwind slope moderates the north easterly winter prevailing wind. The hilly Hong Kong Island across Victoria Harbour also provides a shielding effect that is likely to moderate the southerly summer prevailing wind. Victoria Harbour, with its narrow eastern Lei Yue Mun entrance, creates a channeling effect that is likely to enhance the easterly summer prevailing wind.

The topography of the region is generally flat from the existing urban area to the reclaimed waterfront. There are undulating ground from 30mPD to 60mPD at the centre of Kowloon Peninsula, known as the Hong Kong Observatory and the King's Park. To the east of the MTR East Rail Line, Ho Man Tin area is an outliner of the Kowloon foothills system with altitude up to 80mPD.

4.2 EXISTING SUMMER AND ANNUAL SCENARIOS

The assessment is based on the information obtained from Planning Department and Town Planning Board on existing building heights and land use. The concerned area of this study is generally divided into nearby 6 zones (Figure 15 and 16).

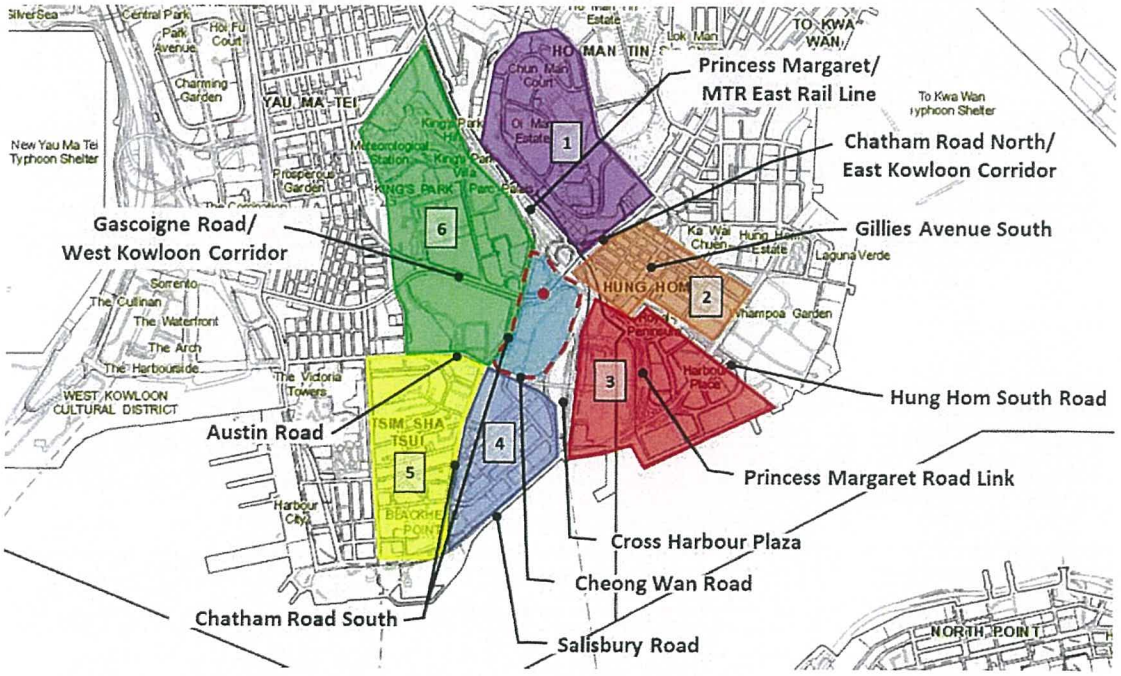


Figure 15: The 6 zones of the study and main roads (major breezeways) (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

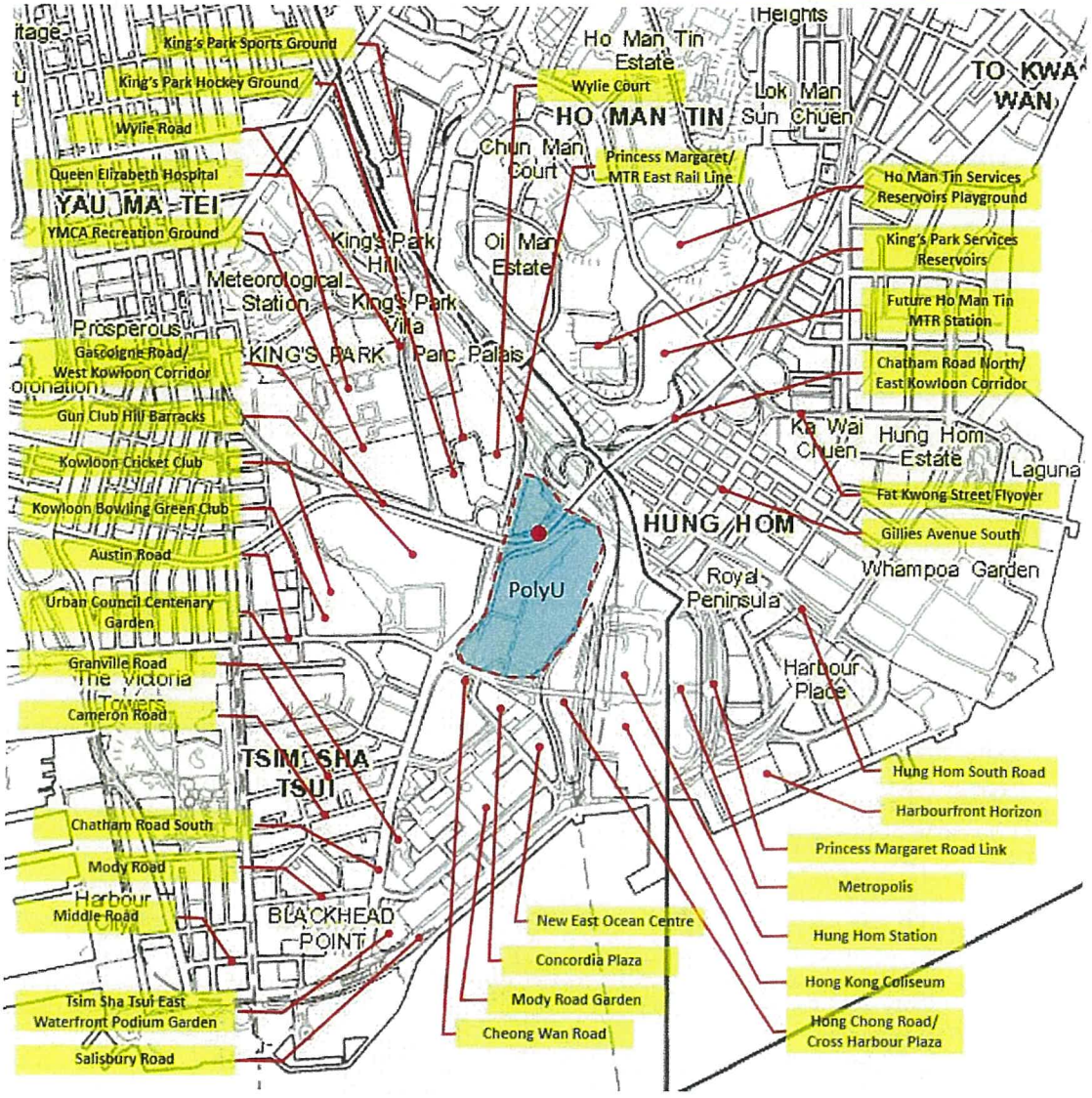


Figure 16: Main places and roads

Breezeways should be created in forms of major open ways, such as principal roads, inter-linked open spaces, amenity areas, non-building areas, building setbacks and low-rise building corridors, through the high-density/high-rise urban form. They should be aligned primarily along the prevailing wind direction routes.

Principal roads of the study area: Chatham Road North & South, Princess Margaret Road, Hung Hom South Road, Hong Chong Road (cross harbour plaza), Cheong Wan Road and Salisbury Road are the major air paths of the study area which allow free flow of sea breezes from the waterfront. Gillies Avenue South, Gascoigne Road and Austin Road are also useful air spaces in the area.

Open Spaces and Greeneries of the study area: The concerned area has a number of green and open areas; they are very useful for the study area's air ventilation. In particular, the series of open and green areas along Hung Hom South Road, Chatham Road South, and at King's Park, Gun Club Hill Barracks, Kowloon Bowling Green Club and Kowloon Cricket Club provide a useful continuous air path.

Zone 1: Oi Man Estate and Chun Man Court are the high-rise and high density sites found in this zone. Owing to the irregular street pattern, poor street connectivity may affect the wind penetration into the hinterland and result in relative poor wind performance. Nevertheless, the open areas at the southern part of the zone such as Ho Man Tin Services Reservoirs Playground, King's Park Services Reservoirs are important for air circulation in Ho Man Tin area itself and to Zone 6 under non-summer northeast wind condition. However, future Ho Man Tin MTR Station

residential development may impact the east-west wind penetration.

Zone 2: Based on the existing building configurations and street alignments of Hung Hom, particularly those unaligned streets and lacking in openspace in Zone 2, east-west wind penetrations are expected to be less.

Zone 3: In terms of local accessible pedestrian level wind conditions, The Hong Kong Coliseum, Hung Hom Station and metropolis are unlikely to adversely affect the pedestrian level wind conditions and to the study area. An improved local air ventilation effect may be achieved by providing more gaps and openings between buildings and podia, especially the permeable podium at the Hong Kong Polytechnic University.

Medium-rise hotels in Hung Hom Bay are expected to create significant wind blockage effects, compared with spaced buildings. Some localized stagnant zones will occur in the lee of the Harbourfront Horizon, depending on the approaching wind direction. Wind corridor from waterfront has been preserved in this zone, to facilitate wind penetrations particularly southerly winds to Zone 1, Zone 2 and Zone 6.

Zone 4: Tsim Sha Tsui East has buildings more or less of uniform building heights of around 60 mPD. The building height to street width (H/W) ratio is low – around 2:1. There are useful open spaces, namely the Tsim Sha Tsui East Waterfront Podium Garden and the Urban Council Centenary Garden, from the waterfront to Chatham Road South for air ventilation to the inland. This zone has little air ventilation issues. The summer southerly wind can penetrate and benefit Zone 1 and Zone 6. Open spaces of the Mody Road Garden are extremely useful air paths for the easterly and south-easterly winds to penetrate through Zone 4 to provide vital air ventilation to the eastern areas of Zone 5 strategically.

Zone 5: Centre of Tsim Sha Tsui area has been intensively developed with high-rise commercial buildings. This area generally experiences weak air ventilation performance for several reasons. Buildings occupy the entire area where there is no open space to alleviate the ventilation problem. Due to the relocation of airport in Kai Tak and the removal of the airport height restrictions, some of the high-rise redevelopments have been established. Most importantly, the narrow unaligned streets and roads of this zone discontinue the air path from the waterfront and the major breezeways. Granville Road, Cameron Road, Mody Road and Middle Road running through the zone has air ventilation potentials. However, they are currently too narrow for wind to penetrate compared to tall buildings along road side with H/W ratio as high as 4:1. Air ventilation issue exists when southerly summer prevailing wind flows over the streets perpendicularly.

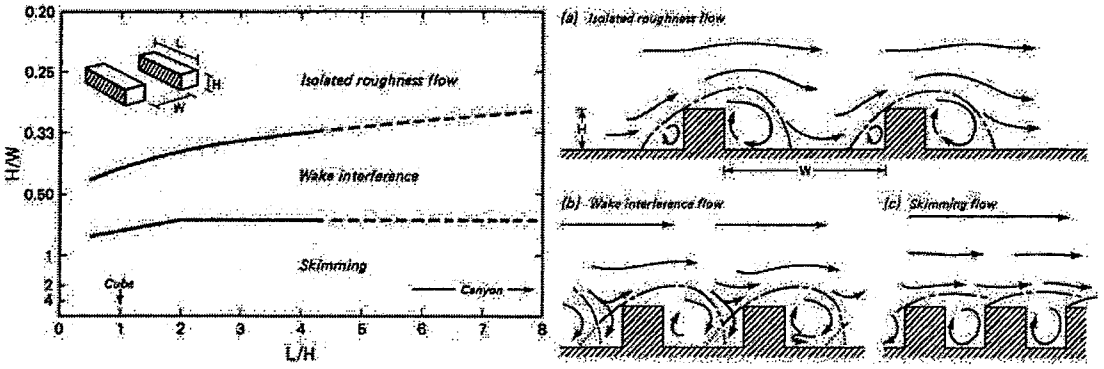


Figure 17: Perpendicular wind flow over streets

Zone 6: Open spaces in this zone include King's Park, Gun Club Hill Barracks, Kowloon Bowling Green Club and Kowloon Cricket Club together with adjacent principal roads create a useful continuous air path to allow easterly, south-easterly and south-westerly winds moving over the zone unobstructed from the Victoria Habour.

Queen Elizabeth Hospital (QEH) comprises a number of building blocks ranging from 22.6mPD to 76.2mPD. The building height at northern portion is lower and ranges from 22.6mPD to 42.2mPD.

It serves to provide a major air path of about 40m wide which can allow east/west wind penetration.

There are high-rise developments in the concerned area, including Parc Palais (130mPD), a community college building along Wylie Road (107mPD) and King's Park Villa (91mPD). Parc Palais and King's Park Villa are aligned along nearly the same east-west axis and therefore the reserved wind corridor imposes less impact against westerly and easterly wind flow. Considering that easterly wind is already blocked by building blocks on the eastern side of Princess Margaret Road in Ho Man Tin high altitudes, these high-rise developments within the study area do not impose significant additional impact. With low rise buildings, low density development and a fair amount of open spaces at the south of Zone 6, this zone has little air ventilation issues.

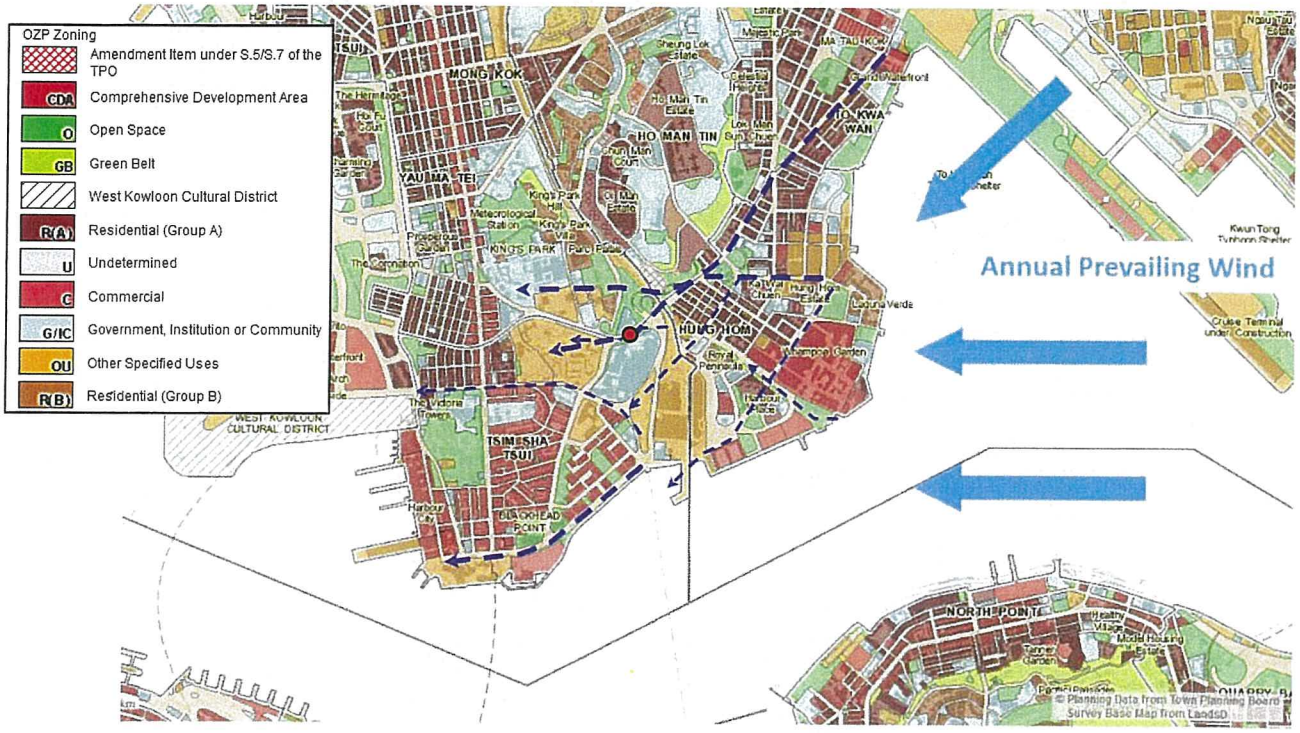


Figure 18: Annual prevailing wind and potential air paths (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

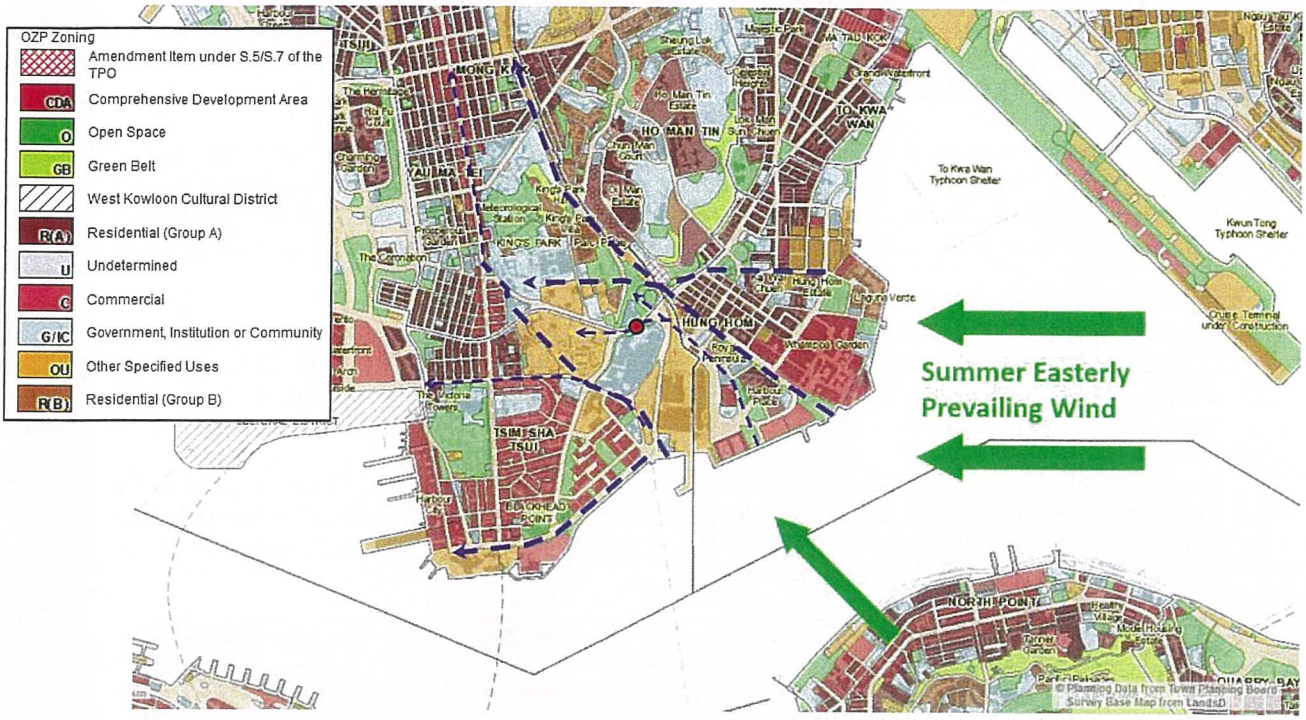


Figure 19: Summer easterly prevailing wind and potential air paths (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

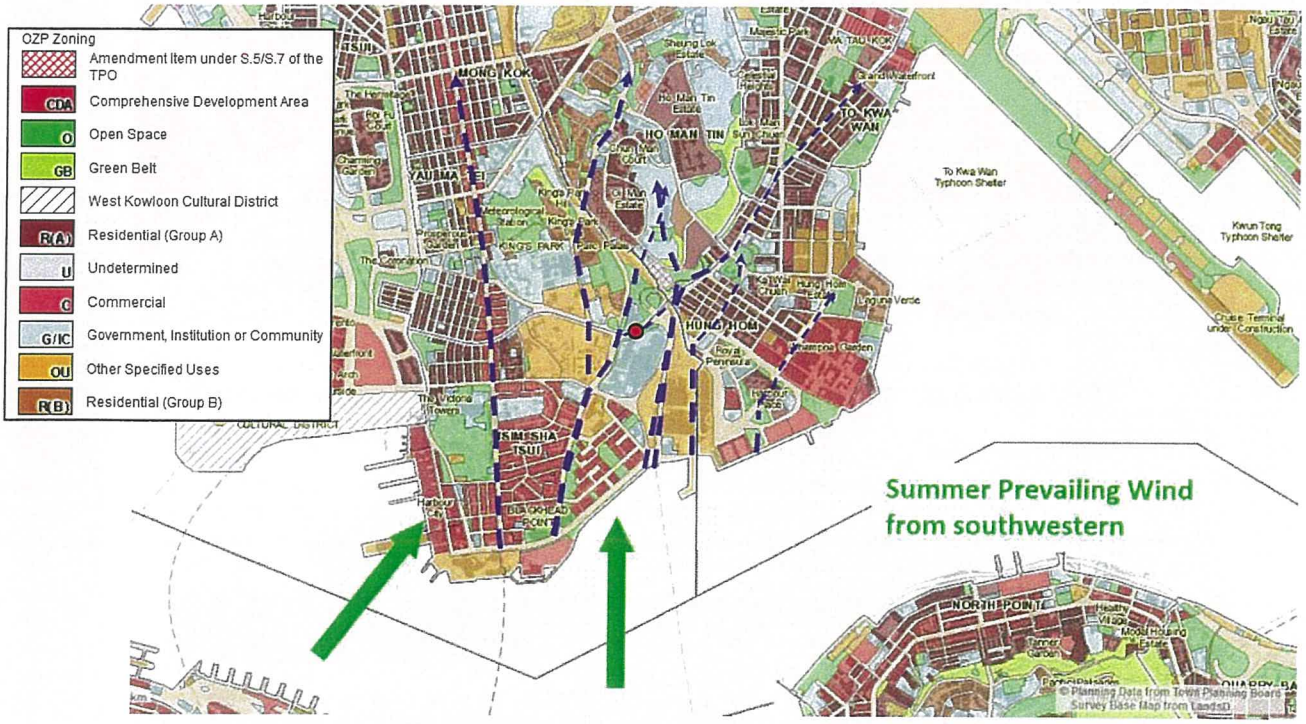


Figure 20: Summer prevailing wind from southwestern and potential air paths (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

5 SITE SPECIFIC

5.1 OBSERVATIONS

There are plenty open space to the south of QEH and Parc Palais including YMCA Recreation Ground, King's Park Sports Ground and King's Park Hockey Ground as shown in Figure 21 and site inspection photos in Appendix B. The open space creates breezeway to allow east-west wind flow. The northeast of the site is currently occupied by spaghetti of highway and is open for wind penetration as well.

The existing site is located at a breezeway. Phase 8 Development of HKPU (60mPD at South Tower of Block Z), Innovation Tower (75.9mPD) and Block Y (60mPD) near the Chatham Road South would have blocked, channeled and redirected the air flow, particularly favorable for northeast and southwest winds.

Air space at Block Z (Figure 22), together with the redevelopment of Block X (18.9mPD) facilitates south-north wind flow at podium level where is frequently accessed by students and pedestrians. The podium void area in The Polytechnic University Main Campus (Figure 23) allows cross ventilation to enhance local wind environment.

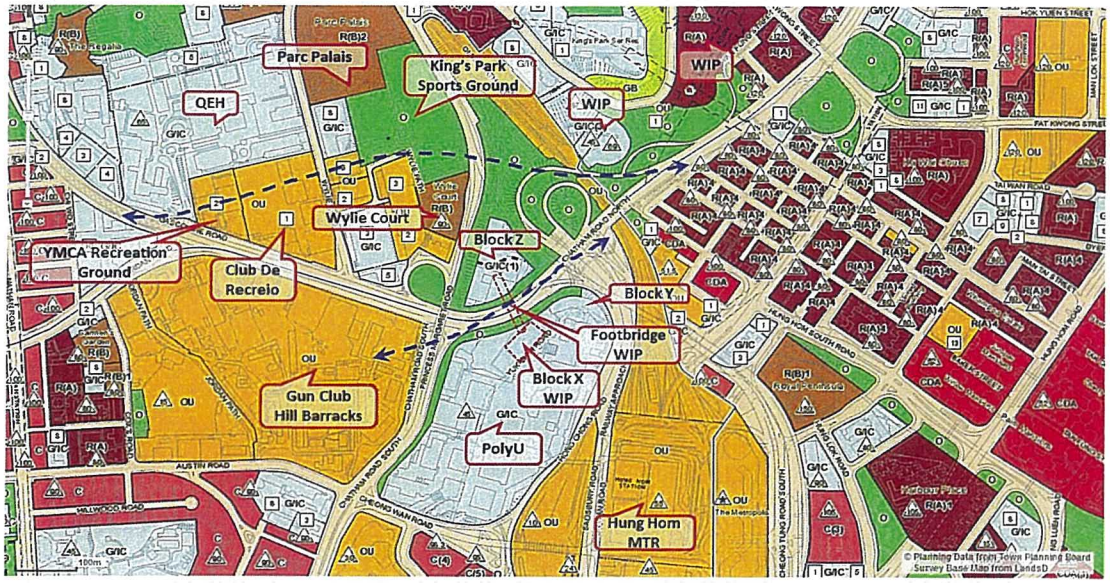


Figure 21: Morphology of the immediate surrounding (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

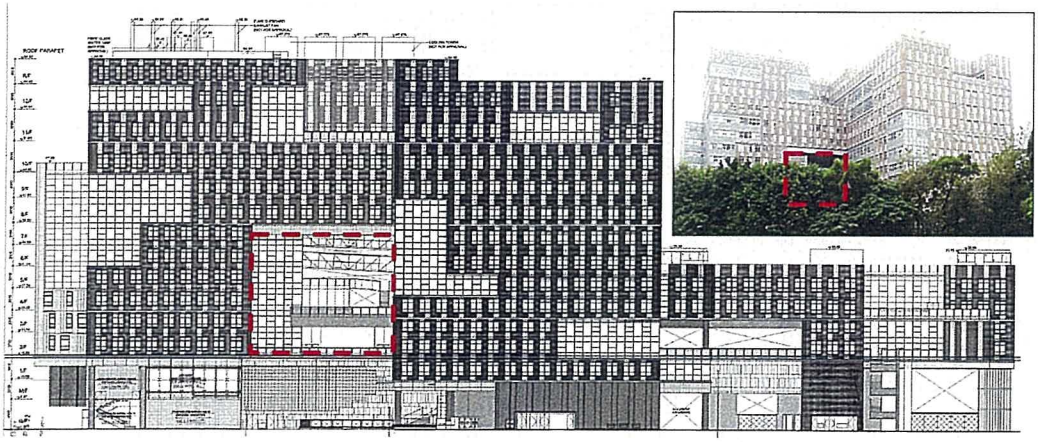


Figure 22: Air space at South Tower of Block Z

Figure 23: Air space at podium level in PolyU Main Campus

As mentioned in Section 3.3, annual prevailing wind directions are primarily from northeast and east. Annual prevailing wind from northeast is defected by Block Y and channeled into Chatham Road South as shown in Figure 25. Fat Kwong Street Flyover is the main east-west wind corridor to the concerned area. The east wind continues to penetrate into southern part of Ho Man Tin District and to openspace to the north of the development (Figure 26), while the wind at the windward side of the development is weaken by the existing street alignment (more than 30 degrees to the prevailing wind direction as suggested in Figure 27) at west boundary of Hung Hom District where mid-rise residential buildings are densely populated.

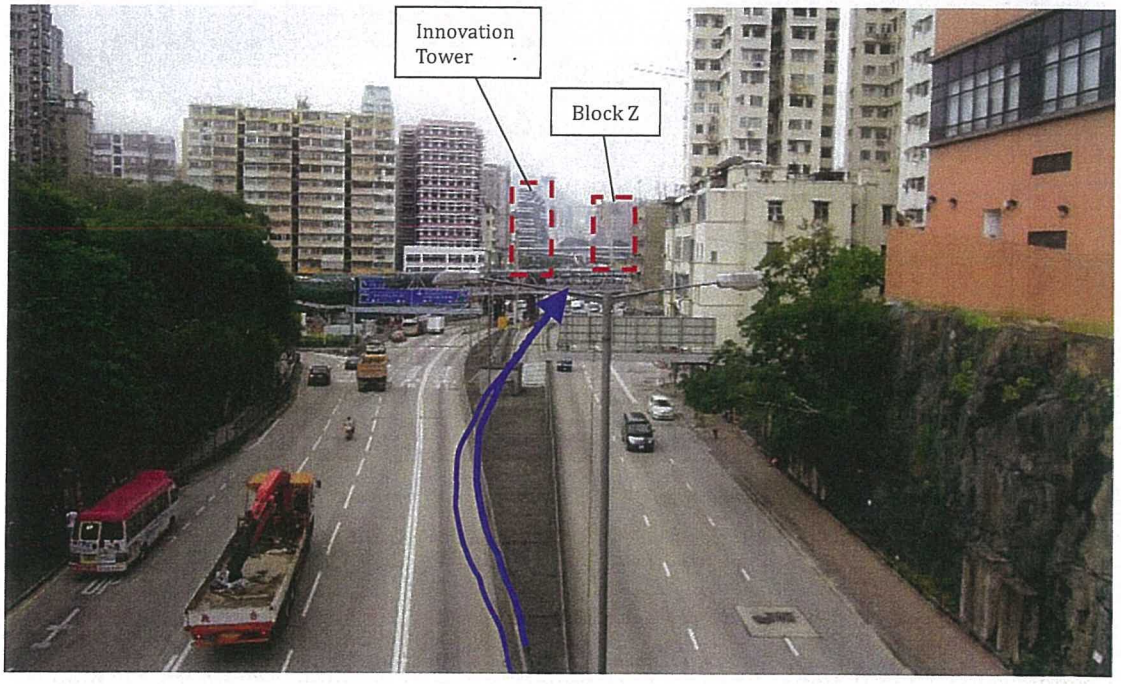


Figure 24: Annual prevailing (NE) wind from Chatham Road North

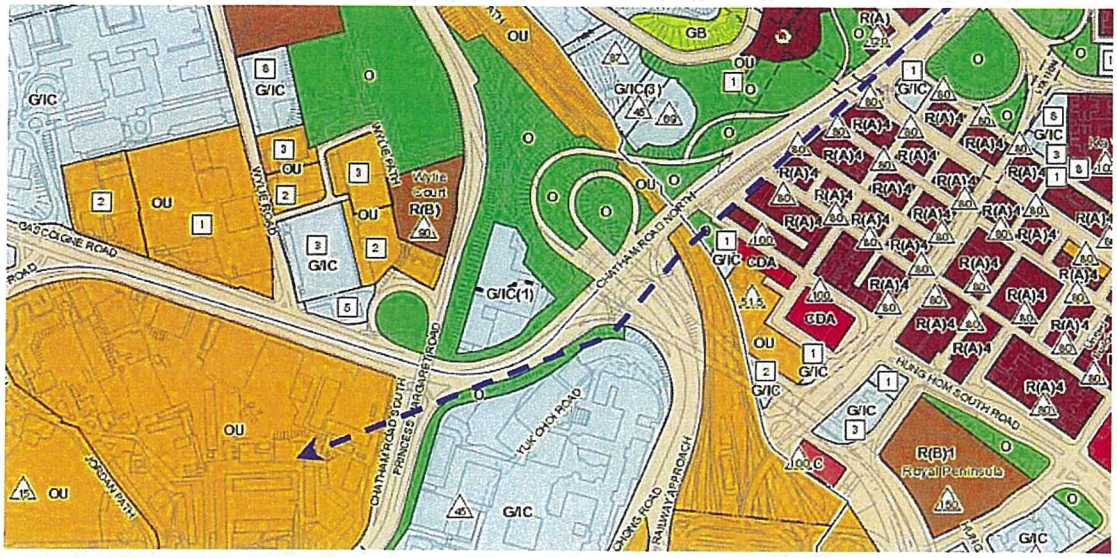


Figure 25: Annual prevailing (NE) wind from Chatham Road North at pedestrian level (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

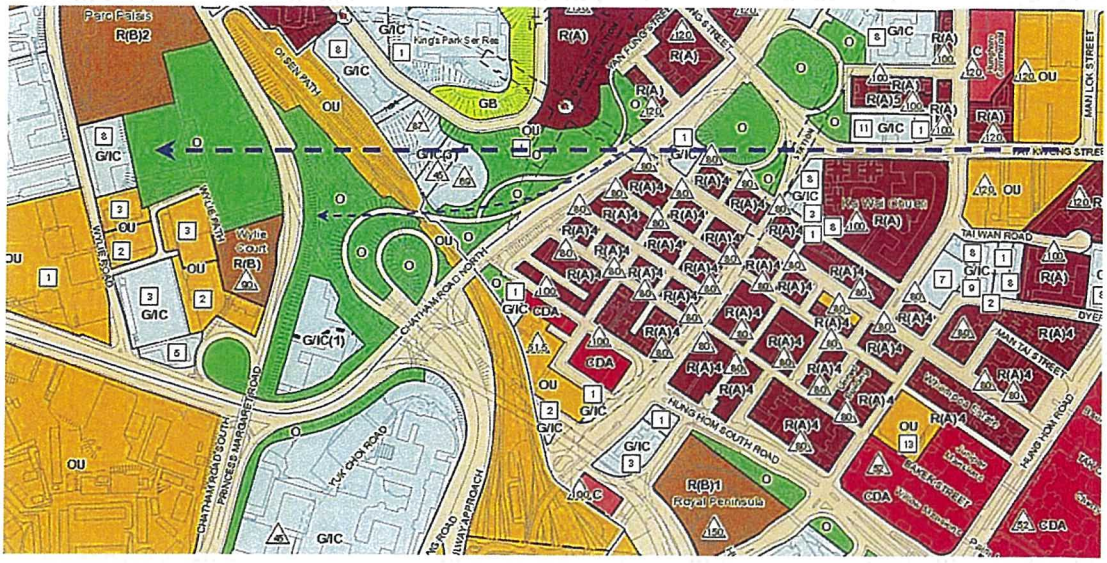


Figure 26: Annual prevailing (E) wind from Fat Kwong Street Flyover at pedestrian level (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

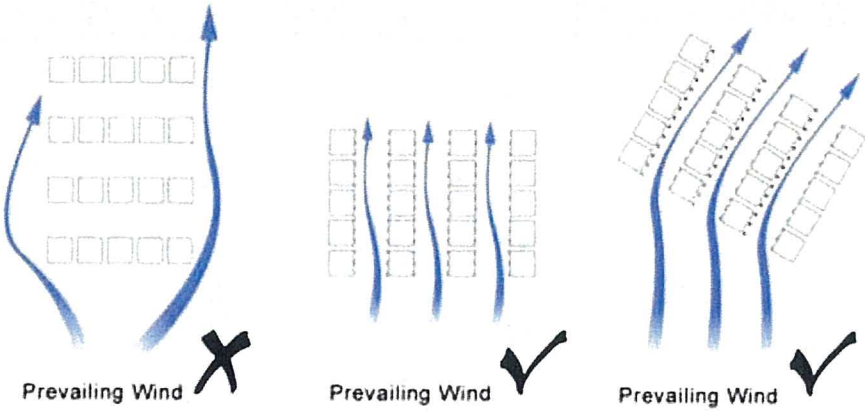


Figure 27: Penetration of prevailing wind through the district (Source: PlanD, Urban Design Guidelines)

East, southeast, south and southwest are the summer prevailing wind directions as described in Section 3.3. East wind, similar to annual wind condition (Figure 26), is less likely to penetrate the Hung Hom District at pedestrian level due to street alignment. Southeast wind coming from the waterfront (Figure 28) penetrates the major breezeway at Hung Hom South Road to the openspace to the northeast of the development. The podium structure at the Metropolis captures southeast wind into Cheong Tung Road South at pedestrian level, however, the wind dissipates as the breezeway discontinues. The openness of podium level in PolyU Campus allow local wind penetration to the development, particularly from southeast over the low-rise redevelopment of Block X. Wind from south direction (Figure 29) follows major breezeways at both side of the PolyU podium structure, Chatham Road South and Salisbury Road near Cross Harbour, to the northern part of the concerned area. Office buildings, Concordia Plaza and New East Ocean Centre, in Tsim Sha Tsui East block the air path from entering the podium level of PolyU Campus. Likewise, the wind from southwest (Figure 30) adopts the major breezeway from the waterfront to the proximity of the development. The wind is then divided into two air paths when it encounters Block Z at junction of Chatham Road South.

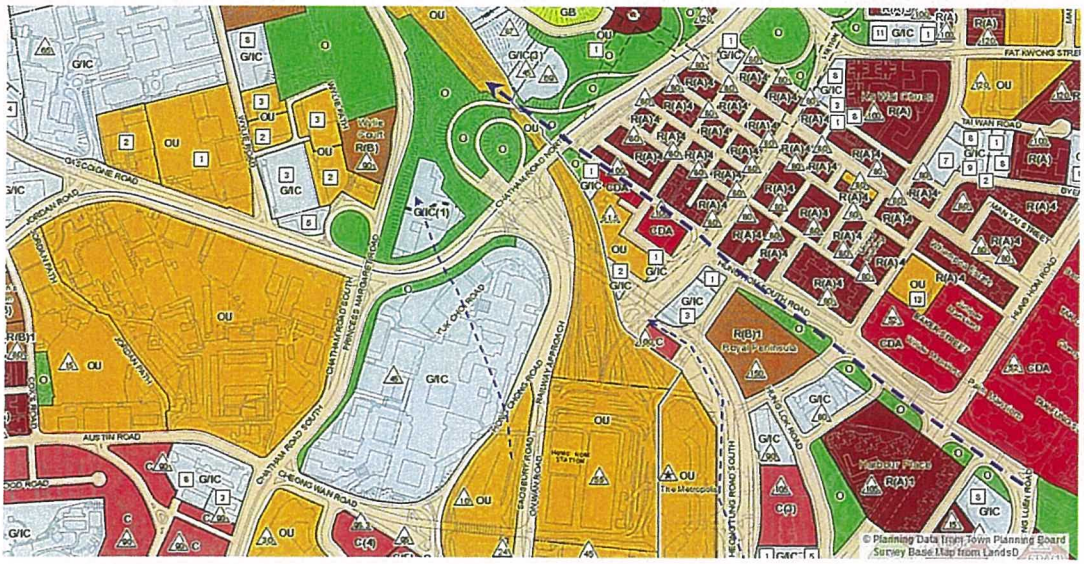


Figure 28: Summer prevailing (SE) wind from Cross Harbour, Cheong Wan Road and Hung Hom South Road South at pedestrian level (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

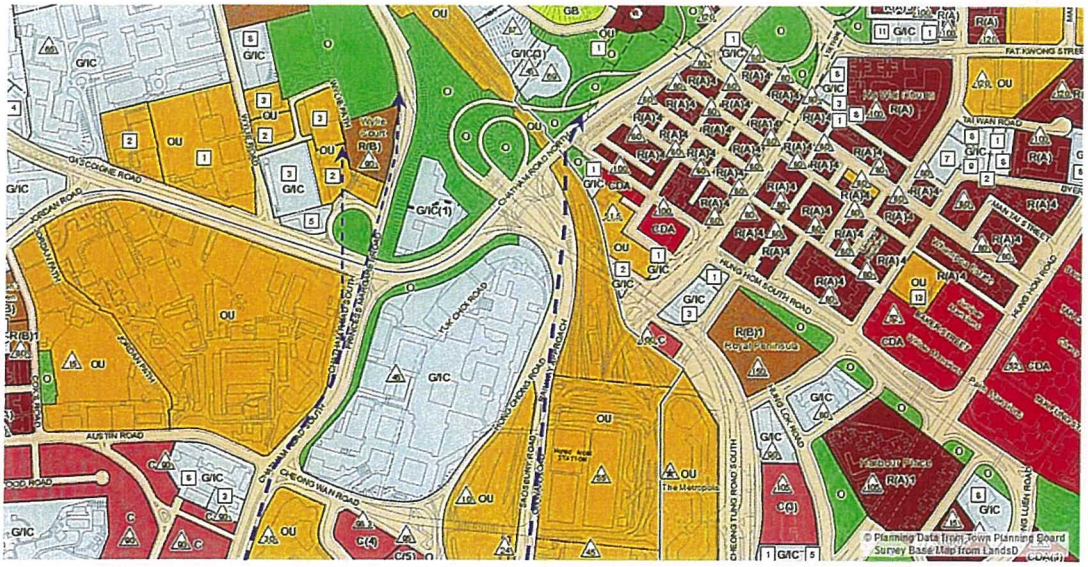


Figure 29: Summer prevailing (S) wind from Chatham Road South and Salisbury Road at pedestrian level (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

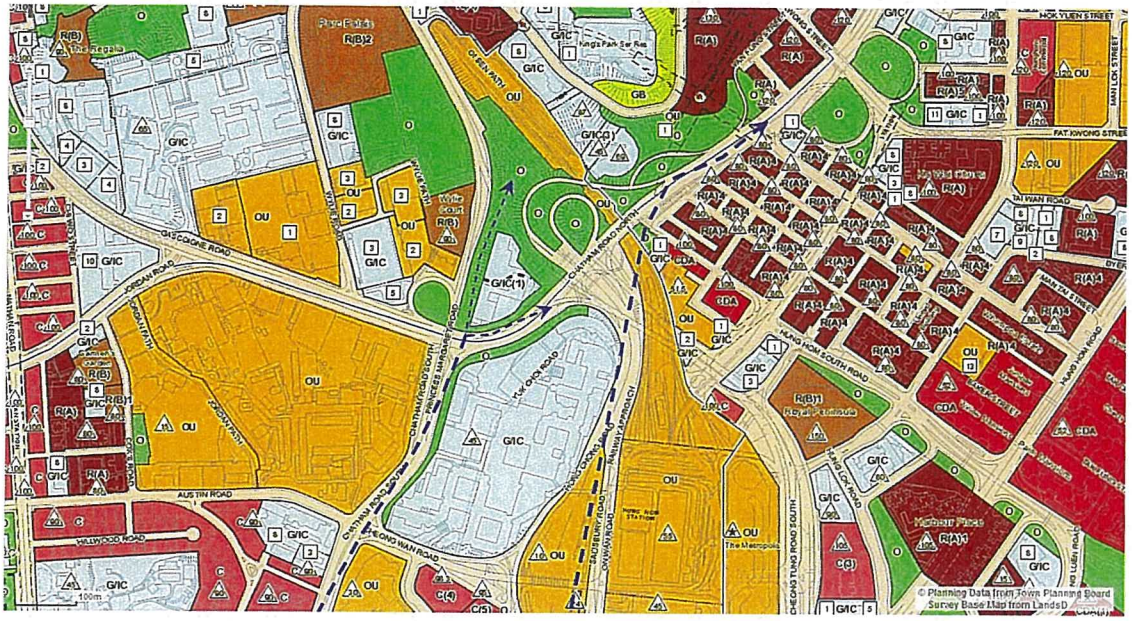


Figure 30: Summer prevailing (SW) wind from Chatham Road South and Cross Harbour at pedestrian level (Source: http://www2.ozp.tpb.gov.hk/gos/default.aspx?, accessed on 21 September 2015)

5.2 PROPOSED DESIGN

This AVA EE intends to assess the air ventilation impact of a footbridge, to identify good design features, to identify obvious problem areas and to propose some mitigation measures, if necessary.

The footbridge is located at the major breezeway of annual prevailing wind at northeast direction, and a summer prevailing wind at southwest direction. Careful disposition of building bulks and heights, open spaces are all important design parameters. The decrease of overall permeability of the major road Chatham Road South could significantly impact the penetration depth of the prevailing wind into the district. This can be mitigated by maintaining low-rise structures along prevailing wind direction routes, maximizing permeability at prevailing wind direction, creating the "air volume" near the pedestrian level, and maintaining a low building height to street width (H/W) ratio.

NE Wind (Annual)

The proposed permeable footbridge linking comprises a lift and staircase tower near the Block X redevelopment and a bridge deck above Chatham Road South linking to Phase 8. The bridge deck is situated at about 15m above the ground pedestrian level. The whole footbridge structure is designed to be air permeable with no solid panels (Figure 34 and Figure 35). This permeable design would not introduce any air ventilation impact to the pedestrian wind environment and breezeway of the downstream Gun Club Hill Barracks under NE annual prevailing wind. The lift and staircase is setback such that the new construction would not narrow the sectional width of 60m at Chatham Road South breezeway (Figure 36) with H/W ratio 1:1.

SE, S, SW Winds (Summer)

During summer, the proposed footbridge is under PolyU Campus's shadow for Southerly winds. No obvious ventilation impact would be imposed to the surrounding Ho Man Tin area, Wylie Court and nearby sports fields.

E Wind (Summer and Annual)

As discussed in Section 5.1, the annual and summer wind from the East is not likely to penetrate through the Hung Hom District at pedestrian level due to street alignment. Additionally, the lift and staircase tower is under shadow of PolyU Campus and Block Y. The proposed footbridge would not impact the leeward area such as Gun Club Hill Barracks.

5.3 CONCLUSION AND FURTHER STUDY

It can be concluded that the permeable footbridge development has no obvious air ventilation impact to:

(a) existing wind environment near the Project development and the surroundings based on the site context and topography;

(b) existing major breezeway(s) and air-path(s); and

(c) the localized wind effects of the potential development within the Project development and its surroundings.

In additional, there would be no potential wind stagnation and wind amplification causing uncomfortable and unsafe wind environment due to the Project development.

In this connection, no further study of Air Ventilation Assessment is required for this Project development.

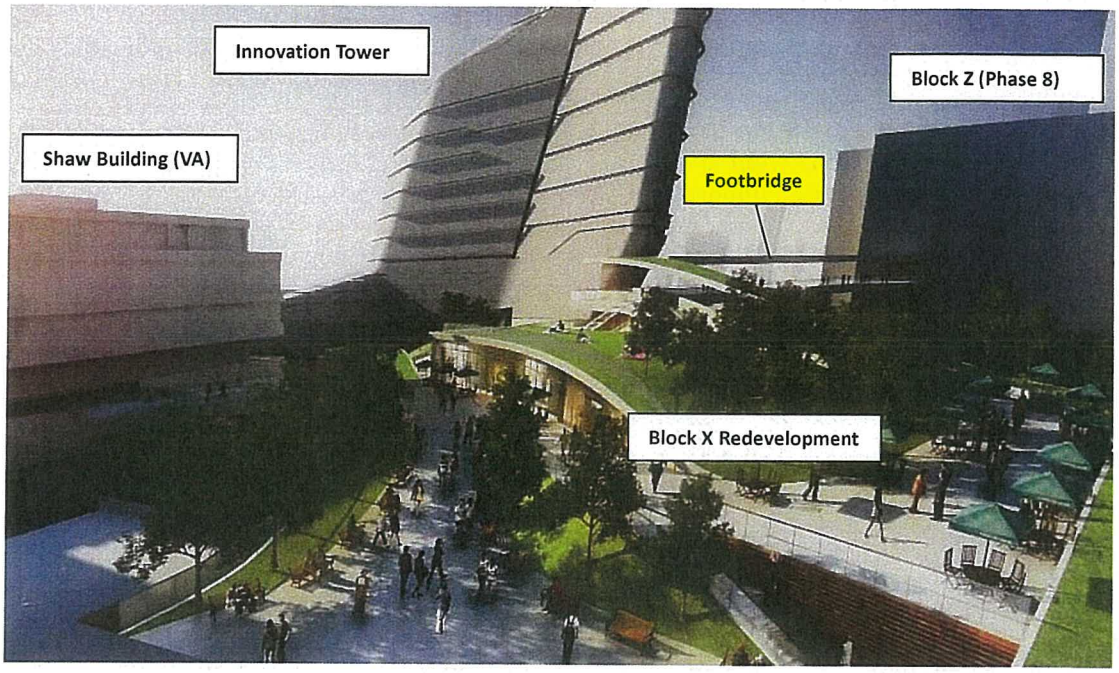


Figure 31: Rendering of the Redevelopment of Block X and Phase 8 footbridge linking

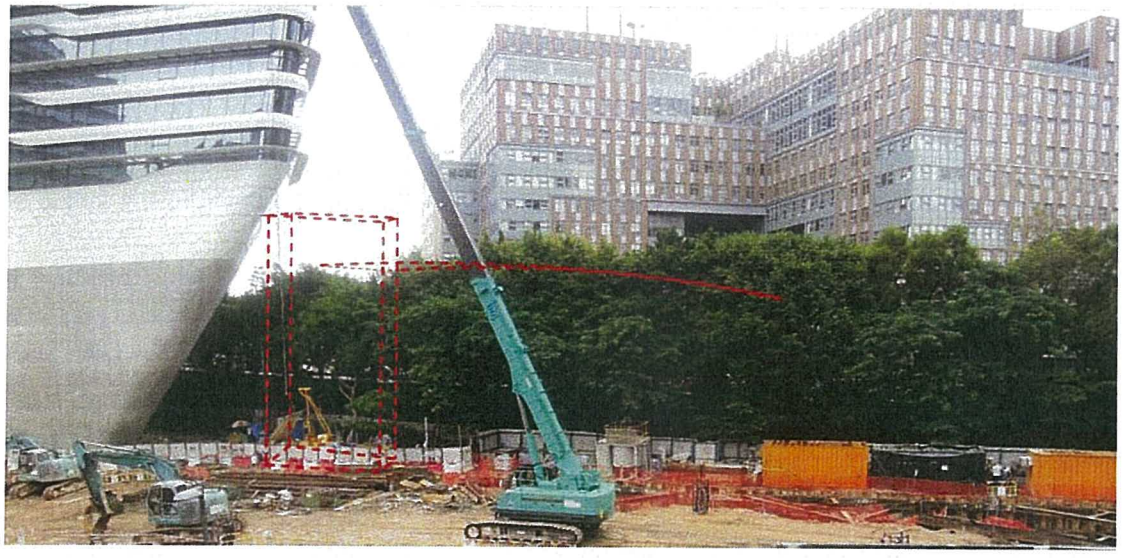


Figure 32: Site condition view from Block X Redevelopment site

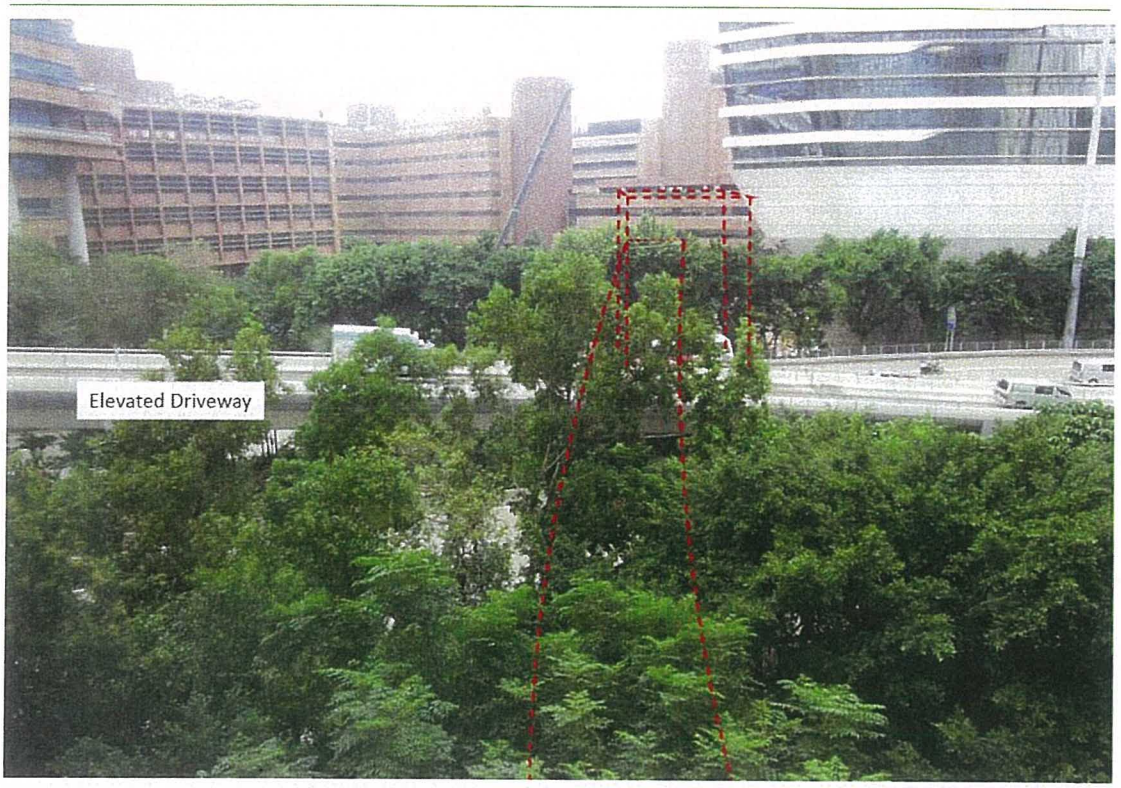


Figure 33: Site condition view from Block Z (Phase 8)

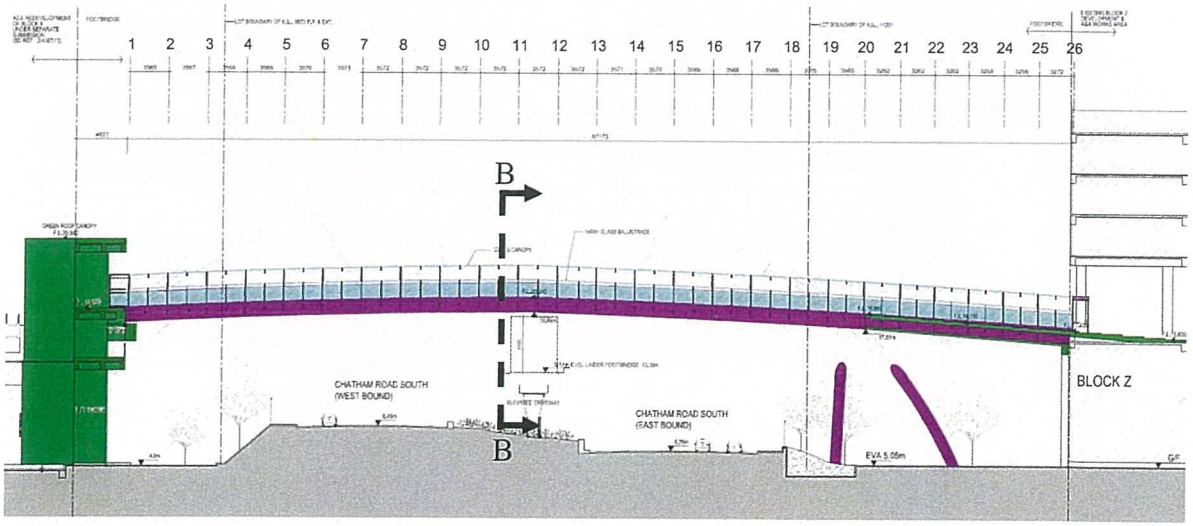


Figure 34: Air permeable space across the footbridge (easterly prevailing wind)

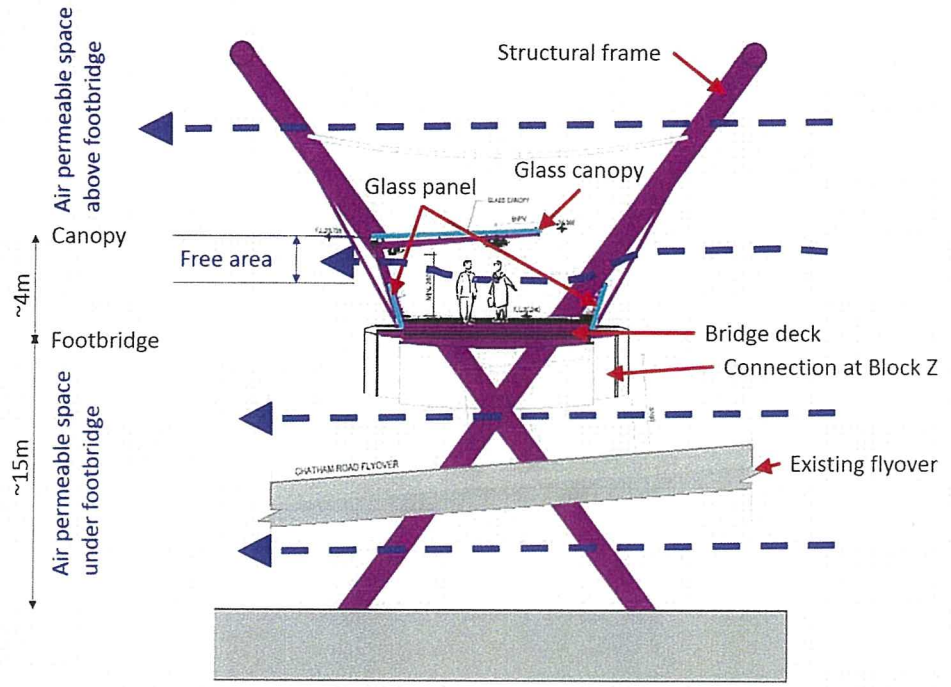


Figure 35: Easterly prevailing wind flowing through openings at footbridge (Section B)

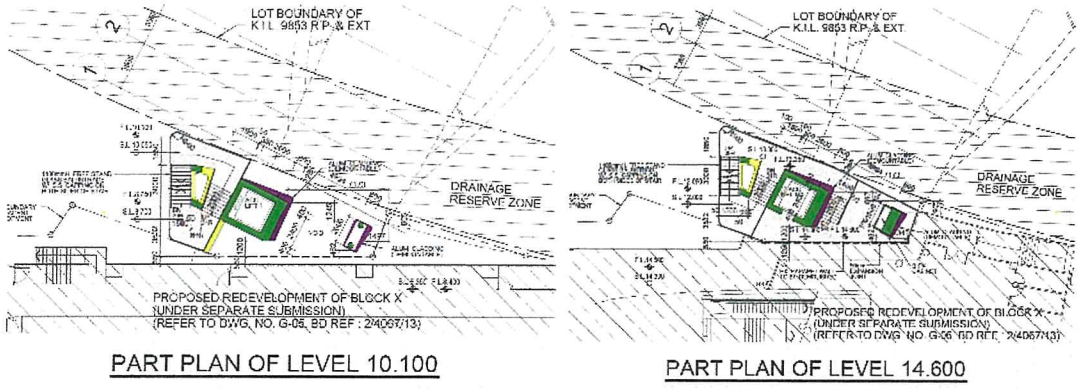


Figure 36: The lift and staircase tower is setback from openspace

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Town Planning Board, Hung Hom Outline Zoning Plan, S_K9_24, October 2010

Town Planning Board, Yau Ma Tei Outline Zoning Plan, S_K2_20, December 2010

Town Planning Board, Yau Ma Tei Outline Zoning Plan, S_K2_22, May 2014

Town Planning Board, Tsim Sha Tsui Outline Zoning Plan, S_K1_28, December 2013

Hong Kong Observatory Technical Note (Local) No. 83

RAMS wind data set simulated by CityU
[http://www.pland.gov.hk/pland_en/info_serv/site_wind/site_wind/index.html]

Hong Kong Observatory Weather Station
[http://www.weather.gov.hk/cis/region_climat/HKO/HKO_windrose_year_c.htm]

Town Planning Board Statutory Planning Portal 2
[http://www2.ozp.tpb.gov.hk/gos/default.aspx?]

Technical Circular No. 1/06 on Air Ventilation Assessments (AVA)

Planning Department, Term Consultancies for Air Ventilation Assessment Services – Expert Evaluation on Ho Man Tin Area (Revision 3), January 2008 (AVRG16)

Planning Department, Term Consultancies for Air Ventilation Assessment Services – Executive Summary – Proposed Residential Site at Sheung Shing Street, Ho Man Tin, October 2014 (AVRG86)

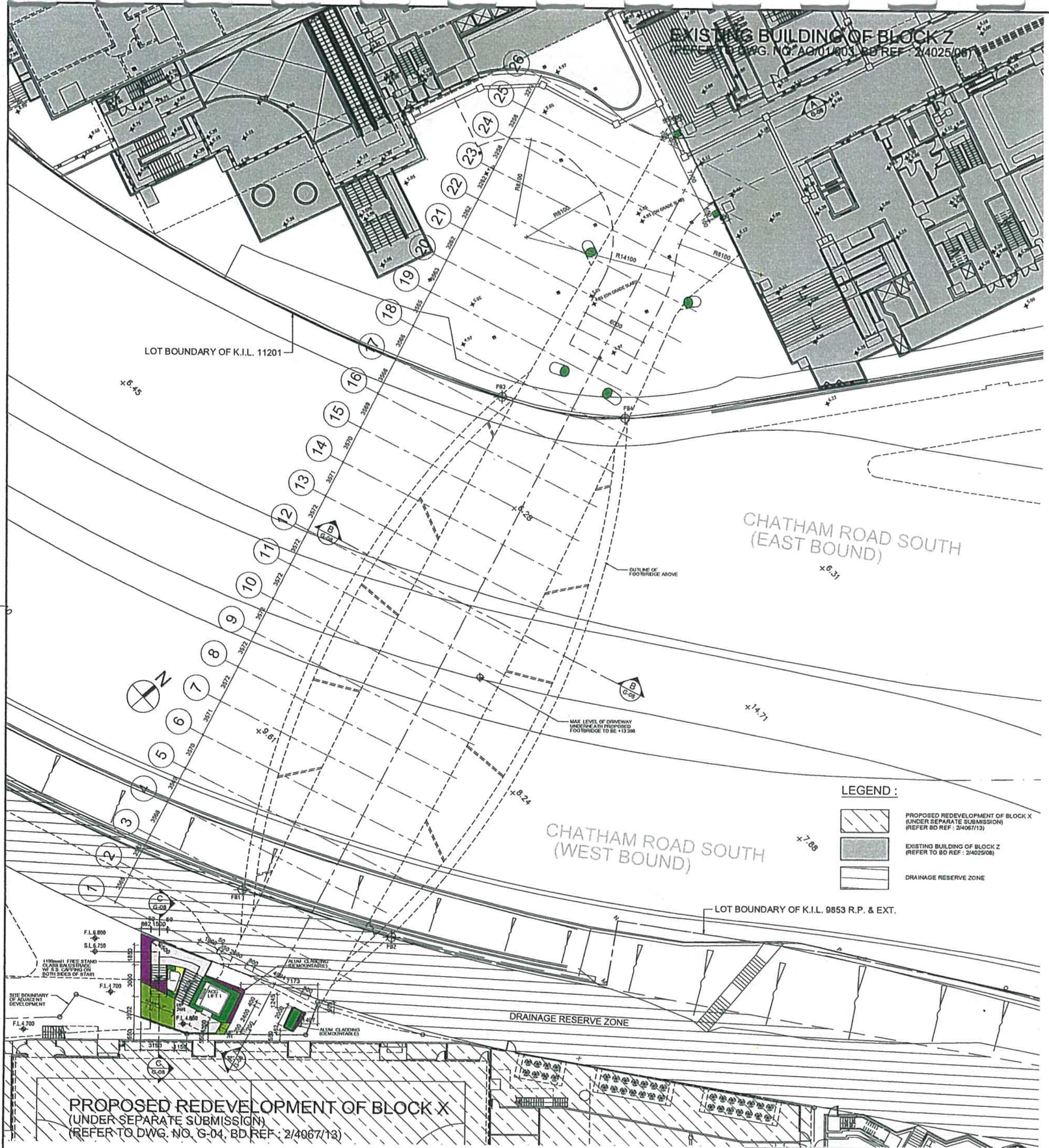
Planning Department, Term Consultancies for Air Ventilation Assessment for Hung Hom District Study, August 2008 (AVRG06)

Planning Department, Term Consultancy for Expert Evaluation and Advisory Services on Air Ventilation Assessment, Hung Hom, March 2008 (AVRG21)

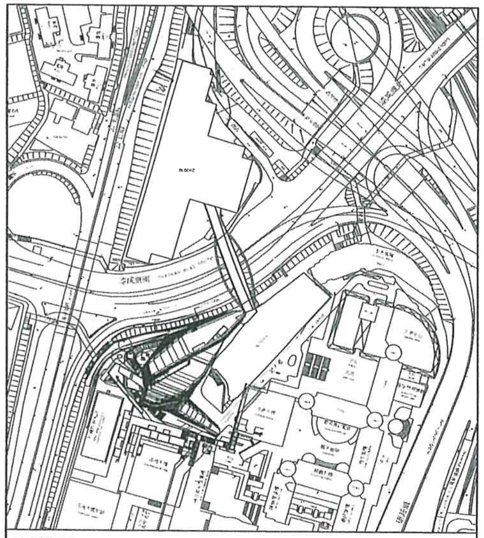
Planning Department, Term Consultancy for Expert Evaluation and Advisory Services on Air Ventilation Assessment, Yau Ma Tei, October 2010 (AVRG56)

Planning Department, Term Consultancy for Expert Evaluation and Advisory Services on Air Ventilation Assessment, Tsim Sha Tsui, March 2008 (AVRG15)

APPENDIX A – DRAWINGS



GROUND FLOOR PLAN



BLOCK PLAN

GENERAL NOTES :

1. R.C.C. CALCULATIONS & DETAILS, DRAINAGE PLAN TO BE SUBMITTED SEPARATELY.
2. MIN. HEADRM. IN STAIRCASE & EXIT ROUTES SHOULD BE 2000mm.
3. HANDRAILS ON BOTH SIDE IN ALL STAIRCASES.
4. ALL TREADS TO BE 250mm MIN. WIDTH & RISERS TO BE 150mm MAX. HIGH.
5. ALL LEVELS INDICATED ON DRAWINGS ARE IN m.
6. ALL DIMNSIONS INDICATED ON DRAWINGS ARE IN mm.
7. ALL SLAB OPENING FOR PIPE DUCT TO BE WITH CONCRETE WORKS AFTER INSTALLATION OF PIPES. SEALING SYSTEM SHALL BE EQUAL FRR TO WALL OR FLOOR.
8. LIFT LANDING DOOR TO HAVE AN F.R.R. OF NOT LESS THAN -/120/- TO COMPLY W/. C.O.P. FOR FIRE SERVICE IN BUILDINGS 2011.
9. DISABLE PROVISION COMPLIES WITH BFA 2008 AND ALL HANDRAILS SHALL EXTEND 300mm BEYOND THE LAST RISER & TACTILE STRIPS SHALL BE INSTALLED.

COLOUR INDICATION :

- CONCRETE (PLAIN OR REINFORCED)
- FLOOR TILES
- MOSAIC OR WALL TILES
- GLASS
- METALWORK
- STEEL
- SANITARY FITTINGS
- PROVISION FOR THE DISABLED
- LIGHTWEIGHT PARTITION
- HARDCORE

ABBREVIATIONS :

- S.L. STRUCTURAL FLOOR LEVEL
- F.L. FINISH FLOOR LEVEL
- ACC. ACCESSIBLE

FOR LANDS DEPARTMENT

COORDINATES :

POINT	N (COORDINATES)	E (COORDINATES)
FB1	818524.978	836566.840
FB2	818532.391	836579.463
FB3	818574.008	836548.513
FB4	818581.281	836557.644

NOTES FOR FIRE SERVICES :

1. FIRE HYDRANT/ HOSE REEL SYSTEM
1.1 FIRE HYDRANT/ HOSE REEL SYSTEM WILL NOT BE PROVIDED TO:
 • FOOTBRIDGE AND THE LIFT TOWER
1.2 ALL EXISTING FIRE SERVICES INSTALLATION FOR THE PHASE 8 DEVELOPMENT REMAINS UNCHANGED.

2 AUTOMATIC SPRINKLER SYSTEM
2.1 AUTOMATIC SPRINKLER SYSTEM WILL NOT BE PROVIDED TO:
 • FOOTBRIDGE AND THE LIFT TOWER
2.2 ALL EXISTING FIRE SERVICES INSTALLATION FOR THE PHASE 8 DEVELOPMENT REMAINS UNCHANGED.

3 FIRE DETECTION AND ALARM SYSTEM
3.1 FIRE DETECTION AND ALARM SYSTEM WILL NOT BE PROVIDED TO:
 • FOOTBRIDGE AND THE LIFT TOWER
3.2 ALL EXISTING FIRE SERVICES INSTALLATION FOR THE PHASE 8 DEVELOPMENT REMAINS UNCHANGED.

4 EMERGENCY LIGHTING
4.1 EMERGENCY LIGHTING TO BS 5266-1:2011, BS EN 1838:2013 AND FSD CIRCULAR LETTER 1/ 2006 SHALL BE PROVIDED THROUGHOUT THE ENTIRE DEVELOPMENT.
4.2 ALL EMERGENCY LIGHTING SHALL BE BACKUP BY SELF-CONTAINED BATTERIES (MAINTAINED A PERIOD NOT LESS THAN 2 HOURS) AND EXISTING EMERGENCY GENERATOR FROM PHASE 8 DEVELOPMENT.

5 ALL FIRE SERVICES DEPARTMENT REQUIREMENTS TO BE COMPLIED WITH.

6. NO VAC SYSTEM WILL BE PROVIDED AS NO CENTRALIZED A/C SYSTEM WILL BE INSTALLED.

7. ALL LININGS FOR ACOUSTIC AND THERMAL INSULATION PURPOSE IN DUCTING AND CONCEALED LOCATIONS SHALL BE OF CLASS 1 OR 2 RATE OF SURFACE SPREAD OF FLAME AS PER BS 476: PART 7 OR ITS INTERNATIONAL EQUIVALENT, OR BE BROUGHT UP TO THAT STANDARD BY USE OF AN APPROVED FIRE RETARDANT PRODUCT.

8. ALL LININGS FOR ACOUSTICM THERMAL INSULATION AND DECORATIVE PURPOSE WITHIN PROTECTED MEANS OF ESCAPE SHALL BE OF CLASS 1 OR 2 RATE OF SURFACE SPREAD OF FLAME AS PER BS 476: PART 7 OR ITS INTERNATIONAL EQUIVALENT, OR BE BROUGHT UP TO THAT STANDARD BY USE OF AN APPROVED FIRE RETARDANT PRODUCT.

9. ALL SERVICES DUCT WILL BE OF SUBSTANTIAL MECHANICAL AND FIRE RESISTING CONSTRUCTION, i.e. BRICK OR CONCRETE, AND CONSIDERATION WILL ALSO BE GIVEN TO THE SITTING OF THE DUCTS SO THAT THE SAME PROTECTION WILL ALSO AVALIABLE TO THE SERVICES RUNNUNG OFF THE DUCTS.

SCHEDULE OF MINIMUM DIMENSIONS FOR LIFT INSTALLATIONS

	RATED LOAD	NO OF PASSENGERS	RATED SPEED REQ (M/S)	RATED SPEED PRO (M/S)	WELL MIN DIMENSIONS WIDTH Ww REQ	WIDTH Ww PRO	DEPTH Wd REQ	DEPTH Wd PRO	CLEAR ENTRANCE WIDTH Ew REQ	WIDTH Ew PRO	HEIGHT Eh REQ	HEIGHT Eh PRO	CAR INTERNAL SIZES WIDTH Cw REQ	WIDTH Cw PRO	DEPTH Cd REQ	DEPTH Cd PRO	MAX AREA Ca REQ	MAX AREA Ca PRO	HEIGHT REQ	HEIGHT PRO	PIT DEPTH REQ	PIT DEPTH PRO	HEADROOM Sh REQ	HEADROOM Sh PRO	MACHINE ROOM MINIMUM DIMENSIONS AREA Rs REQ	AREA Rs PRO	WIDTH Rw REQ	WIDTH Rw PRO	DEPTH Rd REQ	DEPTH Rd PRO	HEIGHT Rh REQ	HEIGHT Rh PRO	OVERALL HEADROOM Uh REQ	OVERALL HEADROOM Uh PRO
LIFT 1	1000	21	1.75	1.75	2000	2000	2600	2600	1100	1200	2100	2300	2000	2000	1750	1750	3.56	3.56	2300	2300	1900	1900	LIFT MACHINE ROOM LESS											

B.L.D. REF	BD2/4067/13(FB)
F.S.D. REF	FP8/18894

REVISIONS

NUMBER	DESCRIPTION	DATE

REV. NO.	BLD	A	BS	CL	CO	CT	QS	SO	ISSUE DATE	CAD UPDATE
0	✓								27 JUL 2015	

LEGEND : BLD=BUILDING LAND DEPARTMENT A=ARCHITECT BS=BUILDING SERVICE CL=CLIENT CO=CONSULTANT CT=CONTRACTOR QS=QUANTITY SURVEYOR SO=SITE OFFICE

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PROJECT
PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS, THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE
BLOCK PLAN, NOTES & GROUND FLOOR PLAN

SIGNATURE FOR SUBMISSION/CONSTRUCTION

DATE

DRAWN BY	C.L. KWOK	DATE	27 JUL 2015
ENTERED BY	D.T.	PLOT DATE	27 JUL 2015
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A-1418	G-01	0

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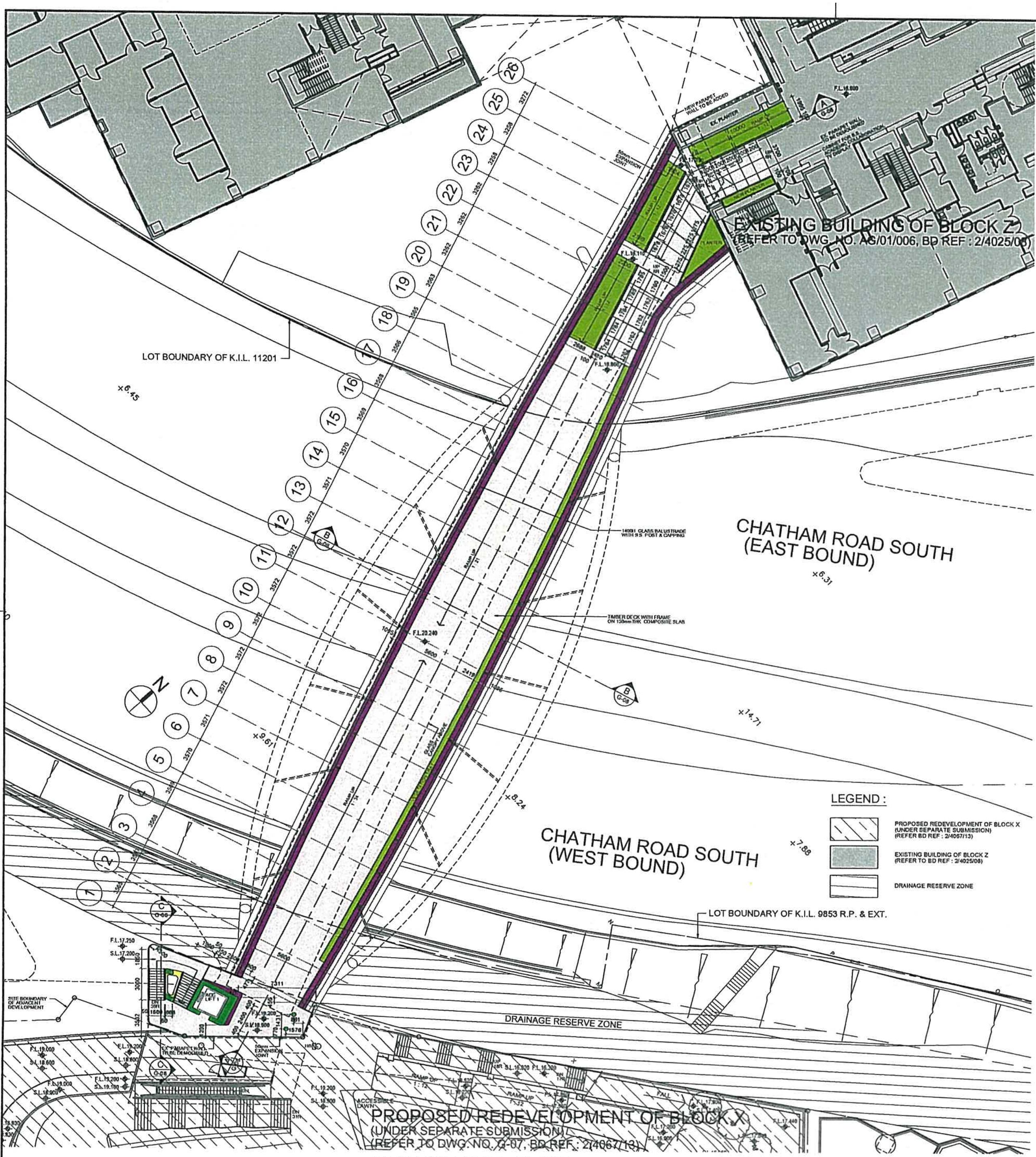
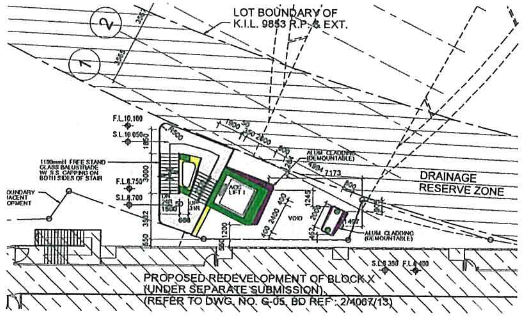
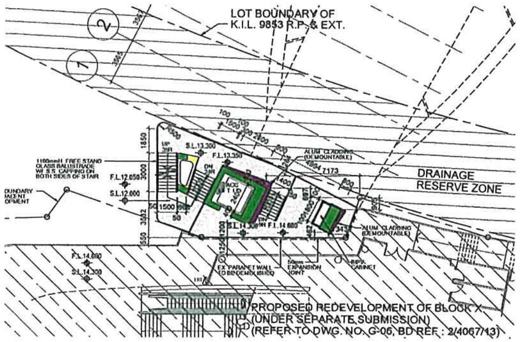


PLAN OF LEVEL 19.200



PART PLAN OF LEVEL 10.100



PART PLAN OF LEVEL 14.600

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PROJECT
PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS, THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE
PLAN OF LEVEL 19.200 & PART PLANS

SIGNATURE FOR SUBMISSION/CONSTRUCTION

DATE

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A-1418	G-02	0

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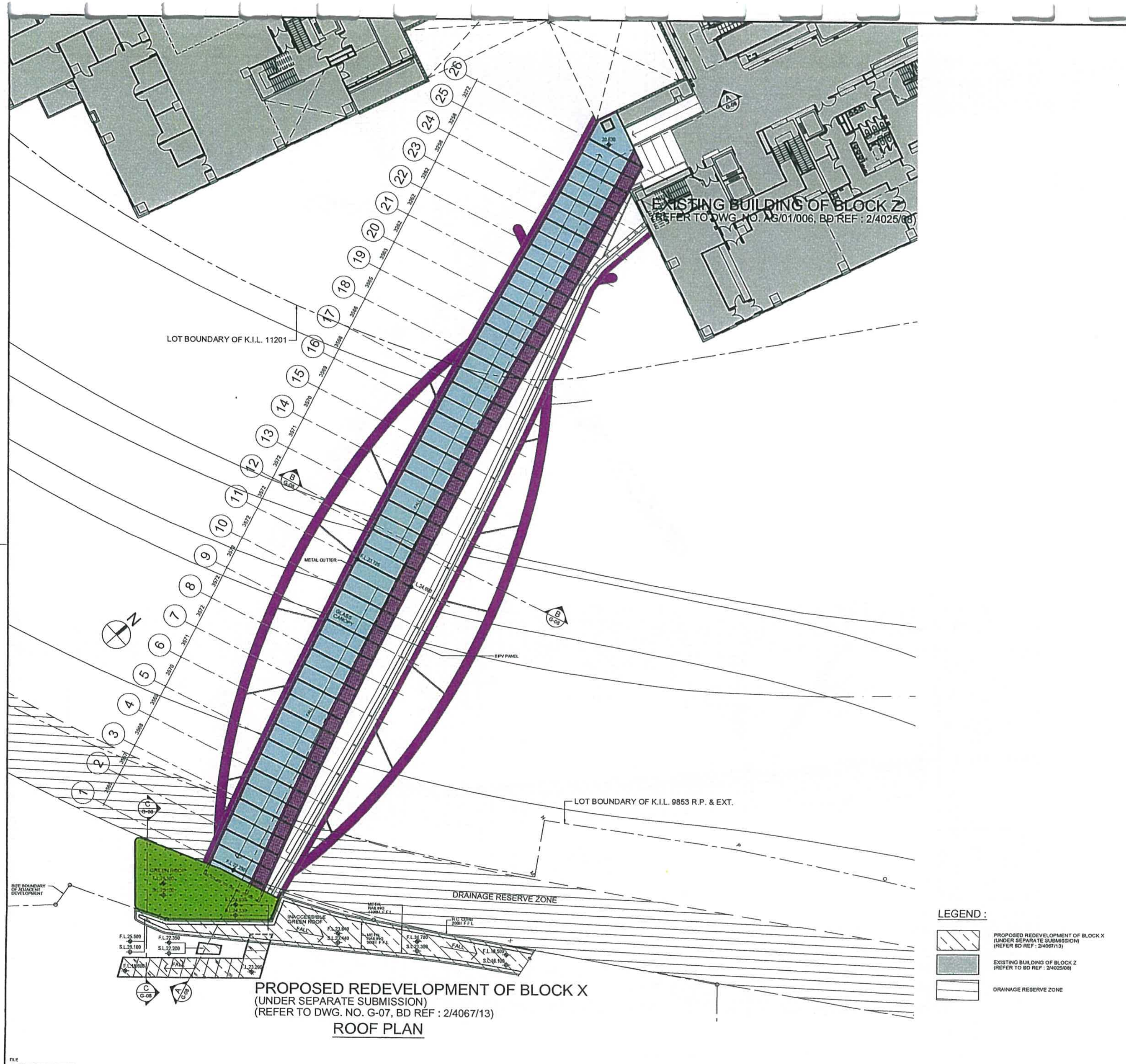

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F.S.D. REF	FP8/18894

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PROJECT

PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS, THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE

ROOF PLAN

SIGNATURE FOR SUBMISSION/CONSTRUCTION

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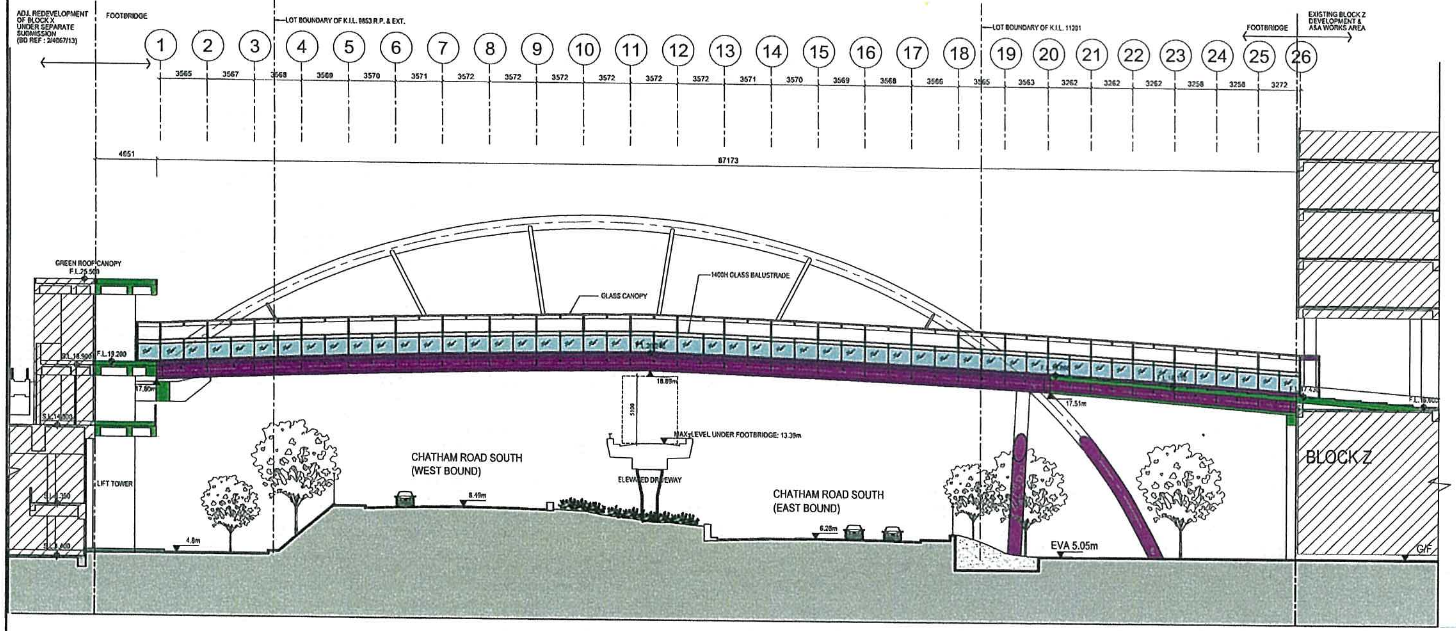

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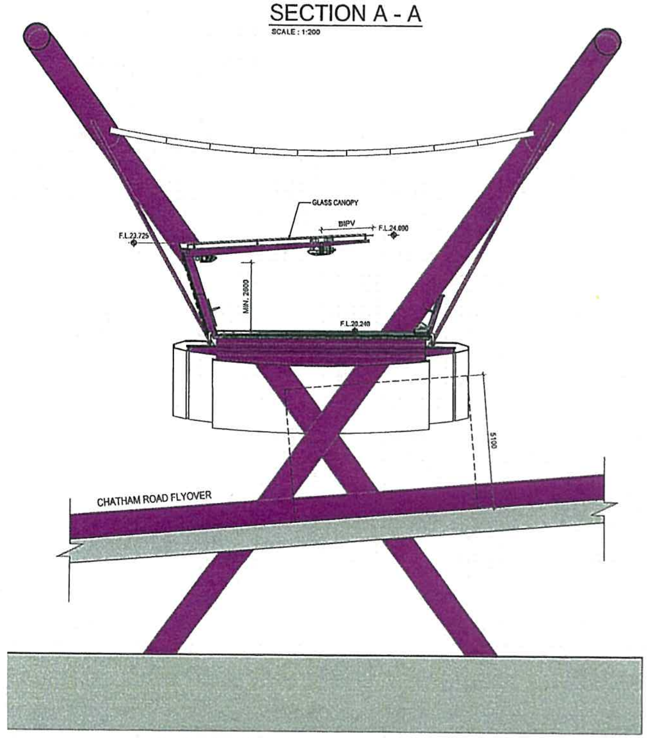

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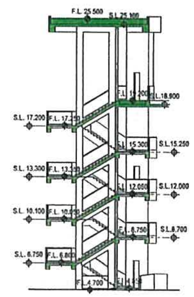

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F.S.D. REF	FP8/18694

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PROJECT

PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE

SECTIONS

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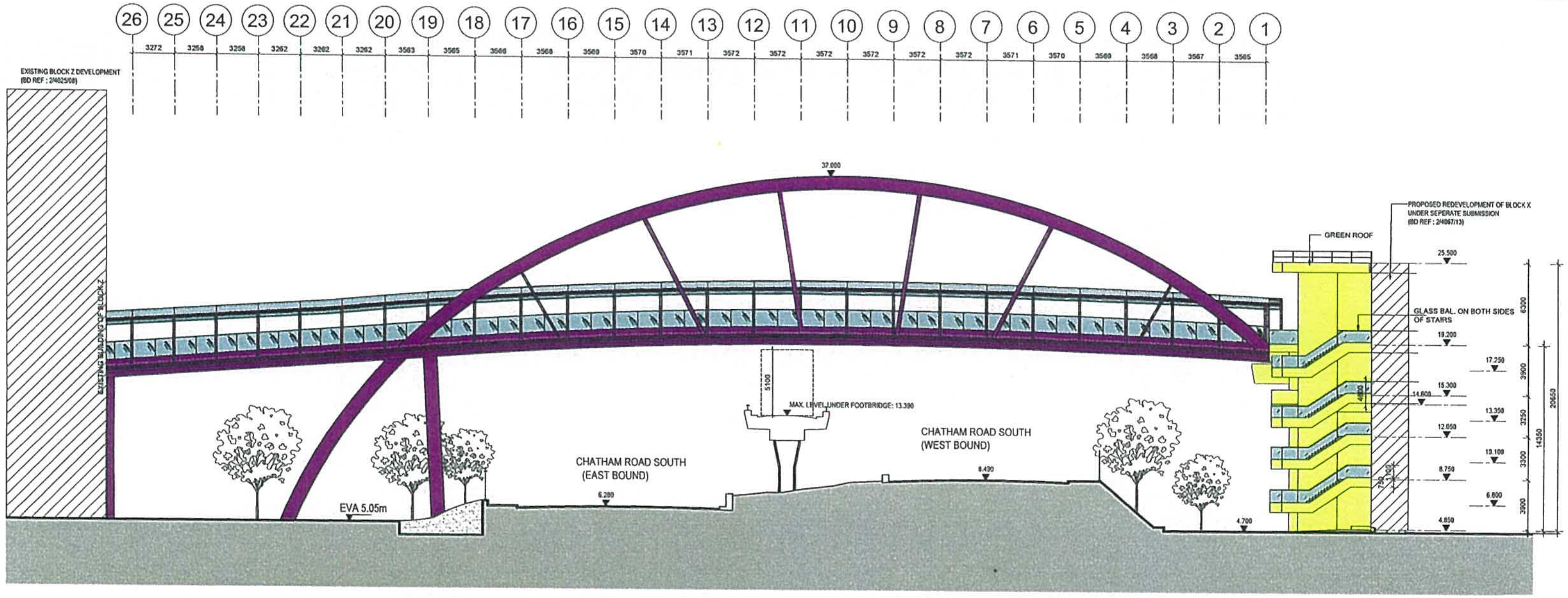
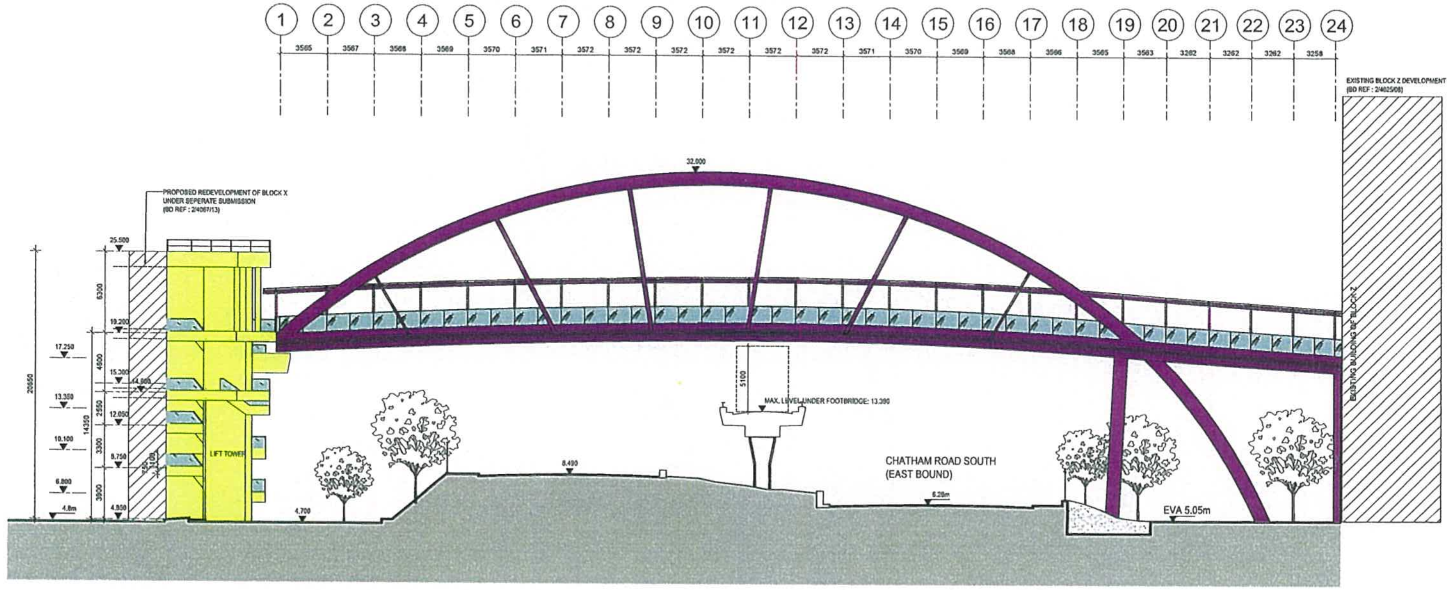


NORTHEAST ELEVATION

SCALE : 1:200



SOUTHWEST ELEVATION

SCALE : 1:200

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REVISIONS

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EMPLOYER

The Hong Kong Polytechnic University
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PROJECT

PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE

ELEVATIONS

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A-1418	G-05	0

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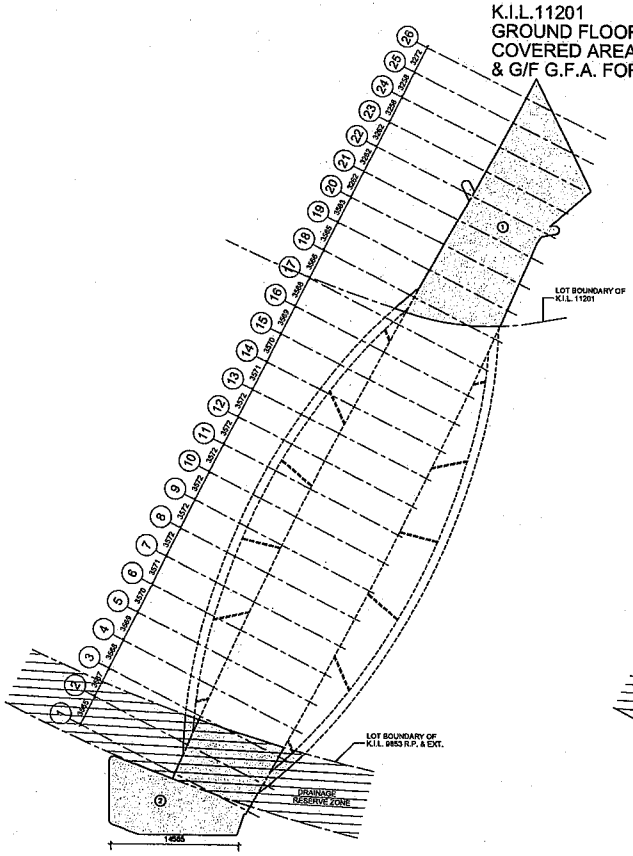
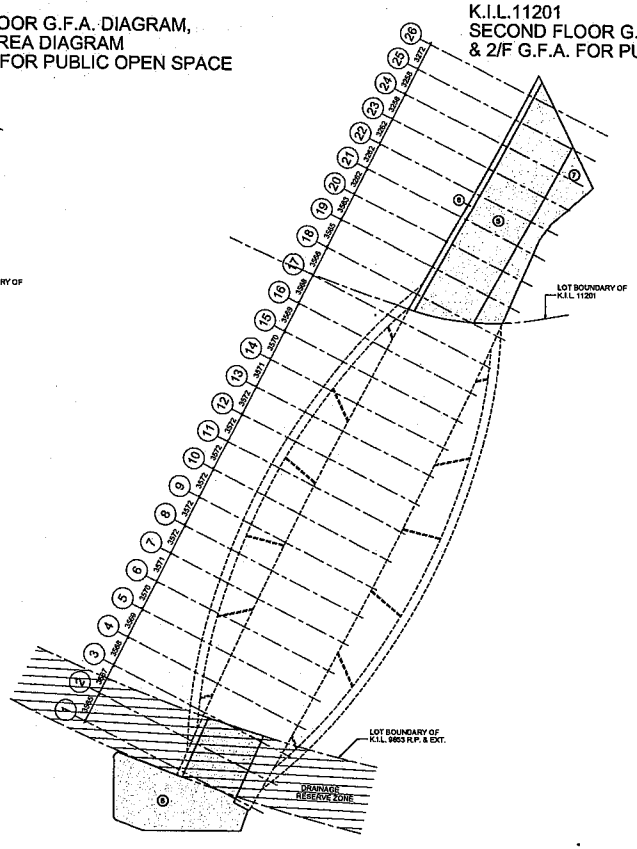
K.I.L.11201
GROUND FLOOR G.F.A. DIAGRAM,
COVERED AREA DIAGRAM
& G/F G.F.A. FOR PUBLIC OPEN SPACE

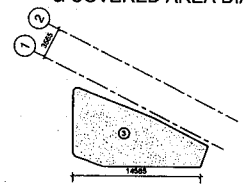


K.I.L. 9853 R.P. & EXTENSION
GROUND FLOOR G.F.A. DIAGRAM
& COVERED AREA DIAGRAM (BELOW 19.70m)

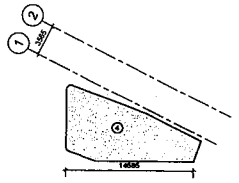
K.I.L.11201
SECOND FLOOR G.F.A. DIAGRAM
& 2/F G.F.A. FOR PUBLIC OPEN SPACE



K.I.L. 9853 R.P. & EXTENSION
LEV.19.200 G.F.A. DIAGRAM
& COVERED AREA DIAGRAM (ABOVE 19.70m)



K.I.L. 9853 R.P. & EXTENSION
LEV. 10.100 G.F.A. DIAGRAM



K.I.L. 9853 R.P. & EXTENSION
LEV. 14.600 G.F.A. DIAGRAM

CALCULATION OF NON-DOMESTIC G.F.A. :

FOR K.I.L.11201
GROUND FLOOR
① FLOOR AREA = 259.698 S.M.
2ND FLOOR
⑤ FLOOR AREA = 176.773 S.M.
TOTAL = 436.471 S.M.

K.I.L. 9853 R.P. & EXTENSION
GROUND FLOOR
② FLOOR AREA = 175.482 S.M.
LEV. 10.100
③ FLOOR AREA = 89.056 S.M.
LEV. 14.600
④ FLOOR AREA = 89.056 S.M.
LEV. 19.200
⑥ FLOOR AREA = 140.641 S.M.
TOTAL = 494.235 S.M.

CALCULATION OF NON-DOMESTIC COVER AREA :

FOR K.I.L.11201
NON-DOMESTIC COVER AREA (BELOW 16.46m)
① FLOOR AREA = 259.698 S.M.
TOTAL = 259.698 S.M.

NON-DOMESTIC COVER AREA (ABOVE 16.46m)
① FLOOR AREA = 259.698 S.M.
TOTAL = 259.698 S.M.

K.I.L. 9853 R.P. & EXTENSION
NON-DOMESTIC COVER AREA (BELOW 19.70m)
② FLOOR AREA = 175.482 S.M.
TOTAL = 175.482 S.M.

NON-DOMESTIC COVER AREA (ABOVE 19.70m)
⑥ FLOOR AREA = 140.641 S.M.
TOTAL = 140.641 S.M.

CALCULATION OF COVERED PUBLIC OPEN SPACE AREA :

FOR K.I.L.11201
GROUND FLOOR
① FLOOR AREA = 259.698 S.M.
2ND FLOOR
⑤ FLOOR AREA = 176.773 S.M.

CALCULATION OF UNCOVERED PUBLIC OPEN SPACE AREA :

FOR K.I.L.11201
2ND FLOOR
⑦ FLOOR AREA = 57.679 S.M.
⑧ FLOOR AREA = 19.025 S.M.
TOTAL = 77.704 S.M.

B.L.D. REF	BD2/4007/13(FB)
F.S.D. REF	FP8/18894

REVISIONS

NUMBER	DESCRIPTION	DATE

REV. NO.	BLD	A	SS	QL	CO	CT	QS	SO	ISSUE DATE	CAD UPDATE
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PROJECT
PROPOSED PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 CAMPUS, THE HONG KONG POLYTECHNIC UNIVERSITY

DRAWING TITLE
CALCULATIONS OF PEDESTRIAN FOOTBRIDGE

SIGNATURE FOR SUBMISSION/CONSTRUCTION
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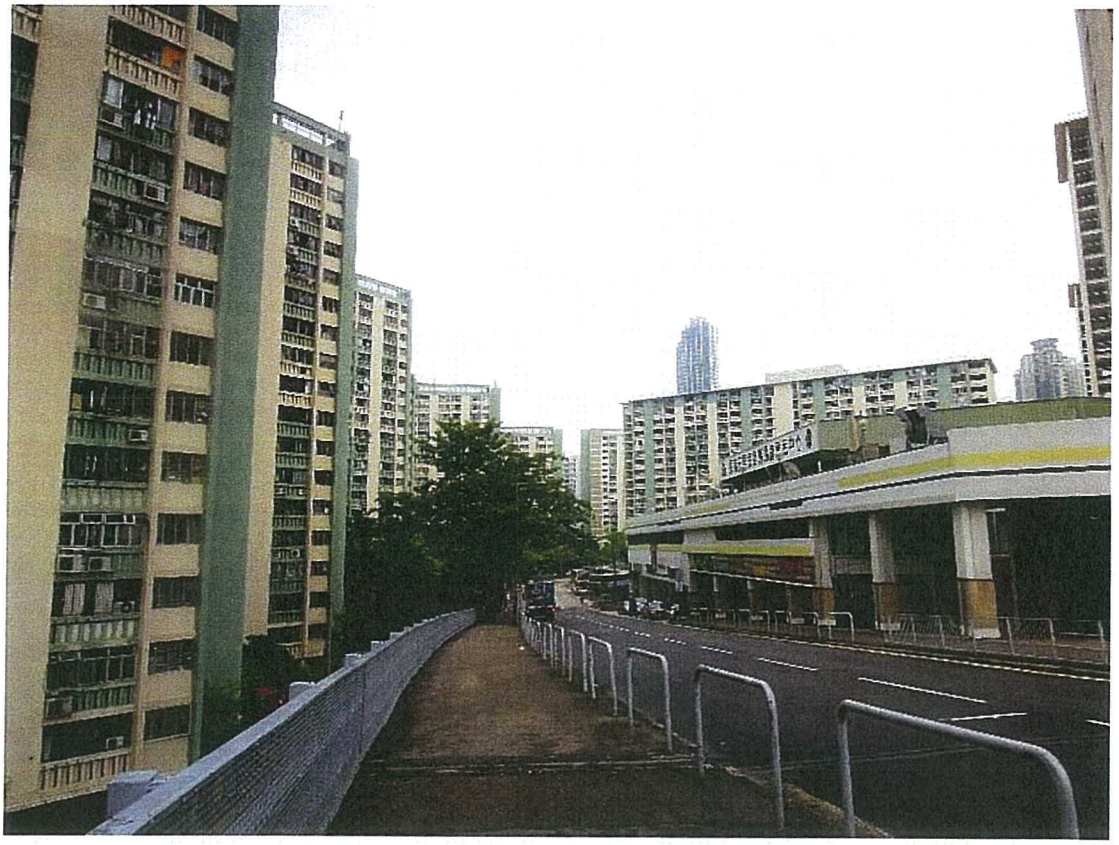
APPENDIX B –PHOTO RECORDS

Figure B1: Princess Margaret Road (due Mong Kok)

Figure B2: MTR East Rail Line and Wylie Road (due Mong Kok)

Figure B3: Parc Palais at junction of Wylie Road and Prince Margaret Road (due Hung Hom)

Figure B4: Oi Man Estate at junction of Wylie Road and Prince Margaret Road



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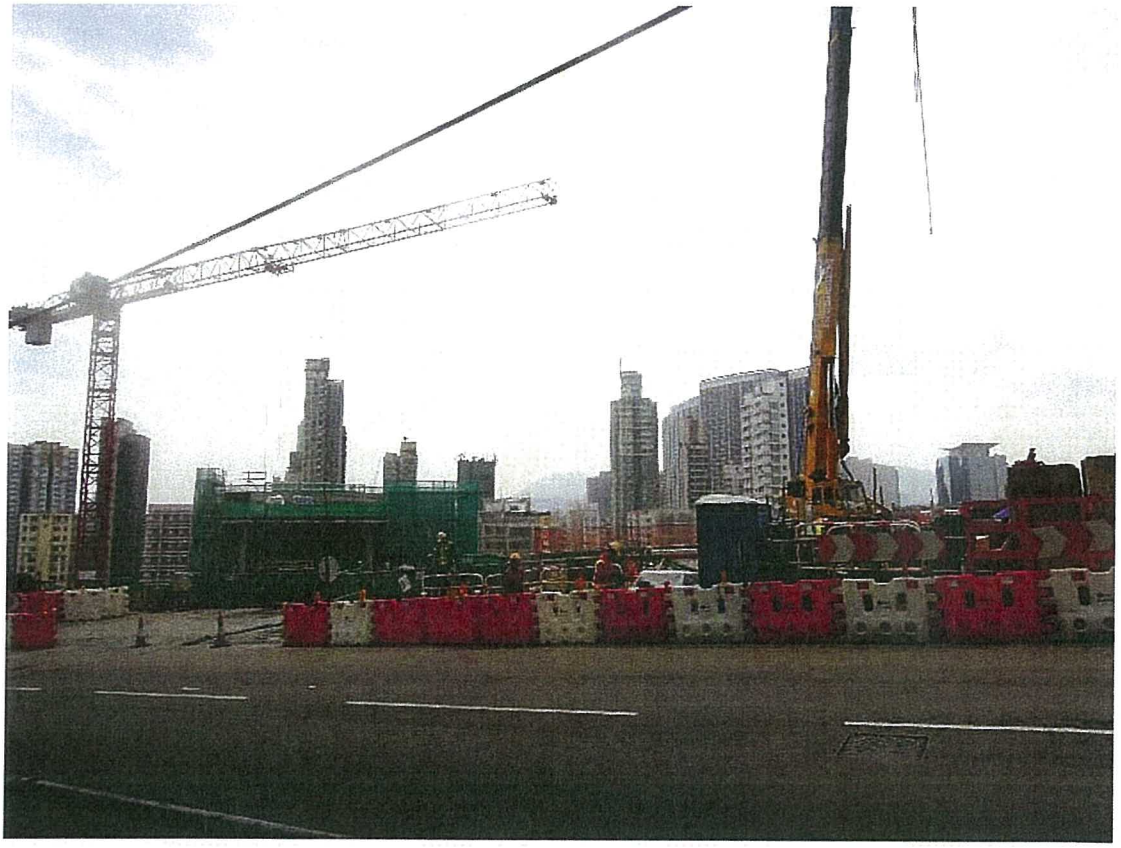

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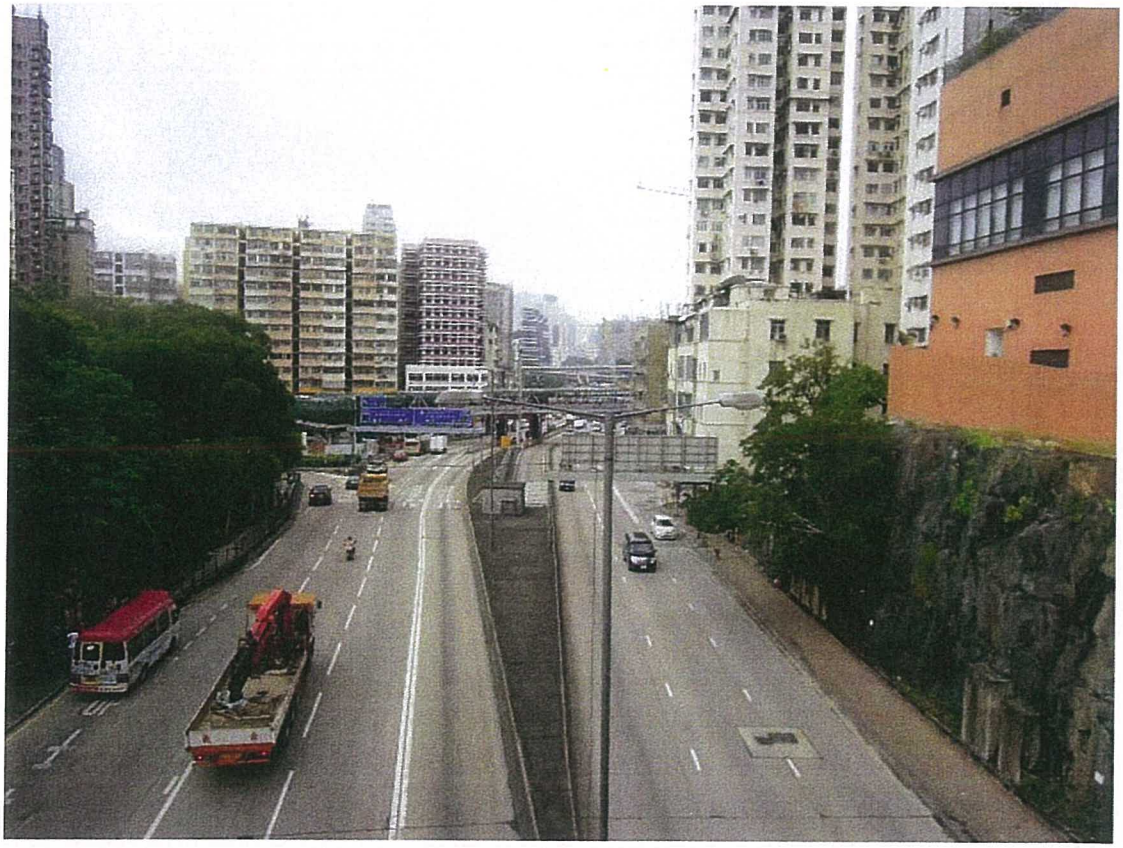

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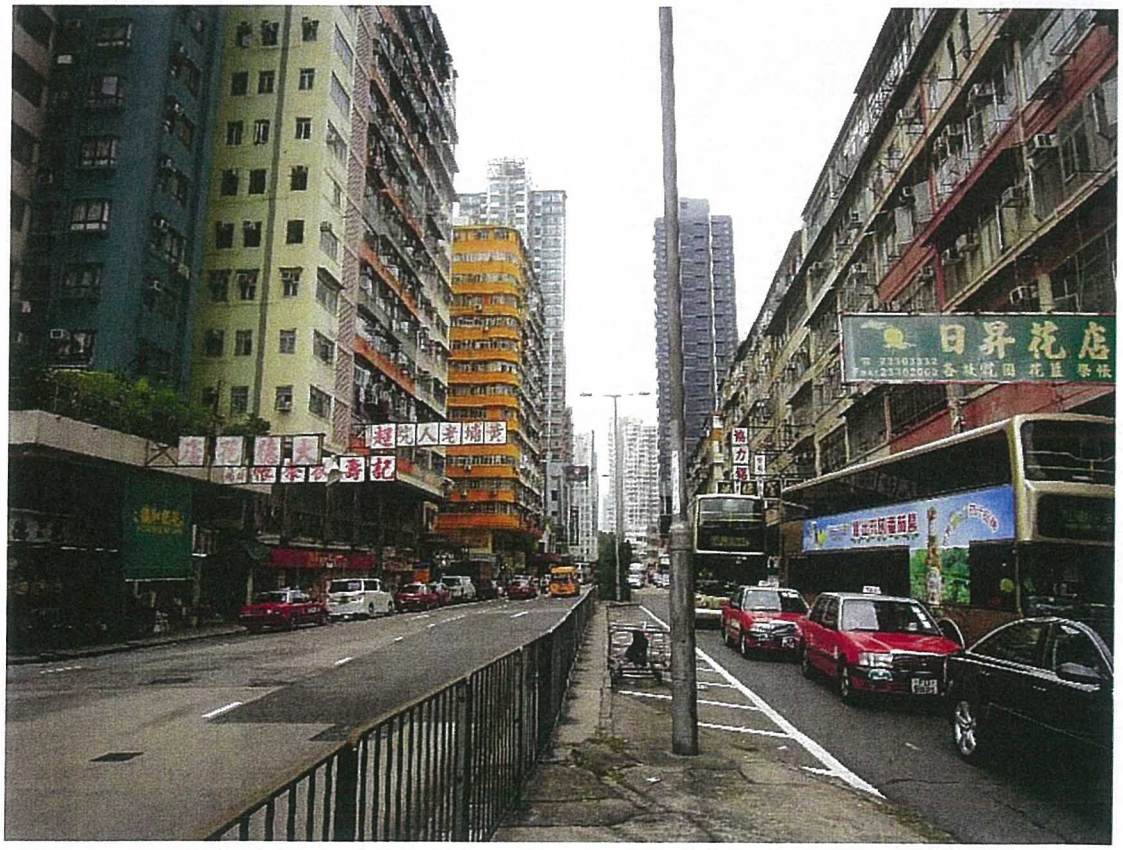

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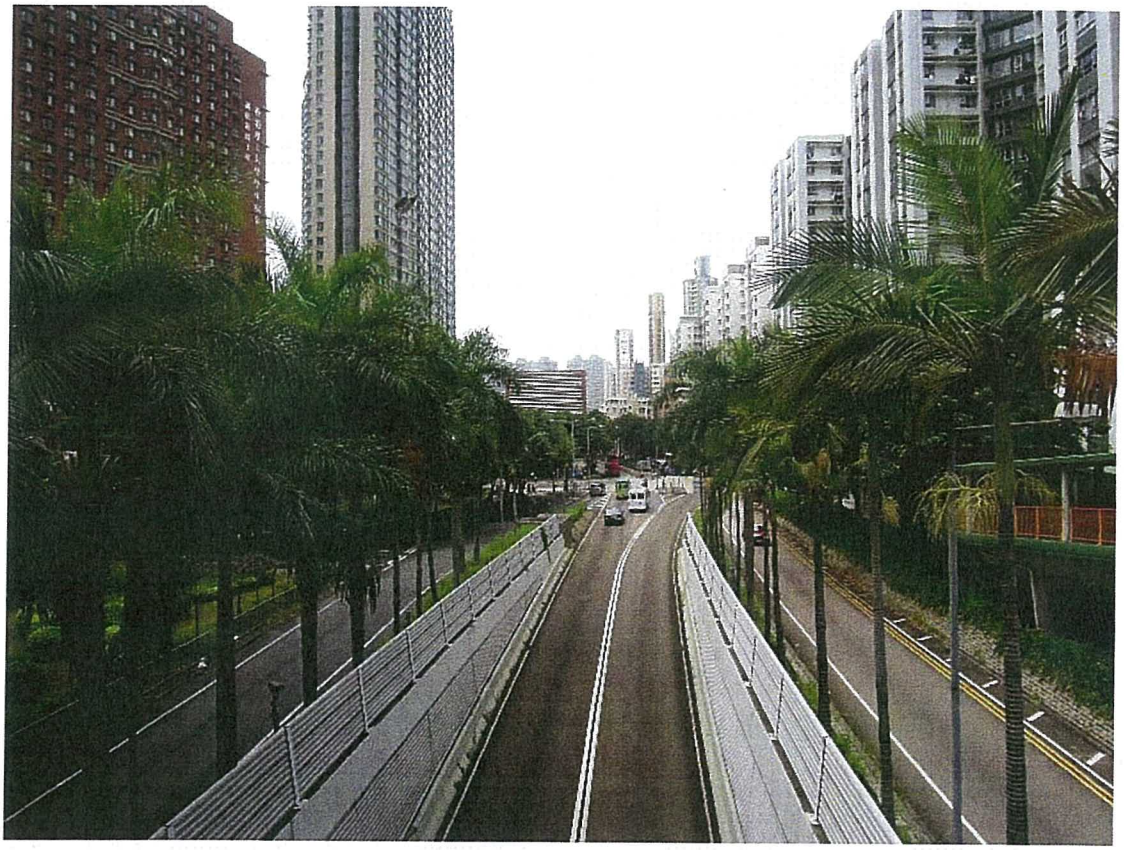

Figure B26: Hung Hom South Road (due Hung Hom)

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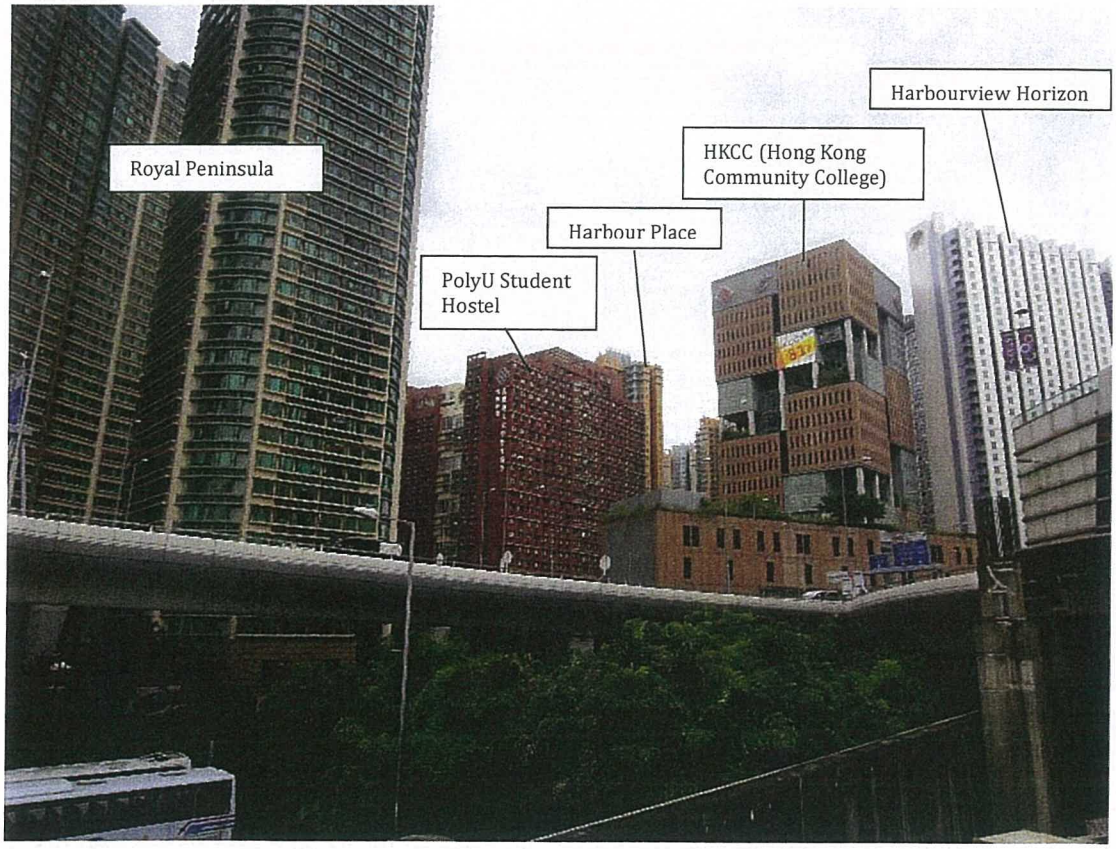

Figure B28: High-rise developments at Hung Hom Bay

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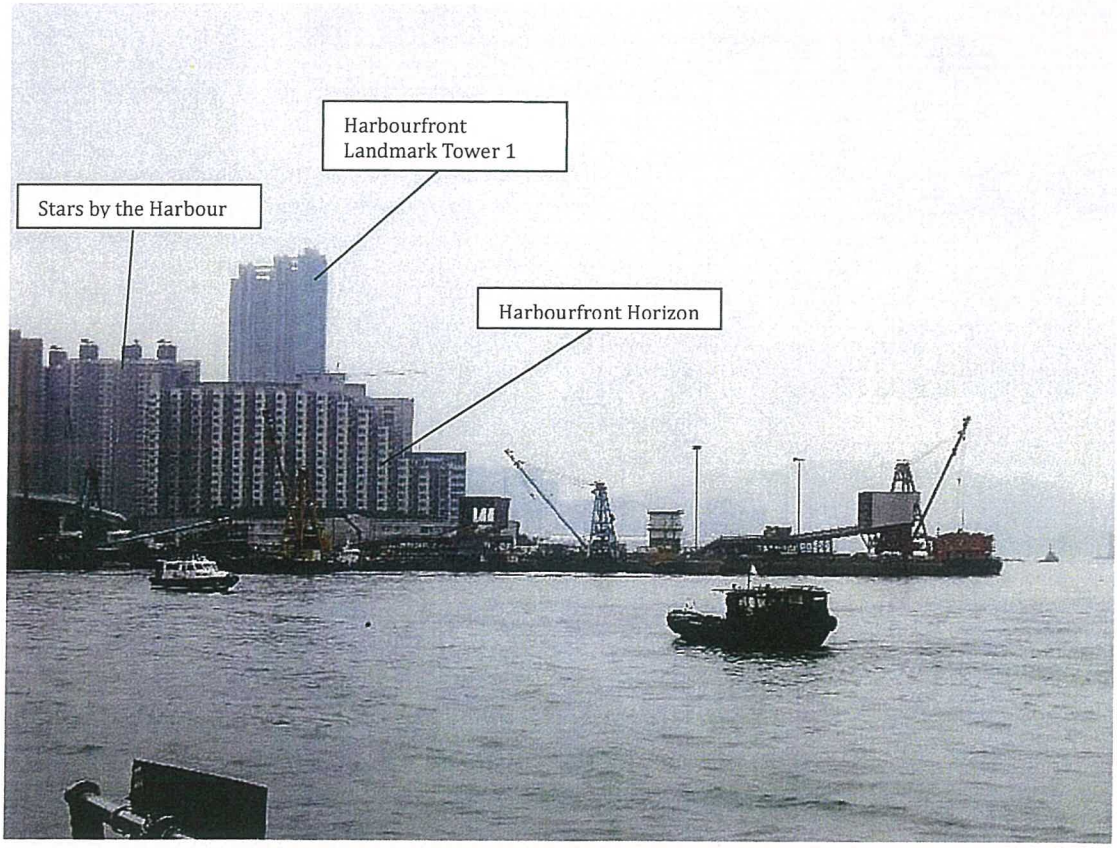

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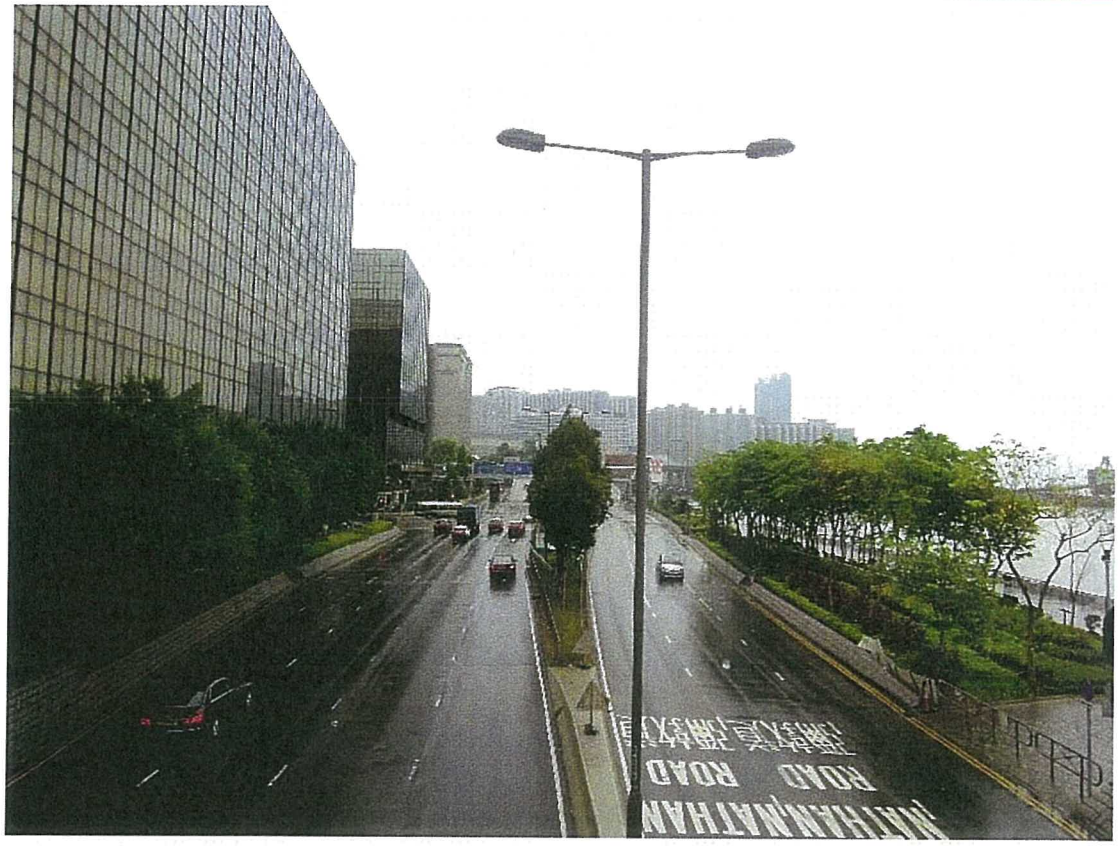

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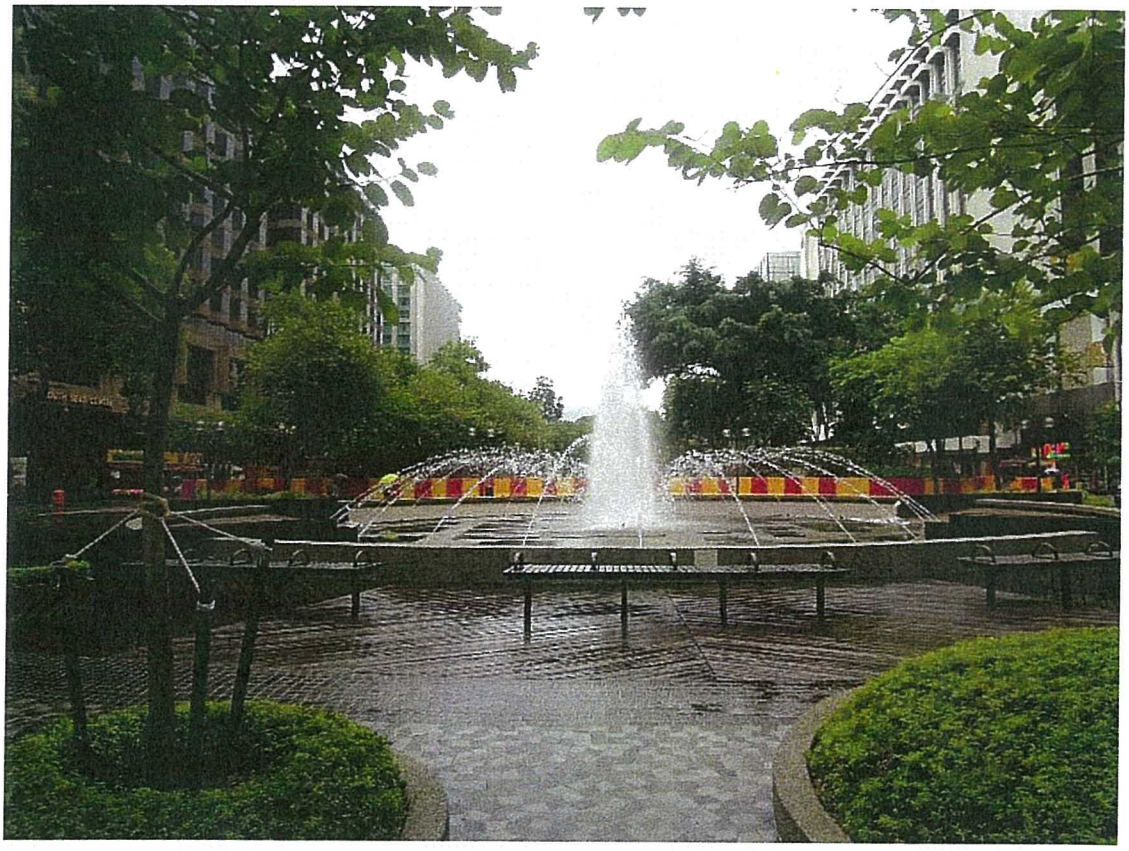

Figure B42: Centenary Garden near Mody Road

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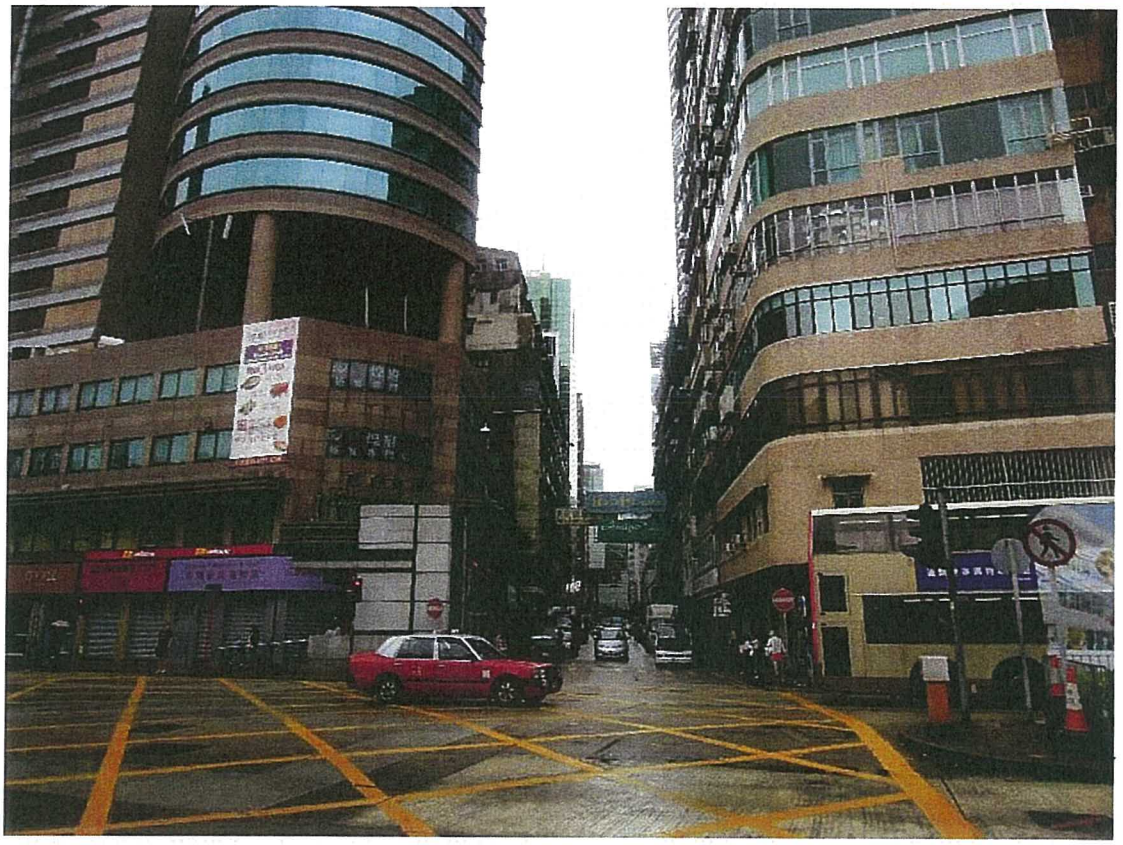

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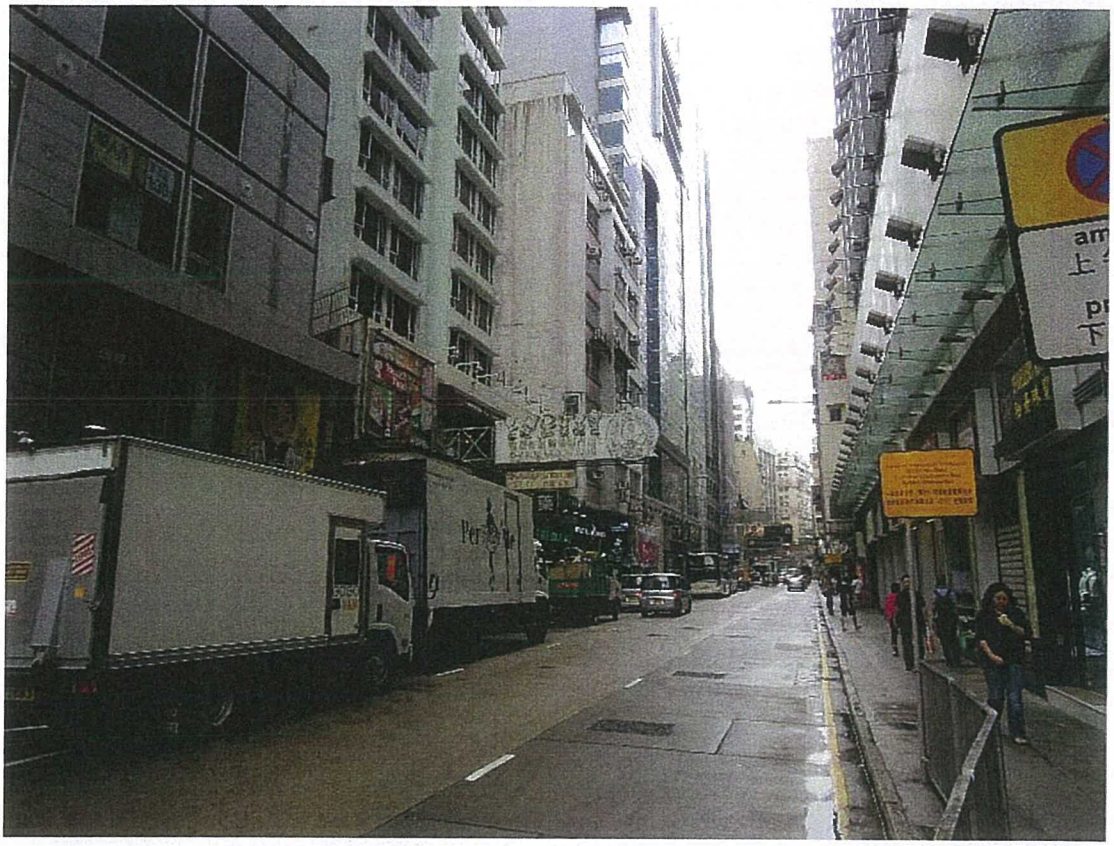

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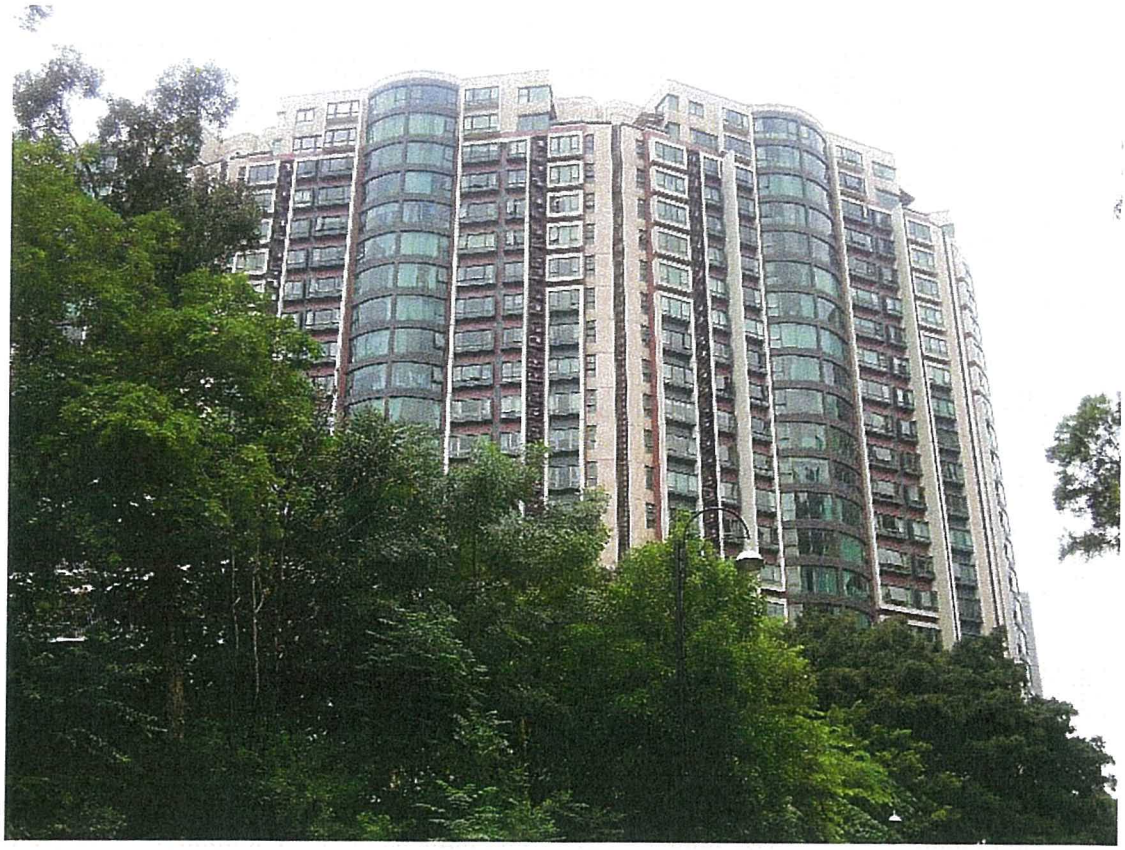

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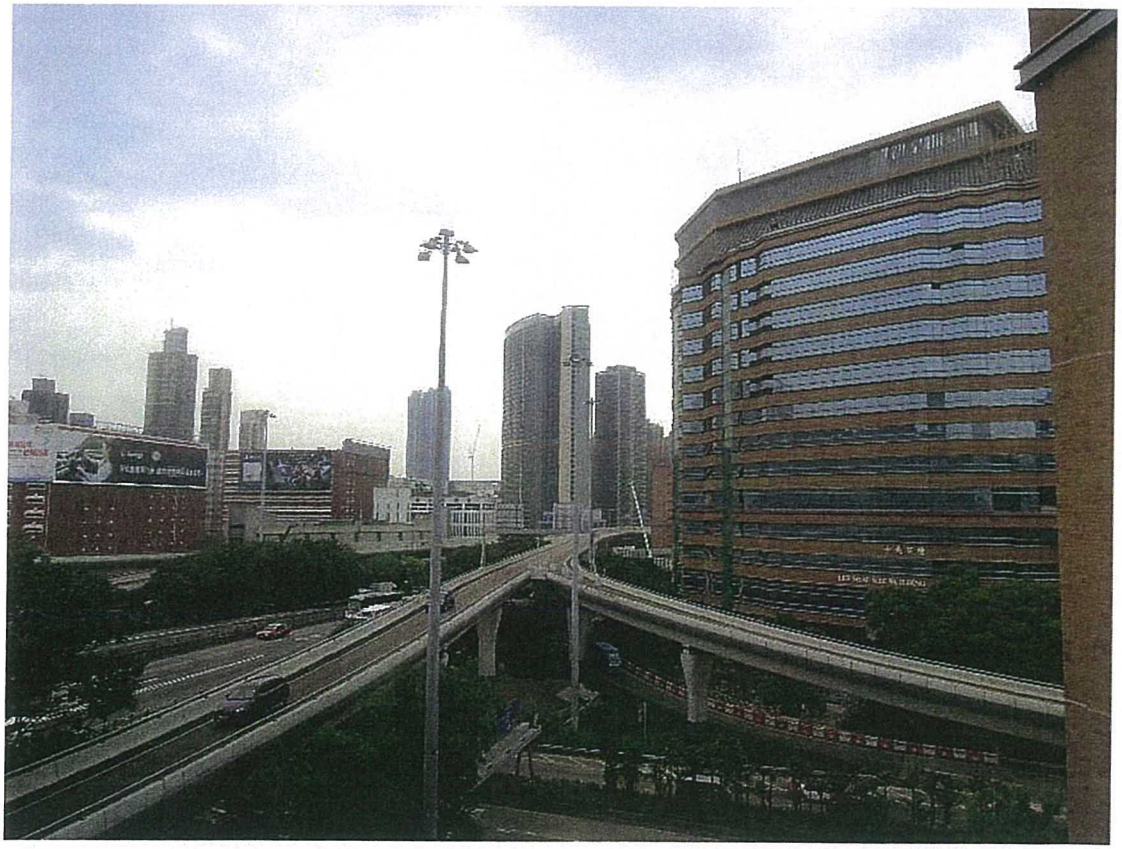

Figure B72: Hong Chong Road (due Cross Harbour Tunnel)

Annex F

Distribution List (as below)

Our Ref: CHK50076010/TKM/L1402040/sys

Proposed TTMS for the Pedestrian Footbridge Linkage between Main Campus and Phase 8 Development, The Hong Kong Polytechnic University

11th December 2014

Dear Sirs,

We refer to the ad-hoc meeting held with Police and Transport Department on 13th November 2014 regarding the captioned project, we would like to submit the Construction Traffic Impact Assessment (CTIA) Report with the latest set of Temporary Traffic Management Schemes (TTMS) which have already incorporated the comments given in the meeting and the minutes of meeting for your reference.

Should you have any queries, please feel free to contact the undersigned at 2864 6452.

Thank you for your kind attention.

Yours faithfully,

Gary Tsui
Associate

encl.

Distribution List

Dept/Company	Name
HKPF/Traffic Kln W/RMO	Mr. K.F. Chan
TD/TE/Kln/Yau Tsim	Mr. S.K. Tai
MVA	TKM, HWL

MVA Hong Kong Limited
14/F West • Warwick House • TaiKoo Place • 979 King's Road • Island East • Hong Kong
Tel +852 2529 7037 • Fax +852 2527 8490 • www.mvaasia.com

12/12/2014

Proposed TTMS for the Pedestrian Footbridge Linkage between Main Campus and Phase 8 Development, The Hong Kong Polytechnic University

Reference number CHK50076010

CONSTRUCTION TRAFFIC IMPACT ASSESSMENT REPORT

MVA
SYSTRA GROUP

IDENTIFICATION TABLE	
Client/Project owner	Wong & Ouyang (Civil-Structural Engineering) Ltd
Project	Proposed TTMS for the Pedestrian Footbridge Linkage between Main Campus and Phase 8 Development, The Hong Kong Polytechnic University
Type of document	Construction Traffic Impact Assessment Report
Date	12/12/2014
File name	PolyU_FB_Connection_CTIA_20141212
Reference number	CHK50076010

APPROVAL					
Version	Name		Position	Date	Modifications
1	Author	Gary Tsui	Associate	12/12/2014	
	Checked by	Edmund Kwok	Associate Director	12/12/2014	
	Approved by	Chapman Lam	Director	12/12/2014	

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1.1 Background

1.1.1 In order to enhance and facilitate smooth pedestrian traffic between the main campus and the Phase 8 Development of the Hong Kong Polytechnic University (PolyU) in the long run, PolyU proposed to construct a pedestrian footbridge connecting between the main campus and Phase 8 Development.

1.1.2 MVA Hong Kong Limited (MVA) was commissioned by Wong & Ouyang (Civil-Structural Engineering) Ltd to conduct a Construction Traffic Impact Assessment (CTIA) study in support of the construction works which would involve partial closure of Chatham Road South at night time for the construction and connection works of the footbridge across Chatham Road South.

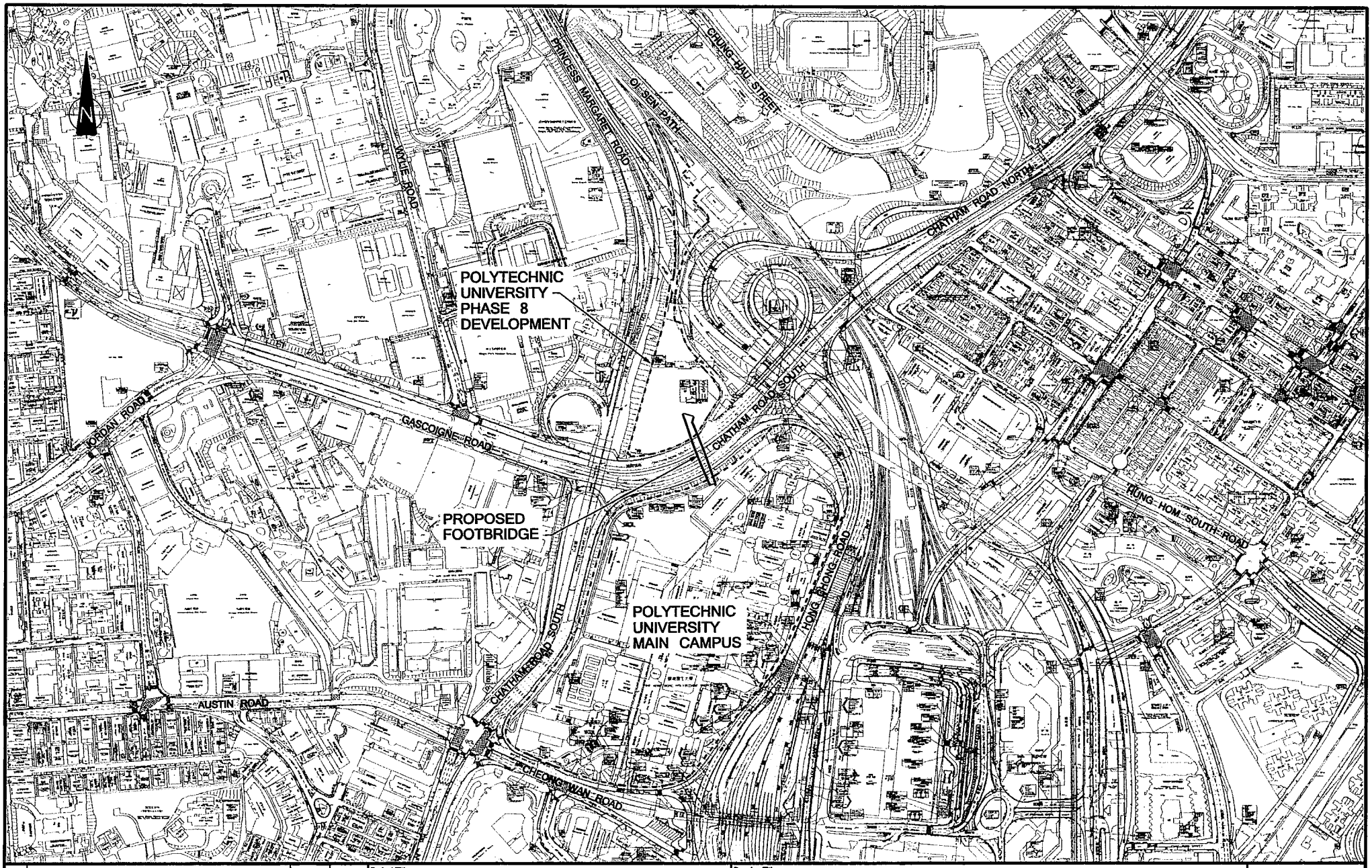
1.1.3 **Drawing No. 1.1** shows the location of the proposed pedestrian footbridge across Chatham Road South.

1.1.4 The draft Temporary Traffic Management Schemes (TTMS) for the construction works of the pedestrian footbridge linkage have been presented to the Transport Department (TD) and Hong Kong Police Force (HKPF) on a ad-hoc meeting on 13 November 2014. TD and HKPF had no objection in principle on all the proposed TTMS for the proposed footbridge construction and connection works. According to the comments received from TD and Police in the ad-hoc meeting, relevant TTM schemes have been revised accordingly and are presented in this CTIA Report. The minutes of the ad-hoc meeting are attached in **Appendix A**.

1.2 Study Objectives

1.2.1 The main objectives of the study are as follows:

- to assess the traffic impacts to the adjacent road network during the footbridge construction and connection works at Chatham Road South during different night time periods; and
- to prepare detailed TTMS and traffic diversion schemes to minimize the traffic disruption during night time construction period.



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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

LOCATION PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	1.1	-

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CHK50076010/TIA/F11.DGN/TUV/06NOV14

2. EXISTING TRAFFIC CONDITION

2.1 Existing Road Network

2.1.1 The affected section of Chatham Road South is a primary distributor running in east-west direction. Its connect Gascoigne Road to the west and Chatham Road North to the east. It is a dual carriageway with four traffic lanes for eastbound traffic and five traffic lanes with an elevated road connected from Princess Margaret Road Link.

2.1.2 According to "Guidelines on Traffic Impact Assessment & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes", the affected section of Chatham Road South is classified as "Pink Route" and "TIA required" categories.

2.1.3 The existing road network in the vicinity of Chatham Road South is shown in **Drawing No. 2.1**. The access arrangements for both Chatham Road South eastbound and westbound traffic are illustrated in **Drawing Nos. 2.2** and **2.3**, respectively.

2.2 Traffic Survey

2.2.1 In order to investigate the traffic impact to the surrounding road network of the proposed footbridge construction and connection works, a manual classified traffic surveys were conducted at the affected section of Chatham Road South as shown in **Drawing No. 2.4** and the surveyed road links are summarized in **Table 2.1**.

Table 2.1 Surveyed Road Links

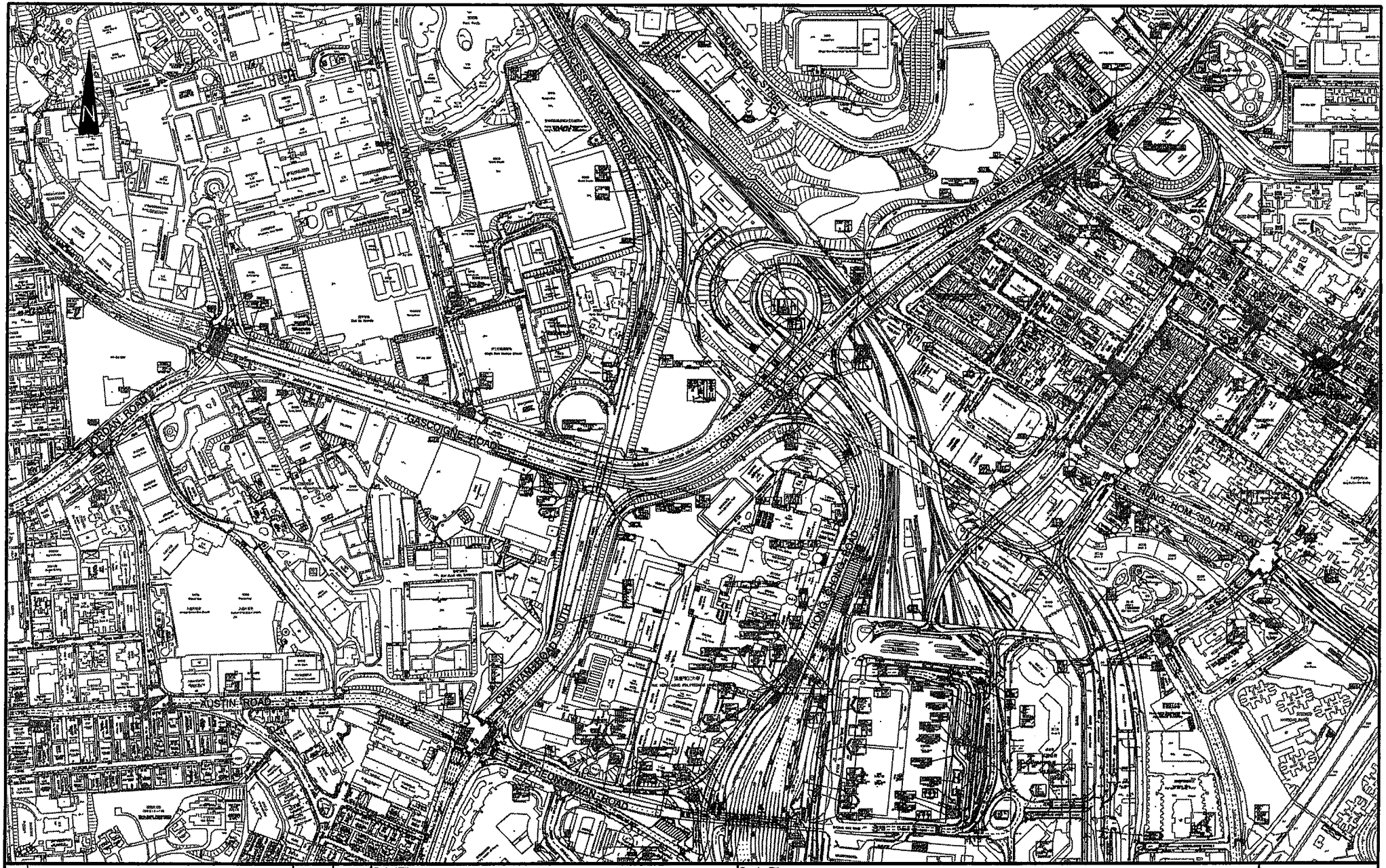
ROAD LINK	ROAD NAME	TRAFFIC BOUND	EXISTING NO. OF TRAFFIC LANE
RL1	Gascoigne Road (at-grade)	Eastbound	2
RL2	Gascoigne Road Flyover	Eastbound	2
RL3	Elevated slip road from Chatham Road South Flyover	Eastbound	1
RL4	Chatham Road South	Eastbound	4
RL5	Chatham Road South	Westbound	4
RL6	Elevated slip road from Princess Margaret Road Link	Westbound	1
RL7	Gascoigne Road Flyover	Westbound	2
RL8	Gascoigne Road (at-grade)	Westbound	2
RL9	Chatham Road South	Southbound	1
RL10	Chatham Road South	Northbound	1
RL11	Slip road from Hong Chong Road northbound to Chatham Road	Westbound	2

	South westbound		
RL12	Chatham Road South (from Chatham Road North only)	Westbound	2

2.2.2 To minimize the traffic impact in the vicinity of Chatham Road South during the footbridge construction and connection works, the proposed works would be carried out during night time period only. The survey periods and observed peak periods for the surveys are summarized in **Table 2.2**. **Drawing No. 2.5** indicates the observed mid-night hour traffic flows for traffic assessment.

Table 2.2 Traffic Survey Dates and Periods

SURVEY DATE	SURVEY PERIOD	PEAK PERIOD
06 Nov 2014 (Thursday midnight / Friday morning)	23:59 – 06:00	23:59 – 01:00
09 Nov 2014 (Sunday midnight / Monday morning)	23:59 – 06:00	23:59 – 01:00
22 Nov 2014 (Saturday midnight / Monday morning)	23:59 – 06:00	23:59 – 01:00



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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

EXISTING ROAD NETWORK

Designed	Checked	Scale	Date	Drawing No.	Rev.
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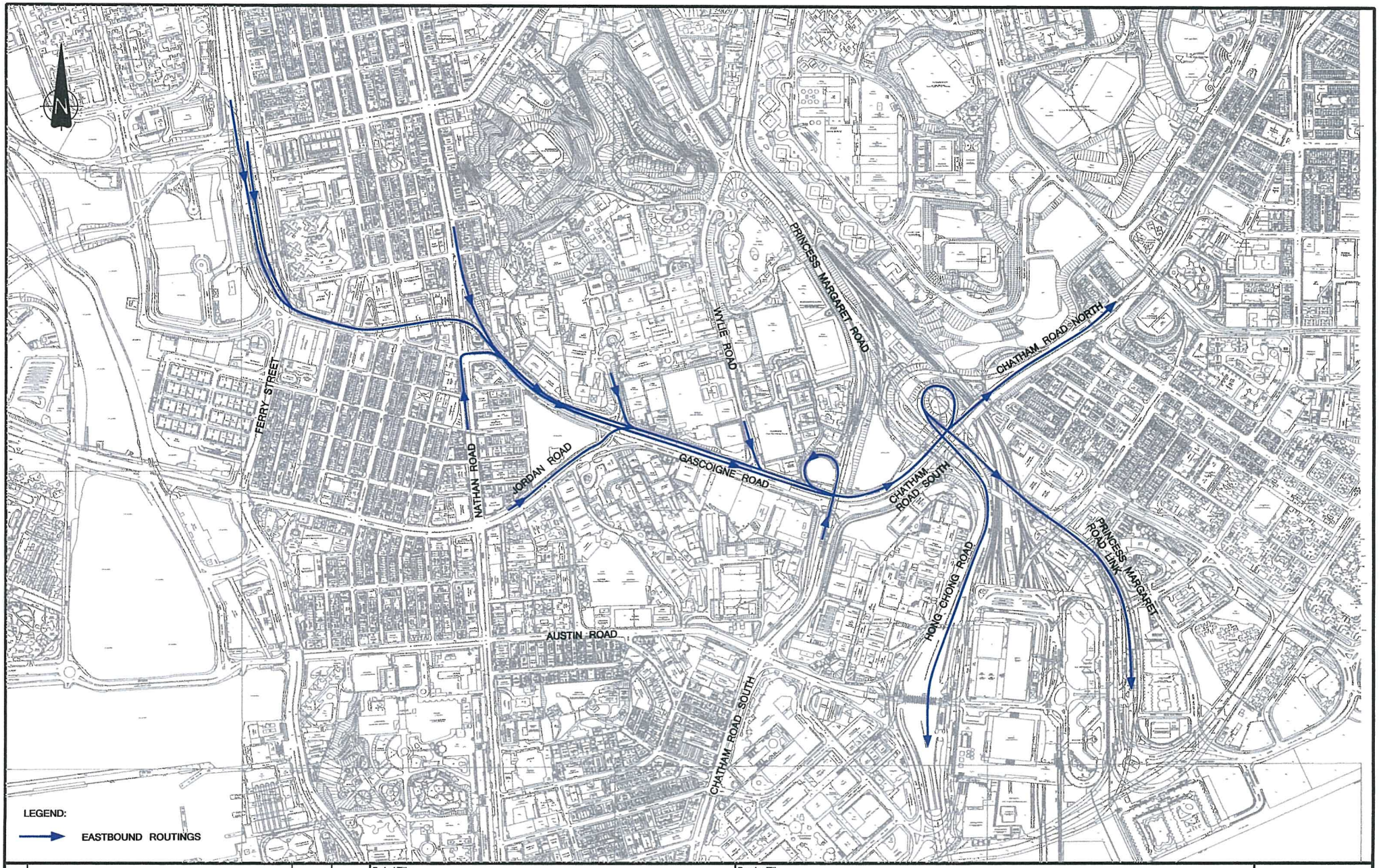

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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

CHATHAM ROAD SOUTH EASTBOUND TRAFFIC ARRANGEMENT

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MVA SYSTRA GROUP

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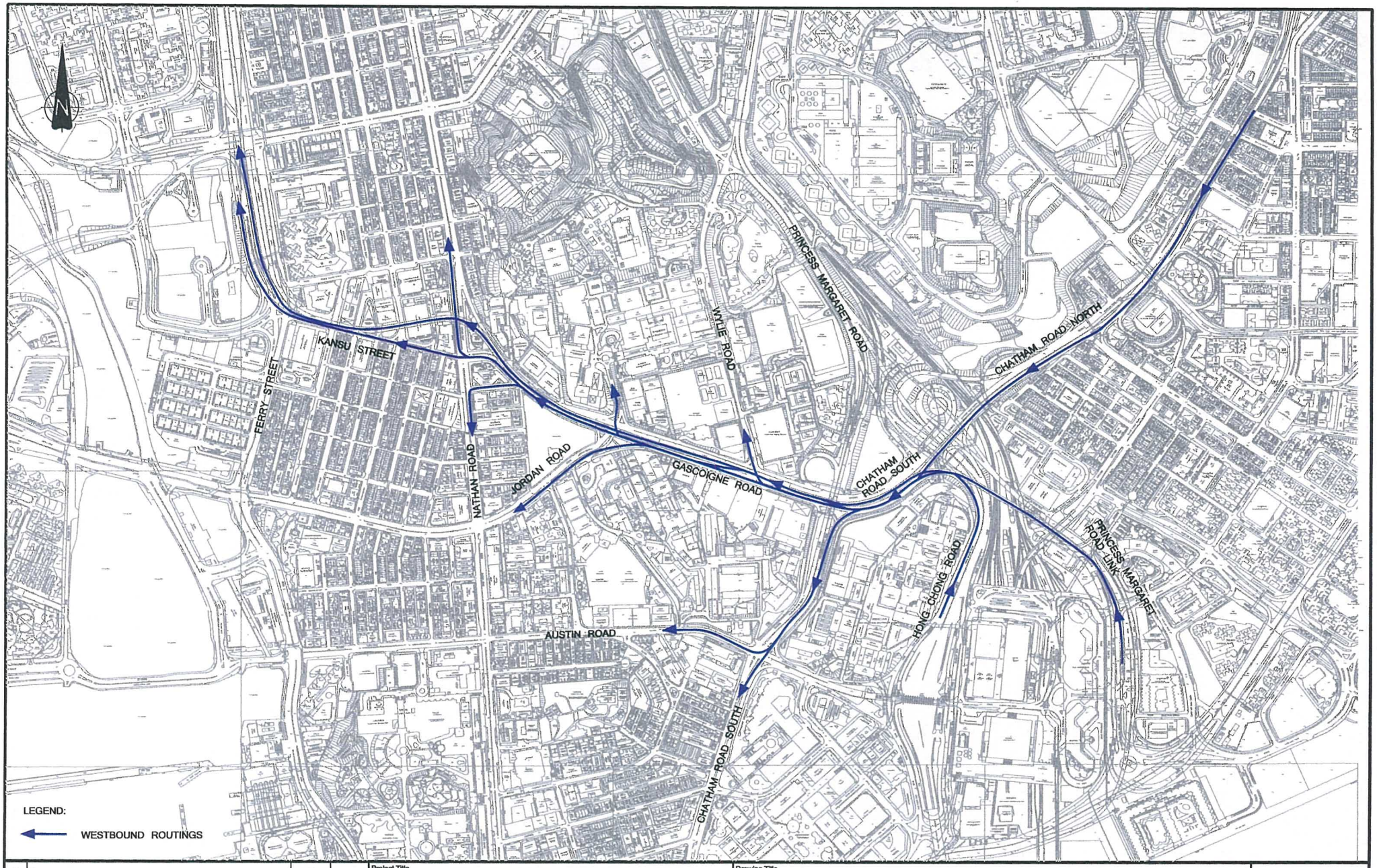

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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

CHATHAM ROAD SOUTH WESTBOUND TRAFFIC ARRANGEMENT

Designed	Checked	Scale	Date	Drawing No.	Rev.
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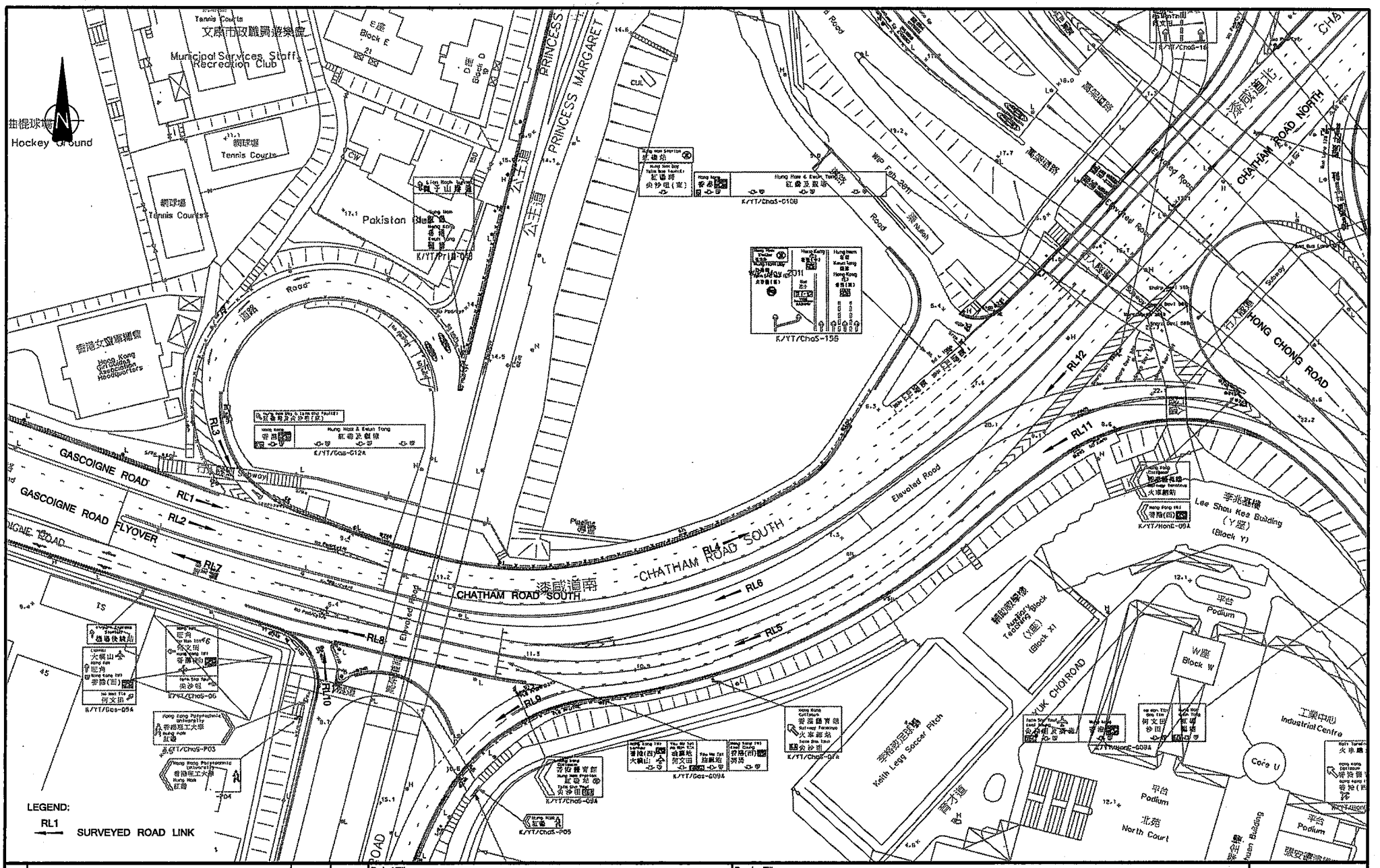

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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SURVEYED ROAD LINK

Designed	Checked	Scale	Date	Drawing No.	Rev.
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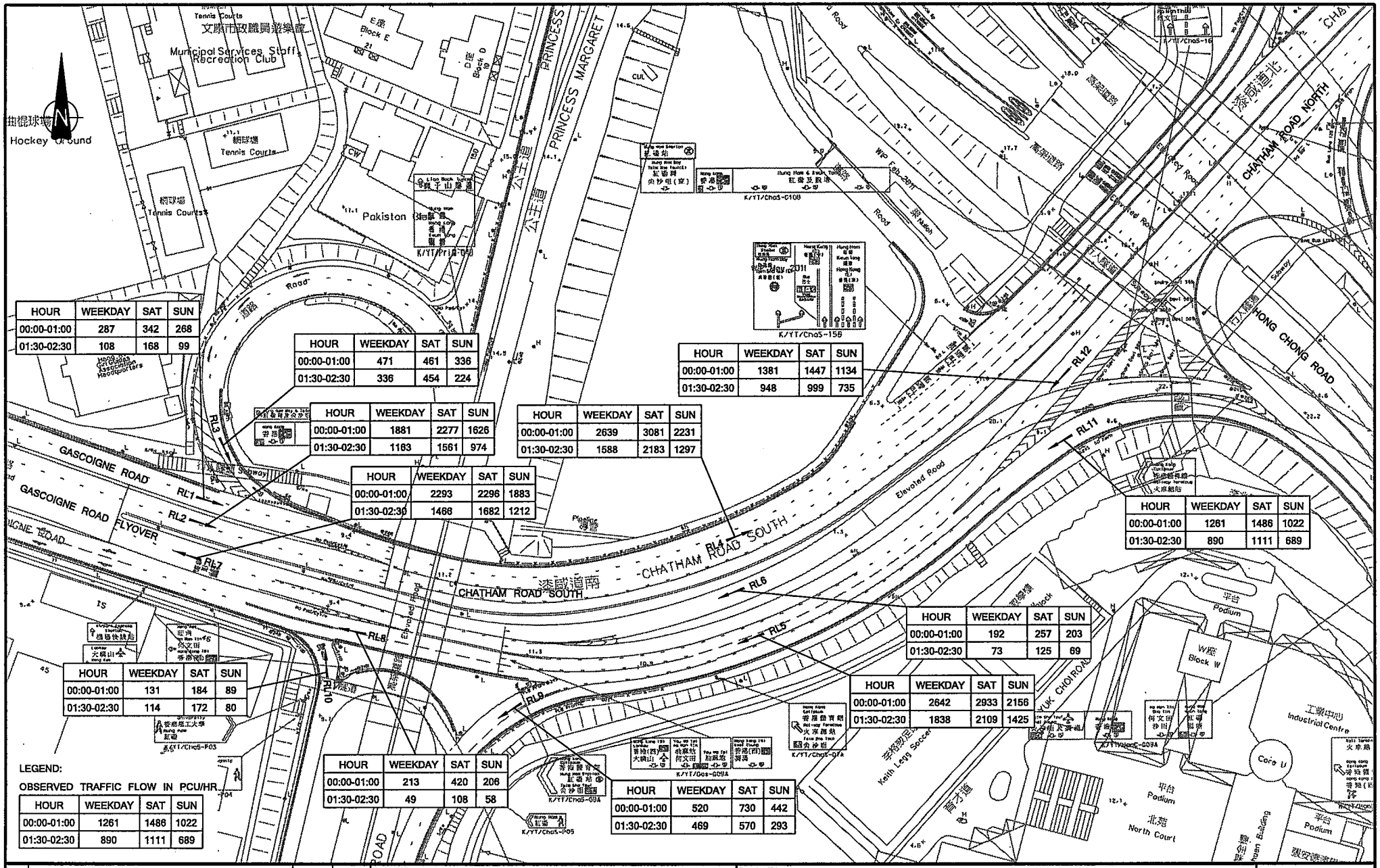

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01:30-02:30	108	168	99

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	336	454	224

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	1183	1561	974

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	1468	1682	1212

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	1588	2183	1297

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01:30-02:30	948	999	735

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	890	1111	689

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	73	125	69

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	1838	2109	1425

HOUR	WEEKDAY	SAT	SUN
00:00-01:00	131	184	89
01:30-02:30	114	172	80

HOUR	WEEKDAY	SAT	SUN
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01:30-02:30	49	108	58

HOUR	WEEKDAY	SAT	SUN
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LEGEND:

OBSERVED TRAFFIC FLOW IN PCU/HR

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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

2014 OBSERVED TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:1000(A3)	DEC 2014	2.5	-

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CHK50076010/TIA/F25.DGN/TUV/11DEC14

3. TEMPORARY TRAFFIC ARRANGEMENT

3.1 General/Key Assumptions

3.1.1 Generally, the proposed road/traffic lane closure as shown in this study would be carried out during night time period only, and appropriate traffic diversion schemes were devised for the affected traffic during the road closure.

3.1.2 The lighting, signing, road marking and guarding of the proposed works will comply with the requirements stated in the "Code of Practice of Lighting, Signing and Guarding of Road Works" published by Highways Department and "Transport Planning and Design Manual (TPDM)" published by Transport Department.

3.2 Proposed Working Procedures

3.2.1 The working procedures for the footbridge construction and connection works at Chatham Road South which require TTMS are summarised in **Table 3.1**.

Table 3.1 Working Procedures for the Footbridge Connection Works

PROCEDURE	TASK	REMARKS
1	Unloading footbridge structures	Refer to **Section 3.3** for details
2	Temporary footbridge support works	Refer to **Section 3.4** for details
3	Footbridge connection works	Refer to **Section 3.5** for details
4	Footbridge false ceiling panel installation works	Refer to **Section 3.6** for details

3.3 Proposed TTMS for Unloading the Footbridge Structures

3.3.1 For safety consideration, in order to provide sufficient buffer zone between the unloading truck and the adjacent traffic lane during the unloading period, the proposed unloading works for footbridge structures would be carried out along the near side and second near side lane of Chatham Road South westbound and eastbound, respectively in 2 stages of TTM scheme. This stage of works is mainly unloading the footbridge parts within the PolyU works area for the later stage of the footbridge connection works. The proposed TTMS for the unloading works are shown in **Drawing Nos. 3.1** and **3.2**, respectively.

Stage 1 (Drawing No. 3.1)

3.3.2 The unloading works would occupy the near side and second near side lanes of Chatham Road South westbound outside the PolyU main campus near Innovation Tower. The works area is approximately 50m in length. During construction, the second far side lane of Chatham Road South westbound with minimum 3.5m wide would be maintained adjacent to

the works area and all the traffic movement along Chatham Road South westbound would be maintained.

Stage 2 (Drawing No. 3.2)

3.3.3 The unloading works would occupy the near side and second near side lanes of Chatham Road South eastbound outside Phase 8 Development. The works area is approximately 50m in length. During construction, the second far side lane of Chatham Road South eastbound connected to Gascoigne Road Flyover would also be closed. Minimum 3.5m wide lane width would be maintained adjacent to the works area and minimum 4m wide lane width would be maintained at the far side lane for the traffic from Gascoigne Road Flyover. All the traffic movement along Chatham Road South eastbound would also be maintained.

3.4 Proposed TTMS for Temporary Footbridge Support Works

3.4.1 In order to avoid any full road closure at Chatham Road South during the footbridge connection works, a temporary footbridge support would be constructed in the middle of Chatham Road South to support the footbridge which would be connected into 2 stages. The footbridge connection works would be carried out in one traffic bound at a time and would be carried out in four nights to complete the footbridge connection between the PolyU main campus and Phase 8 Development. This temporary support would be located at the existing planter area adjacent to Chatham Road South westbound and would be situated at the planter area for minimum 4 weeks until the footbridge connection works is completed.

Stage 1 (Drawing No. 4.1)

3.4.2 A section of the footpath to be extended on the existing slope outside the PolyU main campus near Innovation Tower for the later stage of the kerb side setting back works. During construction, existing footpath width adjacent to the works area would be maintained and no traffic lane along Chatham Road South would be affected.

Stage 2 (Drawing No. 4.2)

3.4.3 A section of the footpath to be set back in order to provide sufficient length width for Chatham Road South traffic with the temporary support in place during works. During construction, a section of the existing footpath would be closed and affected pedestrian would be diverted to the temporary footpath path with minimum 2m wide which constructed in Stage 1 as mentioned on above. Minimum 3.5m wide lane width would be maintained adjacent to the works area for traffic.

Stage 3 (Drawing No. 4.3)

3.4.4 The temporary traffic arrangement with the temporary footbridge support is shown in **Drawing No. 4.3**. During this period, the alignment of Chatham Road South westbound would be minor shifted southwards, while the existing number of traffic lanes would be maintained along Chatham Road South westbound. The swept path analysis for 12m long vehicles manoeuvring along the critical section of Chatham Road South westbound is attached in **Appendix C** for reference.

3.5 Proposed TTMS for Footbridge Connection Works

3.5.1 For the footbridge connection works between the PolyU main campus and Phase 8 Development, in order to avoid any live traffic access along Chatham Road South below the connection works, the affected bound of Chatham Road South which between Gascoigne Road and the elevated slip road from Princess Margaret Road Link would need to be fully closed for safety consideration.

Stage 1 (Drawing No. 5.1)

3.5.2 To minimise the traffic diversion during each bound of Chatham Road South closure, two sections of the central divider along Chatham Road South would be demolished before the connection works as shown in **Drawing No. 5.1** in order to provide the contra flow temporary traffic arrangement to maintain both bound of traffic during the footbridge connection works. During construction, the far side lane of Chatham Road South eastbound would be closed and minimum 3.5m wide lane width would be maintained adjacent to the works area for traffic.

Stage 2 (Drawing Nos. 5.2 to 5.4)

3.5.3 The whole section of Chatham Road South eastbound carriageway and the elevated slip road from Princess Margaret Road Link to Chatham Road South westbound would be closed for the footbridge connection works across Chatham Road South eastbound carriageway. In order to maintain the traffic movement in Chatham Road South eastbound, contra-flow traffic arrangement would be adopted in Chatham Road South westbound carriageway. The existing far side traffic lane of Chatham Road South westbound carriageway would be temporarily converted to a eastbound carriageway with minimum 4m wide.

3.5.4 Traffic from Gascoigne Road eastbound (both flyover and at-grade) would be diverted via the temporary opening at the central divider of Chatham Road South to the opposite side of Chatham Road South and then via another temporary opening at the central divider of Chatham Road South back to Chatham Road South eastbound carriageway as shown in **Drawing No. 5.2**.

3.5.5 Traffic from Princess Margaret Road Link to Chatham Road South/ Gascoigne Road would be temporarily not allowed during Stage 2. The affected traffic would be diverted via Princes Margaret Road and Wylie Road back to Gascoigne Road as shown in **Drawing No. 5.3**.

3.5.6 For safety consideration, the section of footpath along Chatham Road South eastbound adjacent to Phase 8 would be temporarily closed during footbridge connection. Affected pedestrians would be diverted via the subway to the PolyU main campus or the existing pedestrian crossing at junction of Gascoigne Road/ Wylie Road to the opposite side of footpath and bypass the works area. On-site workers would assist pedestrians bypass the works area during footpath closure. The proposed pedestrian diversion routings are shown in **Drawing No. 5.4**.

3.5.7 The swept path analysis for 16.5m long vehicle manoeuvring along Chatham Road South under the temporary contra-flow traffic arrangement in Stage 2 is attached in **Appendix C** for reference.

Stage 3 (Drawing Nos. 5.5 to 5.7)

3.5.8 The whole section of Chatham Road South westbound carriageway, the elevated slip road from Princess Margaret Road Link to Chatham Road South westbound and the slip road from Hong Chong Road northbound to Chatham Road South westbound would be closed for the footbridge connection works across Chatham Road South westbound carriageway. In order to maintain the traffic movement in Chatham Road South westbound, contra-flow traffic arrangement would be adopted in Chatham Road South eastbound carriageway. The existing far side and the second far side traffic lane of Chatham Road South eastbound carriageway would be temporarily converted to a single lane westbound carriageway with minimum 4m wide.

3.5.9 Traffic from Chatham Road North westbound would be diverted via the temporary opening at the central divider of Chatham Road South to the opposite side of Chatham Road South and then via another temporary opening at the central divider of Chatham Road South back to Chatham Road South westbound carriageway as shown in **Drawing No. 5.5**.

3.5.10 Traffic from Princess Margaret Road Link or Hong Chong Road northbound to Gascoigne Road westbound would be temporarily not allowed during Stage 3. The affected traffic would be diverted via Princes Margaret Road and Wylie Road back to Gascoigne Road as shown in **Drawing No. 5.6**.

3.5.11 Traffic from Chatham Road North westbound or Hong Chong Road northbound would not be allowed to reach Chatham Road South (Tsim Sha Tsui bound) under Stage 3. The affected traffic would be diverted via Hong Chong Road southbound, Salisbury Road southbound, Hong Chong Road northbound, Hong Tat Path westbound and Cheong Wan Road westbound back to Chatham Road South (Tsim Sha Tsui bound) as shown in **Drawing No. 5.6**.

3.5.12 For safety consideration, a section of footpath along Chatham Road South westbound adjacent to main campus would be temporarily closed during footbridge connection. Affected pedestrians would be diverted via the subway to the PolyU main campus or the existing pedestrian crossing at junction of Gascoigne Road/ Wylie Road to the opposite side of footpath and bypass the works area. On-site workers would assist pedestrians bypass the works area during footpath closure. The proposed pedestrian diversion routings are shown in **Drawing No. 5.7**.

3.5.13 The swept path analysis for 16.5m long vehicle manoeuvring along Chatham Road South under the temporary contra-flow traffic arrangement in Stage 2 is attached in **Appendix C** for reference.

3.6 Proposed TTMS for False Ceiling Panel Installation Works

Stage 1 (Drawing No. 6.1)

3.6.1 The works would be occupied the near side and second near side lanes of Chatham Road South westbound outside the PolyU main campus near Innovation Tower. The works area is approximately 20m in length. During construction,the second far side lane of Chatham Road

South westbound with minimum 3.5m wide would be maintained adjacent to the works area and all the traffic movement along Chatham Road South westbound would be maintained.

Stage 2 (Drawing No. 6.2)

3.6.2 The works would be moved to the north and occupied the third and far side lanes and the planter of Chatham Road South westbound. The works area is approximately 20m in length. During construction, the second near side lanes of Chatham Road South westbound with minimum 3.5m wide would be maintained adjacent to the works area and all the traffic movement along Chatham Road South westbound would be maintained.

Stage 3 (Drawing No. 6.3)

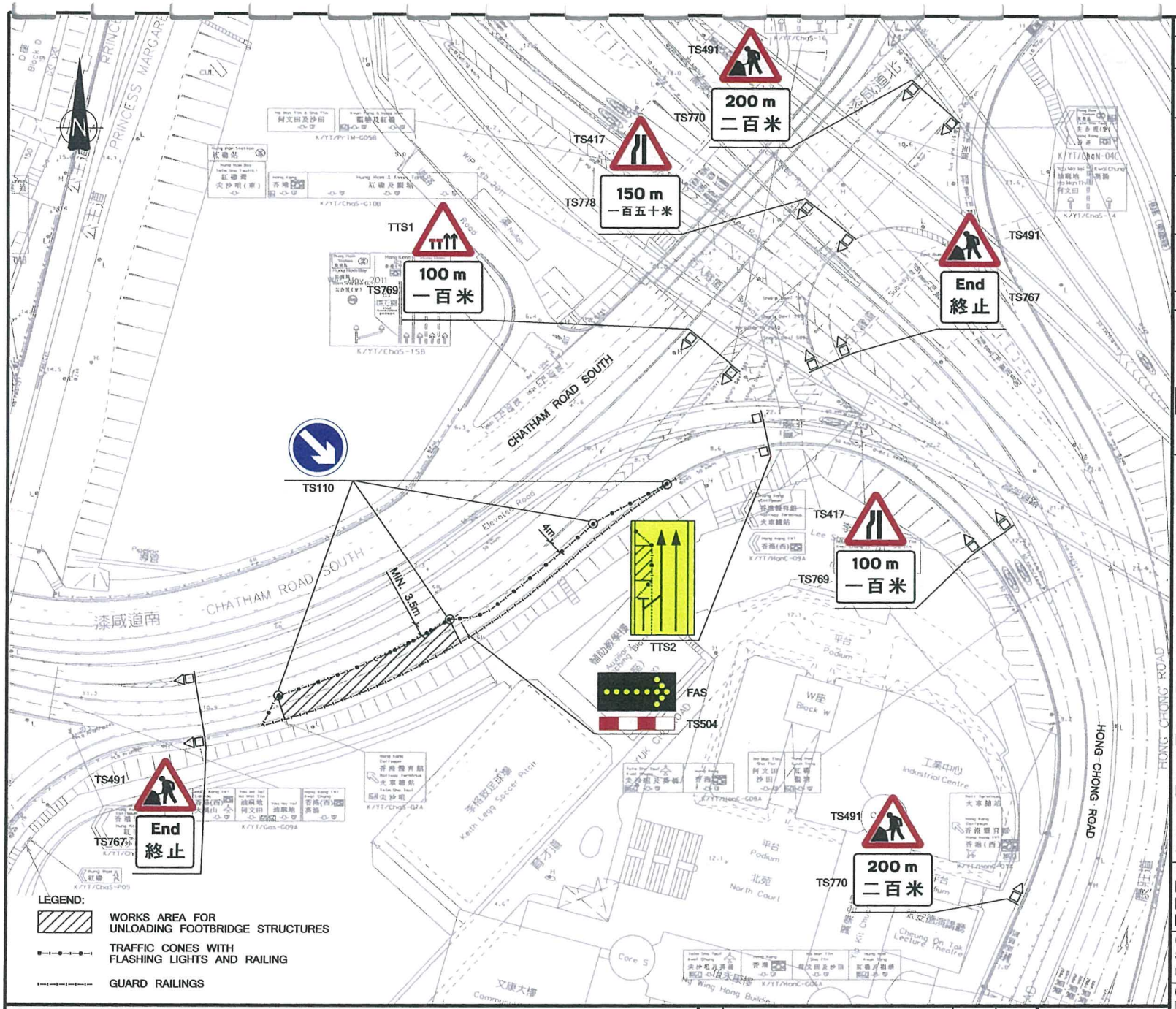
3.6.3 The works would be moved to the north and occupied the elevated road of Princess Margaret Road Link and the central divider of Chatham Road South eastbound. The works area is approximately 25m in length. During construction, the elevated road of Princess Margaret Road Link would be closed and the affected traffic would be diverted via Princess Margaret Road, Wylie Road and back to Gascoigne Road as shown in the proposed diversion route in **Drawing No. 6.4**. Both far side lanes of Chatham Road South eastbound and westbound with minimum 3.5m wide would be maintained adjacent to the works area. In addition, no traffic lanes would be affected at Chatham Road South eastbound and westbound traffic.

Stage 4 (Drawing No. 6.5)

3.6.4 The works would be moved to the north and occupied the third and far side lanes of Chatham Road South eastbound. The works area is approximately 20m in length. During construction, the far side lane of Chatham Road South eastbound connected to Gascoigne Road Flyover would also be closed. The second near side lanes of Chatham Road South eastbound with minimum 3.5m wide would be maintained adjacent to the works area and minimum 4m wide lane width would be maintained at the second far side lane for the traffic from Gascoigne Road Flyover. All the traffic movement along Chatham Road South eastbound would be maintained.

Stage 5 (Drawing No. 6.6)

3.6.5 The works would be moved to the north and occupy the near side and second near side lanes of Chatham Road South eastbound outside Phase 8 Development. The works area is approximately 20m in length. During construction, the second far side lane of Chatham Road South eastbound connected to Gascoigne Road Flyover would also be closed. Minimum 3.5m wide lane width would be maintained adjacent to the works area and minimum 4m wide lane width would be maintained at the far side lane for the traffic from Gascoigne Road Flyover. All the traffic movement along Chatham Road South eastbound would also be maintained.



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 3.1 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR UNLOADING FOOTBRIDGE STRUCTURE - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☐ 24hrs ☐ 10-16 ☐ 22-06 ☑ Others: 00:00 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 NIGHTS

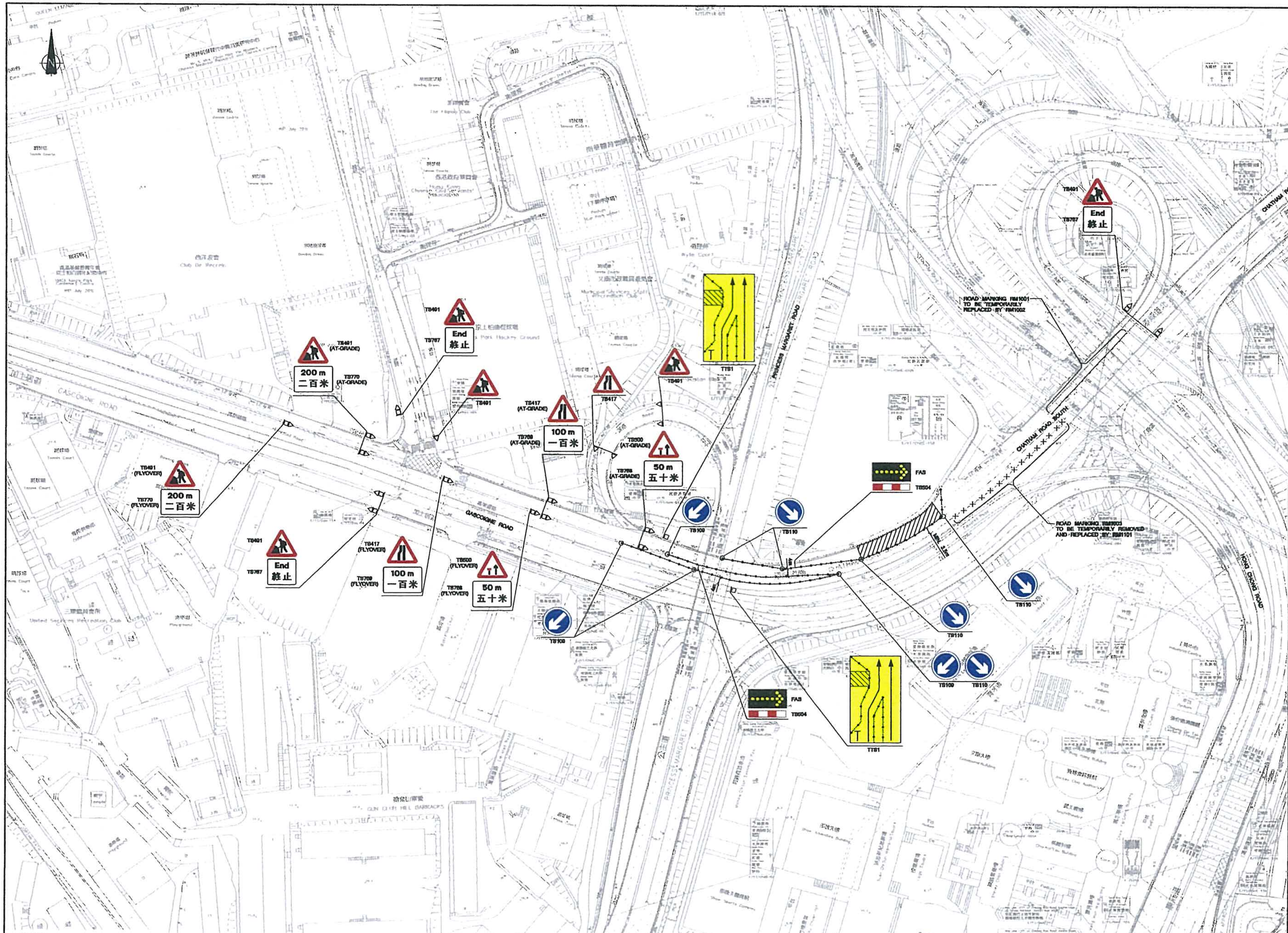
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	26NOV14

MVA SYSTRA GROUP

CHK50076010/TIA/F31-A.DGN/HJQ/28NOV14



LEGEND:

- WORKS AREA FOR UNLOADING FOOTBRIDGE STRUCTURES
- TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
- GUARD RAILINGS

(13) For TD / Police use:

☐ Agreed ☐ Not agreed ☐ Revision required

Comments:

Rev	Description	Checked	Date
-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	24NOV14

MVA SYSTRA GROUP

(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2894 0402

(7) TMLG meeting date: -

(8) Drawing No.: 3.2 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR UNLOADING FOOTBRIDGE STRUCTURES - STAGE 2

Date: NOV 2014 Scale: 1 : 1000 (A1)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total & Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 6m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

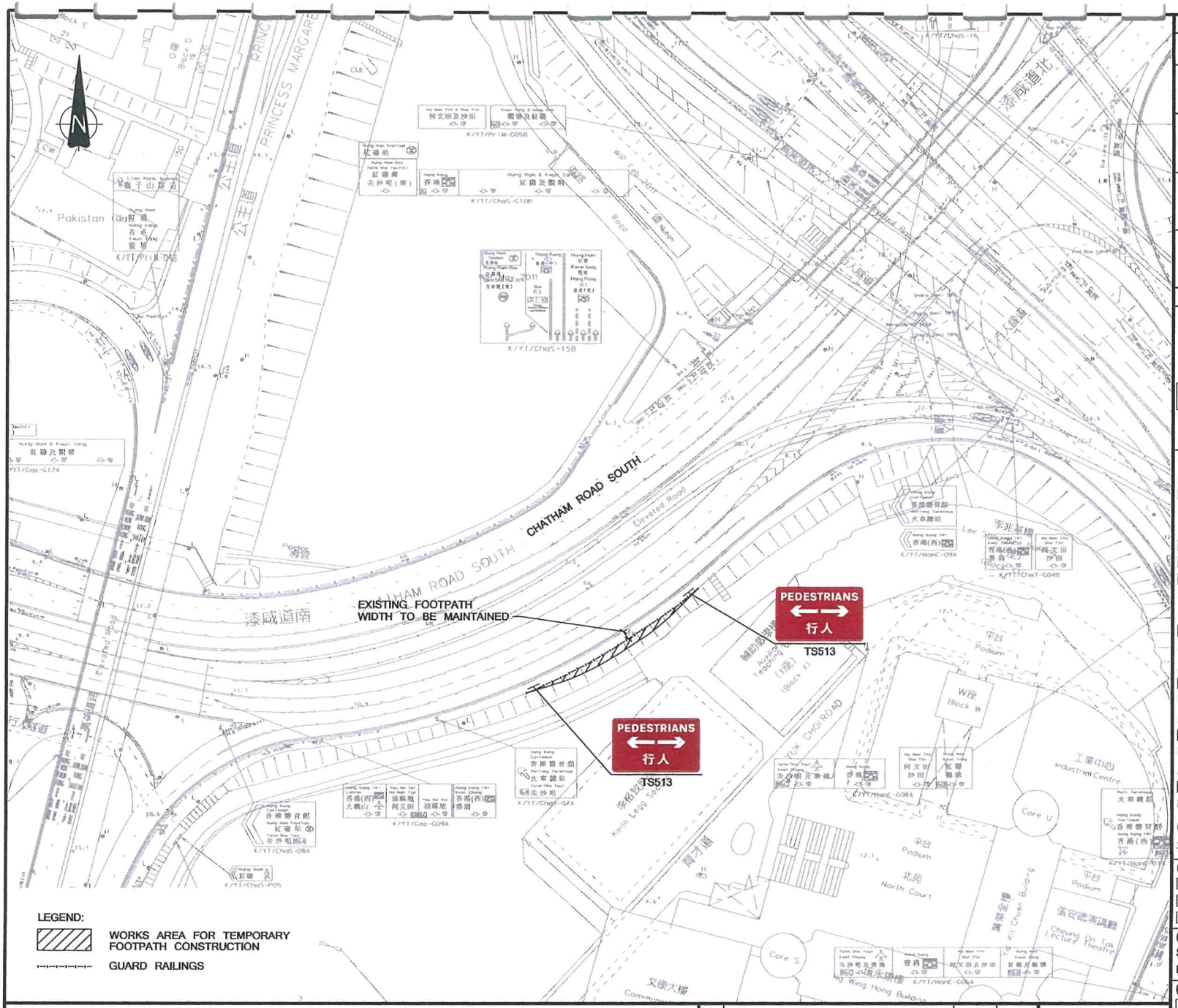
(F) Implementation hours / days of week:
☐ 24hrs ☐ 10-16 ☐ 23-05 ☑ Others: 01:30 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 NIGHTS

(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.1 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 DAYS

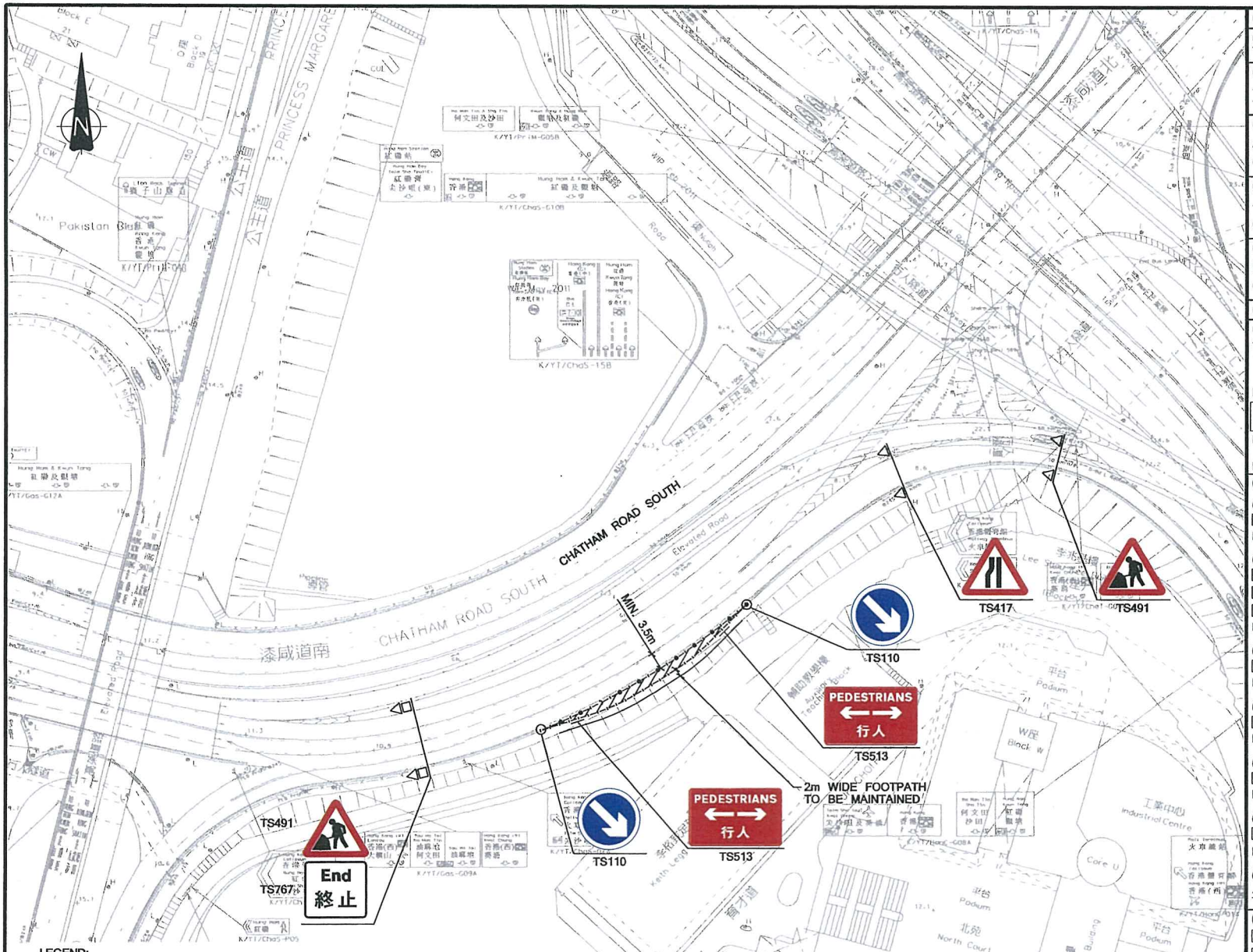
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	01DEC14

MVA SYSTRA GROUP

CHK50076010/TIA/F41-A.DGN/CYC/01DEC14



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.2 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 2

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 DAYS

(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	01DEC14

MVA SYSTRA GROUP

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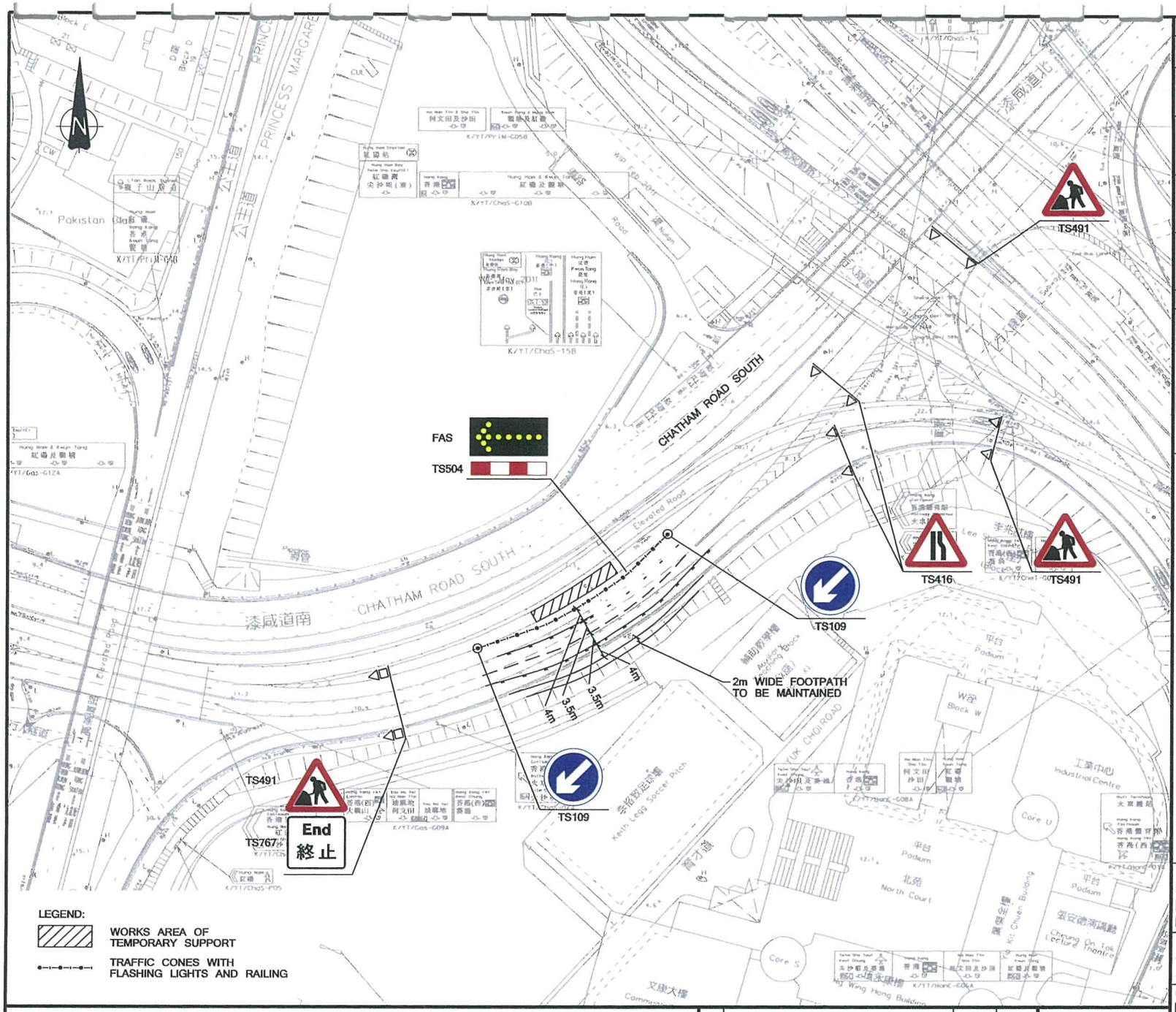

(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.3 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 3

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 WEEKS

(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
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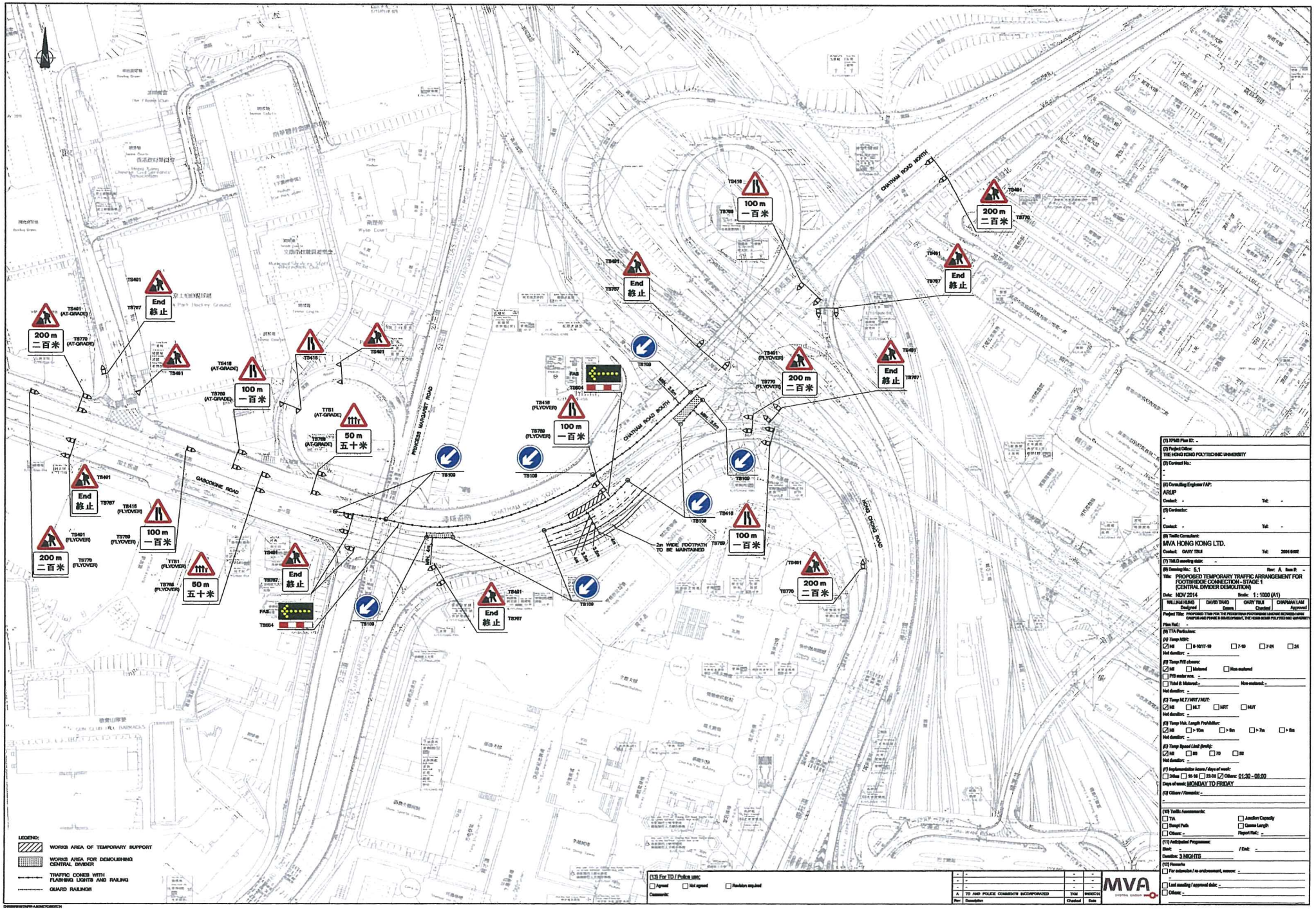
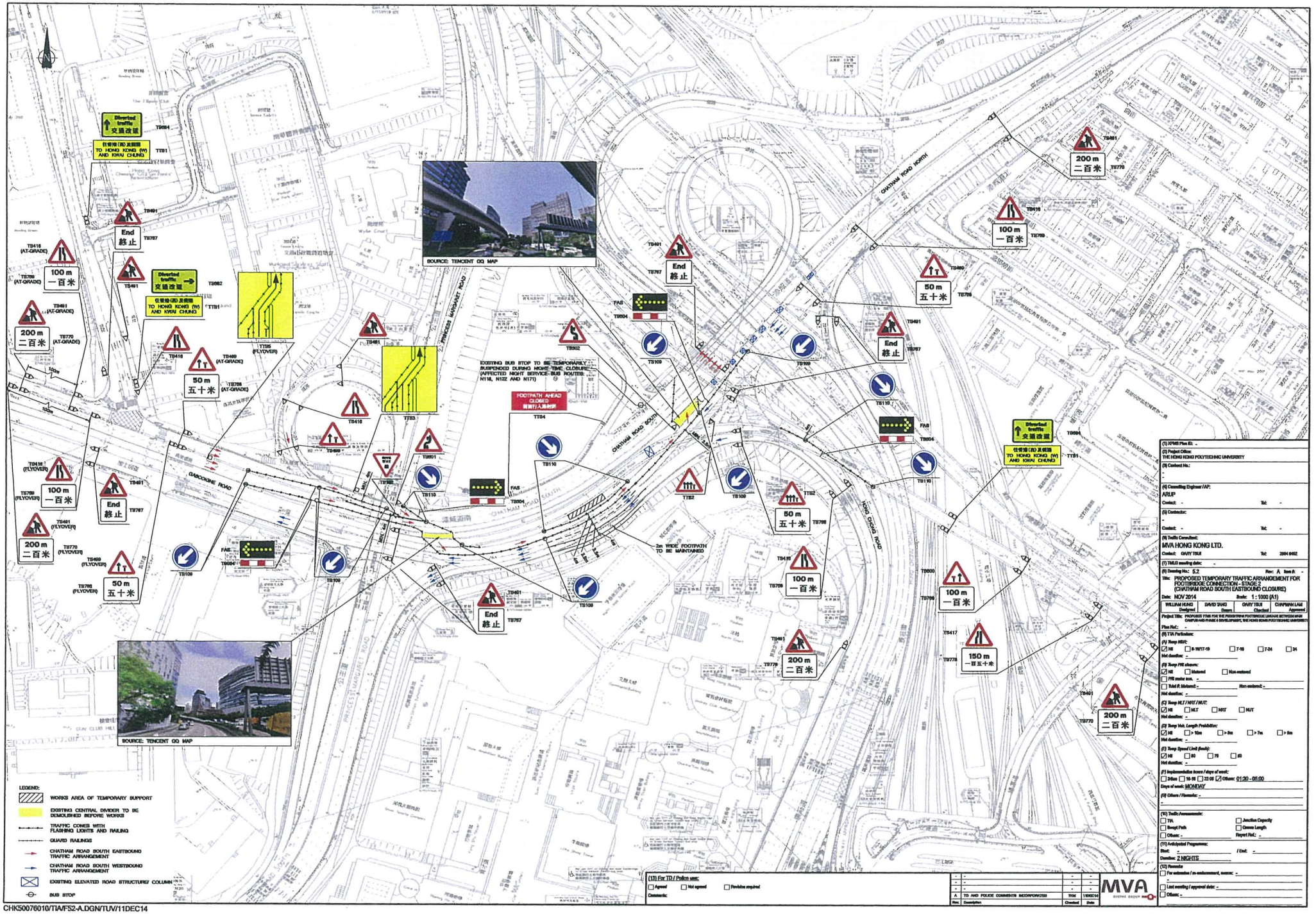
A	TD AND POLICE COMMENTS INCORPORATED	TKM	01DEC14

MVA SYSTRA GROUP

CHK50076010/TIA/F43-A.DGN/CYC/01DEC14


PRINCESS MARGARET ROAD
CHATHAM ROAD NORTH
CHATHAM ROAD SOUTH
GASCOIGNE ROAD
HUNG HOM ROAD
End 終止
100 m 一百米
200 m 二百米
50 m 五十米
2m WIDE FOOTPATH TO BE MAINTAINED
LEGEND:
WORKS AREA OF TEMPORARY SUPPORT
WORKS AREA FOR DEMOLISHING CENTRAL DIVIDER
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
GUARD RAILINGS
MVA



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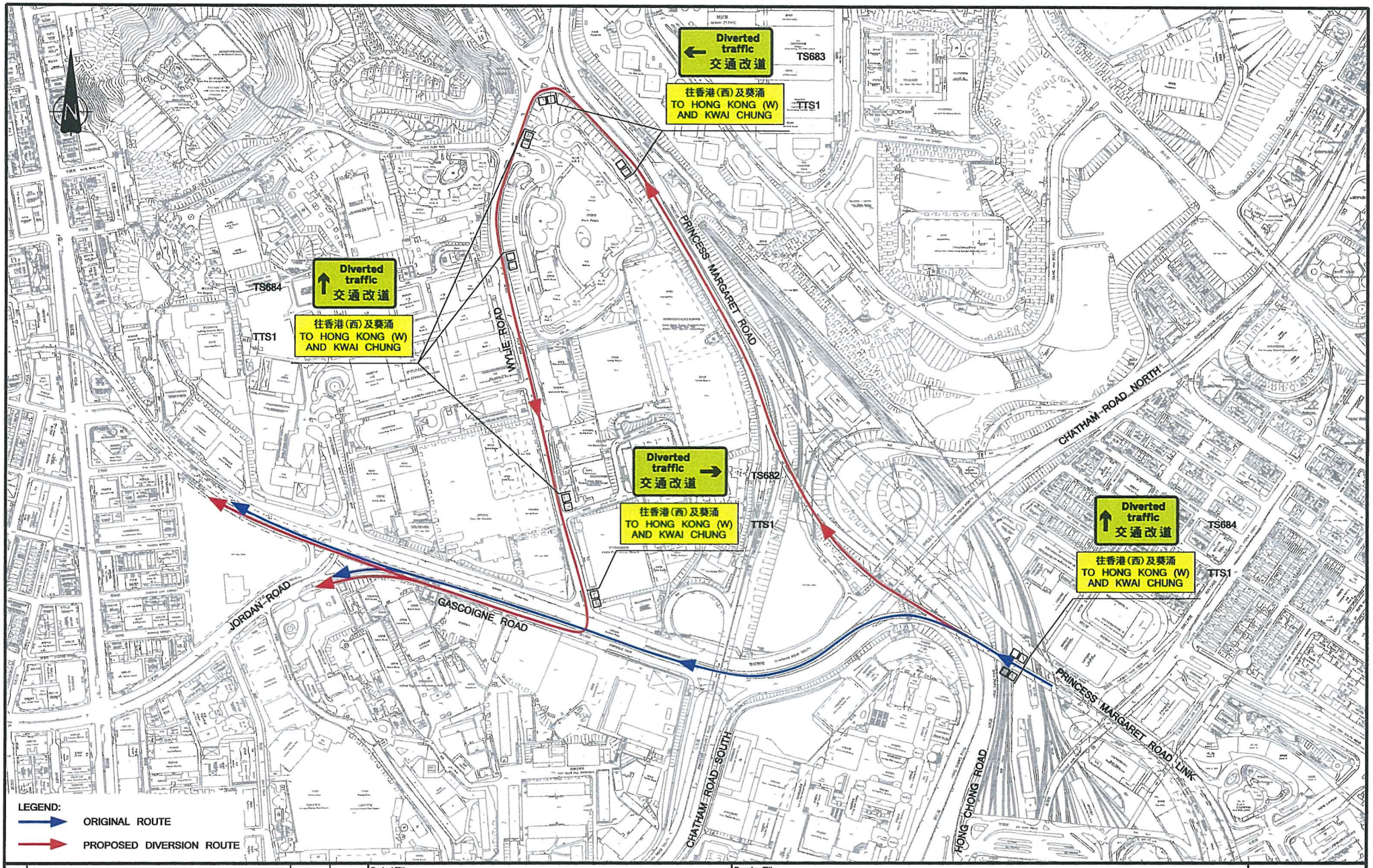

Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

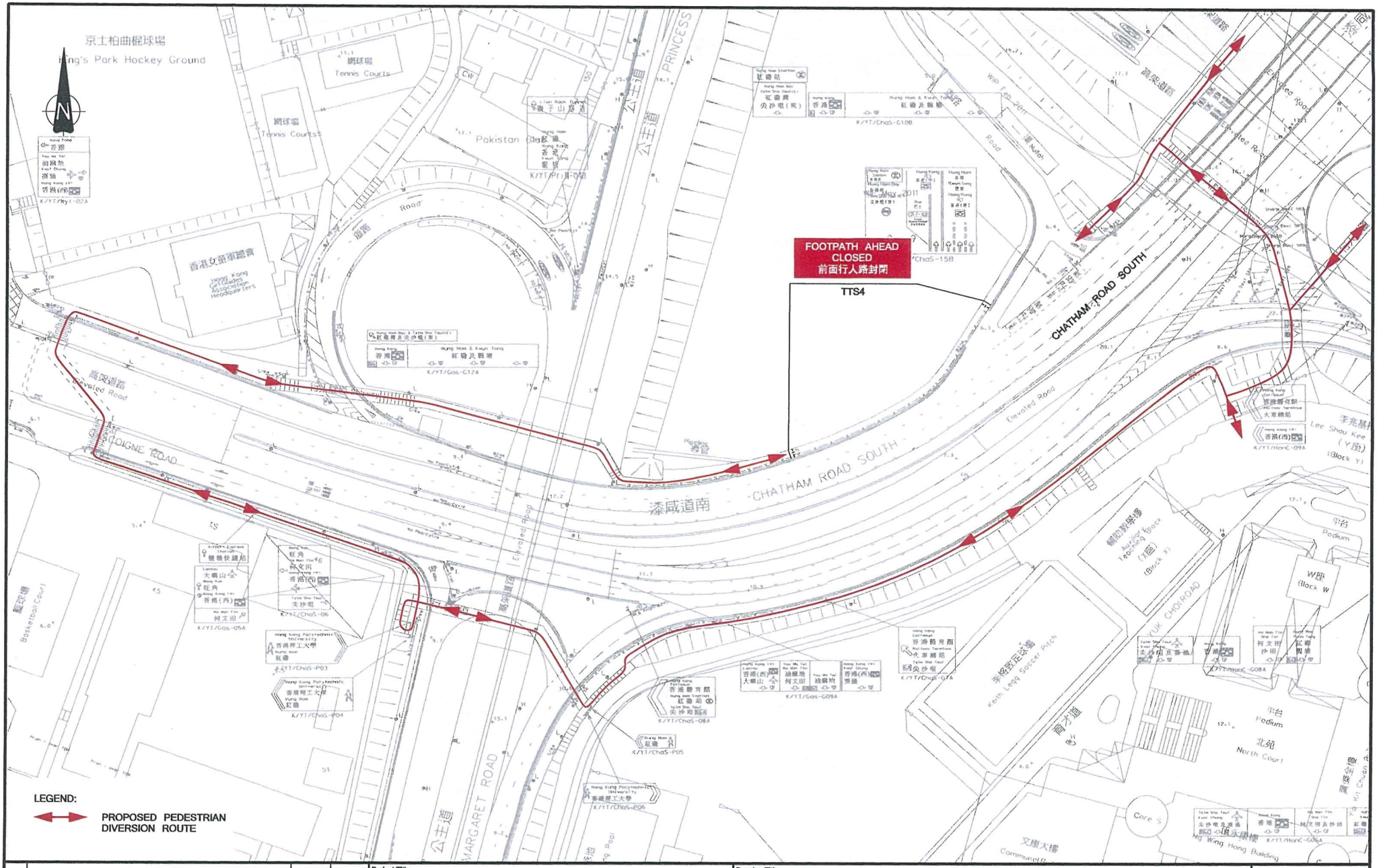
Drawing Title

PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 2 (CHATHAM ROAD SOUTH EASTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	5.3	-

MVA SYSTRA GROUP

CHK50076010/TIA/F53.DGN/TUV/07NOV14



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

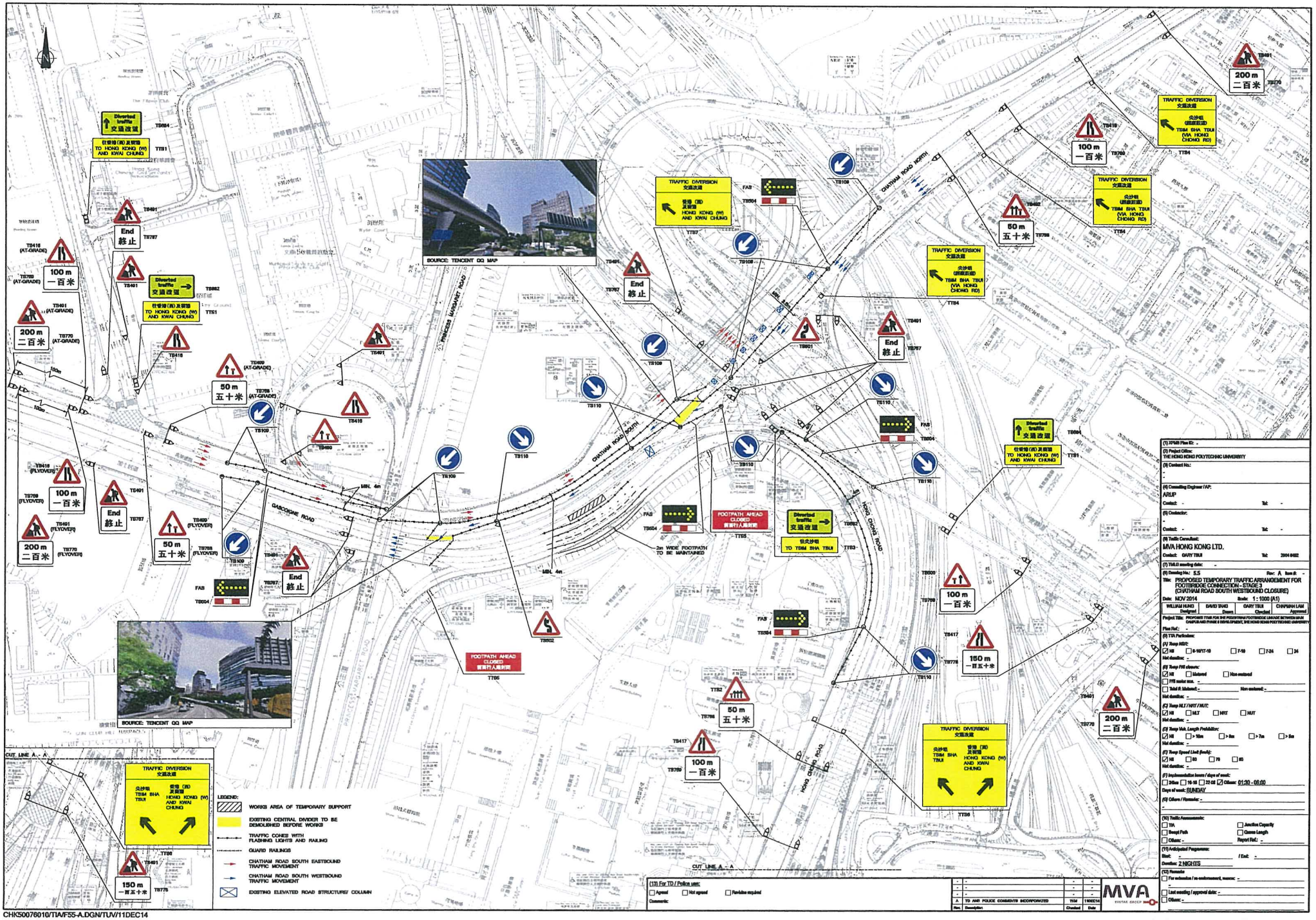
Drawing Title

PROPOSED TEMPORARY PEDESTRIAN DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 2 (CHATHAM ROAD SOUTH EASTBOUND CLOSURE)

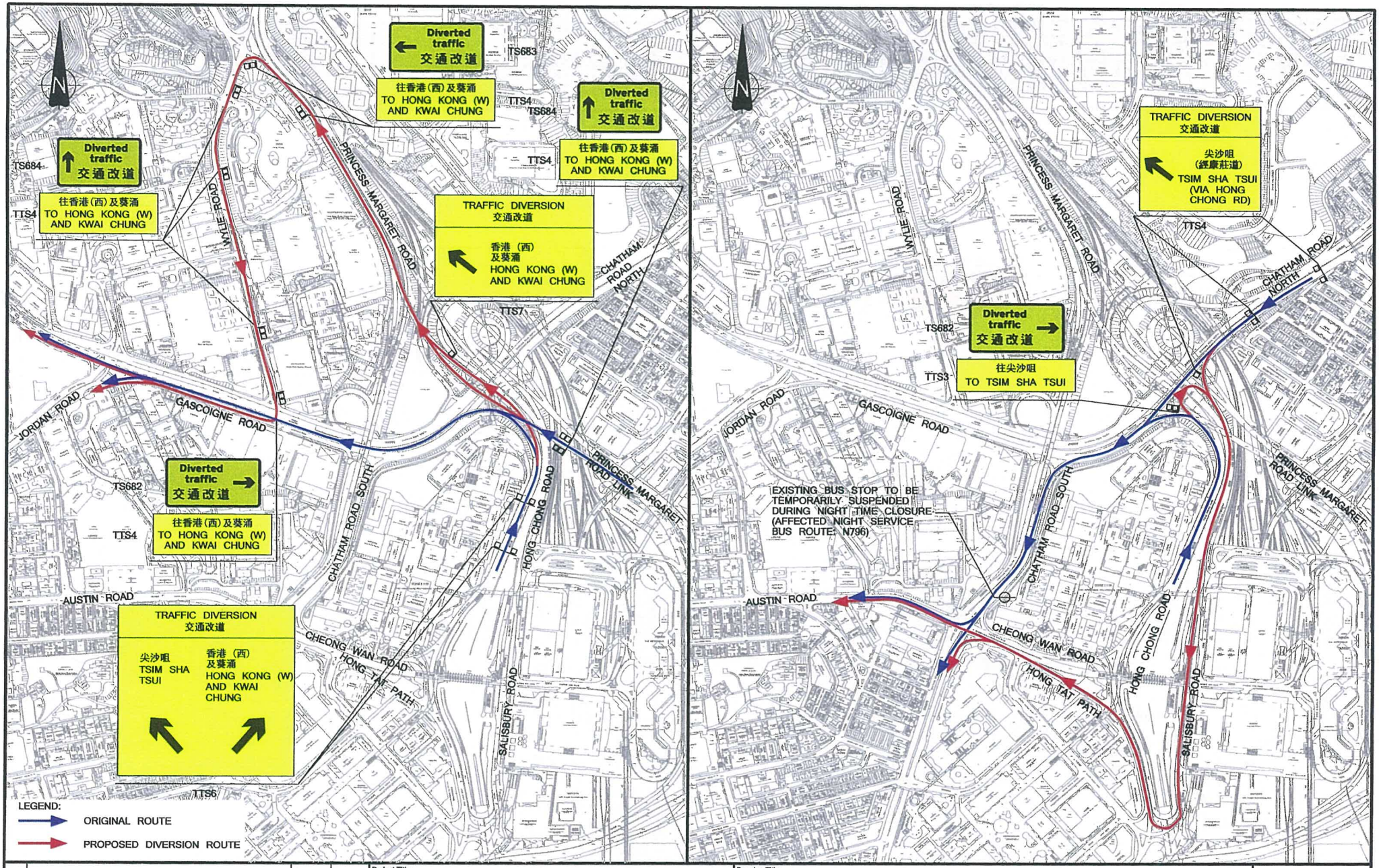
Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:1000(A3)	NOV 2014	5.4	-

MVA SYSTRA GROUP

CHK50076010/TIA/F54.DGN/TUV/06NOV14



CHK50076010/TIA/F55-A.DGN/TUV/11DEC14



Rev.	Description	Checked	Date
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A	TD AND POLICE COMMENTS INCORPORATED	TKM	27NOV14

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

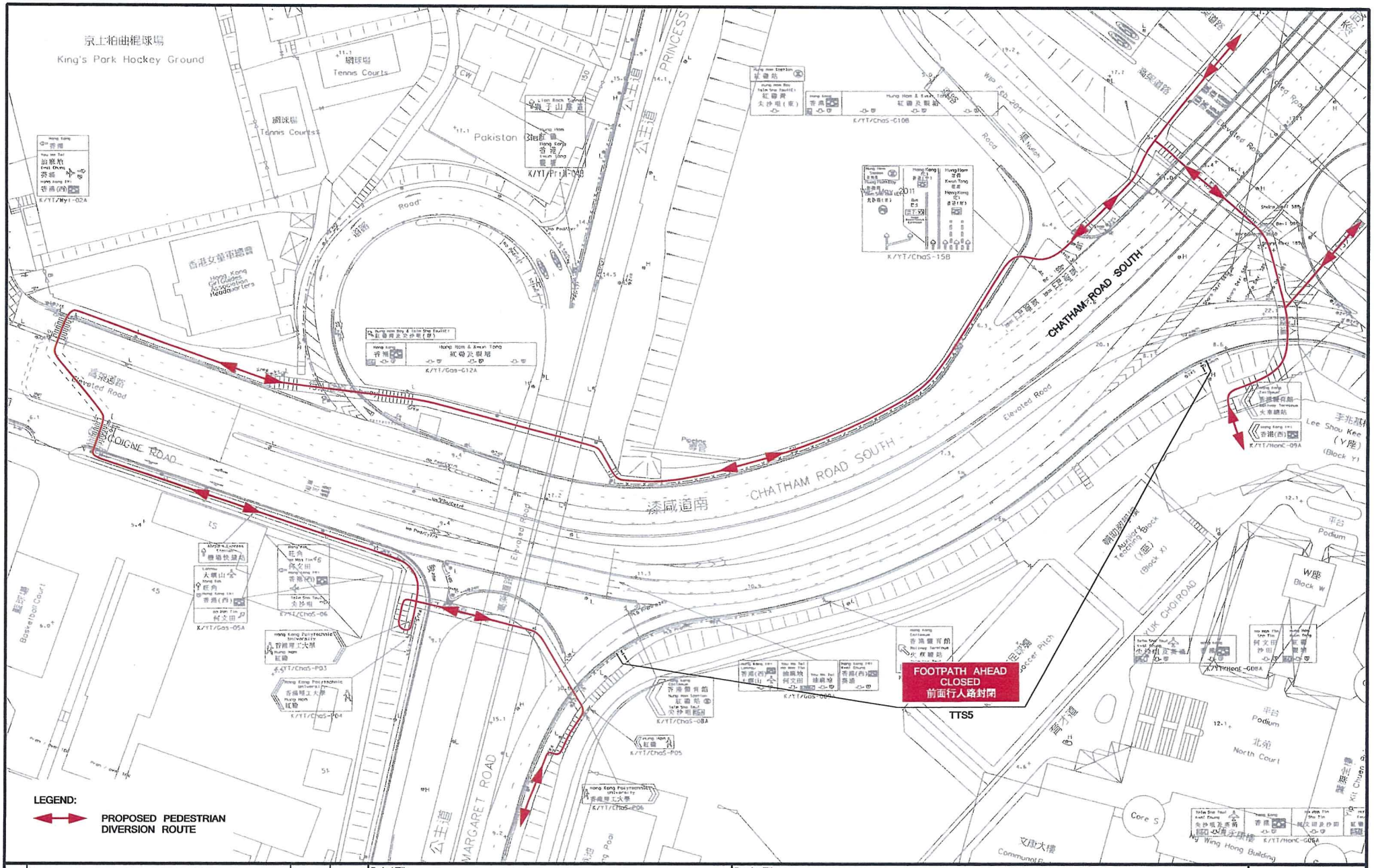
Drawing Title

PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 3 (CHATHAM ROAD SOUTH WESTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	5.6	A

MVA SYSTRA GROUP

CHK50076010/TIA/F56-A.DGN/HJQ/27NOV14



Rev.	Description	Checked	Date
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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

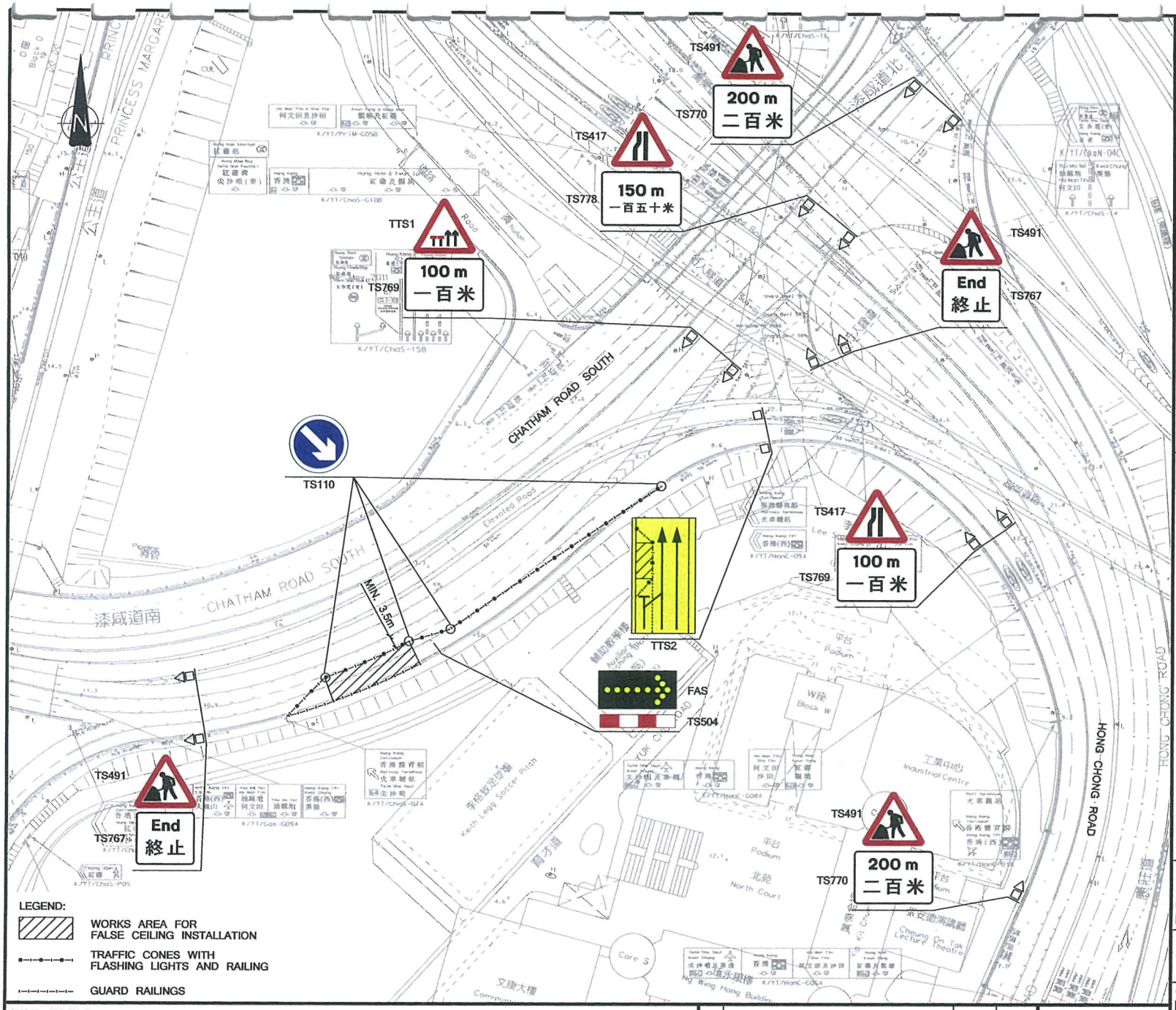
Drawing Title

PROPOSED TEMPORARY PEDESTRIAN DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 3 (CHATHAM ROAD SOUTH WESTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:1000(A3)	DEC 2014	5.7	-

MVA SYSTRA GROUP

CHK50076010/TIA/F57.DGN/TUV/11DEC14



LEGEND:

- WORKS AREA FOR FALSE CEILING INSTALLATION
- TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
- GUARD RAILINGS

(13) For TD / Police use:

☐ Agreed ☐ Not agreed ☐ Revision required

Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	26NOV14

MVA SYSTRA GROUP

CHK50076010/TIA/FB1-A.DGN/HJQ/26NOV14

(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 6.1 Rev: A Item #: -
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG Designed	DAVID TANG Drawn	GARY TSUI Checked	CHAPMAN LAM Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

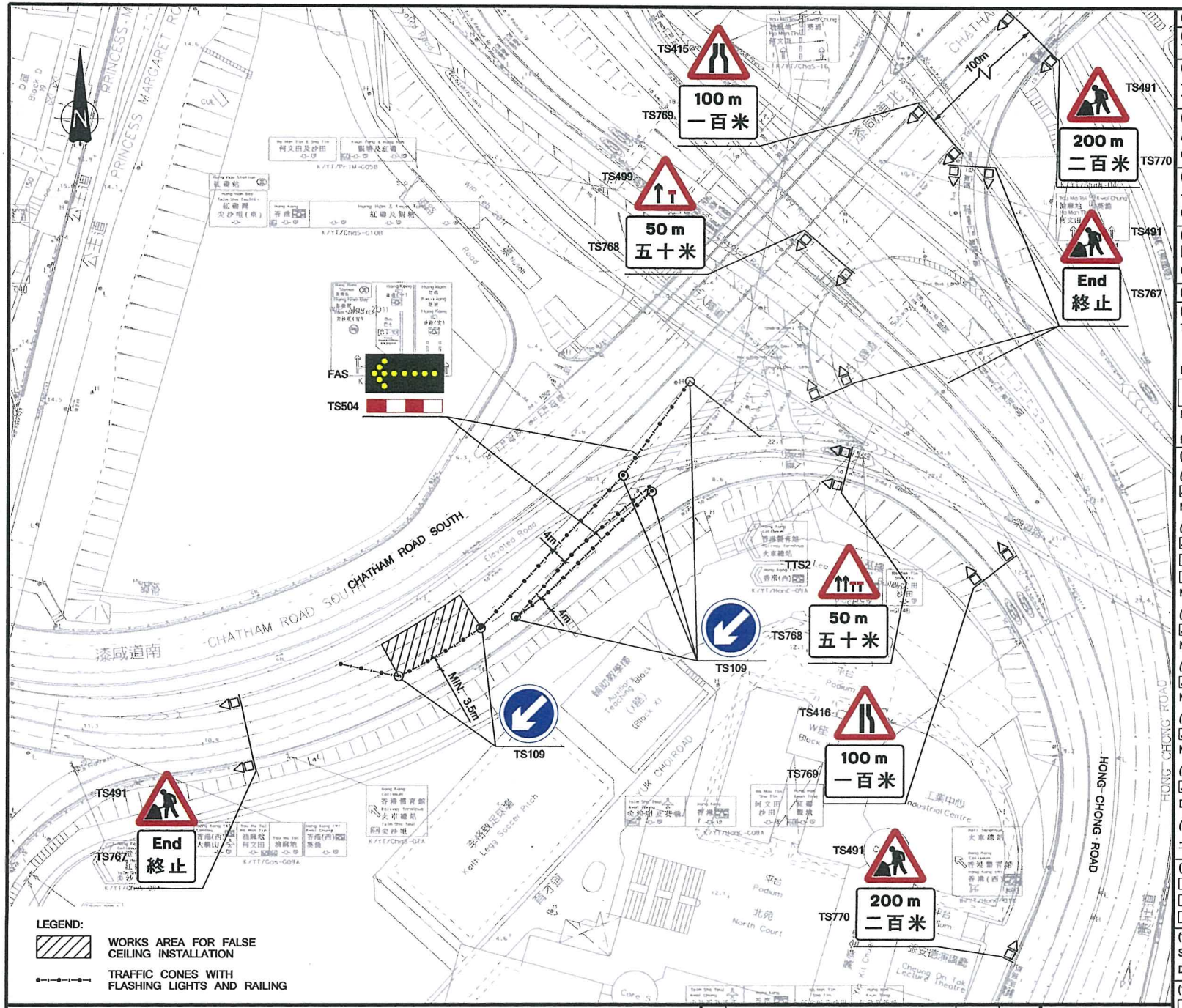
(F) Implementation hours / days of week:
☐ 24hrs ☐ 10-16 ☐ 22-06 ☑ Others: 00:00 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 6.2 Rev: A Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 2

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: 00:00 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

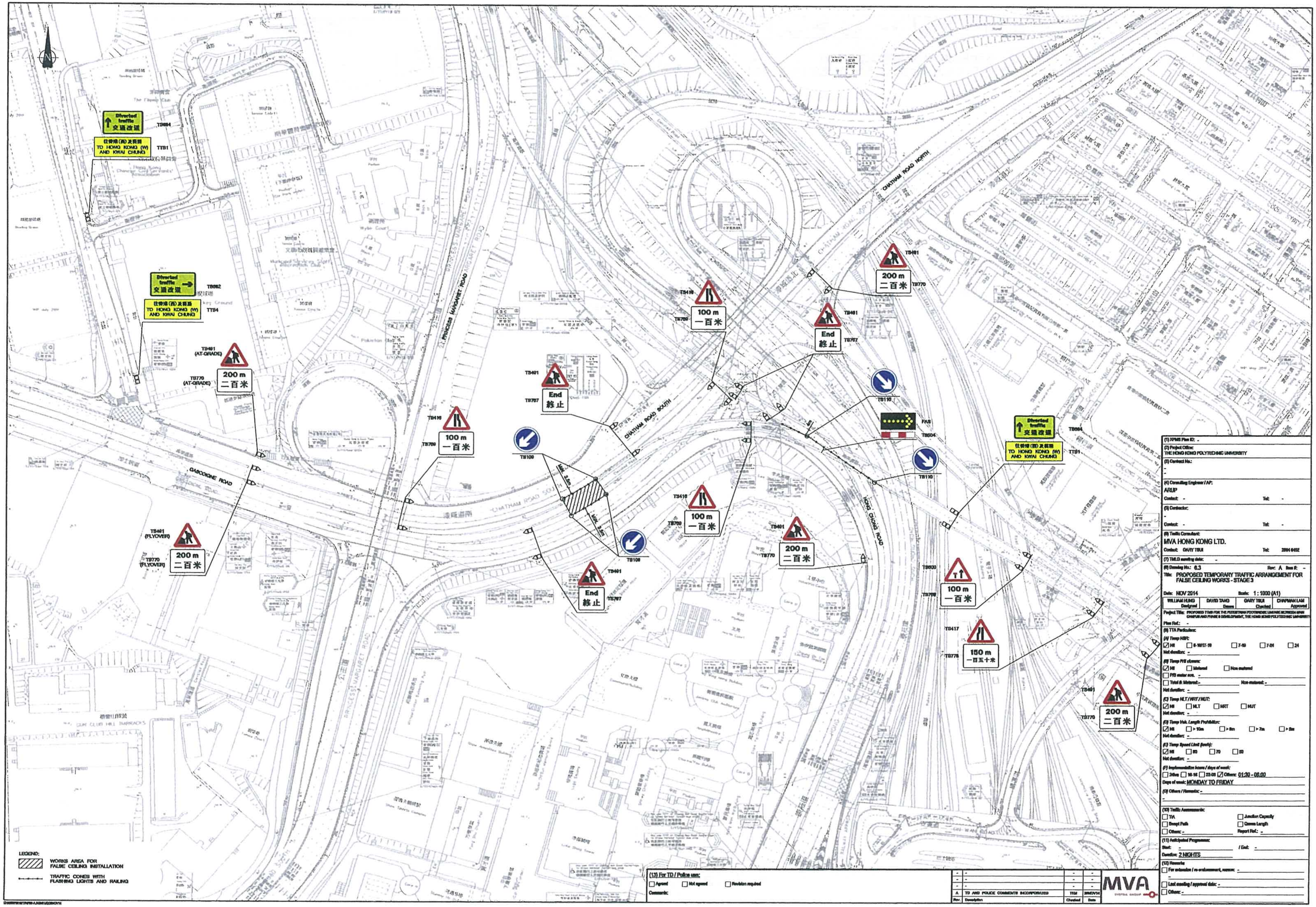
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

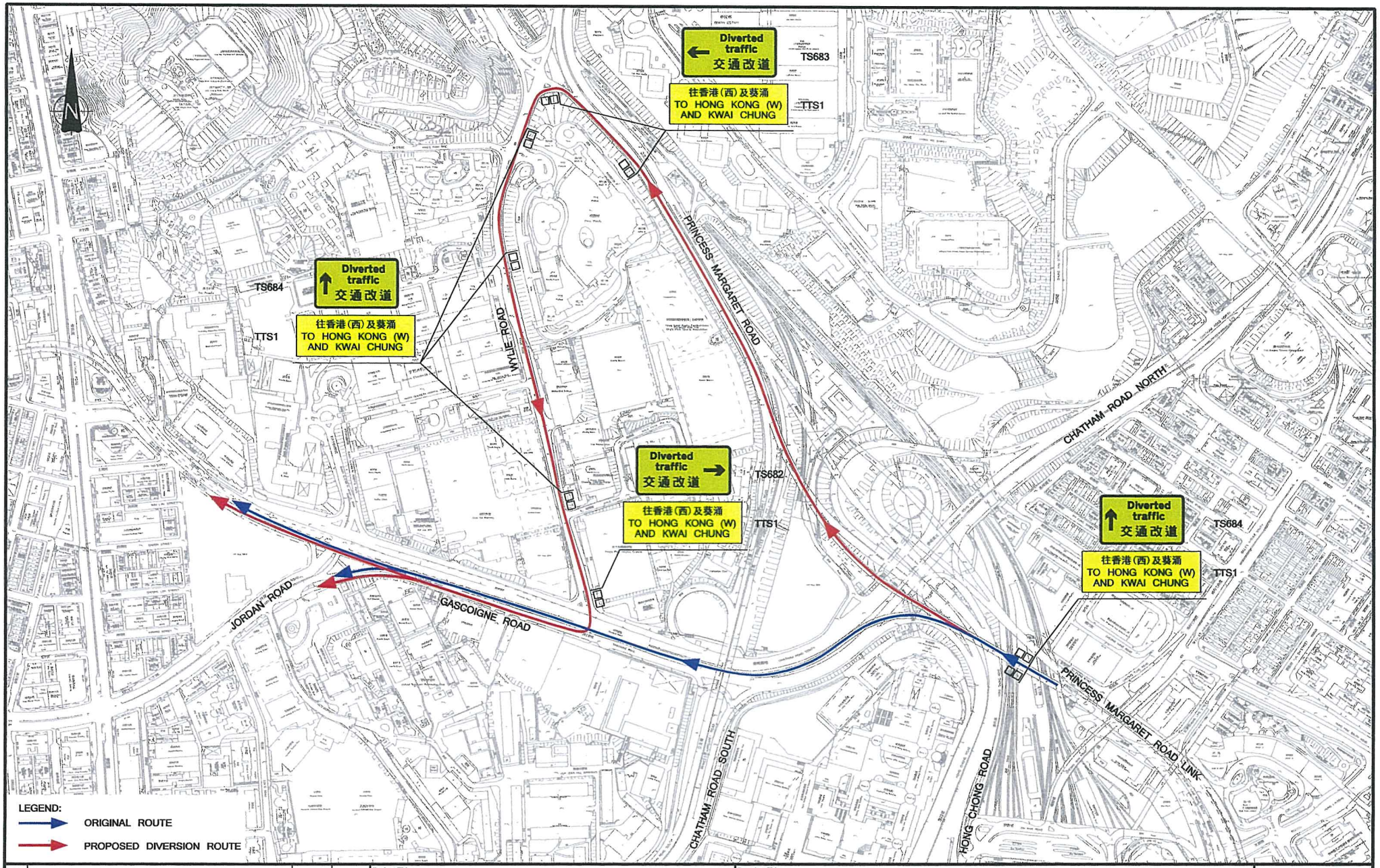
Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	27NOV14

MVA SYSTRA GROUP

CHKS0078010/TIA/F82-A.DGN/HJQ/27NOV14



Diverted traffic 交通改道
往荃灣(西)及葵涌 TO HONG KONG (W) AND KWAI CHUNG
TS904
TT81
TS902
TT84
TS401 (AT-GRADE)
TS770 (AT-GRADE)
200 m 二百米
TS401 (FLYOVER)
TS770 (FLYOVER)
TS416
TS769
100 m 一百米
TS108
TS401
TS767
End 終止
TS110
FAS
TS604
TS600
TS768
TS417
TS776
150 m 一百五十米
GASCOIGNE ROAD
CHATHAM ROAD SOUTH
CHATHAM ROAD NORTH
PRINCESS MARGARET ROAD
HONG CHONG ROAD
LEGEND:
WORKS AREA FOR FALSE CEILING INSTALLATION
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
(1) XPMS Plan ID: -
(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY
(3) Contract No.: -
(4) Consulting Engineer / AP: ARUP
Contact: - Tel: -
(5) Contractor: -
Contact: - Tel: -
(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452
(7) TMLG meeting date: -
(8) Drawing No.: 6.3 Rev: A
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 3
Date: NOV 2014 Scale: 1 : 1000 (A1)
WILLIAM HUNG Designed
DAVID TANG Drawn
GARY TSUI Checked
CHAPMAN LAM Approved
Plan Ref.: -
(9) TTA Particulars:
(A) Temp NSR:
(B) Temp P/S closure:
(C) Temp NLT / NRT / NUT:
(D) Temp Veh. Length Prohibition:
(E) Temp Speed Limit (km/h):
(F) Implementation hours / days of week: Others: 01:30 - 06:00
Days of week: MONDAY TO FRIDAY
(G) Others / Remarks: -
(10) Traffic Assessments:
(11) Anticipated Programme:
Duration: 2 NIGHTS
(12) Remarks
(13) For TD / Police use:
Agreed
Not agreed
Revision required
Comments:
A TD AND POLICE COMMENTS INCORPORATED
Rev. Description Checked Date
MVA



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

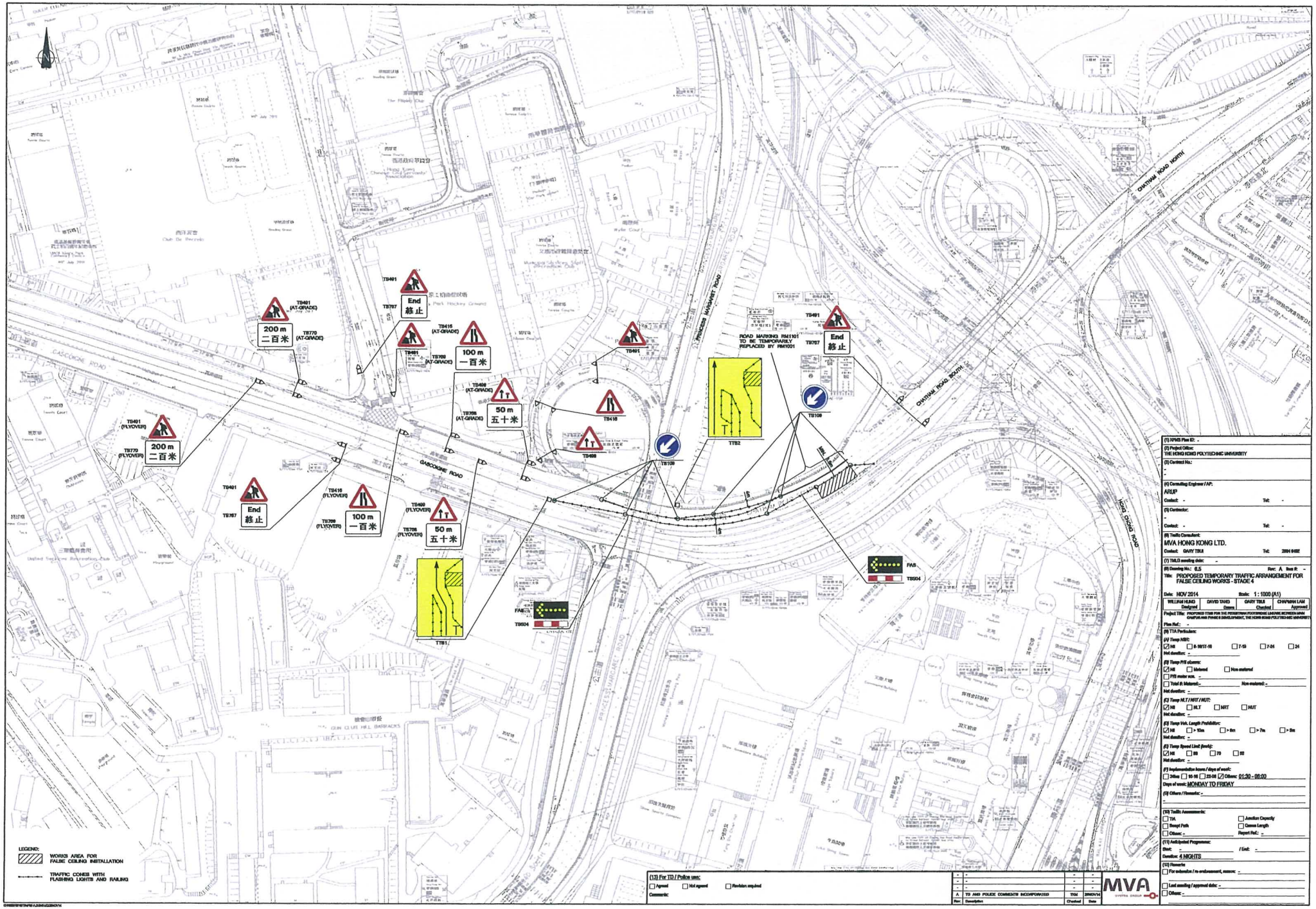
Drawing Title

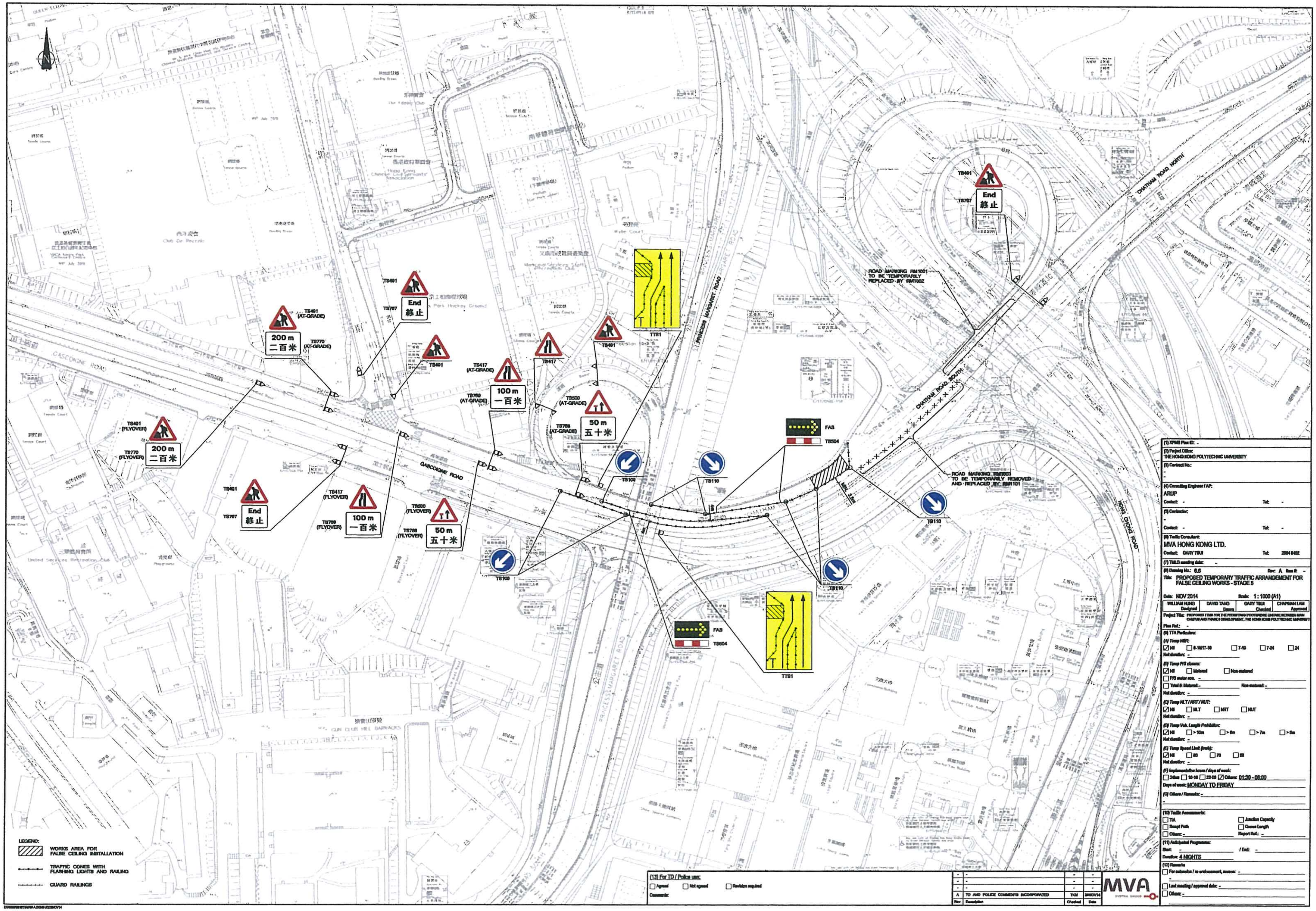
PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FALSE CEILING WORKS - STAGE 3

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	6.4	-

MVA SYSTRA GROUP

CHK50076010/TIA/F84.DGN/HJQ/24NOV14


GASCOIGNE ROAD
PRINCESS MARGARET ROAD
CHATHAM ROAD NORTH
CHATHAM ROAD SOUTH
HONG CHONG ROAD
ROAD MARKING RM1101 TO BE TEMPORARILY REPLACED BY RM1001
End 終止
200 m 二百米
100 m 一百米
50 m 五十米
FAS
LEGEND:
WORKS AREA FOR FALSE CEILING INSTALLATION
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
(1) XPMS Plan ID: -
(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY
(3) Contract No.:
(4) Consulting Engineer / AP:
ARUP
(5) Contractor:
(6) Traffic Consultant:
MVA HONG KONG LTD.
(7) TMLS meeting date: -
(8) Drawing No.: 0.5
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 4
Date: NOV 2014
Scale: 1 : 1000 (A1)
WILLIAM HUNG Designed
DAVID TANG Drawn
GARY TSUI Checked
CHAPMAN LAM Approved
(9) TTA Particulars:
(10) Temp NSR:
(11) Temp P/S closure:
(12) Temp HLT / HST / HUT:
(13) Temp Veh. Length Prohibition:
(14) Temp Speed Limit (kmh):
(15) Implementation hours / days of week:
Days of week: MONDAY TO FRIDAY
(16) Others / Remarks:
(17) Traffic Assessment:
(18) Remarks:
(19) Anti-Spoiled Programme:
Duration: 4 NIGHTS
(13) For TD / Police use:
Agreed
Not agreed
Revision required
Comments:
A TO AND POLICE COMMENTS INCORPORATED
MVA



GASCOIGNE ROAD
PRINCESS MARGARET ROAD
CHATHAM ROAD NORTH
CHATHAM ROAD SOUTH
HONG CHONG ROAD
TB401 (AT-GRADE)
200 m 二百米
TB770 (AT-GRADE)
TB401 (FLYOVER)
TB770 (FLYOVER)
TB401
TB767
End 終止
TB417 (AT-GRADE)
TB769 (AT-GRADE)
100 m 一百米
TB500 (AT-GRADE)
TB768 (AT-GRADE)
50 m 五十米
TB417 (FLYOVER)
TB769 (FLYOVER)
TB500 (FLYOVER)
TB768 (FLYOVER)
TB417
TT81
FAS
TB504
TB108
TB110
ROAD MARKING RM1001 TO BE TEMPORARILY REPLACED BY RM1002
ROAD MARKING RM1002 TO BE TEMPORARILY REMOVED AND REPLACED BY RM1101
LEGEND:
WORKS AREA FOR FALSE CEILING INSTALLATION
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
GUARD RAILINGS
(13) For TD / Police use:
Agreed
Not agreed
Revision required
Comments:
A TD AND POLICE COMMENTS INCORPORATED
Rev. Description Checked Date
MVA
(1) XPMS Plan ID: -
(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY
(3) Contract No.:
(4) Consulting Engineer / AP: ARUP
Contact: - Tel: -
(5) Contractor: -
Contact: - Tel: -
(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI
(7) TMLG meeting date: -
(8) Drawing No.: 6.6 Rev: A
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 5
Date: NOV 2014 Scale: 1 : 1000 (A1)
WILLIAM HUNG Designed
DAVID TANG Drawn
GARY TSUI Checked
CHAPMAN LAM Approved
Plan Ref.: -
(9) TTA Particulars:
(A) Temp MSR:
Not duration: -
(B) Temp P/S closure:
(C) Temp NLT / NRT / NUT:
(D) Temp Veh. Length Prohibition:
(E) Temp Speed Limit (km/h):
(F) Implementation hours / days of week:
Others: 01:30 - 06:00
Days of week: MONDAY TO FRIDAY
(G) Others / Remarks: -
(10) Traffic Assessments:
TIA
Junction Capacity
Queue Length
Report Ref.: -
(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS
(12) Remarks
For extension / re-endorsement, reason: -
Last meeting / approval date: -
Others: -

4. TRAFFIC IMPACT ASSESSMENT

4.1 Road Links Capacity Assessment

4.1.1 Due to the TTMS of temporary footbridge support works would not affect the number of traffic lanes in Chatham Road South, therefore only the traffic Volume to Capacity (V/C) ratio under the TTMS of unloading footbridge structures, footbridge connection works and false ceiling panels installation works would been assessed in order to assess the traffic impact caused by the proposed works across Chatham Road South.

Links Capacity Assessment for the TTMS for Unloading Footbridge Structures

4.1.2 As mentioned in **Section 3.3**, the unloading works would occupy the near and second near side lanes of Chatham Road South westbound and eastbound, respectively. Thus, the road link capacities of the critical sections of Chatham Road South westbound, Chatham Road South westbound and Gascoigne Road flyover eastbound during the weekday, Saturday and Sunday mid-night period (23:59 – 01:00 hour and 01:30 – 02:30 hour) under unloading works scenarios have been assessed and the results are summarized in **Tables 4.1** and **4.2**.

Table 4.1 Critical V/C Ratios during unloading footbridge structures – Stage 1

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South westbound – 2 lanes [Refer to Drawing No. 3.1]	Weekday mid-night (23:59-01:00)	2642	3235(1)	0.82
	Saturday mid-night (23:59-01:00)	2933	3235(1)	0.91
	Sunday mid-night (23:59-01:00)	2156	3235(1)	0.67
	Weekday mid-night (01:30-02:30)	1838	3235(1)	0.57
	Saturday mid-night (01:30-02:30)	2109	3235(1)	0.65
	Sunday mid-night (01:30-02:30)	1425	3235(1)	0.44

Note:
(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 6.7m = 3060 pcu/hr & for 7.3 m = 3410 pcu/hr, then for 7.0 m ≅ 3235 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

Table 4.2 Critical V/C Ratios during unloading footbridge structures – Stage 2

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South eastbound – 2 lanes [Refer to Drawing No. 3.2]	Weekday mid-night (23:59-01:00)	2639	3235(1)	0.82
	Saturday mid-night (23:59-01:00)	3081	3235(1)	0.95
	Sunday mid-night (23:59-01:00)	2231	3235(1)	0.69

	Weekday mid-night (01:30-02:30)	1588	3235[1]	0.49
	Saturday mid-night (01:30-02:30)	2183	3235[1]	0.67
	Sunday mid-night (01:30-02:30)	1297	3235[1]	0.40
Gascoigne Road Flyover eastbound – 1 lane [Refer to Drawing No. 3.2]	Weekday mid-night (23:59-01:00)	1881	1507[2]	**1.25**
	Saturday mid-night (23:59-01:00)	2277	1507[2]	**1.51**
	Sunday mid-night (23:59-01:00)	1626	1507[2]	**1.08**
	Weekday mid-night (01:30-02:30)	1163	1507[2]	0.77
	Saturday mid-night (01:30-02:30)	1561	1507[2]	**1.04**
	Sunday mid-night (01:30-02:30)	974	1507[2]	0.65

Notes:

(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 6.7m = 3060 pcu/hr & for 7.3 m = 3410 pcu/hr, then for 7.0 m ≅ 3235 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

(2) Road capacity for road width of 3.7m = 1430 pcu/hr & for 4.6 m = 1660 pcu/hr, then for 4.0 m ≅ 1507 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

4.1.3 As indicated in **Table 4.1**, the V/C ratios of the affected section of Chatham Road South westbound are below the saturation level of 1.00 during both weekday, Saturday and Sunday mid-night peak periods in Stage 1 of unloading works. Thus, the proposed works would not cause any significant traffic impact to the affected road section during weekday, Saturday and Sunday night. Considered that Friday and Saturday nights would be the night time peak periods in the week and to minimize the traffic impact in the vicinity of Chatham Road South, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 00:00 to 06:00) only.

4.1.4 As indicated in **Table 4.2**, the V/C ratios of the affected section of Chatham Road South eastbound are below the saturation level of 1.00 during both weekday, Saturday and Sunday mid-night peak periods in Stage 2 of unloading works. However, the V/C ratios of the affected section of Gascoigne Road Flyover eastbound would be overloaded (i.e. V/C ratio greater than 1.0) during both weekday, Saturday and Sunday midnight peak (23:59 – 01:00 hour) and would be only below the saturation level of 1.00 during weekday and Sunday from 01:30 – 02:30 hour period. Thus, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 01:30 to 06:00) only.

Links Capacity Assessment for the TTMS for Footbridge Connection Works

4.1.5 As mentioned in **Section 3.5**, the central divider demolition works would occupy the far side lane of Chatham Road South eastbound, and the footbridge connection works would involve both bound of Chatham Road South closure. The road link capacities of the critical sections of Gascoigne Road flyover eastbound, Chatham Road South eastbound and Chatham Road South westbound during the weekday, Saturday and Sunday mid-night period (23:59 – 01:00

hour and 01:30 – 02:30 hour) during central divider demolition works and contra-flow traffic arrangement scenarios have been assessed and the results are summarized in **Tables 4.3** to **4.5**.

Table 4.3 Critical V/C Ratios during footbridge connection works – Stage 1

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Gascoigne Road Flyover eastbound – 1 lane [Refer to Drawing No. 5.1]	Weekday mid-night (23:59-01:00)	1881	1507(1)	1.25
	Saturday mid-night (23:59-01:00)	2277	1507(1)	1.51
	Sunday mid-night (23:59-01:00)	1626	1507(1)	1.08
	Weekday mid-night (01:30-02:30)	1163	1507(1)	0.77
	Saturday mid-night (01:30-02:30)	1561	1507(1)	1.04
	Sunday mid-night (01:30-02:30)	974	1507(1)	0.65

Note:
(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 6.7m = 3060 pcu/hr & for 7.3 m = 3410 pcu/hr, then for 7.0 m ≅ 3235 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

Table 4.4 Critical V/C Ratios during footbridge connection works – Stage 2

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South eastbound – 1 lane contra-flow [Refer to Drawing No. 5.2]	Weekday mid-night (23:59-01:00)	2639	1340(1)	1.97
	Saturday mid-night (23:59-01:00)	3081	1340(1)	2.30
	Sunday mid-night (23:59-01:00)	2231	1340(1)	1.66
	Weekday mid-night (01:30-02:30)	1588	1340(1)	1.18
	Saturday mid-night (01:30-02:30)	2183	1340(1)	1.63
	Sunday mid-night (01:30-02:30)	1297	1340(1)	0.97

Note:
(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 3.4m = 1030 pcu/hr & for 3.7m = 1300 pcu/hr, then for 4.0 m ≅ 1340 pcu/hr approximately (Single Carriageway & Frontage Class One)

Table 4.5 Critical V/C Ratios during footbridge connection works – Stage 3

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)(1)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South westbound – 1 lane contra-flow	Weekday mid-night (23:59-01:00)	1381	1340(2)	1.03
	Saturday mid-night (23:59-01:00)	1447	1340(2)	1.08

[Refer to Drawing No. 5.5]	Sunday mid-night (23:59-01:00)	1134	1340[2]	0.85
	Weekday mid-night (01:30-02:30)	1004	1340[2]	0.75
	Saturday mid-night (01:30-02:30)	1213	1340[2]	0.91
	Sunday mid-night (01:30-02:30)	806	1340[2]	0.60

Note:

(1) Only traffic from Chatham Road North to Gascoigne Road will be diverted to the affected section of Chatham Road South under contra-flow arrangement.

(2) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 3.4m = 1030 pcu/hr & for 3.7m = 1300 pcu/hr, then for 4.0 m ≅ 1340 pcu/hr approximately (Single Carriageway & Frontage Class One)

4.1.6 As indicated in **Table 4.3**, the V/C ratios of the critical section of Gascoigne Road Flyover eastbound would be overloaded (i.e. V/C ratio greater than 1.0) during both weekday, Saturday and Sunday midnight peak (23:59 – 01:00 hour) in Stage 1 of footbridge connection work and would be only below the saturation level of 1.00 during weekday and Sunday from 01:30 – 02:30 hour period. Thus, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 01:30 to 06:00) only.

4.1.7 As indicated in **Table 4.4**, the V/C ratios of the critical section of Chatham Road South eastbound would be overloaded (i.e. V/C ratio greater than 1.0) during both weekday, Saturday and Sunday midnight peak (23:59 – 01:00 hour) in Stage 2 of footbridge connection work and would be only below the saturation level of 1.00 during weekday and Sunday from 01:30 – 02:30 hour period. Considered that traffic flow in Sunday night would be the minimum of the whole week, the proposed works would be carried out during Sunday midnights (i.e. Monday 01:30 to 06:00) only.

4.1.8 As indicated in **Table 4.5**, the V/C ratios of the critical section of Chatham Road South westbound would be overloaded (i.e. V/C ratio greater than 1.0) during weekday and Saturday midnight peak (23:59 – 01:00 hour) in Stage 3 of footbridge connection work and would be only below the saturation level of 1.00 during both weekday, Saturday and Sunday from 01:30 – 02:30 hour period. Further to the comments from TD and Police in the ad-hoc meeting on 13 Nov 2014, which had proposed to consider Saturday midnight to implement the footbridge connection work subject to traffic flow result. From traffic point of view, Stage 3 is proposed to carry out during Saturday midnights (i.e. Sunday 01:30 to 06:00) only, which would not cause significant traffic impact to surrounding road network.

Links Capacity Assessment for the TTM schemes for False Ceiling Panel Installation Works

4.1.9 As mentioned in **Section 3.6**, the false ceiling panel installation works would occupy 2 traffic lanes in stage by stage basis across Chatham Road South. Thus, the road link capacities of the critical sections of Chatham Road South westbound, Chatham Road South westbound and Gascoigne Road flyover eastbound during the weekday, Saturday and Sunday mid-night period (23:59 – 01:00 hour and 01:30 – 02:30 hour) under false ceiling panel installation works scenarios have been assessed and the results are summarized in **Tables 4.6** to **4.8**.

Table 4.6 Critical V/C Ratios during false ceiling works – Stage 1

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South westbound – 2 lanes [Refer to Drawing No. 6.1]	Weekday mid-night (23:59-01:00)	2642	3235(1)	0.82
	Saturday mid-night (23:59-01:00)	2933	3235(1)	0.91
	Sunday mid-night (23:59-01:00)	2156	3235(1)	0.67
	Weekday mid-night (01:30-02:30)	1838	3235(1)	0.57
	Saturday mid-night (01:30-02:30)	2109	3235(1)	0.65
	Sunday mid-night (01:30-02:30)	1425	3235(1)	0.44

Note:

(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 6.7m = 3060 pcu/hr & for 7.3 m = 3410 pcu/hr, then for 7.0 m ≅ 3235 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

Table 4.7 Critical V/C Ratios during false ceiling works – Stage 2

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South Westbound from Chatham Road North – 1 lane [Refer to Drawing No. 6.2]	Weekday mid-night (23:59-01:00)	1381	1507(1)	0.92
	Saturday mid-night (23:59-01:00)	1447	1507(1)	0.96
	Sunday mid-night (23:59-01:00)	1134	1507(1)	0.75
	Weekday mid-night (01:30-02:30)	948	1507(1)	0.63
	Saturday mid-night (01:30-02:30)	999	1507(1)	0.66
	Sunday mid-night (01:30-02:30)	735	1507(1)	0.49

Note:

(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 3.7m = 1430 pcu/hr & for 4.6 m = 1660 pcu/hr, then for 4.0 m ≅ 1507 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

Table 4.8 Critical V/C Ratios during false ceiling works – Stages 4 & 5

CRITICAL ROAD SECTION	PERIOD	TRAFFIC FLOW (PCU/HR)	CAPACITY (PCU/HR)	V/C RATIO
Chatham Road South eastbound – 2 lanes [Refer to Drawing Nos. 6.5 & 6.6]	Weekday mid-night (23:59-01:00)	2639	3235(1)	0.82
	Saturday mid-night (23:59-01:00)	3081	3235(1)	0.95
	Sunday mid-night (23:59-01:00)	2231	3235(1)	0.69
	Weekday mid-night	1588	3235(1)	0.49

	(01:30-02:30)			
	Saturday mid-night (01:30-02:30)	2183	3235[1]	0.67
	Sunday mid-night (01:30-02:30)	1297	3235[1]	0.40
Gascoigne Road Flyover eastbound – 1 lane [Refer to Drawing Nos. 6.5 & 6.6]	Weekday mid-night (23:59-01:00)	1881	1507[2]	**1.25**
	Saturday mid-night (23:59-01:00)	2277	1507[2]	**1.51**
	Sunday mid-night (23:59-01:00)	1626	1507[2]	**1.08**
	Weekday mid-night (01:30-02:30)	1163	1507[2]	0.77
	Saturday mid-night (01:30-02:30)	1561	1507[2]	**1.04**
	Sunday mid-night (01:30-02:30)	974	1507[2]	0.65

Notes:

(1) Based on Guideline on TIA & Day-time Ban Requirements for Road Works on Traffic Sensitive Routes, road capacity for road width of 6.7m = 3060 pcu/hr & for 7.3 m = 3410 pcu/hr, then for 7.0 m ≅ 3235 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

(2) Road capacity for road width of 3.7m = 1430 pcu/hr & for 4.6 m = 1660 pcu/hr, then for 4.0 m ≅ 1507 pcu/hr approximately (Dual Carriageway & Frontage Class 0)

4.1.10 As indicated in **Table 4.6**, the V/C ratios of the affected section of Chatham Road South westbound are below the saturation level of 1.00 during both weekday, Saturday and Sunday mid-night peak periods in Stage 1 of false ceiling works. Thus, the proposed works would not cause any significant traffic impact to the affected road section during weekday, Saturday and Sunday night. Considered that Friday and Saturday nights would be the night time peak periods in the week and to minimize the traffic impact in the vicinity of Chatham Road South, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 00:00 to 06:00) only.

4.1.11 As indicated in **Table 4.7**, the V/C ratios of the critical affected section of Chatham Road South westbound (section from Chatham Road North only) are below the saturation level of 1.00 during both weekday, Saturday and Sunday mid-night peak periods in Stage 2 of false ceiling works. Thus, the proposed works would not cause any significant traffic impact to the affected road section during weekday, Saturday and Sunday night. Considered that Friday and Saturday nights would be the night time peak periods in the week and to minimize the traffic impact in the vicinity of Chatham Road South, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 00:00 to 06:00) only.

4.1.12 As only the elevated slip road from Princess Margaret Road Link to Chatham Road South would be closed during Stage 3 of false ceiling works, and the number of traffic lane in both bound of Chatham Road South would not be reduced, therefore the traffic conditions along Chatham Road South would not be significantly affected in Stage 3 of false ceiling works. However, it order to minimize the traffic impact due to traffic diversion under slip road closure in Stage 3, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 00:00 to 06:00) only.

4.1.13 As indicated in **Table 4.8**, the V/C ratios of the affected section of Chatham Road South eastbound are below the saturation level of 1.00 during both weekday, Saturday and Sunday mid-night peak periods for in Stage 4 & 5 of false ceiling works. However, the V/C ratios of the affected section of Gascoigne Road Flyover eastbound would be overloaded (i.e. V/C ratio greater than 1.0) during both weekday, Saturday and Sunday midnight peak (23:59 – 01:00 hour) and would be only below the saturation level of 1.00 during weekday and Sunday from 01:30 – 02:30 hour period. Thus, the proposed works would be carried out during Sunday to Thursday midnights (i.e. Monday to Friday 01:30 to 06:00) only.

4.1.14 The proposed working periods for all work tasks are summarized as shown in **Table 4.9**. Outside the proposed working period, the traffic arrangement at Chatham Road South would be resumed to original traffic arrangement.

Table 4.9 Proposed Working Periods

WORK TASK	STAGE	RELEVANT TTM DRAWING NO.	PROPOSED IMPLEMENTATION HOURS	WORKS DURATION
Unloading Footbridge Structures	Stage 1	3.1	Monday to Friday (00:00 – 06:00)	5 Nights
	Stage 2	3.2	Monday to Friday (01:30 – 06:00)	5 Nights
Temporary Structure Support	Stage 1	4.1	Monday to Sunday (24 hours)	5 Days
	Stage 2	4.2	Monday to Sunday (24 hours)	5 Days
	Stage 3	4.3	Monday to Sunday (24 hours)	4 weeks
Footbridge Connection	Stage 1	5.1	Monday to Friday (01:30 – 06:00)	3 Nights
	Stage 2	5.2	Monday (01:30 – 06:00)	2 Nights
	Stage 3	5.5	Sunday (01:30 – 06:00)	2 Nights
False Ceiling Works	Stage 1	6.1	Monday to Friday (00:00 – 06:00)	4 Nights
	Stage 2	6.2	Monday to Friday (00:00 – 06:00)	4 Nights
	Stage 3	6.3	Monday (01:30 – 06:00)	2 Nights
	Stage 4	6.5	Monday (01:30 – 06:00)	4 Nights
	Stage 5	6.6	Monday (01:30 – 06:00)	4 Nights

5. AD-HOC MEETING WITH TD AND HKPF

5.1 General Comments

5.1.1 An ad-hoc meeting had been held on 13 November 2014 with TD and HKPF for discussing the TTMS for the proposed footbridge construction and connection works as presented in Section 3. TD and HKPF had no objection in principle on all the proposed TTMS but due to the actual construction works would be carried out in mid of 2015 and therefore there are a number of general comments that the awarded contractor should be follow up before commencement of works. The general comments from TD and HKPF are as follow:

- Awarded contractor shall liaise and coordinate with the works of SCL/KTE by MTR during the actual construction period in order minimize the conflict on both the works during construction. The latest TTM schemes by MTR should be incorporated with the footbridge construction TTM schemes for further submission for comment and approval;

- Before implement any works stages that involve traffic diversion (e.g. 4 nights of footbridge connection works and the false ceiling works above the slip road from Hong Chong Road), traffic advice and radio broadcast should be announced to public in one month before the traffic diversion implemented in order to alert the drivers to not access to Chatham Road South on those nights; and

- Detail of contingency plan with Method of Statement should be provided with the TTMS submission for TD and Police reference in case of any construction failure during the footbridge connection works.

5.1.2 The minutes of the ad-hoc meeting are attached in **Appendix A.**

6. SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 In order to enhance and facilitate smooth pedestrian traffic between the main campus and the Phase 8 Development of the Hong Kong Polytechnic University (PolyU) in the long run, PolyU proposed to construct a pedestrian footbridge connecting between the main campus and Phase 8 Development.

6.1.2 MVA Hong Kong Limited (MVA) was commissioned by Wong & Ouyang (Civil-Structural Engineering) Ltd to conduct a Construction Traffic Impact Assessment (CTIA) study in support of the construction works which would involve partial closure of Chatham Road South at night time for the construction and connection works of the footbridge across Chatham Road South.

6.1.3 The working procedures for the footbridge construction and connection works at Chatham Road South which require TTMS are summarised in **Table 6.1**.

Table 6.1 Working Procedures for the Footbridge Connection Works

PROCEDURE	TASK	REMARKS
1	Unloading footbridge structures	Refer to **Section 3.3** for details
2	Temporary footbridge support works	Refer to **Section 3.4** for details
3	Footbridge connection works	Refer to **Section 3.5** for details
4	Footbridge false ceiling panel installation works	Refer to **Section 3.6** for details

6.1.4 To investigate the traffic impact to the surrounding road network of the proposed footbridge construction works, a manual classified traffic surveys were conducted and the traffic impact caused by the proposed works across Chatham Road South have been assessed under different stages of the works.

6.1.5 Based on the traffic assessment results, the proposed working periods for all work tasks are summarized as shown in **Table 6.2**. Outside the proposed working period, the traffic arrangement at Chatham Road South would be resumed to original traffic arrangement.

Table 6.2 Proposed Working Periods

WORK TASK	STAGE	RELEVANT TTM DRAWING NO.	PROPOSED IMPLEMENTATION HOURS	WORKS DURATION
Unloading Footbridge Structures	Stage 1	3.1	Monday to Friday (00:00 – 06:00)	5 Nights
	Stage 2	3.2	Monday to Friday (01:30 – 06:00)	5 Nights

Temporary Structure Support	Stage 1	4.1	Monday to Sunday (24 hours)	5 Days
	Stage 2	4.2	Monday to Sunday (24 hours)	5 Days
	Stage 3	4.3	Monday to Sunday (24 hours)	4 weeks
Footbridge Connection	Stage 1	5.1	Monday to Friday (01:30 – 06:00)	3 Nights
	Stage 2	5.2	Monday (01:30 – 06:00)	2 Nights
	Stage 3	5.5	Sunday (01:30 – 06:00)	2 Nights
False Ceiling Works	Stage 1	6.1	Monday to Friday (00:00 – 06:00)	4 Nights
	Stage 2	6.2	Monday to Friday (00:00 – 06:00)	4 Nights
	Stage 3	6.3	Monday (01:30 – 06:00)	2 Nights
	Stage 4	6.5	Monday (01:30 – 06:00)	4 Nights
	Stage 5	6.6	Monday (01:30 – 06:00)	4 Nights

6.1.6 The draft Temporary Traffic Management Schemes (TTMS) for the construction works of the pedestrian footbridge linkage have been presented to the Transport Department (TD) and Hong Kong Police Force (HKPF) on a ad-hoc meeting on 13 November 2014. TD and HKPF had no objection in principle on all the proposed TTMS for the proposed footbridge construction and connection works.

6.2 Conclusion

6.2.1 Based on the results of the traffic impact assessment, it is concluded that the proposed working stages and TTMS are acceptable from a traffic engineering point of view and would not impose adverse impact on the local road network. It is proposed to carry out the footbridge connection works during night time period only for all stages of works. Outside the proposed working period, the traffic arrangement at Chatham Road South would be resumed to original traffic arrangement.

Appendix A

MINUTES OF AD-HOC MEETING WITH GOVERNMENT DEPARTMENTS ON 13 NOV 2014

Proposed TTM Schemes for the Pedestrian Footbridge Linkage between Main Campus and Phase 8 Development, The Hong Kong Polytechnic University
Minutes of ad-hoc Meeting with Government Departments

Date : 13th November 2014 (Thursday)

Time : 4:00 p.m.

Venue : Room 818, 8/F, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon

Attendance :

Name	Department/Company	Tel. No.	Fax No.
Mr. K.F. Chan	HKPF/TKW/RMO	2773 5219	2399 7659
Mr. S.K. Tai	TD/TE/Kln/Yau Tsim	2399 2511	2397 8046
Mr. Gary Tsui	MVA	2864 6452	2527 8490
Mr. William Hung	MVA	2864 6458	2527 8490

Details of Minutes	Action By

1. Introduction

1.1 MVA welcomed all parties to attend the meeting and briefly introduced the purpose of the meeting.

1.2 The proposed of this meeting was to obtain the comments from Transport Department (TD) and Police on the proposed detailed Temporary Traffic Management Schemes (TTMS) for the pedestrian footbridge connection works between Main Campus and Phase 8 Development of the Hong Kong Polytechnic University (Poly U), across Chatham Road South.

2. Discussion of TTMS

2.1 MVA presented the TTMS with different work tasks and the work tasks are shown as follow:

- Unloading Footbridge Structures
- Temporary Support Construction
- Footbridge Connection
- False Ceiling Works

2.2 The proposed stages of works are shown in the below table:

Works	Stage	Drawing No.
Unloading Footbridge Structures	1 to 2	3.1 – 3.2
Temporary Support Construction	1 to 3	4.1 – 4.3
Footbridge Connection Works	1 to 3	5.1 – 5.7
False Ceiling Works	1 to 5	6.1 – 6.6

Details of Minutes	Action By

2.3 Discussion of TTM Schemes for Unloading Footbridge Structures

The TTMS for unloading footbridge structures would consist of two stages. Each stage would occupy the two nearside traffic lanes at Chatham Road South one bound. The proposed working area, implementation hours and duration of works for each stage are summarized below:

TTM Stage	Drawing No.	Works Area	Implementation Hours	Duration
1	3.1	Chatham Road South westbound (near side lane and the second traffic lane)	Monday to Friday (00:00 – 06:00)	5 Nights
2	3.2	Chatham Road South eastbound (near side lane and the second traffic lane)	Monday to Friday (01:30 – 06:00)	5 Nights

2.4 Discussion of TTMS for Temporary Support Construction

The TTM schemes for temporary support construction would consist of three stages along the southern footpath and the central divider at Chatham Road South, which included the set back of footpath for construction of temporary support for erecting footbridge in the subsequent stage. The proposed working area, implementation hours and duration of works for each stage are summarized below:

TTM Stage	Drawing No.	Works Area	Implementation Hours	Duration
1	4.1	Chatham Road South westbound slope area	Monday to Sunday (24 hours)	5 Days
2	4.2	Chatham Road South westbound footpath	Monday to Sunday (24 hours)	5 Days
3	4.3	Chatham Road South central divider area	Monday to Sunday (24 hours)	4 weeks

2.5 Discussion of TTMS for Footbridge Connection Works

2.6 The TTMS for footbridge connection works would consist of three stages. Stage 1 would demolish the central divider at Chatham Road South. Contra-flow traffic arrangement would be adopted in Stage 2 and Stage 3 for erecting footbridge structure across each bound of Chatham Road South. Traffic diversion would be required during Stage 2 and Stage 3. The proposed working area, implementation hours and duration of works for each stage are summarized below:

Details of Minutes	Action By

TTM Stage	Drawing No.	Works Area	Implementation Hours	Duration
1	5.1	Chatham Road South eastbound (far side lane and central divider area)	Monday to Friday (01:30 – 06:00)	3 Nights
2	5.2	Chatham Road South eastbound traffic lane full closure	Monday (01:30 – 06:00)	2 Nights
	5.3	Temporary Traffic Diversion		
	5.4	Temporary Pedestrian Diversion		
3	5.5	Chatham Road South westbound traffic lane full closure	Monday (01:30 – 06:00)	2 Nights
	5.6	Temporary Traffic Diversion		
	5.7	Temporary Pedestrian Diversion		

2.7 Discussion of TTMS for False Ceiling Works

The TTMS for false ceiling works would consist of five stages across Chatham Road South. Traffic diversion would be required during Stage 3. The proposed working area, implementation hours and duration of works for each stage are summarized below:

TTM Stage	Drawing No.	Works Area	Implementation Hours	Duration
1	6.1	Chatham Road South westbound (near side lane and the second traffic lane)	Monday to Friday (00:00 – 06:00)	4 Nights
2	6.2	Chatham Road South westbound (third traffic lane and far side lane)	Monday to Friday (00:00 – 06:00)	4 Nights
3	6.3	Chatham Road South (Central divider area and flyover slip road from Princess Margaret Road Link)	Monday (01:30 – 06:00)	4 Nights
	6.4	Temporary Traffic Diversion		
4	6.5	Chatham Road South eastbound (third traffic lane and far	Monday (01:30 – 06:00)	4 Nights

Details of Minutes					Action By
		side lane)			
5	6.6	Chatham Road South eastbound (near side lane and the second traffic lane)	Monday (01:30 – 06:00)	4 Nights	

2.8 TD and Police had the following comments on the proposed TTM schemes:

General Comments:

- Temporary traffic sign for each stage of works should be erected at least 200m in advance of works area. — Noted
- Contractor shall liaise and coordinate with the works of SCL/KTE by MTR during the actual construction period in order minimize the conflict on both the works during construction. The latest TTM schemes by MTR should be incorporated with the footbridge construction TTM schemes for further submission for comment and approval. — Noted
- Before implement any works stages that involve traffic diversion (e.g. 4 nights of footbridge connection works and the false ceiling works above the slip road from Hong Chong Road), traffic advice and radio broadcast should be announced to public in one month before the traffic diversion implemented in order to alert the drivers to not access to Chatham Road South on those nights. — Noted

Unloading Footbridge Structures – Stage 1 (Drawing No. 3.1)

- Minimum 30m length of merging lane should be provided for traffic merging from Hong Chong Road northbound to Chatham Road westbound. — Noted

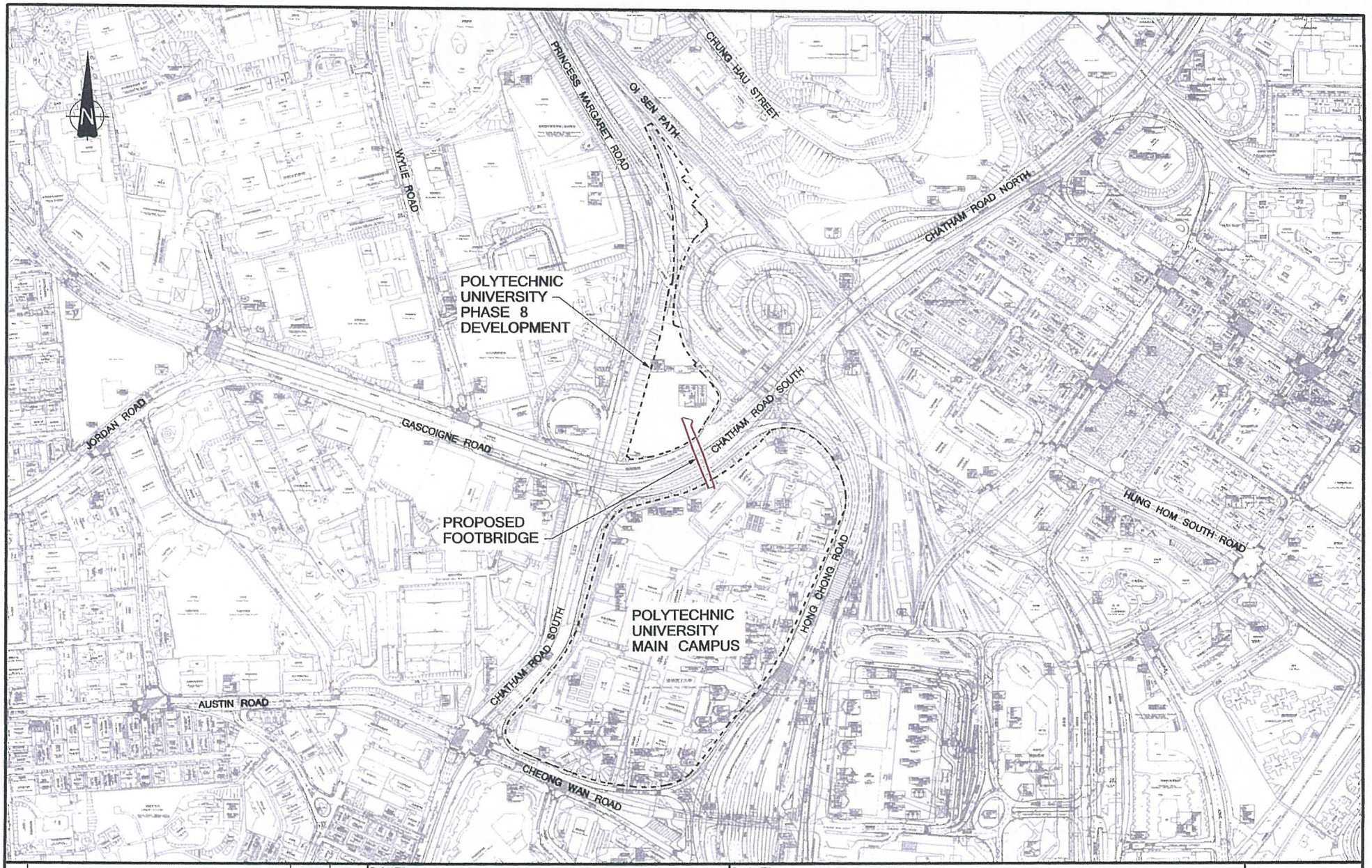
Unloading Footbridge Structures – Stage 2 (Drawing No. 3.2)

- The section of solid-cum-broken lines road marking (RM1003) between the fourth lane and the far side traffic lane in Chatham Road South eastbound to be temporarily replaced by lane line road marking (RM1101) should be extended eastward until the end of the existing RM1003. — Noted
- The double white lines road marking (RM1001) between the second lane and the third lane in Chatham Road South eastbound near the slip road to Hong Chong Road southbound should be temporarily replaced by solid-cum-broken lines road marking (RM1002). — Noted

Temporary Support Construction – Stage 3 (Drawing No. 4.3)

- The shifted alignment of Chatham Road South westbound should be smoothen by realign the road marking and without sharp edge. — Noted
- Swept path of long vehicles along the temporary shifted alignment of Chatham Road South westbound should be provided in the CTIA — Noted

Details of Minutes	Action By
report.	
Footbridge Connection – Stages 2 and 3 (Drawing Nos. 5.2 to 5.7)	
• Map-type traffic sign should be provided along Gascoigne Road flyover in advance of lane closure.	Noted
• The arrow legend showing the temporary traffic movement direction should be shown more in the drawings. (i.e. Drawing Nos. 5.2 & 5.5)	Noted
• Temporary lighting should be provided at Chatham Road South below the Hong Chong Road flyover in order to maintain better visibility during night time.	Noted
• On-site workers should be provided to assist pedestrian bypass the works area under temporary footpath closure.	Noted
• Detail of contingency plan with Method of Statement should be provided with the TTMS submission for TD and Police reference in case of any construction failure during the footbridge connection works.	Noted
• Bus companies should be liaised with their consent before works regarding on the suspension of bus stop and traffic diversion of bus routes.	Noted
• Photo of the central divider opening should be attached to the drawings (i.e. Drawing Nos. 5.2 & 5.5) for reference.	Noted
• Transport Operation Division of Transport Department should be liaised regarding on the temporary traffic diversion before commencement of work.	Noted
• Traffic notice should be released 4 weeks before commencement of work.	Noted
• The actual TTMS should be submitted to TD and Police for further comments and approval before implementation of works.	Noted
• The footbridge connection works would be preferred to be carried out during Saturday midnight (i.e. Sunday morning) subject to the traffic conditions during Saturday midnight.	
Post Meeting Note *Additional traffic survey has been carried out during a typical Saturday midnight to study the feasibility for implementing the 2 stages of footbridge connection works during Saturday midnight. Please refer details in Appendix B with TD and Police further comment on the proposed implementation hours for the footbridge connection works.*	Noted
• Both the third traffic lane and far side lane of Chatham Road South eastbound carriageway should be occupied for westbound traffic diversion during Stage 3 in order to provide a better maneuvering space for the westbound traffic.	
False Ceiling Works – Stage 1 (Drawing No. 6.1)	
• Minimum 30m length of merging lane should be provided for traffic	Noted



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

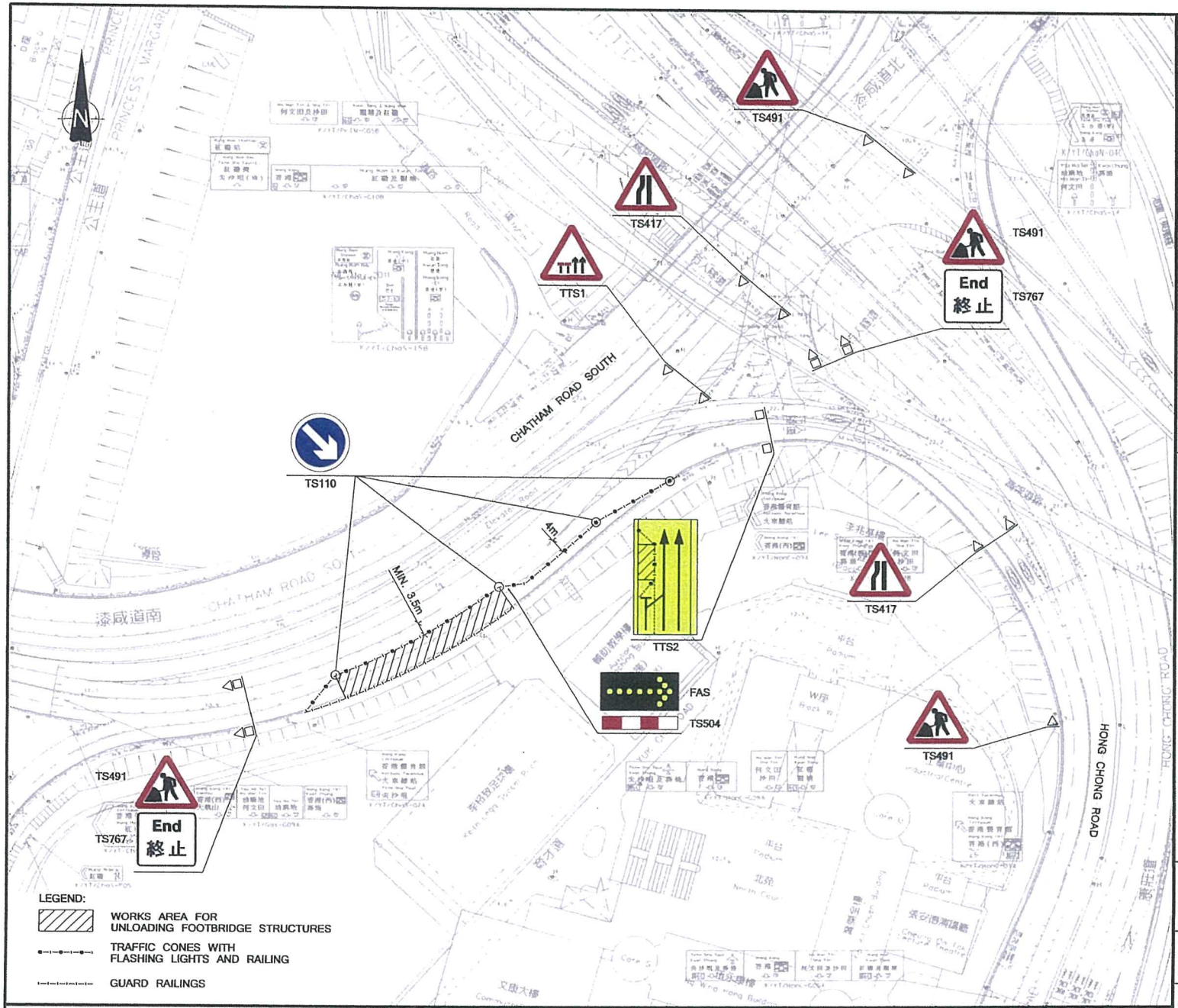
LOCATION PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	1.1	-

MVA SYSTRA GROUP

CHK50078010/TIA/F11.DGN/TUV/06NOV14

Details of Minutes	Action By
merging from Hong Chong Road northbound to Chatham Road westbound.	
False Ceiling Works – Stage 2 (Drawing No. 6.2)	
• Longer start taper along Chatham Road South westbound should be provided.	Noted
False Ceiling Works – Stage 3 (Drawing No. 6.3)	
• Duration of works should be reduced to 2 nights.	Noted
False Ceiling Works – Stage 4 (Drawing No. 6.5)	
• The lane line road marking (RM1101) between the near side lane and the second lane in Chatham Road South eastbound near works area should be temporarily replaced by double white lines road marking (RM1001).	Noted
False Ceiling Works – Stage 5 (Drawing No. 6.6)	
• The section of solid-cum-broken lines road marking (RM1003) between the fourth lane and the far side traffic lane in Chatham Road South eastbound to be temporarily replaced by lane line road marking (RM1101) should be extended eastward until the end of the existing RM1003.	Noted
• The double white lines road marking (RM1001) between the second lane and the third lane in Chatham Road South eastbound near the slip road to Hong Chong Road southbound should be temporarily replaced by solid-cum-broken lines road marking (RM1002).	Noted
3. The meeting adjourned at 5:00 p.m.	
END	



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 3.1 Rev: - Item #: -
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR UNLOADING FOOTBRIDGE STRUCTURE - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☐ 24hrs ☐ 10-16 ☐ 22-06 ☑ Others: 00:00 - 06:00
Days of week: MONDAY TO THURSDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 NIGHTS

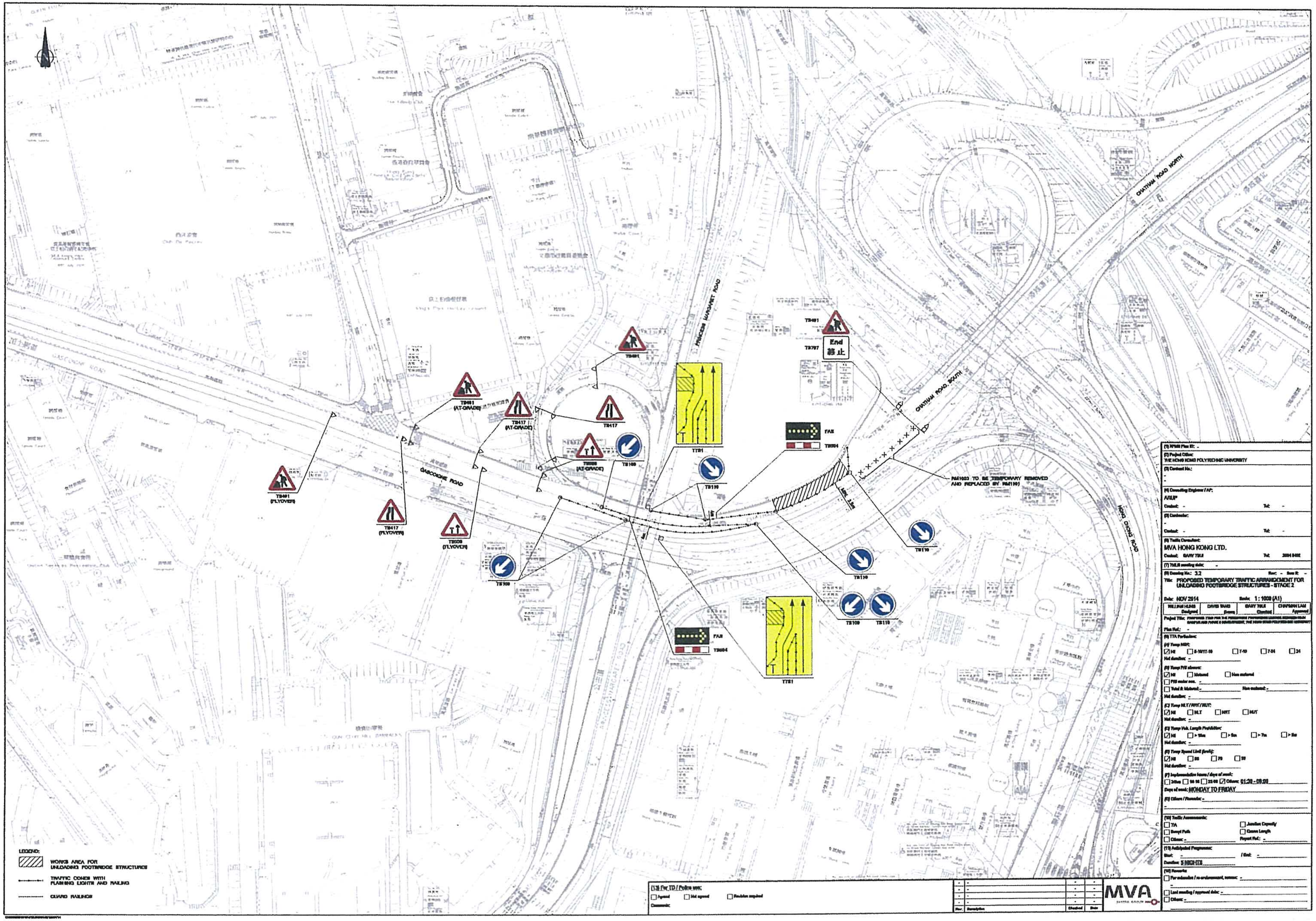
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

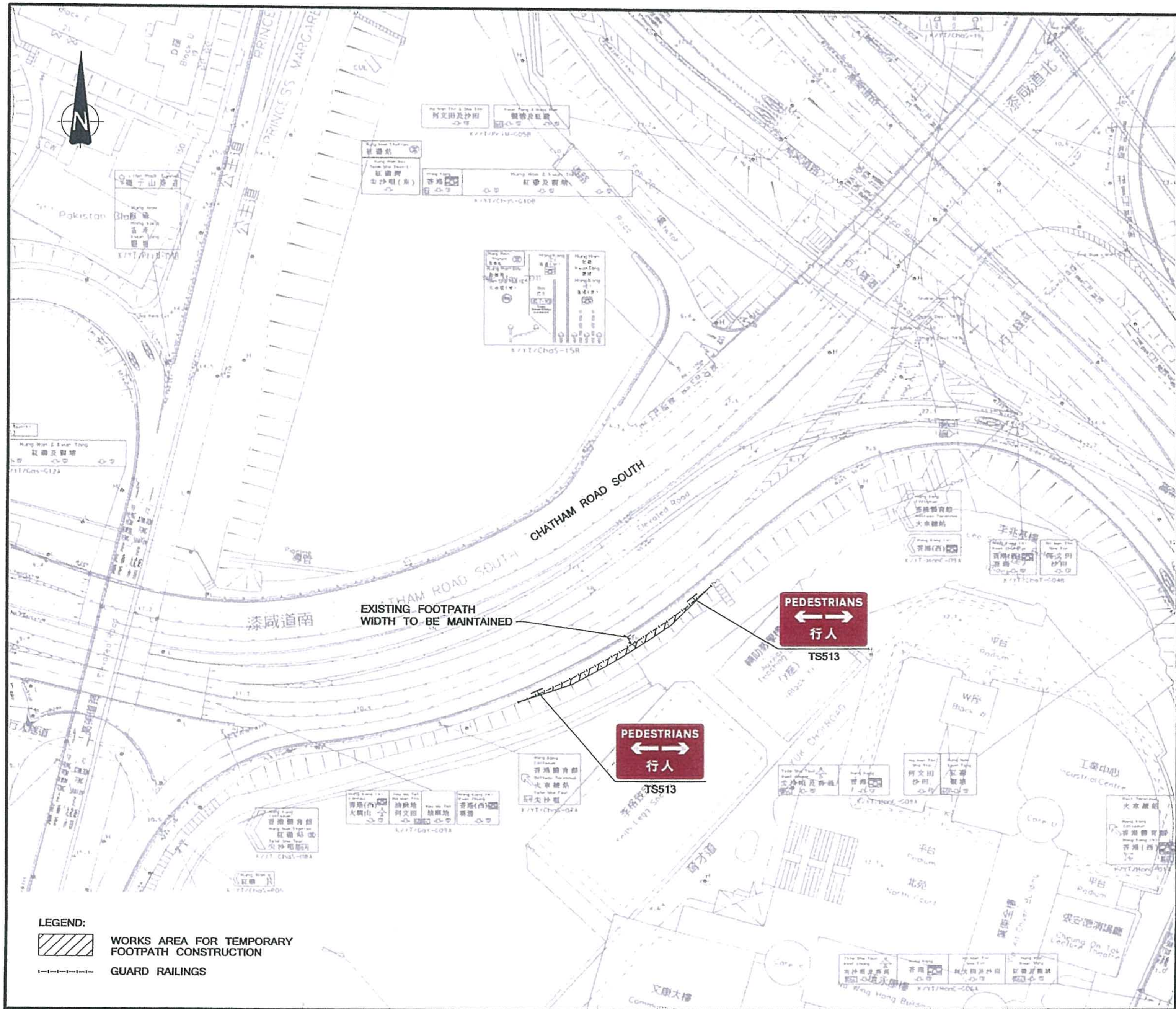
(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MVA SYSTRA GROUP

CHK50078010/TMVF31.DGN/TUV07/NOV14


GASCOIGNE ROAD
PRINCESS MARGARET ROAD
CHATHAM ROAD NORTH
CHATHAM ROAD SOUTH
HONG CHONG ROAD
TB401 (FLYOVER)
TB417 (FLYOVER)
TB509 (FLYOVER)
TB401 (AT-GRADE)
TB417 (AT-GRADE)
TB509 (AT-GRADE)
TB401
TB417
TB108
TB110
TB797
End 終止
FAB
TB504
TTB1
RM1003 TO BE TEMPORARY REMOVED AND REPLACED BY RM1100
(1) XPMS Plan ID: -
(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY
(3) Contract No.: -
(4) Consulting Engineer / AP: ARUP
(5) Contractor: -
(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI
(7) TMLG meeting date: -
(8) Drawing No.: 3.2
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR UNLOADING FOOTBRIDGE STRUCTURES - STAGE 2
Date: NOV 2014
Scale: 1 : 1000 (A1)
WILLIAM HUNG Designed
DAVID TANG Drawn
GARY TSUI Checked
CHAPMAN LAM Approved
(9) TTA Particulars:
Days of week: MONDAY TO FRIDAY
Duration: 5 NIGHTS
MVA
LEGEND:
WORKS AREA FOR UNLOADING FOOTBRIDGE STRUCTURES
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
GUARD RAILINGS



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.1 Rev: - Item #: -
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 DAYS

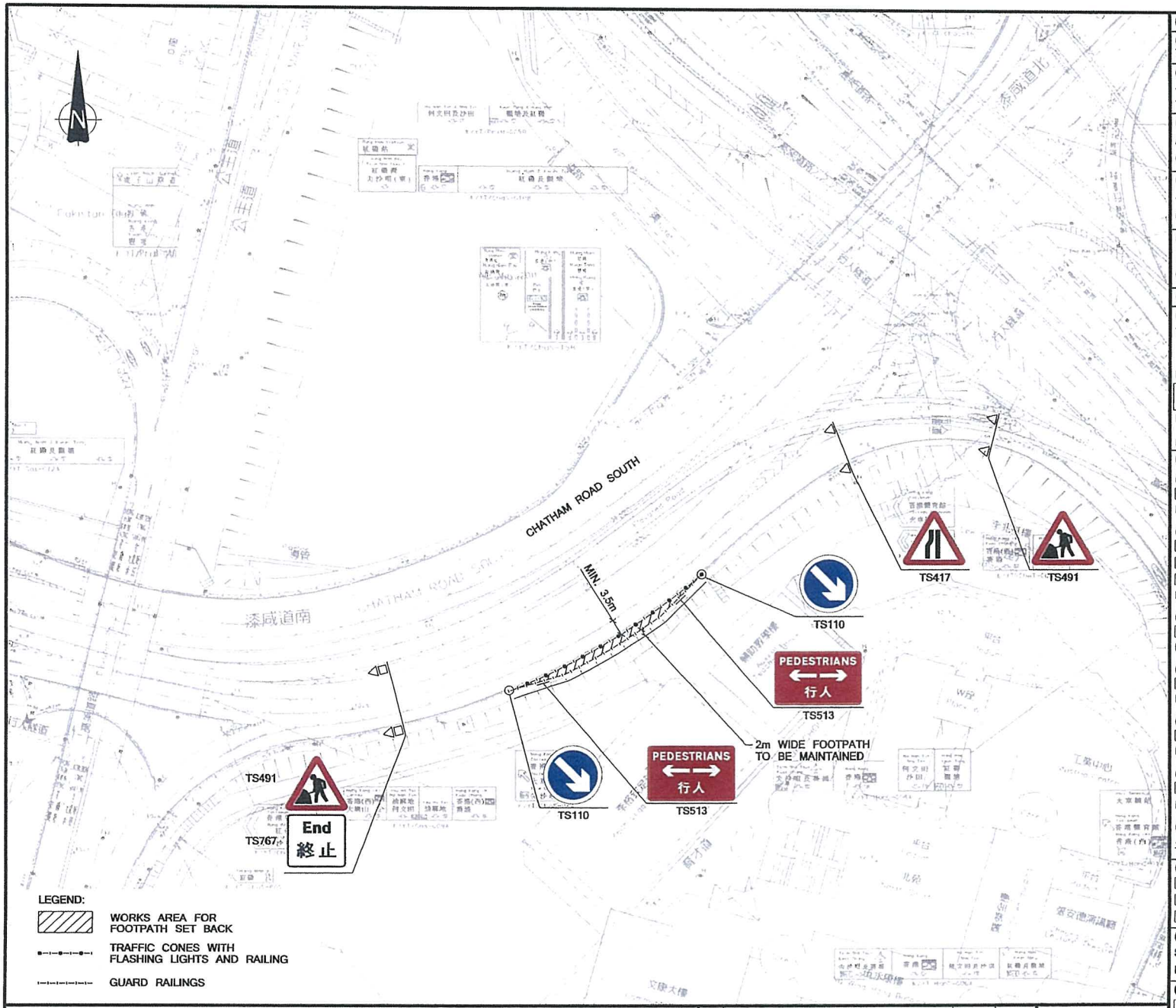
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MVA
SYSTRA GROUP

CHK50078010/TIA/F41.DGN/TUV/07NOV14



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.2 Rev: - Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 2

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 5 DAYS

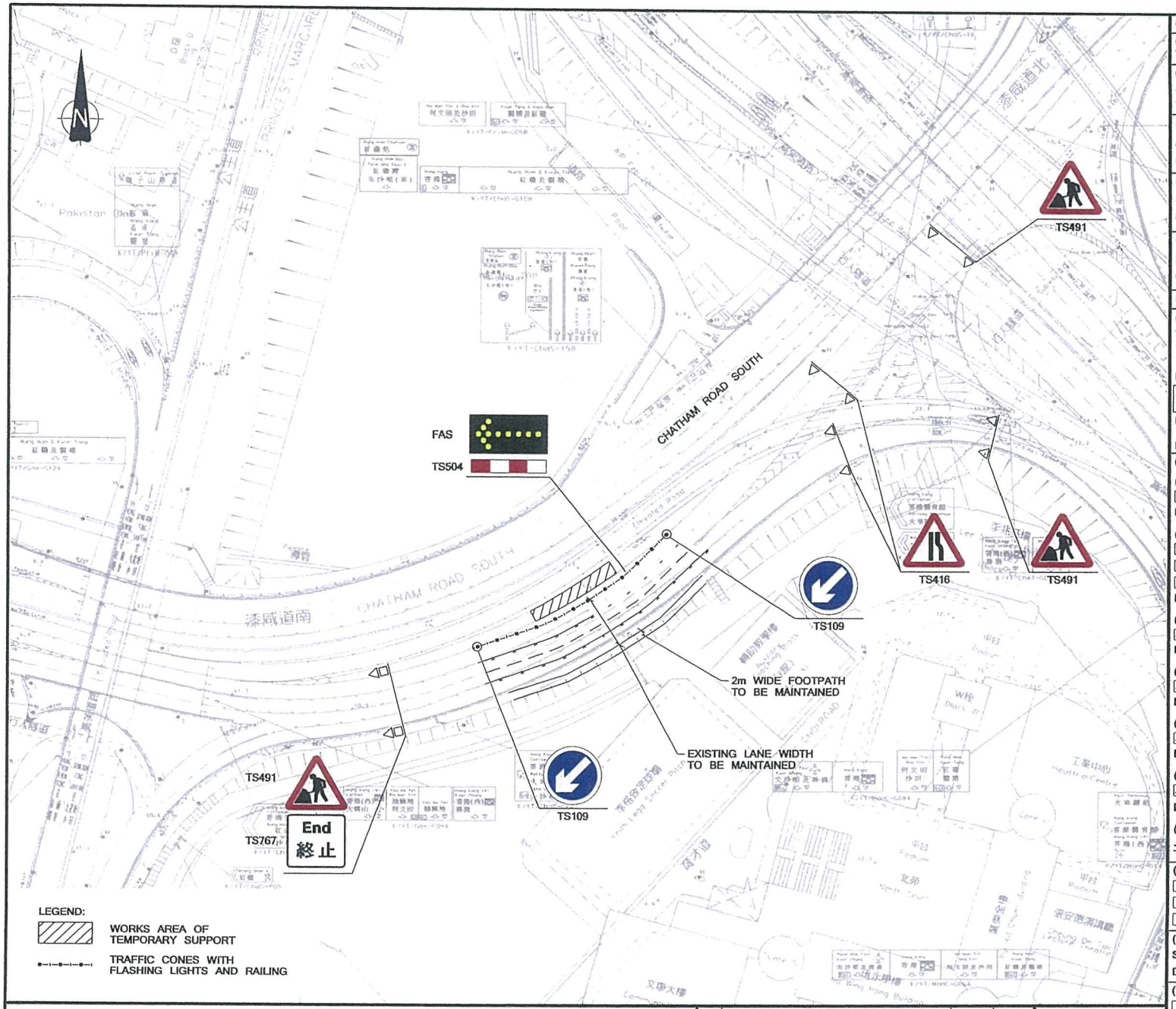
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MVA SYSTRA GROUP

CHK50076019/TW/F42.DGN/TUV/06NOV14



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 4.3 Rev: - Item #: -
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR TEMPORARY SUPPORT CONSTRUCTION - STAGE 3

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Not duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Not duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: -
Days of week: MONDAY TO SUNDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 WEEKS

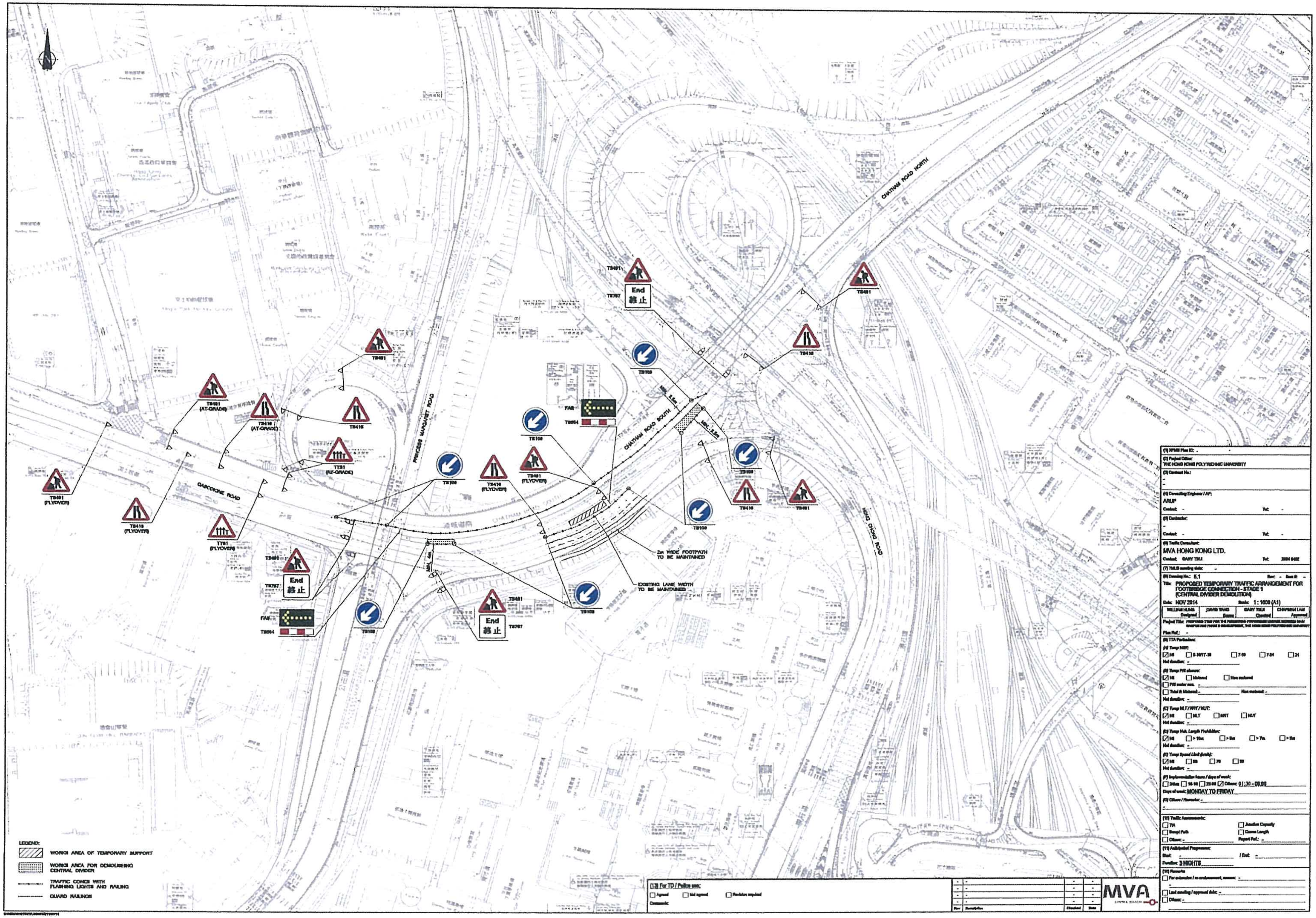
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

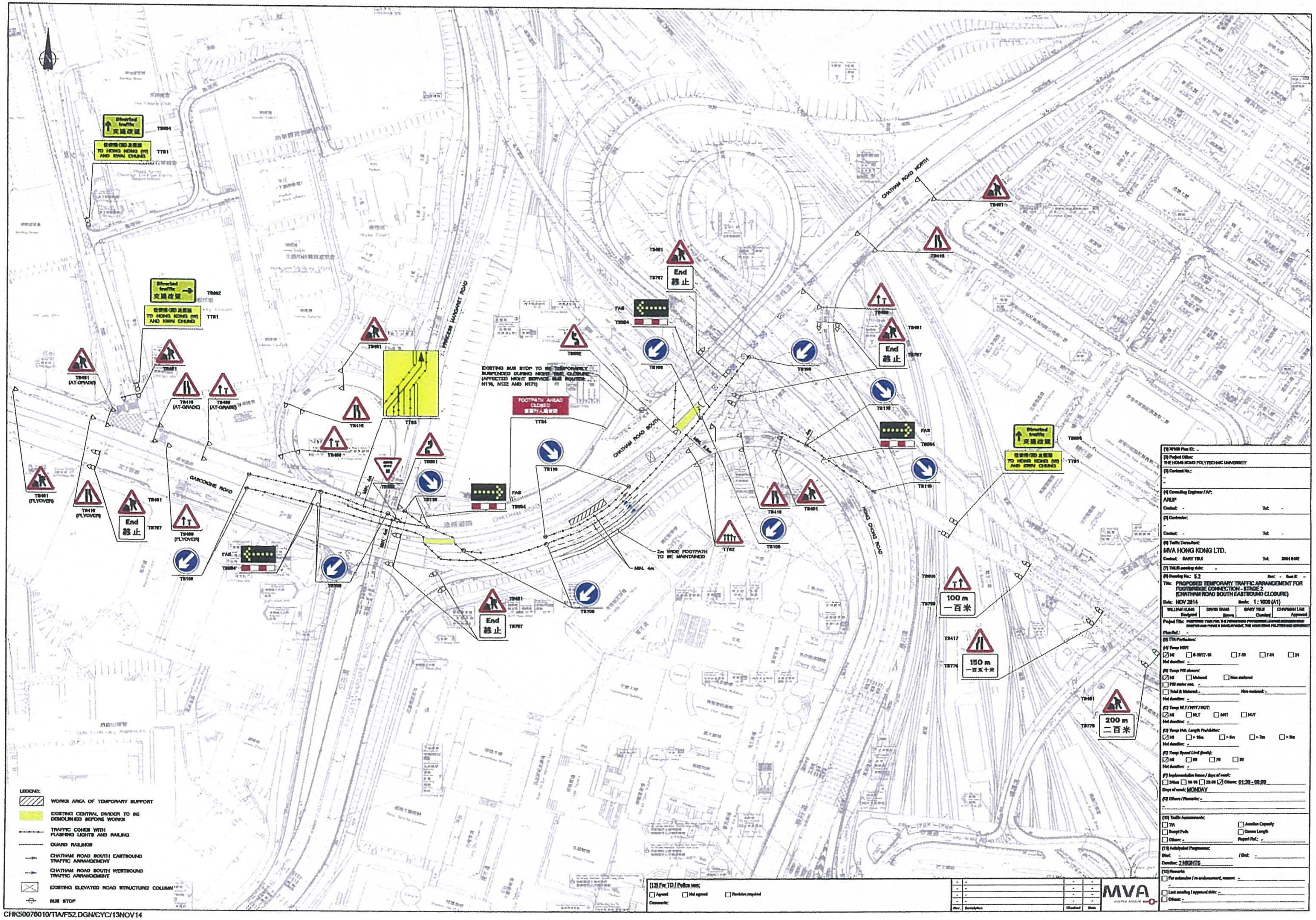
Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MVA SYSTRA GROUP

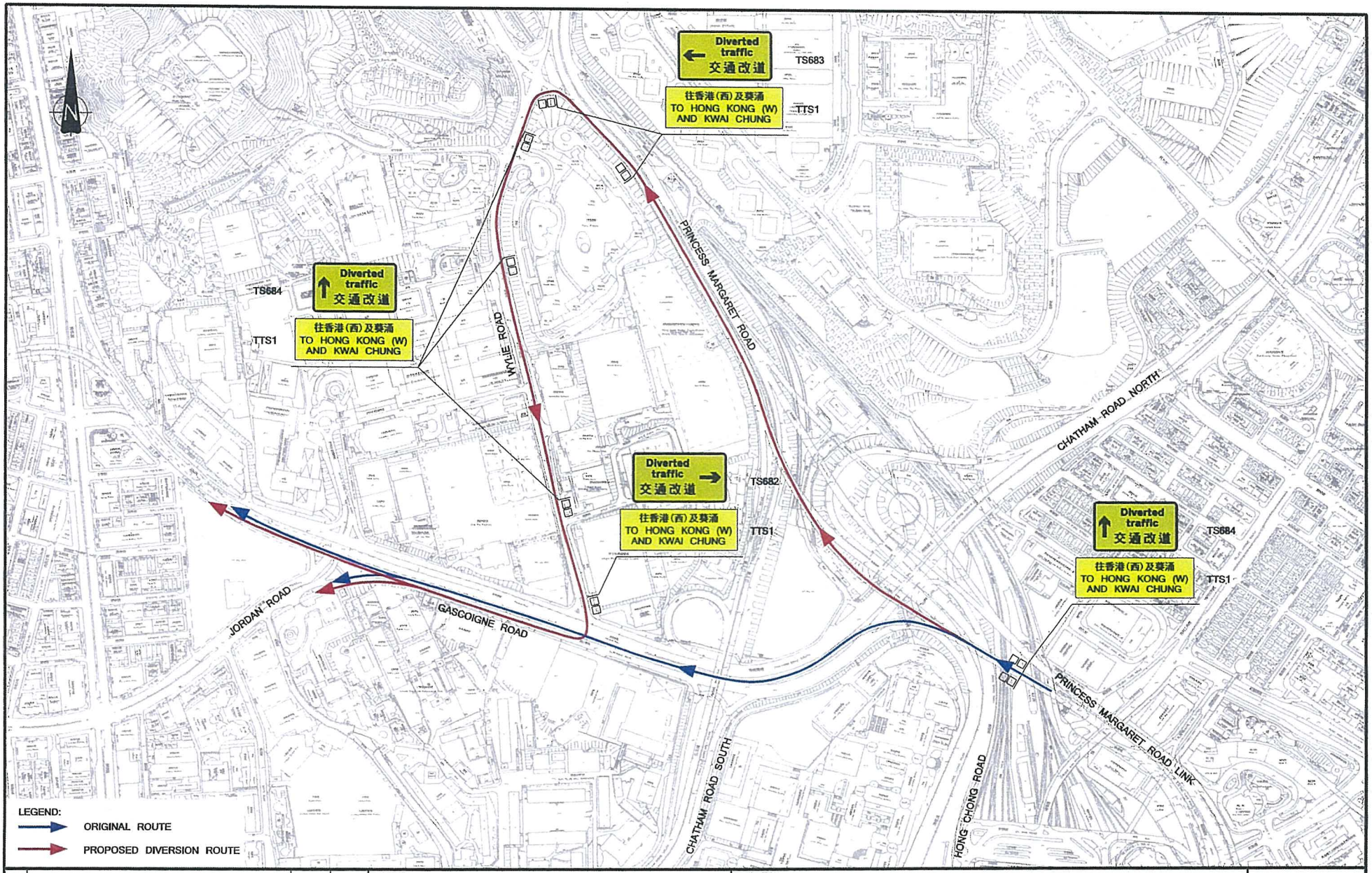
C:\N3007\8010\TIA\F43.DGN\TUV\07NOV14



CHATHAM ROAD NORTH
CHATHAM ROAD SOUTH
GASCOIGNE ROAD
PRINCESS MARGARET ROAD
HONG CHONG ROAD
T8401
T8767
End
終止
T8108
T8416
T8401 (AT-GRADE)
T8416 (AT-GRADE)
TT81 (AT-GRADE)
T8401 (FLYOVER)
T8416 (FLYOVER)
TT81 (FLYOVER)
FAS
T8604
2m WIDE FOOTPATH TO BE MAINTAINED
EXISTING LANE WIDTH TO BE MAINTAINED
LEGEND:
WORKS AREA OF TEMPORARY SUPPORT
WORKS AREA FOR DEMOLISHING CENTRAL DIVIDER
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
GUARD RAILINGS
(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY
(4) Consulting Engineer / AP: ARUP
(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI
(8) Drawing No.: 5.1
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FOOTBRIDGE CONNECTION - STAGE 1 (CENTRAL DIVIDER DEMOLITION)
Date: NOV 2014
Scale: 1 : 1000 (A1)
WILLIAM HUNG Designed
DAVID TANG Drawn
GARY TSUI Checked
CHAPMAN LAM Approved
(9) TTA Particulars:
(F) Implementation hours / days of week:
Others: 01:30 - 08:00
Days of week: MONDAY TO FRIDAY
(10) Traffic Assessments:
(11) Anticipated Programme:
Duration: 3 NIGHTS
(12) Remarks
(13) For TD / Police use:
MVA



CHK50076010/TIA/F52.DGN/CYC/13NOV14



Rev.	Description	Checked	Date
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Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

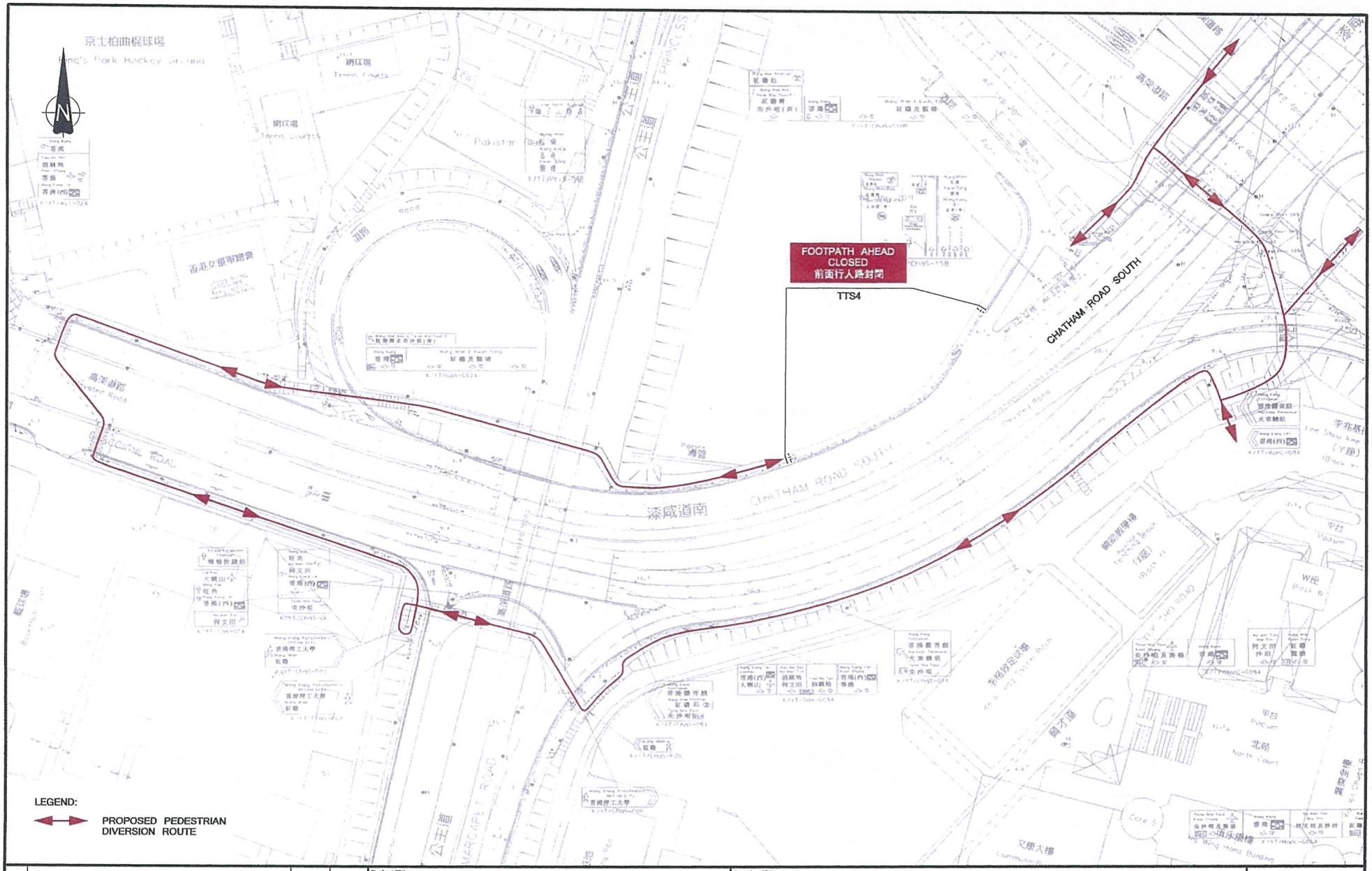
Drawing Title

PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 2 (CHATHAM ROAD SOUTH EASTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	5.3	-

MVA SYSTRA GROUP

CHK50070010/TIA/FS3.DGN/TUV/07NOV14



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

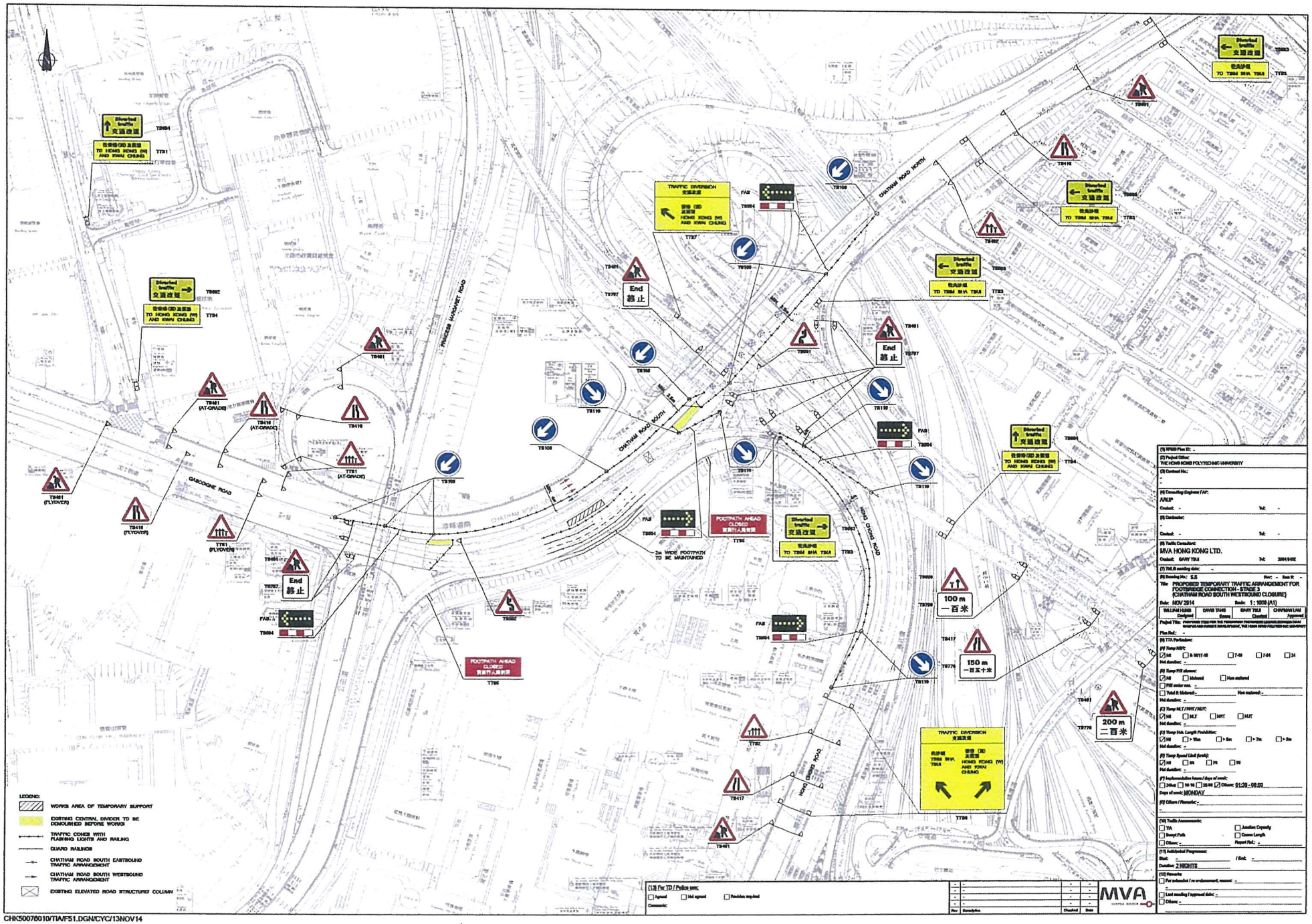
Drawing Title

PROPOSED TEMPORARY PEDESTRIAN DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 2 (CHATHAM ROAD SOUTH EASTBOUND CLOSURE)

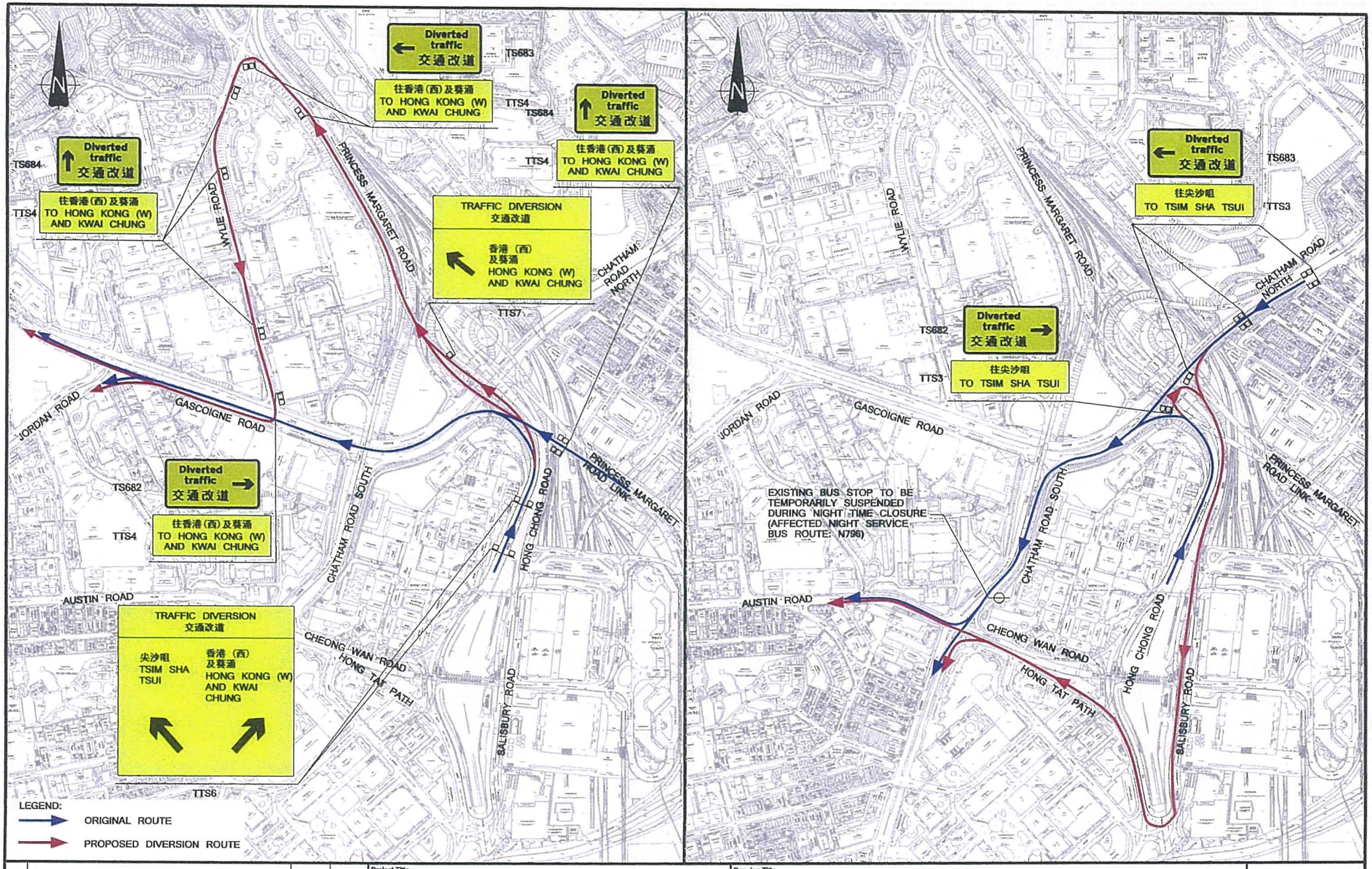
Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:1000(A3)	NOV 2014	5.4	-

MVA SYSTRA GROUP

CHK50078010/TIA/FS4.DGN/TUV/06NOV14



CHK50076010/TIA/F51.DGN/CYC/13NOV14



Rev.	Description	Checked	Date
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-	-	-	-
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-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

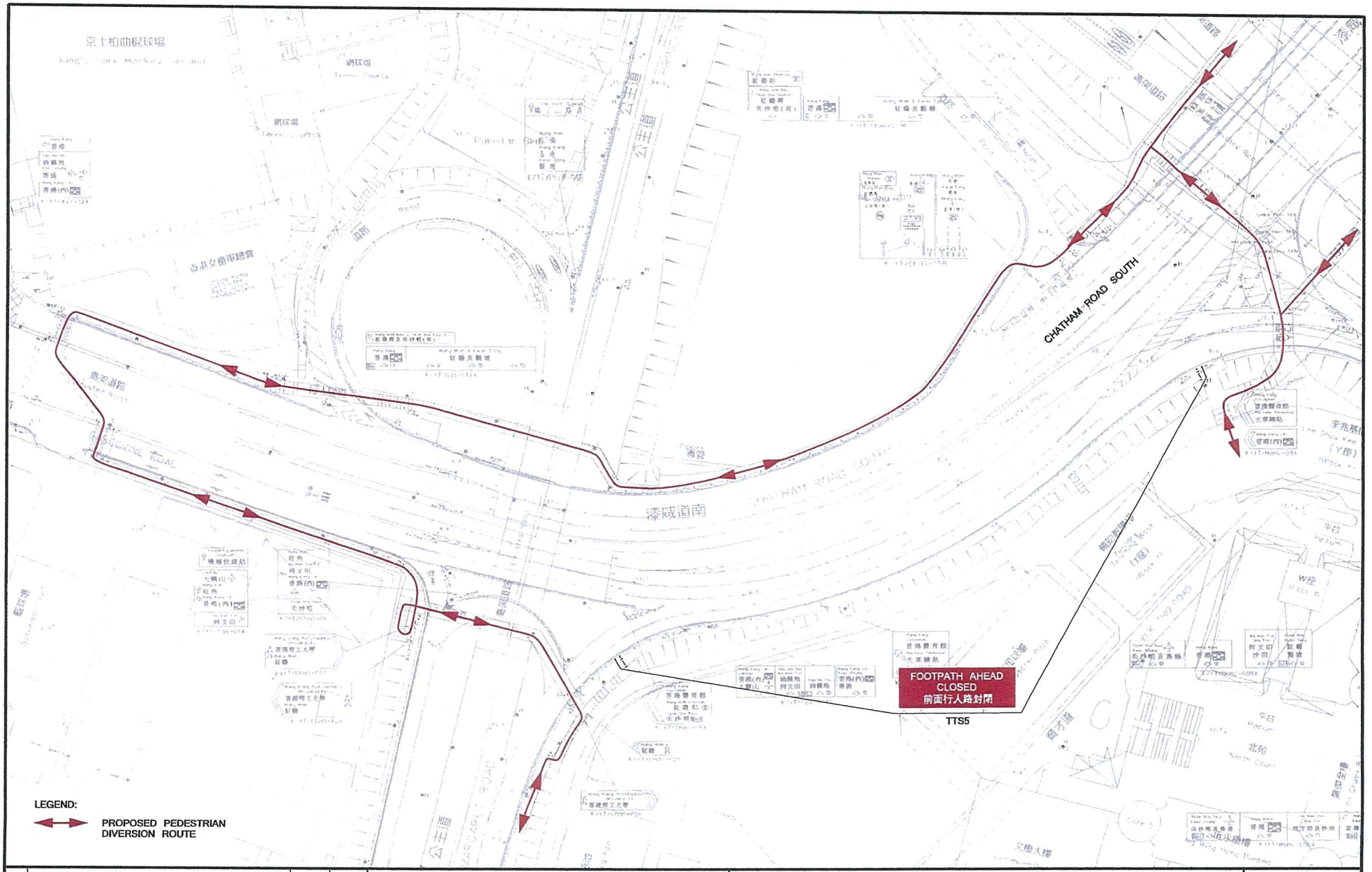
Drawing Title

PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 3 (CHATHAM ROAD SOUTH WESTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	5.6	-

MVA SYSTRA GROUP

C:\HK5007\8010\TIA\FS6.DGN\HJQ/10NOV14



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

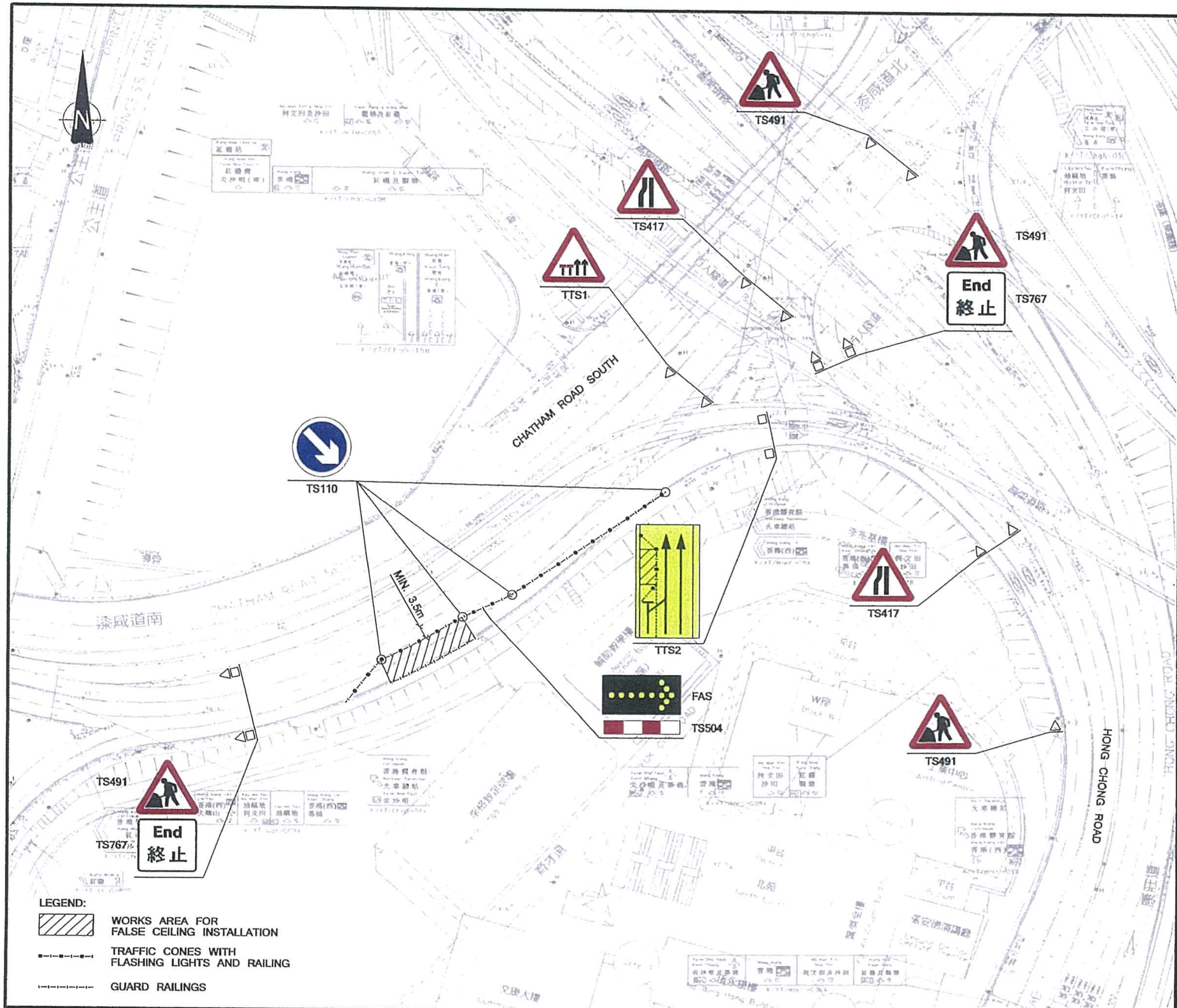
Drawing Title

PROPOSED TEMPORARY PEDESTRIAN DIVERSION UNDER FOOTBRIDGE CONNECTION - STAGE 3 (CHATHAM ROAD SOUTH WESTBOUND CLOSURE)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:1000(A3)	NOV 2014	5.7	-

MVA SYSTRA GROUP

CHK50076010/TIA/FS7.DGN/TUV/06NOV14



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 6.1 Rev: - Item #: -
Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 1

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered:- Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☐ 24hrs ☐ 10-16 ☐ 22-06 ☑ Others: 00:00 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

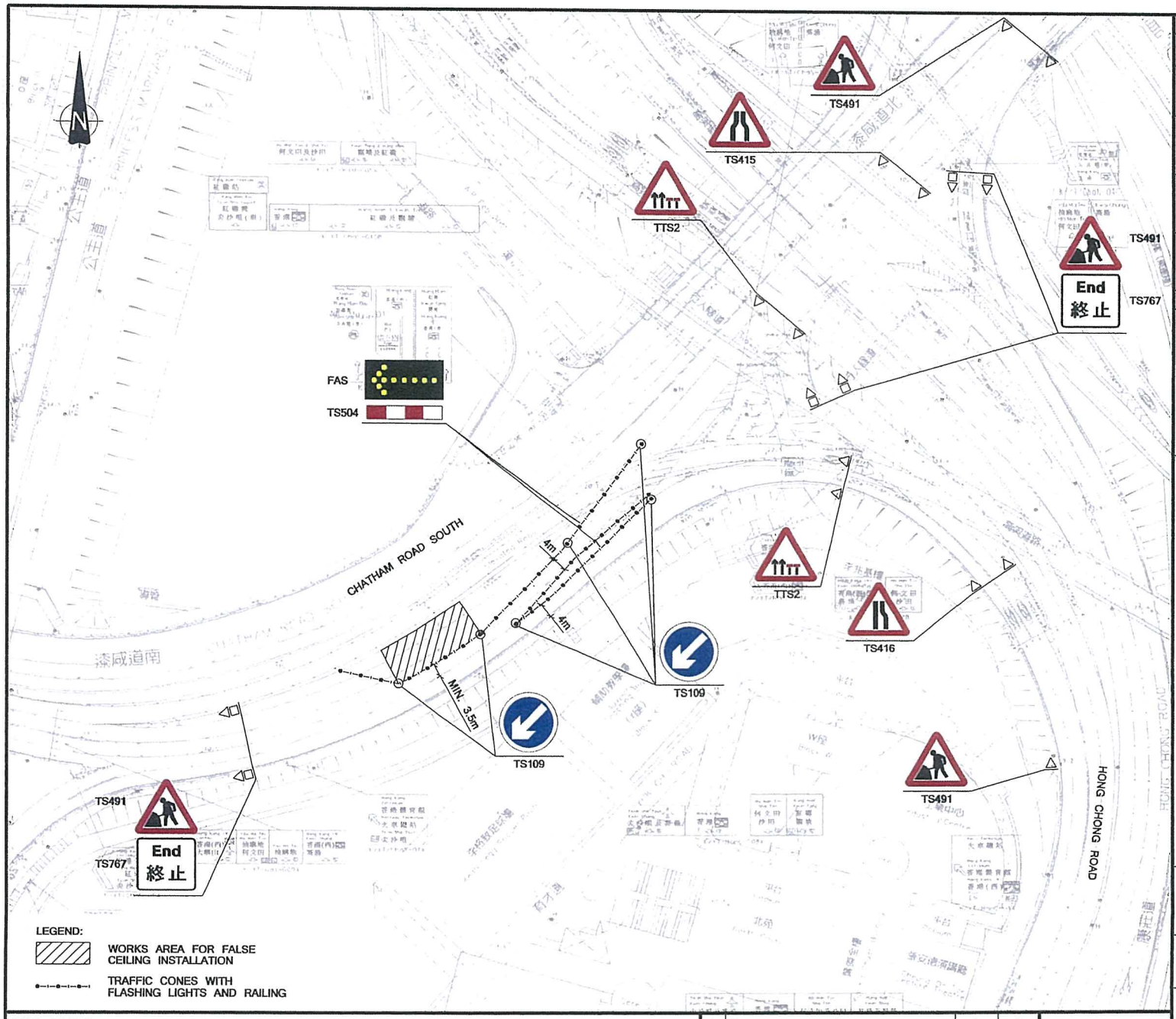
(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MVA
SYSTRA GROUP

CHK50076010/TM/F61.DGN/HJO/12NOV14



(1) XPMS Plan ID: -

(2) Project Office:
THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.:
-
-

(4) Consulting Engineer / AP:
ARUP
Contact: - Tel: -

(5) Contractor:
-
Contact: - Tel: -

(6) Traffic Consultant:
MVA HONG KONG LTD.
Contact: GARY TSUI Tel: 2864 6452

(7) TMLG meeting date: -

(8) Drawing No.: 6.2 Rev: - Item #: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 2

Date: NOV 2014 Scale: 1 : 1000 (A3)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSR:
☑ Nil ☐ 8-10/17-19 ☐ 7-19 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/S closure:
☑ Nil ☐ Metered ☐ Non-metered
☐ P/S meter nos. -
☐ Total #: Metered: - Non-metered: -
Net duration: -

(C) Temp NLT / NRT / NUT:
☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition:
☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > 5m
Net duration: -

(E) Temp Speed Limit (km/h):
☑ Nil ☐ 80 ☐ 70 ☐ 50
Net duration: -

(F) Implementation hours / days of week:
☑ 24hrs ☐ 10-16 ☐ 22-06 ☐ Others: 00:00 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -
-

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

(12) Remarks
☐ For extension / re-endorsement, reason: -
-
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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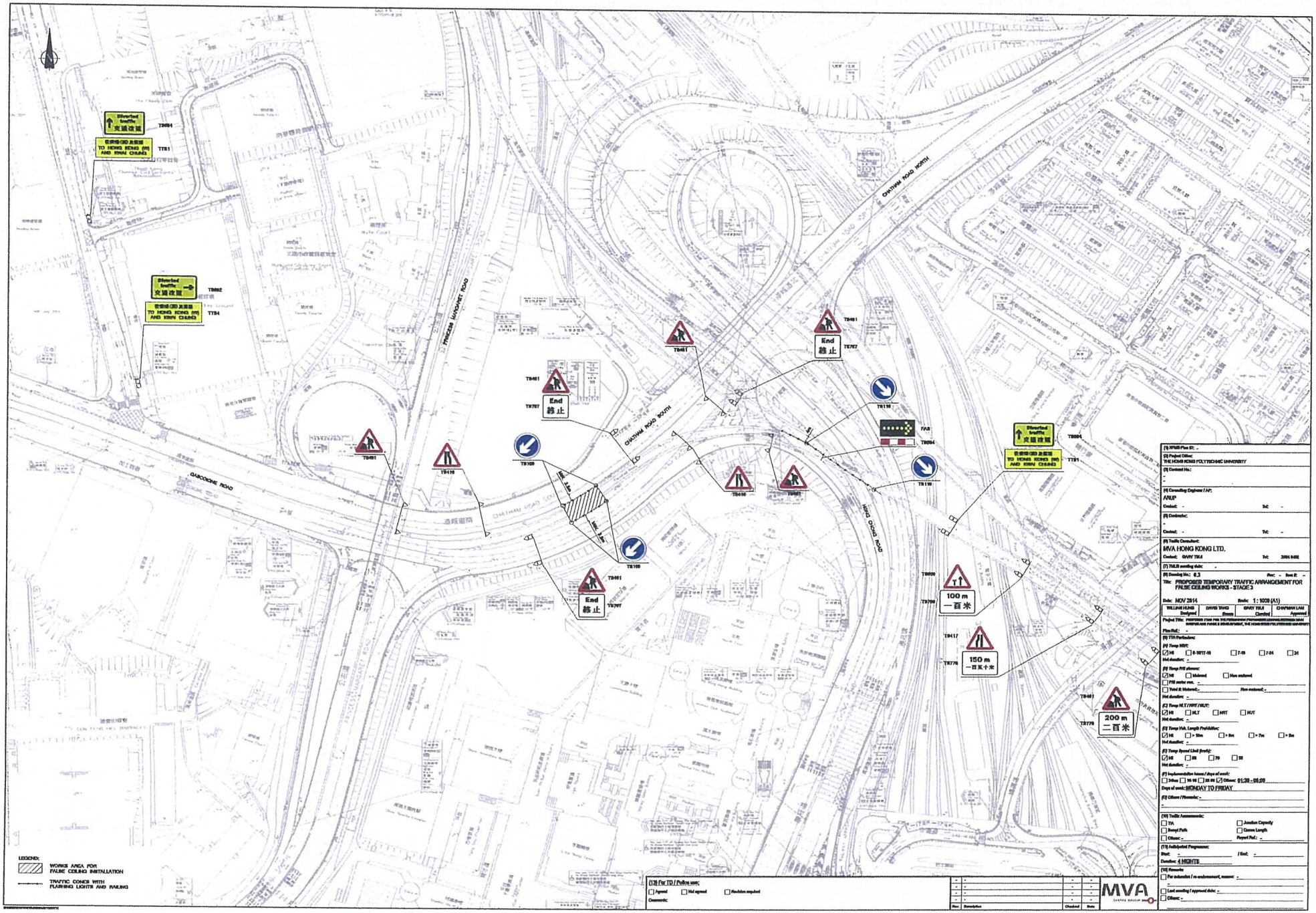
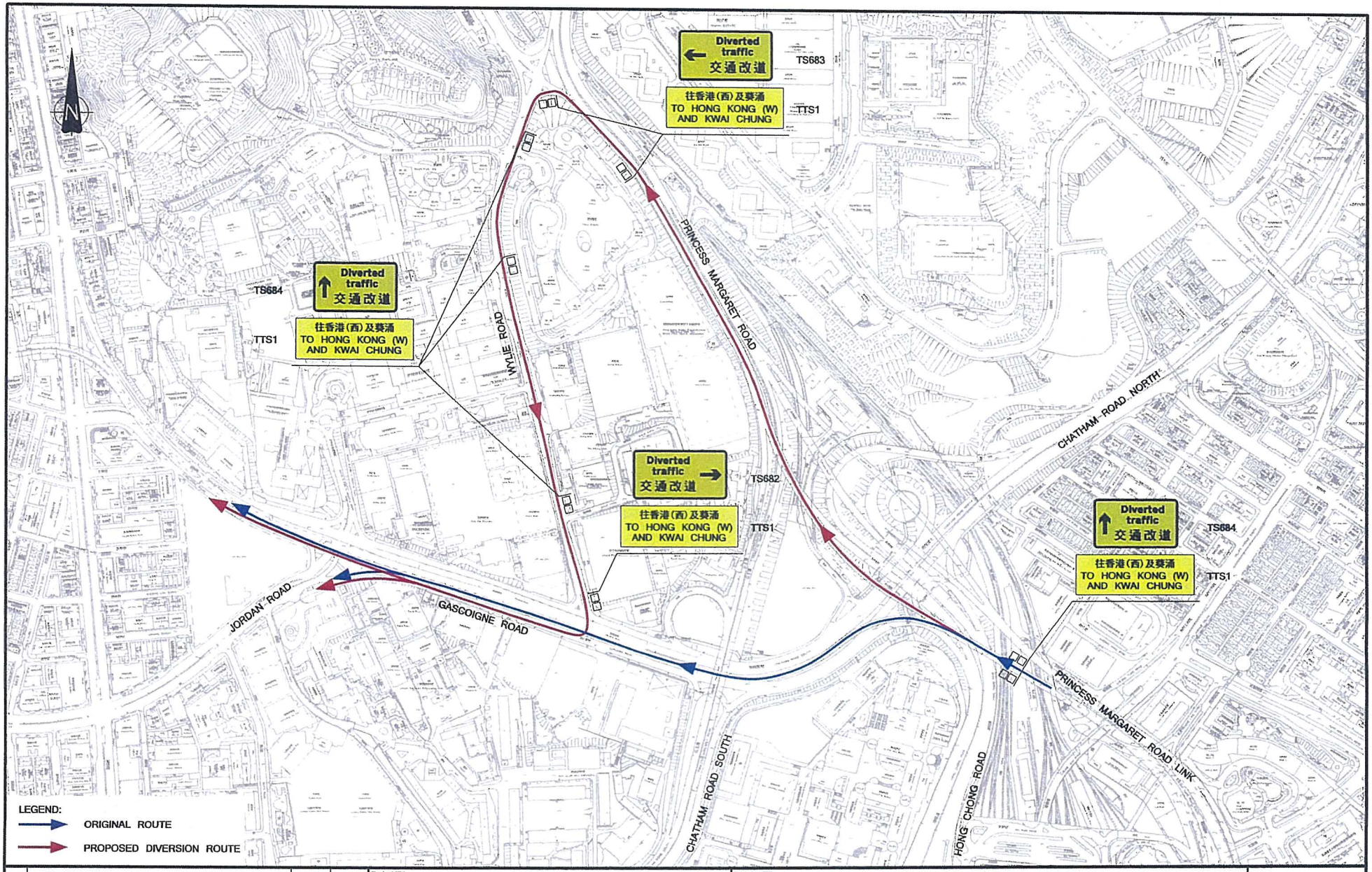
CHK50076010/TIA/FIG2.DGN1\JQ\12NOV14


CHATHAM ROAD NORTH
PRINCESS MARGARET ROAD
GARDENIA ROAD
HUNG HOM ROAD
Diverted traffic
改道收窄
TO HONG KONG (W) AND KWN CHUNG
End
終止
100 m
一百米
150 m
一百五十米
200 m
二百米
LEGEND:
WORKS AREA FOR FALSE CEILING INSTALLATION
TRAFFIC CONES WITH FLASHING LIGHTS AND RAILING
MVA



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

PROPOSED TEMPORARY TRAFFIC DIVERSION UNDER FALSE CEILING WORKS - STAGE 2

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	N.T.S.	NOV 2014	6.4	-

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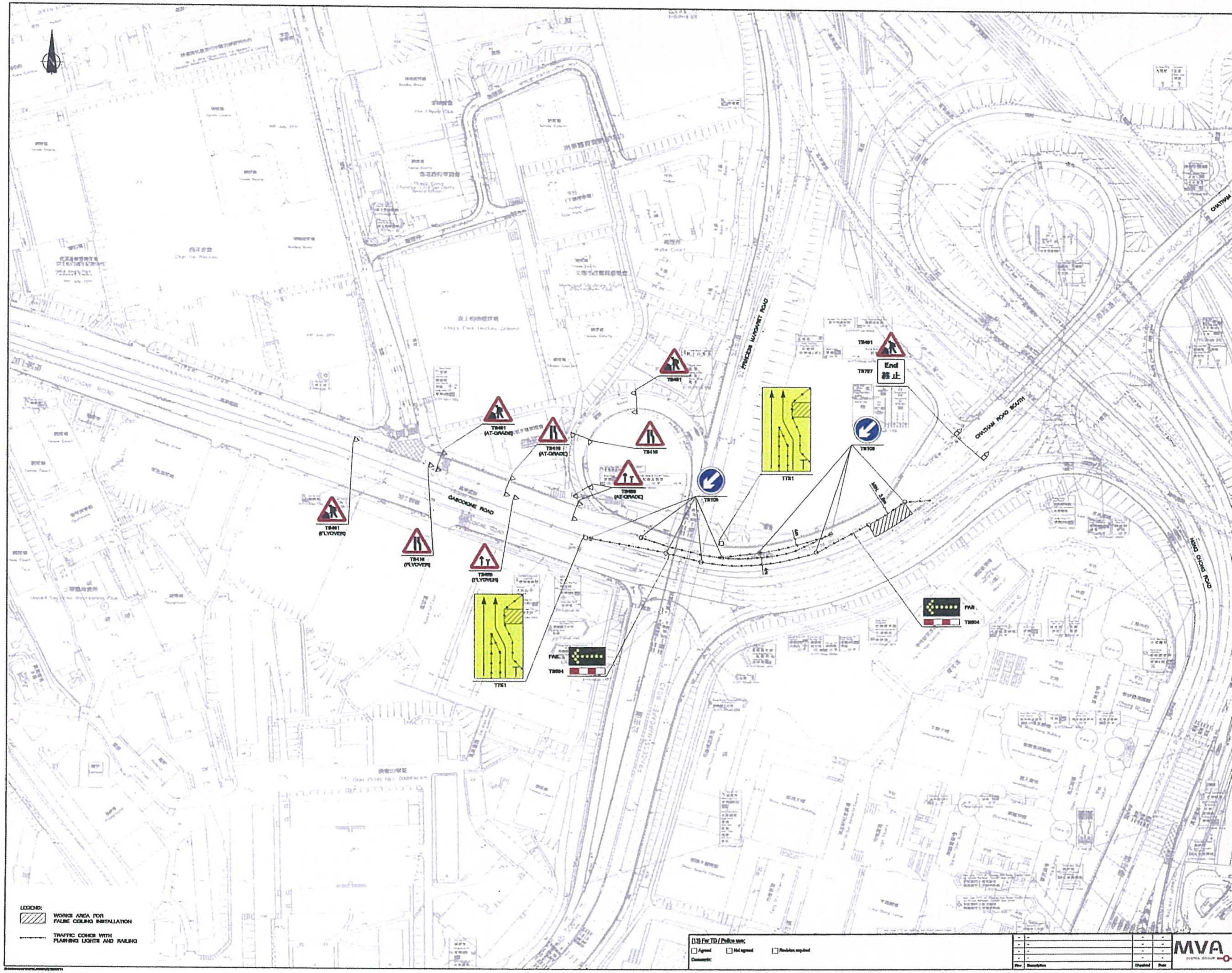
CHK50078010/TIA/F64.DGN/TUV/07NOV14



(1) XP/MR Plan ID: -

(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.: -

(4) Consulting Engineer / AP: ARUP
Contact: - Tel: -

(5) Contractor: -
Contact: - Tel: -

(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI Tel: [illegible]

(7) TMLG meeting date: -

(8) Drawing No.: 6.5 Rev.: - Sect.: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 4

Date: NOV 2014 Scale: 1 : 1000 (A1)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Project Title: [illegible]

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NSP: ☑ Nil ☐ [illegible] ☐ 7-19 ☐ 7-24 ☐ 24
Not duration: -

(B) Temp P/B closure: ☑ Nil ☐ Metered ☐ Non metered
☐ P/B meter nos. -
☐ Total & Metered: - Non metered: -
Not duration: -

(C) Temp NLT / NRT / NUT: ☑ Nil ☐ NLT ☐ NRT ☐ NUT
Not duration: -

(D) Temp Veh. Length Prohibition: ☑ Nil ☐ > 10m ☐ > 8m ☐ > 7m ☐ > [illegible]
Not duration: -

(E) Temp Speed Limit (km/h): ☑ Nil ☐ 50 ☐ 70 ☐ 80
Not duration: -

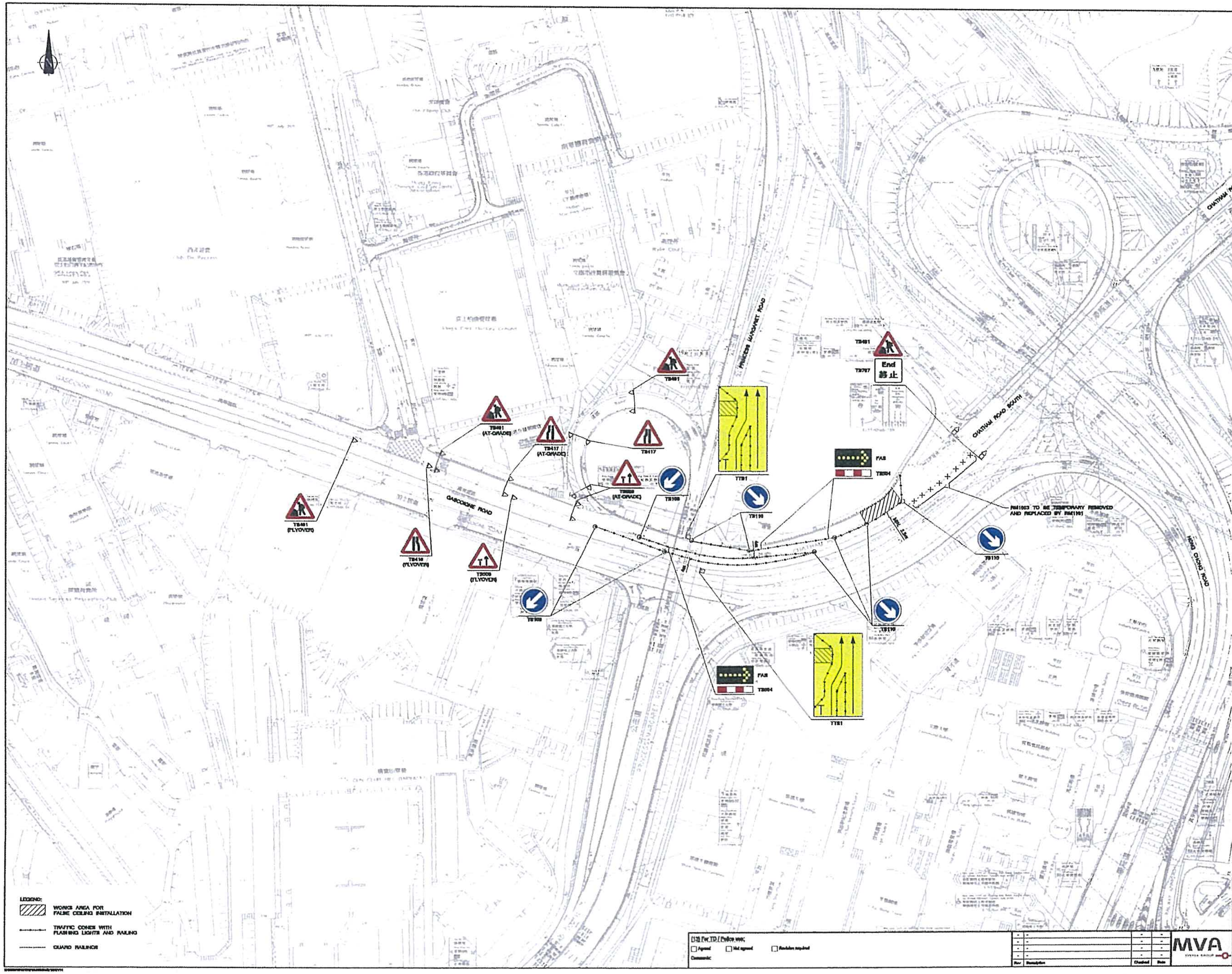
(F) Implementation hours / days of week:
☐ 24hrs ☐ [illegible] ☐ [illegible] ☑ Others: 01:30 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

(12) Remarks
☐ For extension / re-endorsement, reason: -
☐ Last meeting / approval date: -
☐ Others: -



(2) Project Office: THE HONG KONG POLYTECHNIC UNIVERSITY

(3) Contract No.: -

(4) Consulting Engineer / AP: ARUP
Contact: - Tel: -

(5) Contractor: -
Contact: - Tel: -

(6) Traffic Consultant: MVA HONG KONG LTD.
Contact: GARY TSUI

(7) TMLG meeting date: -

(8) Drawing No.: 8.8 Rev: -

Title: PROPOSED TEMPORARY TRAFFIC ARRANGEMENT FOR FALSE CEILING WORKS - STAGE 3

Date: NOV 2014 Scale: 1 : 1000 (A1)

WILLIAM HUNG	DAVID TANG	GARY TSUI	CHAPMAN LAM
Designed	Drawn	Checked	Approved

Plan Ref.: -

(9) TTA Particulars:

(A) Temp NRR: ☑ Nil ☐ 8-10/17-19 ☐ 7-10 ☐ 7-24 ☐ 24
Net duration: -

(B) Temp P/B closure: ☑ Nil ☐ Metered ☐ Non metered
☐ P/B meter nos. -
☐ Total & Metered: - Non metered: -
Net duration: -

(C) Temp NLT / NRT / NUT: ☑ Nil ☐ NLT ☐ NRT ☐ NUT
Net duration: -

(D) Temp Veh. Length Prohibition: ☑ Nil ☐ > 10m ☐ > [illegible] ☐ > 7m ☐ > [illegible]
Net duration: -

(E) Temp Speed Limit (km/h): ☑ Nil ☐ 50 ☐ 70 ☐ 80
Net duration: -

(F) Implementation hours / days of week:
☐ 24hrs ☐ [illegible] ☐ [illegible] ☑ Others: 01:30 - 06:00
Days of week: MONDAY TO FRIDAY

(G) Others / Remarks: -

(10) Traffic Assessments:
☐ TIA ☐ Junction Capacity
☐ Swept Path ☐ Queue Length
☐ Others: - Report Ref.: -

(11) Anticipated Programme:
Start: - / End: -
Duration: 4 NIGHTS

(12) Remarks
☐ For extension / re-endorsement, reason: -
☐ Last meeting / approval date: -
☐ Others: -

(13) For TD / Police use:
☐ Agreed ☐ Not agreed ☐ Revision required
Comments:

Appendix B

FURTHER SUBMISSION ON TRAFFIC DATA TO TD AND HKPF

TSUI Gary

From: TSUI Gary
Sent: Monday, December 01, 2014 11:35 AM
To: 'ip-sip-rmo-e-c-kw@police.gov.hk'; 'sktai@td.gov.hk'
Cc: HUNG William
Subject: RE: Proposed TTM Schemes for the Pedestrian Footbridge Linkage across Chatham Road South between Main Campus and Block Z
Attachments: 5.2_(Stage_2).pdf; 5.5_(Stage_3).pdf

Dear Chan Sir and Mr. Tai

Further to the ad-hoc TMLG meeting held on 13 November 2014 regarding the captioned works, as per your comment, traffic survey had been carried out on a typical Saturday night to study the feasibility to carry out the proposed Temporary Traffic Management (TTM) scheme for Footbridge connection works under contra-flow arrangement (i.e. Figures 5.2 and 5.5) at Chatham Road South near Poly University (PolyU) Phase 8.

The survey was carried out from 23:59 to 09:00 on 22 Nov 2014 (Saturday midnight to Sunday morning) at Chatham Road South near PolyU Phase 8.

Under Stage 2 of TTM scheme (Refer to Drawing No. 5.2), the eastbound traffic at Chatham Road South will be temporarily diverted to the westbound carriageway as contra-flow arrangement. The Saturday midnight traffic flow and Volume to Capacity (V/C) ratio (from 23:59 to 09:00) at Chatham Road South eastbound under Stage 2 are as shown in the following table:

Chatham Road South Eastbound		Time period																
		23:59-01:00	00:30-01:30	01:00-02:00	01:30-02:30	02:00-03:00	02:30-03:30	03:00-04:00	03:30-04:30	04:00-05:00	04:30-05:30	05:00-06:00	05:30-06:30	06:00-07:00	06:30-07:30	07:00-08:00	07:30-08:30	08:00-09:00
Normal Saturday night	Traffic flow (pcu/hr)	3081	2608	2387	2183	1926	1698	1591	1532	1547	1526	1611	1802	1911	2224	2544	2660	2703
	V/C Ratio	2.30	1.95	1.78	1.63	1.44	1.27	1.19	1.14	1.15	1.14	1.20	1.34	1.43	1.66	1.90	1.99	2.02

From the above table, the V/C ratios of the affected section of Chatham Road South are over the saturation level of 1.00 during entire Saturday midnight, and V/C ratio only falls below 1.2 (the highest V/C ratio could be considered for temporary works) during 0300-0530 with the one traffic lane contra flow TTM arrangement. Thus, it is anticipated that Stage 2 of Footbridge connection works (Chatham Road South eastbound closure) might cause adverse traffic impact if the proposed works are carrying out during Saturday midnight.

Under Stage 3 of TTM scheme (Refer to Drawing No. 5.5), the westbound traffic at Chatham Road South will be temporarily diverted to the eastbound carriageway as contra-flow arrangement. The Saturday midnight traffic flow and Volume to Capacity (V/C) ratio at Chatham Road South westbound under Stage 5 are as shown in the following table:

Chatham Road South Westbound		Time period																
		23:59-01:00	00:30-01:30	01:00-02:00	01:30-02:30	02:00-03:00	02:30-03:30	03:00-04:00	03:30-04:30	04:00-05:00	04:30-05:30	05:00-06:00	05:30-06:30	06:00-07:00	06:30-07:30	07:00-08:00	07:30-08:30	08:00-09:00
Normal Saturday night	Traffic flow (pcu/hr)	1447	1366	1213	999	917	957	942	858	861	911	885	890	999	1083	1123	1317	1511
	V/C Ratio	1.08	1.02	0.91	0.75	0.68	0.71	0.70	0.64	0.64	0.68	0.66	0.66	0.75	0.81	0.84	0.98	1.13

From the above table, the V/C ratios of the affected section of Chatham Road South are within the saturation level of 1.00 during between 01:00 and 08:00 Saturday midnight with the one traffic lane contra flow TTM arrangement.
Therefore the proposed works of Stage 3 could be carried out on Saturday midnight (i.e. Sunday morning 01:00 to 06:00) which is supported from traffic point of view.

Based on above traffic assessment results, please kindly advise your comments on whether the works should be considered to carrying out on Saturday night or remain to just carrying out on Sunday night as proposed previously for our further revision on the drawings.

Please find the attached latest TTM schemes for Stage 2 and Stage 3 of footbridge connection works for your reference and please note that these latest TTM schemes had already incorporated the comments received in the TMLG meeting.

Thank you for your kind attention.

Regards,

Gary Tsui
Associate
Tel: +852 2864 6452 (Direct Line) • Gen: +852 2529 7037 • Fax: +852 2527 8490

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From: TSUI Gary
Sent: Friday, October 31, 2014 5:48 PM
To: ip-sip-rmo-e-c-kw@police.gov.hk; 'sktai@td.gov.hk'
Cc: HUNG William
Subject: Proposed TTM Schemes for the Pedestrian Footbridge Linkage across Chatham Road South between Main Campus and Block Z

Dear Chan Sir and Mr. Tai

Further to our recent tele-conversation regarding the captioned, please kindly note that the ad-hoc meeting to discuss the captioned TTM schemes will be held as follows:

Date: 13th November 2014 (Thursday)
Time: around 4:00 pm – 5:00 pm
Venue: Room 818, 8/F, Mong Kok Government Offices.

Hard copy of the TTM drawings will be delivered to your office in due course.

If you have any query on the meeting, please feel free to call me at 2864 6452.

Thank you very much for your attention.

Regards,

Gary Tsui
Associate
Tel: +852 2864 6452 (Direct Line) • Gen: +852 2529 7037 • Fax: +852 2527 8490

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www.mvaasia.com

TSUI Gary

From: ip-sip-rmo-e-c-kw@police.gov.hk
Sent: Thursday, December 04, 2014 9:50 AM
To: TSUI Gary
Cc: sktai@td.gov.hk; HUNG William
Subject: RE: Proposed TTM Schemes for the Pedestrian Footbridge Linkage across Chatham Road South between Main Campus and Block Z
Attachments: 5.2_(Stage_2).pdf; 5.5_(Stage_3).pdf

Dear Gary,

Noted with thank. RMO has no comment at this stage from traffic policing point of view except that stage 3 should be conducted on Saturday please.

2. Should you have any enquiry, please feel free to contact the undersigned.

Best Regards,

Walter CHAN
Sr. Insp. of Police

Road Management Office
Enforcement & Control Division
Traffic Kowloon West
Tel: 2773 5219

To Promote Excellence in Traffic Policing

交通警政　精益求精

TSUI Gary

From: SK TAI <sktai@td.gov.hk>
Sent: Thursday, December 04, 2014 10:39 AM
To: TSUI Gary
Cc: ip-sip-rmo-e-c-kw@police.gov.hk; sktai@td.gov.hk; HUNG William
Subject: RE: Proposed TTM Schemes for the Pedestrian Footbridge Linkage across Chatham Road South between Main Campus and Block Z

No comment from TD.

Best regards,

S K Tai (EK/YT)

Tel: 2399 2511

TSUI Gary <Gary.TSUI@mvaasia.com>

04/12/2014 10:31

To "ip-sip-rmo-e-c-kw@police.gov.hk" <ip-sip-rmo-e-c-kw@police.gov.hk>
"sktai@td.gov.hk" <sktai@td.gov.hk>
cc HUNG William <William.HUNG@mvaasia.com>
Subject RE: Proposed TTM Schemes for the Pedestrian Footbridge Linkage across Chatham Road South between Main Campus and Block Z

Dear Chan Sir,

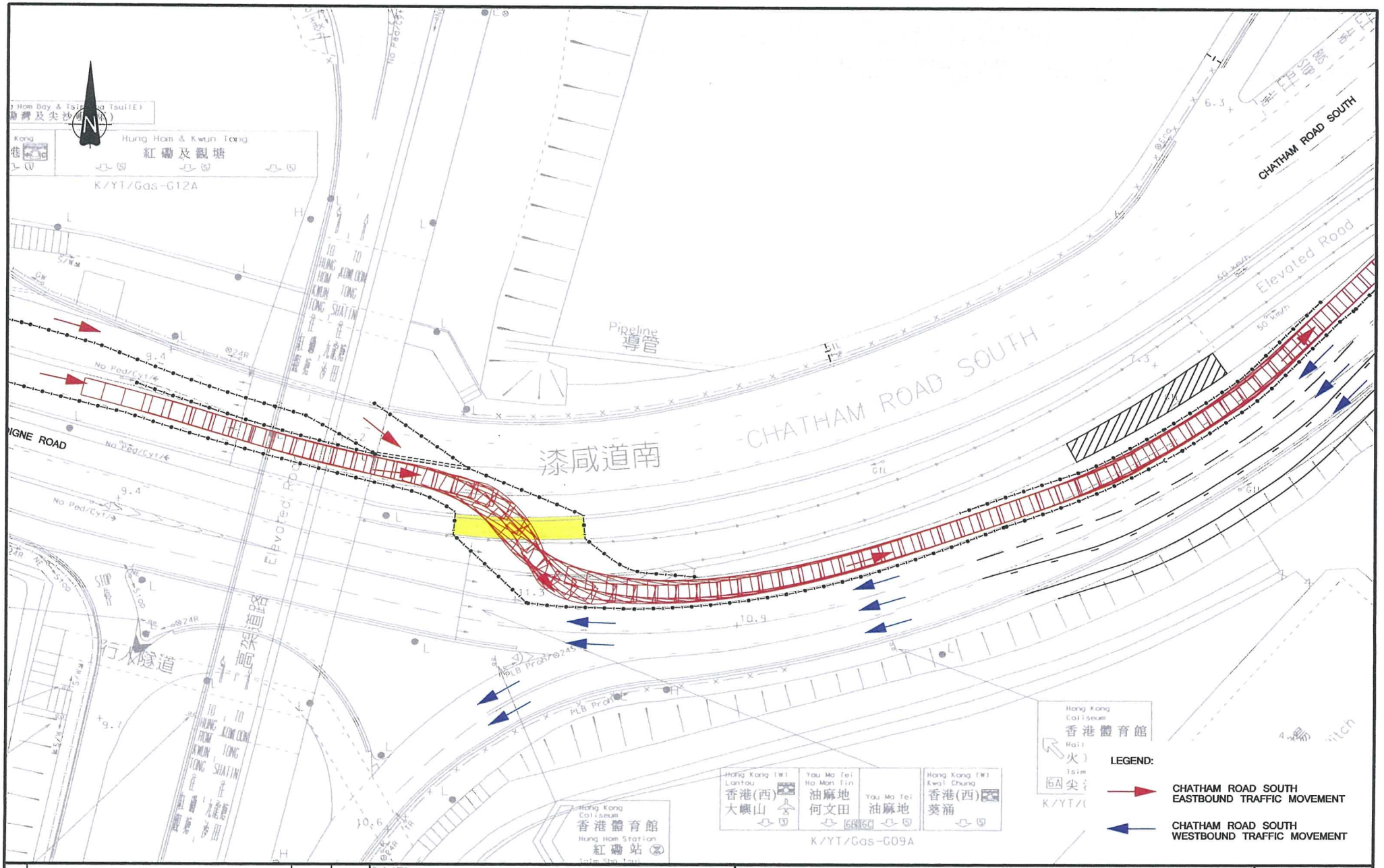
Thank you for your promote response.

Dear Mr. Tai,

Any comment from your side? Please kindly advise.

Appendix C

SWEPT PATH ANALYSIS



Rev.	Description	Checked	Date
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-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	01DEC14

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SWEPT PATH ANALYSIS FOR 16.5m LONG VEHICLE - FOOTBRIDGE CONNECTION STAGE 2 (SHEET 1 OF 2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:500(A3)	NOV 2014	SP1	A

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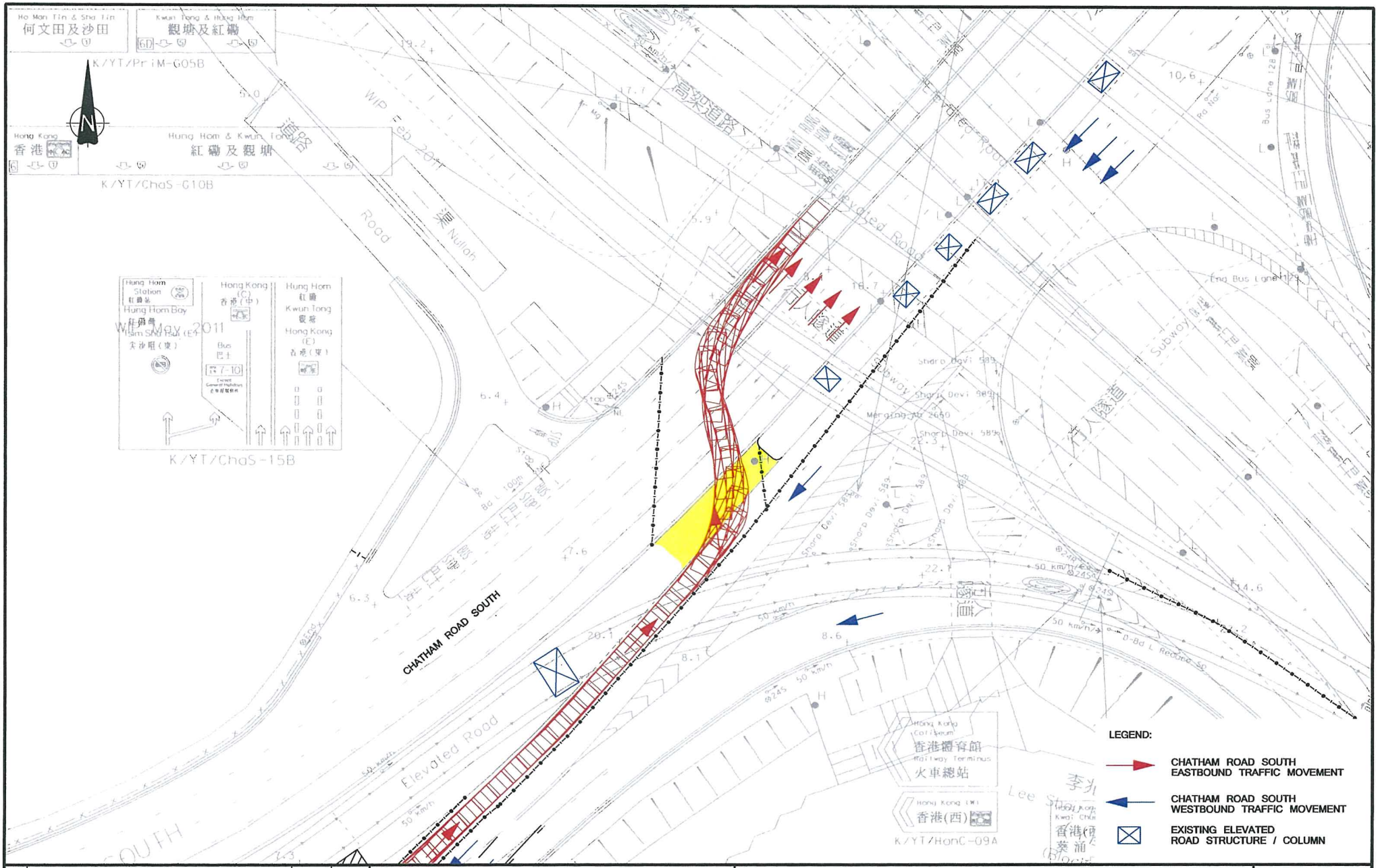
CHK50076010/TIA/SP1-A.DGN/CYC/01DEC14



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	01DEC14

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SWEPT PATH ANALYSIS FOR 16.5m LONG VEHICLE - FOOTBRIDGE CONNECTION STAGE 2 (SHEET 2 OF 2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:500(A3)	NOV 2014	SP2	A

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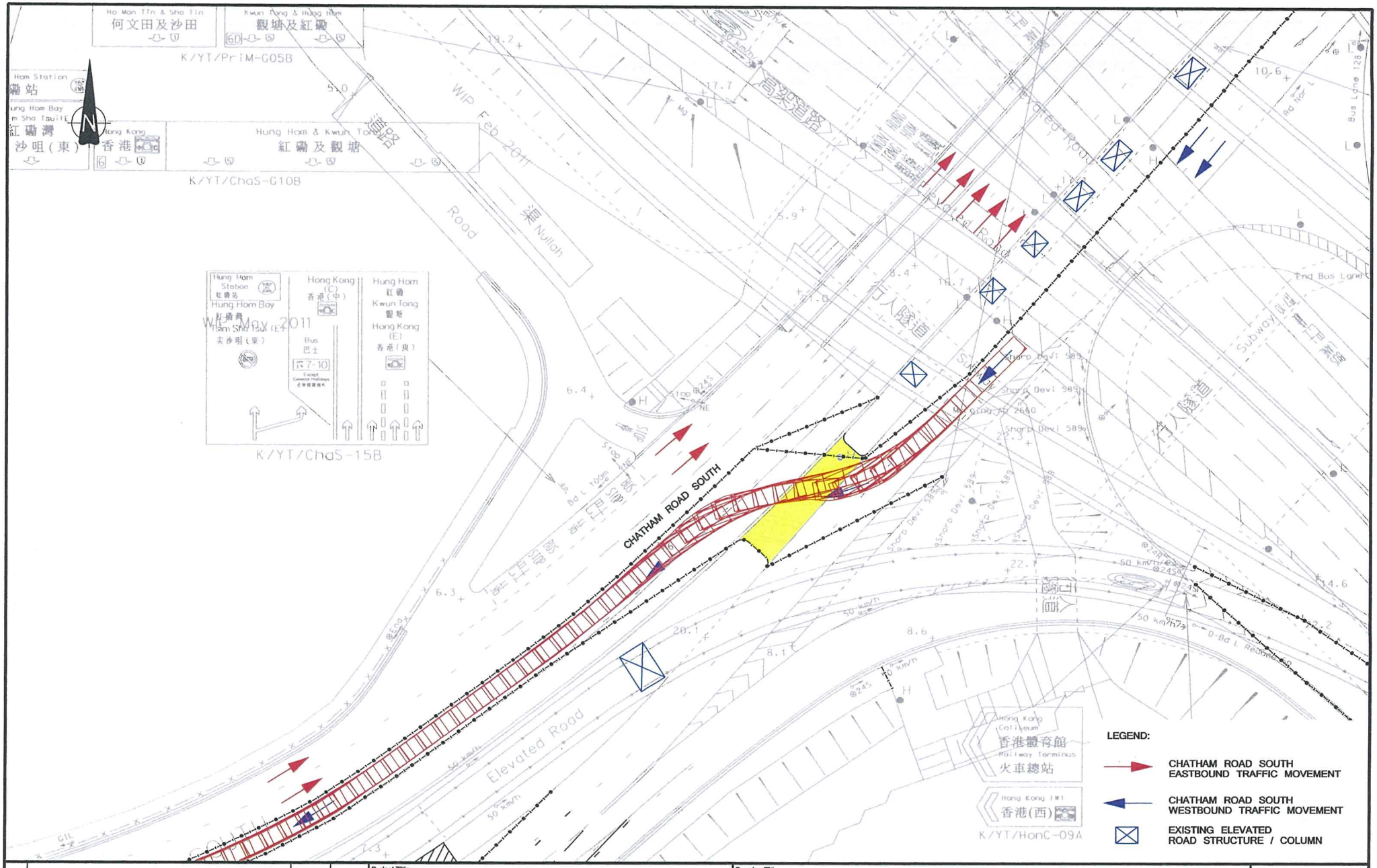
CHK50076010/TIA/SP2-A.DGN/CYC/01DEC14



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A	TD AND POLICE COMMENTS INCORPORATED	TKM	02DEC14

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SWEPT PATH ANALYSIS FOR 16.5m LONG VEHICLE - FOOTBRIDGE CONNECTION STAGE 3 (SHEET 1 OF 2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:500(A3)	NOV 2014	SP3	A

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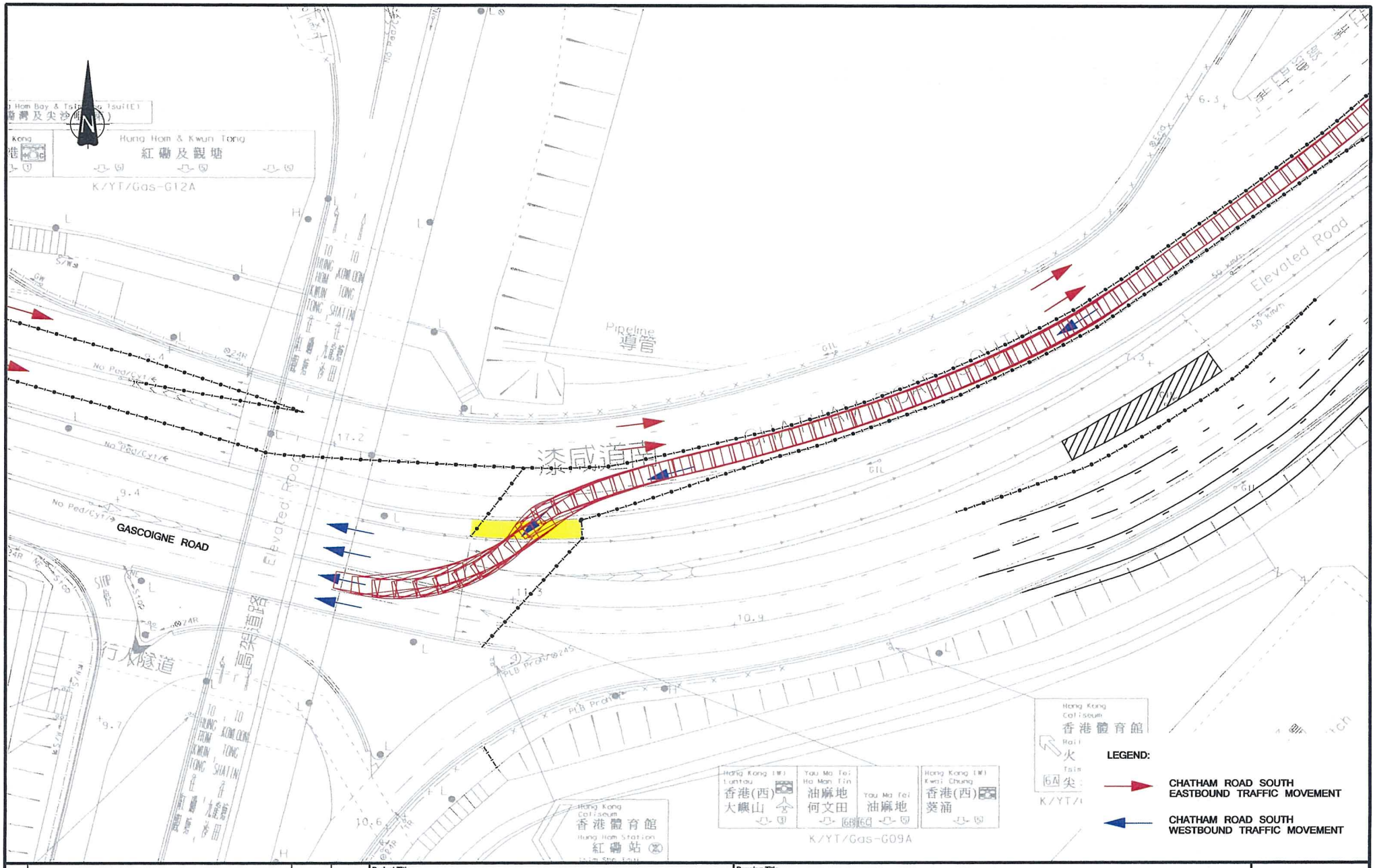
CHK50076010/TIA/SP3-A.DGN/CYC/02DEC14



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-
A	TD AND POLICE COMMENTS INCORPORATED	TKM	02DEC14

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SWEPT PATH ANALYSIS FOR 16.5m LONG VEHICLE - FOOTBRIDGE CONNECTION STAGE 3 (SHEET 2 OF 2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
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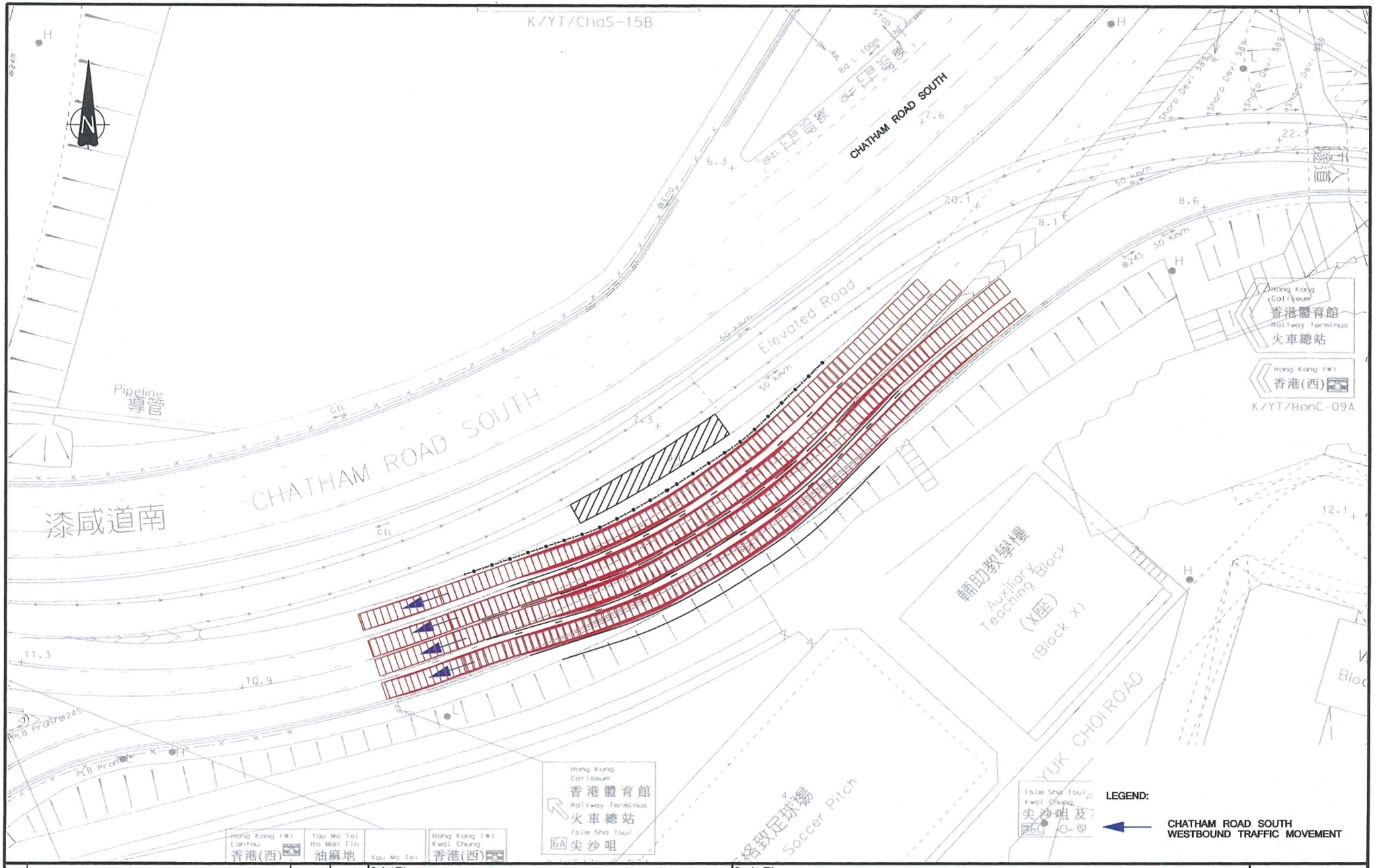
CHK50076010/TIA/SP4-A.DGN/CYC/02DEC14



Rev.	Description	Checked	Date
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-	-	-	-
-	-	-	-

Project Title

PROPOSED TTMS FOR THE PEDESTRIAN FOOTBRIDGE LINKAGE BETWEEN MAIN CAMPUS AND PHASE 8 DEVELOPMENT, THE HONG KONG POLYTECHNIC UNIVERSITY

Drawing Title

SWEPT PATH ANALYSIS FOR 12m LONG VEHICLE - TEMPORARY SUPPORT CONSTRUCTION STAGE 3

Designed	Checked	Scale	Date	Drawing No.	Rev.
HWL	TKM	1:500(A3)	DEC 2014	SP5	-

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MVA
SYSTRA GROUP

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Annex G

CKM ASIA LIMITED 陳錦敏亞洲有限公司
Traffic and Transportation Planning Consultants 交通及運輸策劃顧問

Our Ref: J6475/1

7 January 2016

Transport Department
Urban Regional Office
Traffic Engineering (Kln) Division
8/F, Mong Kok Government Offices
30 Luen Wan Street
Mong Kok, Kowloon

Attn: Mr LAM Shui Wah (Engr / Yau Tsim)

(BY POST)

Dear Mr Lam,

The Hong Kong Polytechnic University (PolyU) –
Visibility Study for Footbridge across Chatham Road South

Further to the meeting on 25th November 2015 with your office, the Project Architect and the Main Contractor, we understand your concern on the visibility along Chatham Road South slip road to the existing gantry directional sign due to the proposed PolyU footbridge across Chatham Road South.

CKM Asia has been engaged as the Traffic Consultant to ascertain if there is sufficient visibility to the existing gantry directional sign due to the presence of the proposed PolyU footbridge across Chatham Road South.

The location of proposed PolyU footbridge and the existing gantry directional sign are shown in Figure 101.

TPDM Requirement

Chatham Road South is a Primary Distributor, and according to Volume 3 Chapter 3 Table 3.2.3.1 of the Transport Planning and Design Manual (TPDM), the minimum visibility distance to a directional sign along a Primary Distributor shall be 135m.

3-Dimensional Visibility Study

The Main Contractor has conducted a detailed topographic survey to obtain the location and levels of existing gantry directional sign, the alignment and levels of Chatham Road South slip road. Based on the topographic survey, the 3-dimensional visibility study is shown in Figure 102.

The proposed PolyU footbridge is around 5.4m above the road surface of Chatham Road South slip road, and the visibility distance is measured at a height of 2m above the road surface.

21st Floor, Methodist House, 36 Hennessy Road, Wanchai, Hong Kong
香港灣仔軒尼詩道 36 號循道衛理大廈 21 樓

Tel電話: (852) 2520 5990 Fax傳真: (852) 2528 6343
Email 電郵: mail@ckmasia.com.hk Website網址: www.ckmasia.com.hk

The 3-dimensional visibility study shows that the proposed PolyU footbridge **will not affect** the visibility of motorists along Chatham Road South slip road at a distance of 135m away from the gantry directional sign, which fulfils the TPDM requirement.

On-site Visibility Checking

Further to the 3-dimensional visibility study, we have conducted an in-vehicle video recording along the Chatham Road South slip road. Based on the video image captured at a distance of around 135m away from the gantry directional sign and at a height of around 2m above road surface, the Project Architect has superimposed the proposed PolyU footbridge on the video image in scale. The photomontage is shown in Photo A.

The photomontage shows that the proposed PolyU footbridge **will not affect** the visibility of motorists along Chatham Road South slip road at a distance of 135m away from the gantry directional sign.

Conclusion

The 3-dimensional study and on-site visibility checking concluded the same finding, i.e. the proposed PolyU footbridge will not affect the visibility of motorists along Chatham Road South slip road at a distance of 135m away from the gantry directional sign, and is acceptable from traffic engineering point of view.

It is much appreciated if your department could agree on the above findings. Subject to receipt of your "no further comment", the Main Contractor will resume the TTA and Excavation Permit application for the footbridge erection works.

Should you have any queries, please do not hesitate to contact the undersigned.

Thank you for your attention.

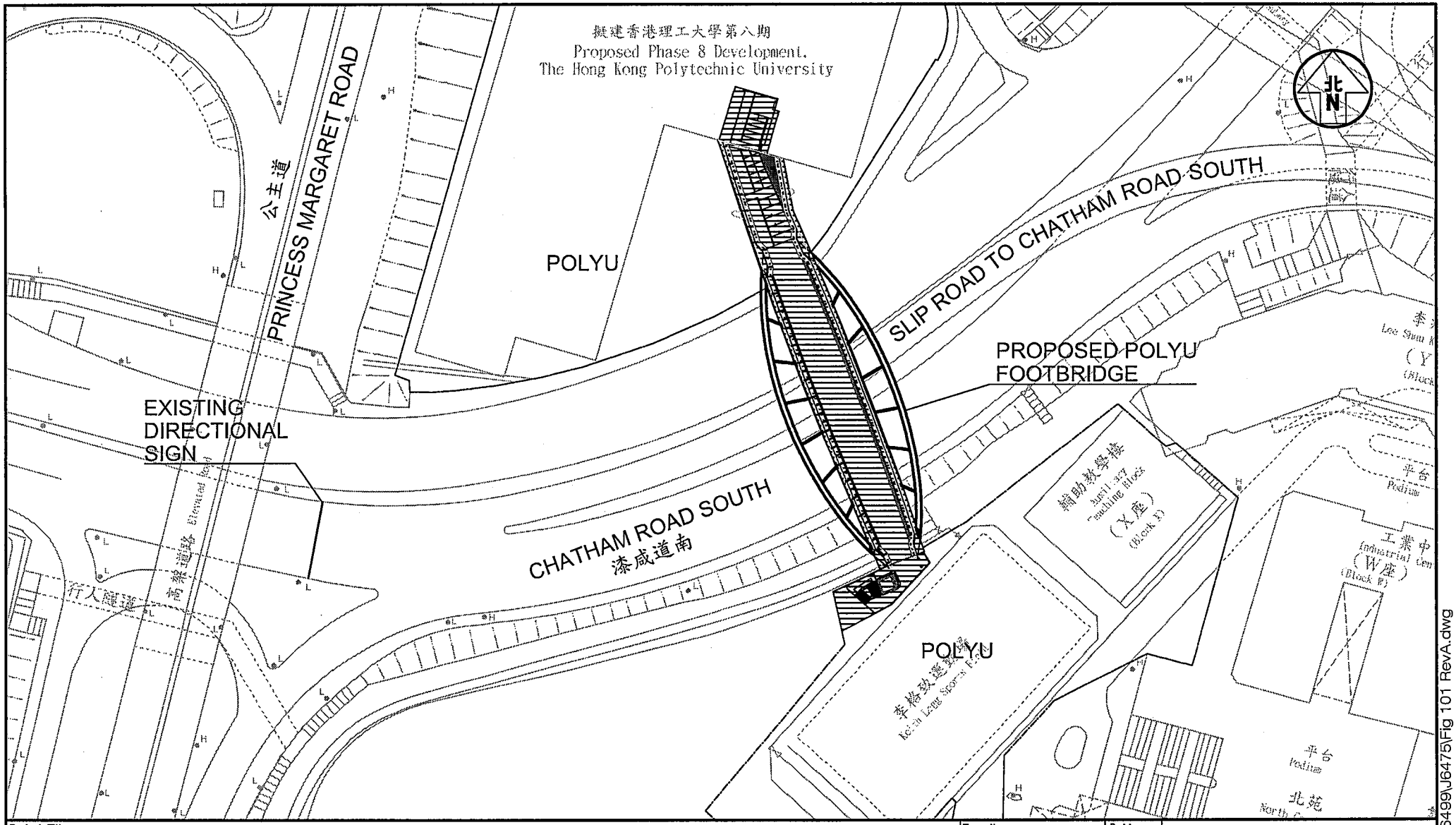
Yours sincerely

CHIN Kim Meng
Director

Encl. 3 pages

cc: Andrew Lee King Fun & Associates
Kaden Construction

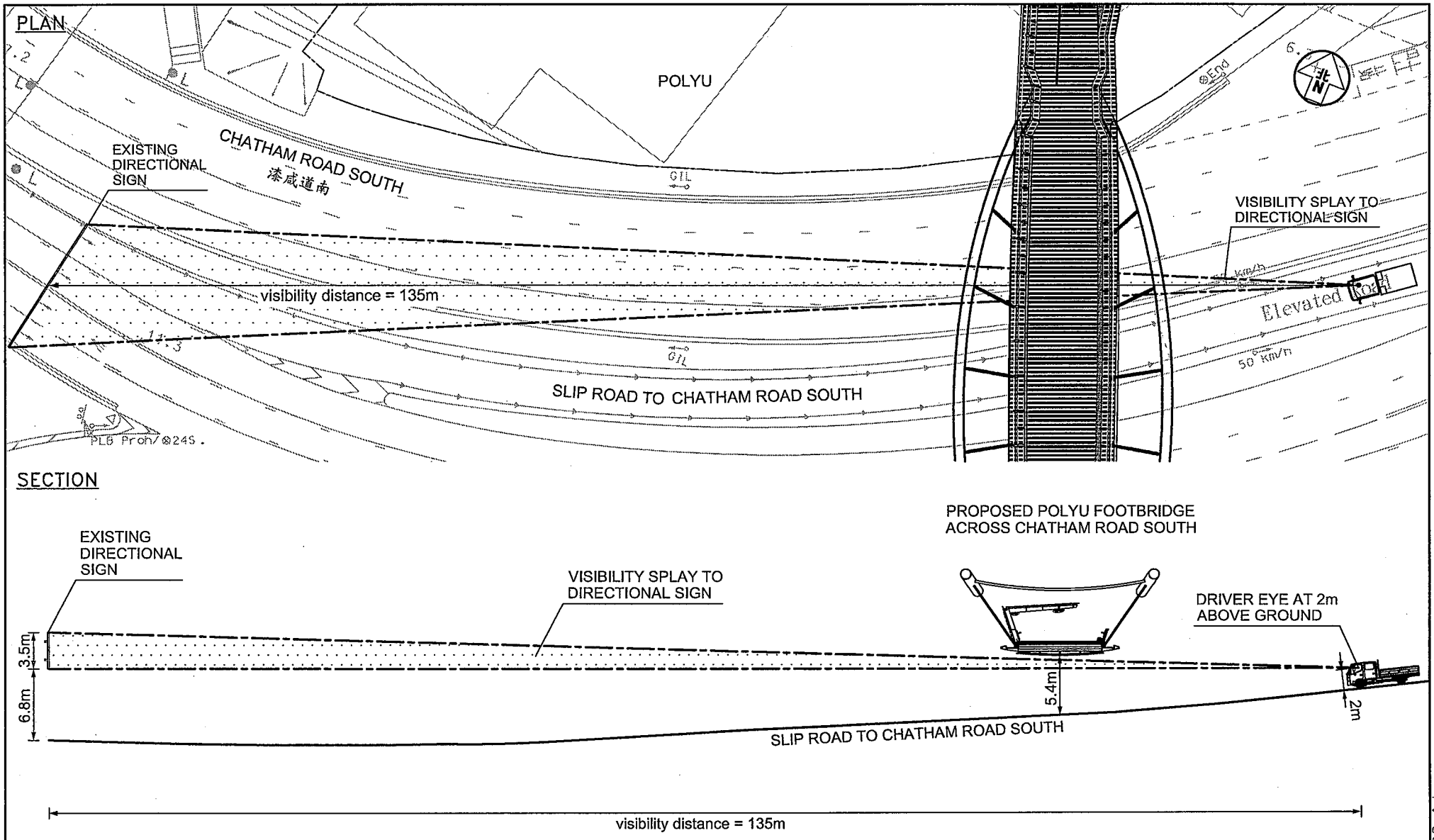
KIM\THC



Project Title: THE HONG KONG POLYTECHNIC UNIVERSITY – FOOTBRIDGE ACROSS CHATHAM ROAD SOUTH	J6475	Figure No. 101	Revision A
Figure Title: LOCATION OF THE PROPOSED POLYU FOOTBRIDGE		Designed by THC / Drawn by CCL / Checked by	
		Scale in A4: 1 : 1,000	Date: 07 JAN 2016

CKM Asia Limited
Traffic and Transportation Planning Consultants
21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong
Tel : (852) 2520 5990 Fax : (852) 2528 6343
Email : mail@ckmasia.com.hk

T:\JOB\J6450-J6499\J6475\Fig 101 RevA.dwg



Project Title	THE HONG KONG POLYTECHNIC UNIVERSITY – FOOTBRIDGE ACROSS CHATHAM ROAD SOUTH	J8475	Figure No. 102 / Revision A
Figure Title	VISIBILITY DISTANCE FROM THE SLIP ROAD TO THE DIRECTIONAL SIGN	Designed by THC / Drawn by CCL / Checked by	Scale in A3 1 : 350 / Date 07 JAN 2016

CKM Asia Limited
Traffic and Transportation Planning Consultants
21st Floor, Methodist House, 36 Hennessy Road
Wan Chai, Hong Kong
Tel : (852) 2520 5990 Fax : (852) 2528 6343
Email : mail@ckmasia.com.hk

T:\JOB\J6450-J6499\J6475\Fig 102 RevA.dwg

PHOTOMONTAGE OF ROAD SIGN FROM CHATHAM ROAD SOUTH

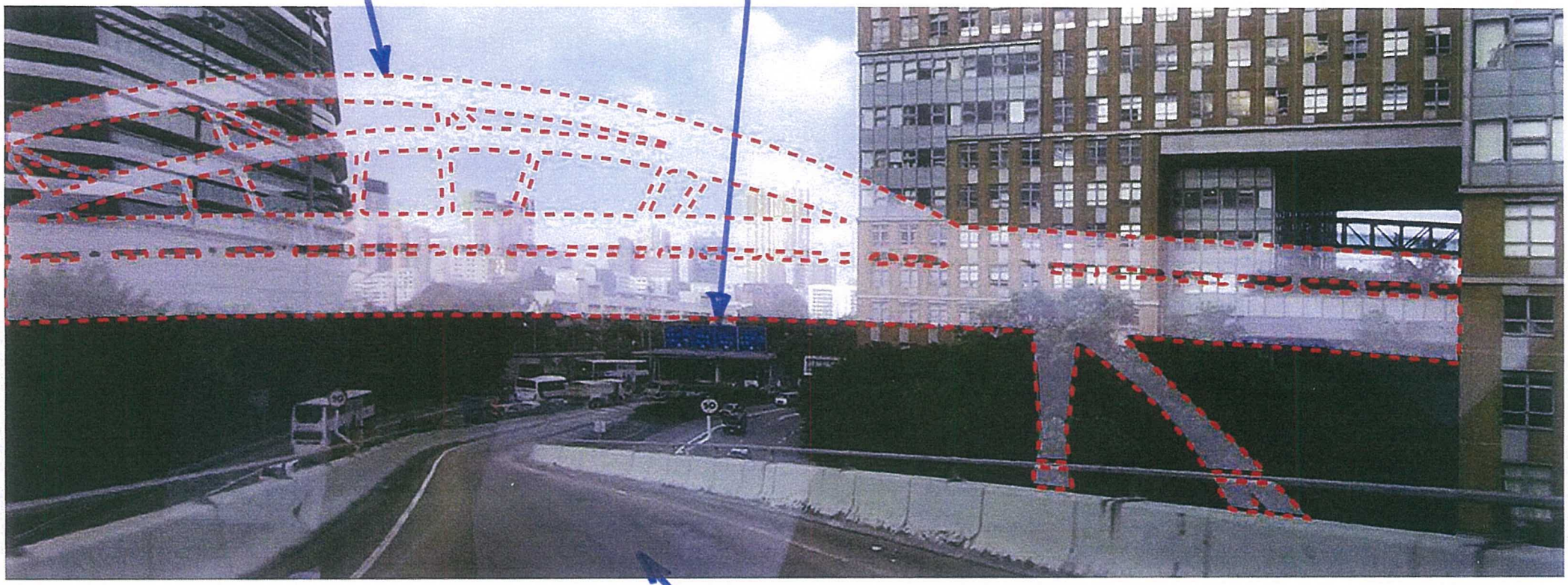


PHOTO A

OUTLINE OF FOOTBRIDGE

Annex H

運輸署
Transport Department

By Fax Only
(Fax no. 2527 8490)

Our ref: ( ) in KR157/190-7
Your ref CHK50076010/TKM/L1402040/sys
Tel: 2399 2511

29 December 2014

MVA Hong Kong Limited
14th Floor, Warwick House,
Taikoo Place
979 King's Road, Island East,
Hong Kong.

(Attn: Mr. Gary Tsui)

MVA
Job No. CHK50076010
Reg. No. 0031954
Date In 31 Dec 14

Initials	Action Date	Copy Date
PM/ TKH	1	
PD/		
DIC/		
Duplicate	Filing Clerk	Day File
		5/1/15
By Rail		
Date		

Dear Sirs,

Proposed TTMS for the Pedestrian Footbridge Linkage between Main Campus and Phase 8 Development, The Hong Kong Polytechnic University

We refer to your letter dated 11.12.2014. We have no in principal for the proposed TTM subject to the following conditions:.

(a) Fianl round of TTM meeting with TD and traffic police should be held with more details provided by the time close (say one month in advance) to the implementation of the TTM.

(b) The Sunday observed data stated in Drawing no. 2.5 is presumed actually conducted on early Monday morning from 00:00 to 02:30 hr.

(c) Liaise with our Transport Officer colleague for the gazette/publicity matter.

Yours faithfully,

(S K Tai)
for Commissioner for Transport

市區(九龍)及新界分區辦事處
Urban (Kln.) & NT Regional Offices
九龍聯運街三十號旺角政府合署七樓及八樓
7th & 8th Floors, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO) 2397 8046 (九龍市區) (U(K)RO)
網址 Web Site: http://www.td.gov.hk

Annex I

K1EN2

By Fax and by Post
2528 6343

運輸署
Transport Department

本署檔案 Our Ref. : (K1FE1) in TD KR157/190-7
來函檔號 Your Ref. : J6475/1
電 話 Tel. : 2399 2511
圖文傳真 Fax : 2397 8046
電 郵 Email :

14 January 2016

CKM Asia Limited
21/F, Methodist House
36 Hennessy Road,
Wan Chai, Hong Kong

(Attn: Mr. Chin Kim Meng)

Dear Sir/Madam,

The Hong Kong Polytechnic University (PolyU) -
Visibility Study for Footbridge across Chatham Road South

I refer to your letter dated 7.1.2016.

Based on the findings of your assessment, I have no adverse comment on the alignment of the proposed footbridge structure provided that it is designed in accordance with the relevant government standards and regulations.

Yours faithfully,

(S W LAM)
for Commissioner for Transport

市區(九龍)及新界分區辦事處
Urban (Kln.) & NT Regional Office
九龍聯運街三十號旺角政府合署七樓及八樓
7th & 8th Floors, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO) 2397 8046 (九龍市區) (U(K)RO)
網址 Web Site: http://www.td.gov.hk

Annex J

N

PUBLIC OPEN SPACE
COVERED: 426sqm
TOTAL: 426 sqm

UNEXCAVATED

GFA:
ACADEMIC/ TEACHING/ ANCILLARY OFFICE FACILITIES:
2780 sqm

ADDITIONAL GFA FOR LIFT CORE, ESCAPE STAIRCASES AND SUPPORTING FACILITIES:
700 sqm

PROPOSED UNDERPASS CONNECTING TO MAIN CAMPUS

PROPOSED UNDERPASS

PUBLIC ACCESS ROUTE WITHIN DOTTED AREA NOT INCLUDED IN PUBLIC OPEN SPACE CALCULATIONS
(200 sqm)

-4.0

UNEXCAVATED

UNEXCAVATED

EXISTING DRAINAGE RESERVE

CHATHAM ROAD SOUTH ABOVE

SUBJECT SITE BOUNDARY

UNCOVERED PUBLIC OPEN SPACE

COVERED PUBLIC OPEN SPACE

ACADEMIC/ TEACHING/ ANCILLARY OFFICE FACILITIES

PUBLIC CIRCULATION AREA

E&M FACILITIES AND
AREA FOR STATUTORY MEANS OF ESCAPE

LG2/F
-4.0 mPD

ARCHITECT
AGC DESIGN LTD (architecture urban design interior)

IN COLLABORATION WITH
AD+RG architecture design and research group ltd
Wang Weijen Architecture
何黃文通顧問有限公司 Ho Wang SPB Limited Traffic & Transportation Consultants
Greg Wang & Associates Ltd. Consulting Engineers & Project Managers (Civil, Structural & Geotechnical)
Hyder Consulting
CBRE CB RICHARD ELLIS 世邦魏理仕
VISION
TEAM 73 HK Limited urban design · urban planning · landscape architecture

REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED
B	19.5.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
C	20.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
D	25.8.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
E	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	10.9.09	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TT/SKH	BL

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1148

PROJECT
THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE

FILE NAME

DRAWING
SECOND LOWER GROUND FLOOR LAYOUT PLAN (LEVEL -4.0)

DRAWING NUMBER
MLP-LG2F

SCALE
1:800

REVISION
F

N

EXISTING SUBWAY

EXISTING SLOPE / RETAINING STRUCTURE

PUBLIC ACCESS FROM CHATHAM ROAD SOUTH AND EXISTING SUBWAY

PROPOSED UNDERPASS CONNECTING TO POLYU MAIN CAMPUS

SITE BOUNDARY OF INNOVATION TOWER

CHATHAM ROAD SOUTH

PUBLIC OPEN SPACE
UNCOVERED: 2185sqm
COVERED: 1170sqm
TOTAL: 3355sqm

MTR RESERVE

TO CLP SUBSTATION

VOID

9.06

4.00

5.00

ENTRANCE PLAZA

LOADING/ UNLOADING

ACCESS TO CLP SUBSTATION

RESTRICTED LOADING/UNLOADING ACCESS & EMERGENCY ONLY

GFA:
ACADEMIC/ TEACHING/ ANCILLARY OFFICE FACILITIES:
780 sqm

GFA:
AMENITIES:
120 sqm

RELOCATED BUS STOP

6.20

PUBLIC ACCESS FROM CHATHAM ROAD SOUTH AND BUS STOP AND EXISTING SUBWAY

EXISTING SUBWAY

AMENITIES

SUBJECT SITE BOUNDARY

UNCOVERED PUBLIC OPEN SPACE

COVERED PUBLIC OPEN SPACE

PUBLIC CIRCULATION AREA

E&M FACILITIES AND AREA FOR STATUTORY MEANS OF ESCAPE

G/F
+5.0 mPD

ARCHITECT
AGC DESIGN LTD

IN COLLABORATION WITH
AD+RG architecture design and research group ltd
Wang Weijen Architecture

Greg Wang & Associates Ltd.
Hyder Consulting
CBRE
VISION
TEAM 73 HK Limited

REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED
C	16.5.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
D	20.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
E	25.8.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
G	10.9.09	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TT/SKH	BL

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1148

PROJECT
THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE

DRAWING
GROUND FLOOR LAYOUT PLAN (LEVEL +5.0)

FILE NAME

DRAWING NUMBER
MLP-GF

SCALE
1:800

REVISION
G

N

EXISTING SLOPE / RETAINING STRUCTURE

14.1 PRINCESS MARGARET ROAD

GFA:
ACADEMIC/ TEACHING/
ANCILLARY OFFICE
FACILITIES:
3845 sqm

PUBLIC OPEN SPACE
UNCOVERED: 30 sqm
COVERED: 1687 sqm
TOTAL: 1717 sqm

SITE BOUNDARY OF
INNOVATION TOWER

CHATHAM ROAD SOUTH

PUBLIC ACCESS ROUTE
WITHIN DOTTED AREA
NOT INCLUDED IN
PUBLIC OPEN SPACE
CALCULATIONS

GFA:
AMENITIES:
TOTAL = **815 sqm**

**PRIVATE OPEN SPACE/
AMENITIES
160 sqm**

SUBJECT SITE BOUNDARY
PRIVATE OPEN SPACE
UNCOVERED PUBLIC OPEN SPACE
COVERED PUBLIC OPEN SPACE
AMENITIES
ACADEMIC/ TEACHING/ ANCILLARY OFFICE FACILITIES
PUBLIC CIRCULATION AREA

P/F
+16.5mPD

ARCHITECT
AGC DESIGN LTD
IN COLLABORATION WITH
AD+RG architecture design and research group ltd
Wang Weijen Architecture
何黃吳通顧問有限公司 Ho Wang SPB Limited
Greg Wang & Associates Ltd.
Hyder Consulting
VISION
CBRE 世邦魏理仕
TEAM 73 HK Limited

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F	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
G	10.9.09	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TS/SKH	BL

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1145

PROJECT
THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE

FILE NAME

DRAWING
PODIUM FLOOR LAYOUT PLAN (LEVEL +16.5)

DRAWING NUMBER
MLP-PF

SCALE 1:800

REVISION G

Appendix II

規劃署

荃灣及西九龍規劃處
荃灣西樓角路38號
荃灣政府合署27樓

Planning Department

Tsuen Wan and West Kowloon
District Planning Office
27/F., Tsuen Wan Government Offices,
38 Sai Lau Kok Road,
Tsuen Wan, N.T.

本函檔號	Your Reference	
本署檔號	Our Reference	TPB/A/K2-184-2
電話號碼	Tel. No.:	22314974
傳真機號碼	Fax No.:	28949502

By Fax
(Fax No.25669978)

18 May 2010

Vision Planning Consultants Ltd.
Unit C, 20/F, Seabright Plaza,
9-23 Shell Street,
North Point,
Hong Kong
(Attn.: Mr. Kim Chan)

Dear Mr. Chan,

Proposed Minor Amendments to Approved Development Scheme at
Junction of Chathan Road South and Princess Margaret Road, Yau Ma Tei, Kowloon
(Application No. A/K2/184)

I refer to your application which was received on 23.4.2010 seeking planning permission for proposed minor amendments to the previously approved development scheme at the captioned site.

Under section 2(5)(b) of the Town Planning Ordinance, the Director of Planning, under the delegated authority of the Town Planning Board (TPB), has considered your application. In the light of the reasons given in your application, I am pleased to inform you that your application was approved on 13.5.2010 subject to the following conditions:

(a) the submission of a risk assessment plan and contingency plan in relation to the construction of the proposed underpass at Chatham Road South to the satisfaction of the Director of Highways or of the TPB;

(b) the design, implementation and maintenance of the proposed underpass to the satisfaction of the Commissioner for Transport or of the TPB;

(c) the re-alignment, implementation and maintenance of the emergency vehicular access at Chatham Road South to the satisfaction of the Commissioner for Transport or of the TPB;

(d) the design and implementation of a bus lay-by at Chatham Road South to the satisfaction of the Commissioner for Transport or of the TPB;

(e) the design and implementation of the junction improvement works at Chatham Road South/Austin Road/Cheong Wan Road as proposed in the Traffic Impact Assessment to the satisfaction of the Commissioner for Transport or of the TPB;

(f) the design and implementation of signal controlled pedestrian crossings facilities and junctions improvement to the satisfaction of the Commissioner for Transport or of the TPB;

(g) the widening of pavement adjoining the application site along Chatham Road South to the satisfaction of the Commissioner for Transport or of the TPB;

(h) the design, implementation and maintenance of an access to the drainage reserve at the application site to the satisfaction of the Director of Drainage Services or of the TPB;

(i) the design and provision of public open space of not less than 7 941m² within the proposed development to the satisfaction of the Director of Planning or of the TPB;

(j) the submission and implementation of a Landscape Master Plan, a tree preservation plan and bimonthly tree monitoring reports to the satisfaction of the Director of Planning or of the TPB;

(k) the submission of a revised tree survey report to the satisfaction of the Director of Agriculture, Fisheries and Conservation or of the TPB;

(l) the provision of water supplies for fire-fighting and fire service installations to the satisfaction of the Director of Fire Services or of the TPB;

(m) the implementation of local sewerage upgrading/sewerage connection works, if found necessary, to the satisfaction of the Director of Drainage Services or of the TPB; and

(n) the submission of a revised air ventilation assessment to the satisfaction of the Director of Planning or of the TPB.

You are also advised to :

(a) apply to the District Lands Officer/Kowloon West on the lease matters for the proposed development;

(b) consult Mass Transit Railway (MTR) Corporation Limited and Highways Department on the detailed requirements for the area reserved on ground level for the railway-related facilities of the future Shatin Central Link project and the right-of-way to MTR Ho Man Tin Electricity Substation;

(c) consult the Chief Building Surveyor/Kowloon, Buildings Department on the building requirements for the proposed development and the arrangement on the emergency vehicular access according to Part VI of the Code of Practice for Means of Access for Firefighting and Rescue;

(d) consult the Assistant Commissioner for Transport/Urban on the need of the provision of disabled lift and the adequacy of provision of one lift to replace the at-grade crossing across Hong Tai Path;

(e) note that the entrances to the public open space should adopt an open and inviting design to facilitate easy public access;

(f) place signage to clearly indicate the location of public open space;

(g) note that any applications submitted to the TPB in future should include an overall development plan for the Hong Kong Polytechnic University campus so as to facilitate the TPB's consideration of the proposed development; and

(h) note the Director of Leisure and Cultural Services' comments that as some trees of particular value would be affected, the requirements in the Lands Administration Office Lands Practice Note Issue No. 7/2007 should be observed.

A copy of the revised TPB guidelines on minor amendments to approved development proposals is attached for your reference.

I should be grateful if you could advise me in due course whether you would take up this or the previous planning permission.

This approval should not be taken to imply that any other government approval which may be needed in connection with the development will necessarily be given. You should approach the appropriate government departments on any such matters.

The planning permission will expire on 10.10.2012 if the above development is not commenced by then. If you wish to seek renewal of this permission, you should apply for such renewal no later than four weeks before the stipulated date of expiry by filling and submitting the standard proforma attached. Application submitted less than four weeks before the expiry of the planning permission would not be processed for consideration of the TPB and the validity of planning permission would lapse. A copy of the TPB guidelines for renewal of planning permission is also attached for your reference.

If you have any queries regarding this planning permission, please contact Mr. C.K. Soh of Tsuen Wan and West Kowloon District Planning Office at 2231 4918. In case you wish to consult the relevant Government departments on matters relating to the above approval conditions, a list of the concerned Government officers is attached herewith for your reference.

Yours sincerely,

(Wilson W.S. CHAN)
for and on behalf of Director of Planning

Detailed Comments of the District Lands Officer/Kowloon West, Lands Department

The application site is situated at Kowloon Inland Lot No. 11201 (the Lot) granted to HKPU by way of private treaty (PTG) on 27.6.2011 for the purpose of conducting and operating the university as established under and by virtue of the Hong Kong Polytechnic University Ordinance (Cap. 1075) at a nominal premium of $1,000. The Lot has a term of 50 years commencing from 27.6.2011. To implement the planning intention, Special Condition (SC) (18) of the PTG was incorporated to require the Grantee (i.e. HKPU) to construct a pedestrian underpass on or before 26.12.2015 and newly extended to 26.6.2016. In addition, SC (19) of the PTG requires the Grantee to construct public open space (POS) of not less than 7,941m^2 which is based on the approval condition (i) of the approved planning permission. She has the following comments on the subject application:

(a) The proposal for the construction of the proposed footbridge to replace the originally proposed pedestrian underpass would be in breach of SC (18), a lease modification is required.

(b) As the justification for variation of approval conditions (a) and (b) are related to the technical aspect of the originally proposed pedestrian underpass, her office would defer them to the relevant department(s) for comments.

(c) It is noted that some POS originally designed as an integrated part of the pedestrian underpass may no longer be provided by the applicant. If the minimum provision of POS cannot be met, a lease modification to SC (19) of the PTG would be required.

(d) The proposal to construct a pedestrian footbridge for replacement of the originally planned pedestrian underpass might have implication on the Landscape Master Plan (LMP) and Tree Preservation Plan to be submitted and implemented for compliance with approval condition (j). If the subject variation of planning conditions is agreed by the Board, the applicant is required to incorporate the proposed footbridge scheme in the LMP and Tree Preservation Plan. LMP submission and Tree preservation and removal proposal should be submitted according to the procedures as formulated under Joint Practice Note No.3 and Land Administration Office Practice Note No. 7/2007.

Appendix III of MPC
Paper No. 8/16

Detailed Comments of the District Lands Officer/Kowloon West, Lands Department

The application site is situated at Kowloon Inland Lot No. 11201 (the Lot) granted to HKPU by way of private treaty (PTG) on 27.6.2011 for the purpose of conducting and operating the university as established under and by virtue of the Hong Kong Polytechnic University Ordinance (Cap. 1075) at a nominal premium of $1,000. The Lot has a term of 50 years commencing from 27.6.2011. To implement the planning intention, Special Condition (SC) (18) of the PTG was incorporated to require the Grantee (i.e. HKPU) to construct a pedestrian underpass on or before 26.12.2015 and newly extended to 26.6.2016. In addition, SC (19) of the PTG requires the Grantee to construct public open space (POS) of not less than 7,941m^2 which is based on the approval condition (i) of the approved planning permission. She has the following comments on the subject application:

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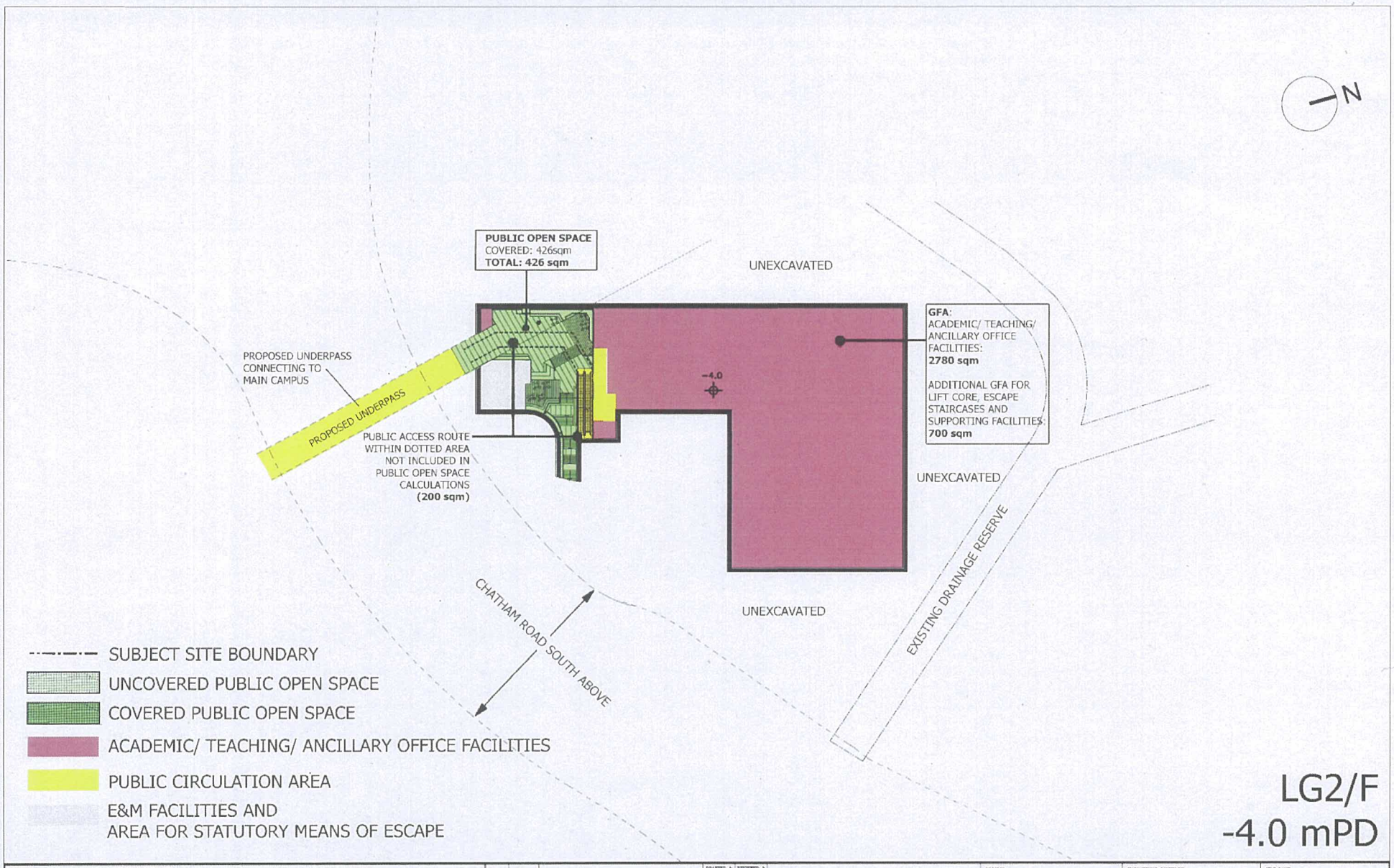


REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED
J	19.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
C	20.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
B	25.4.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
E	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	10.9.08	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TT/SKH	BL

ARCHITECT: AGC DESIGN LTD
IN COLLABORATION WITH: AD+RG architecture design and research group ltd; Wang Weijen Architecture; Ho Wang SPB Limited; Greg Wong & Associates Ltd.; Hyder Consulting; CBRE; VISION; TEAM 73 HK Limited

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1148

PROJECT: THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE:

DRAWING: SECOND LOWER GROUND FLOOR LAYOUT PLAN (LEVEL -4.0)

FILE NAME:

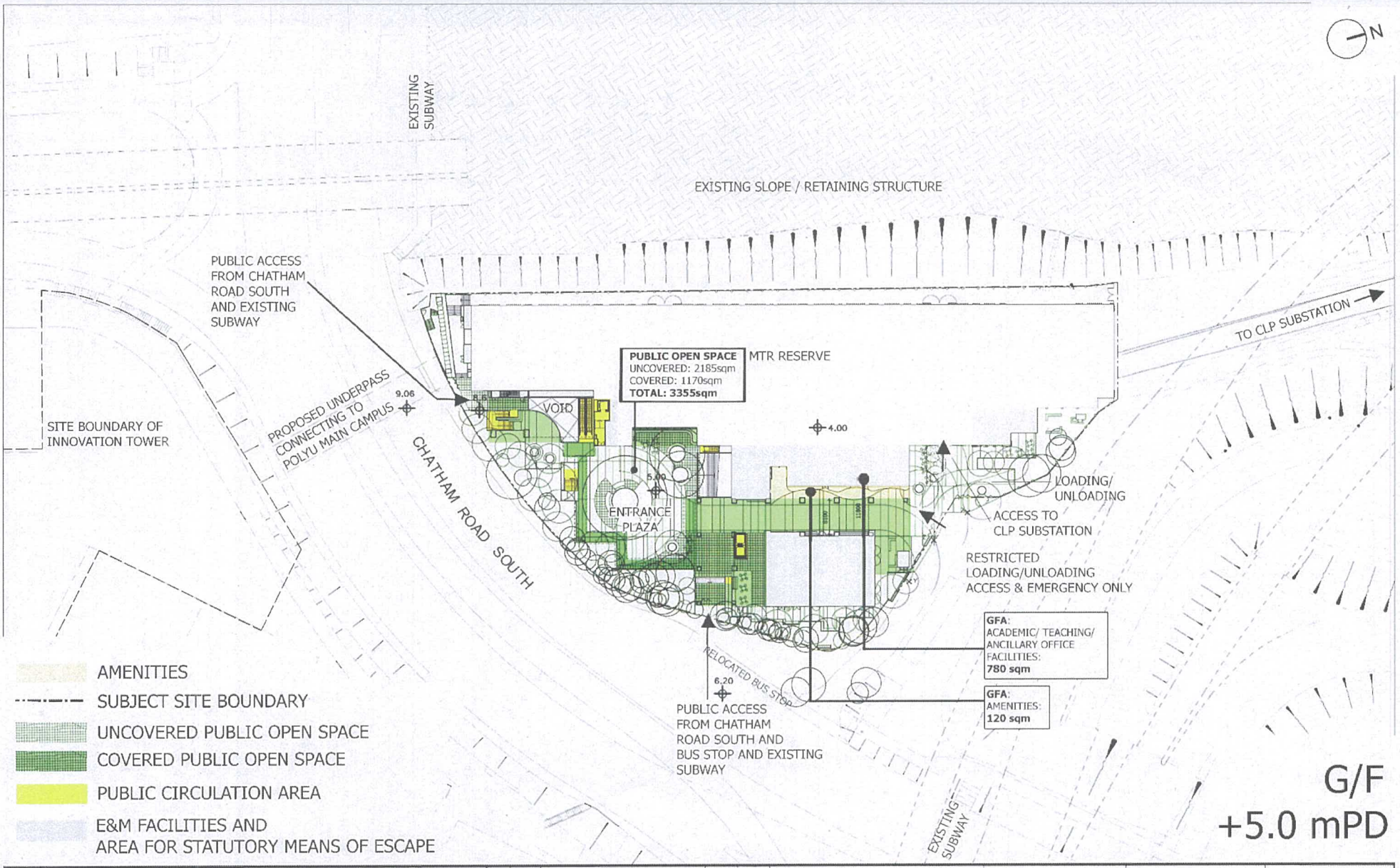
DRAWING NUMBER: MLP-LG2F

SCALE: 1:200

REVISION: F

（資料來源：摘自由申請人提供的附件I）
(Source : Extract from Appendix I submitted by the Applicant)

參考編號 REFERENCE No.	繪圖 DRAWING
A/K2/184-2	1



REV.	DATE	DESCRIPTION	DRAWN & CHECKED	REVIEWED & APPROVED
E	16.5.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
D	20.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	25.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
G	10.9.09	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TT/SNH	BL

ARCHITECT: AGC DESIGN LTD
IN COLLABORATION WITH: AD+RG architectural design and research group ltd; Wang Weljen Architecture; Greg Wong & Associates Ltd.; Hyder Consulting; VISION; CBRE; TEAM 73 HK Limited

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel (852)2766 7207 Fax (852)2363 1148

PROJECT: THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE:

DRAWING: GROUND FLOOR LAYOUT PLAN (LEVEL +5.0)

FILE NAME:

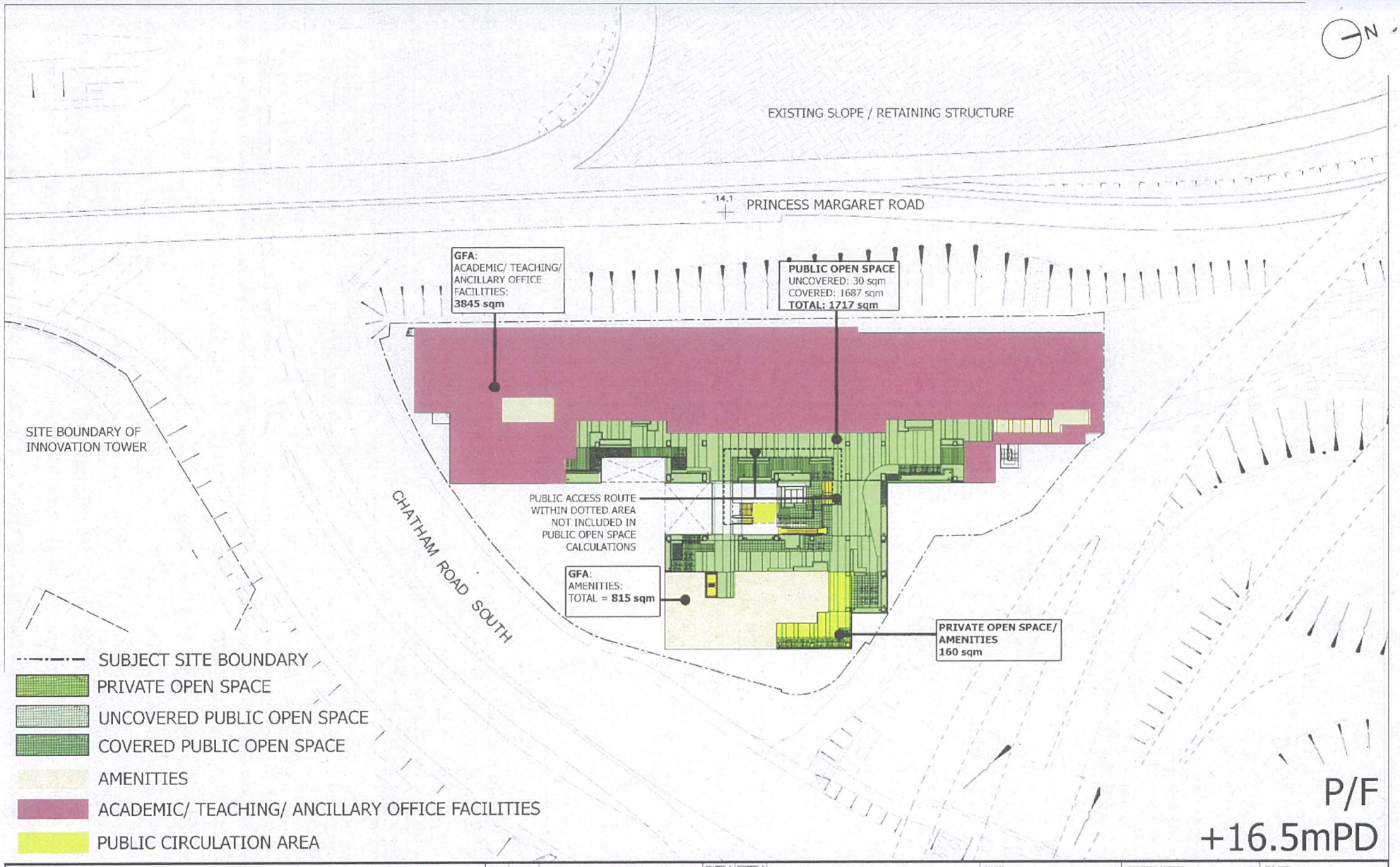
DRAWING NUMBER: MLP-GF

SCALE: 1:500

REVISION: C

(資料來源：摘自由申請人提供的附件I)
(Source : Extract from Appendix I submitted by the Applicant)

參考編號 REFERENCE No.	繪圖 DRAWING
A/K2/184-2	2



ARCHITECT: AGC DESIGN LTD
IN COLLABORATION WITH: AD+RG architecture design and research group ltd; Wang Weijen Architecture; Greg Wang & Associates Ltd.; Hyder Consulting; CBRE; VISION; TEAM 73 HK Limited

REV.	DATE	DESCRIPTION	DRAFTED & CHECKED	REVIEWED & APPROVED
C	16.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
D	20.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
E	25.6.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
F	3.9.08	SECTION 16 SUBMISSION	TT/PL	DC/BL
G	10.9.09	SECTION 16A SUBMISSION (CLASS B AMENDMENT)	TS/SKH	BL

THE HONG KONG POLYTECHNIC UNIVERSITY
Campus Development Office
Hung Hom Kowloon Hong Kong
Tel. (852)2766 7727 Fax (852)2363 1148

PROJECT: THE HONG KONG POLYTECHNIC UNIVERSITY PHASE 8 DEVELOPMENT

ENGINEERING DISCIPLINE:

DRAWING: PODIUM FLOOR LAYOUT PLAN (LEVEL +16.5)

FILE NAME:

DRAWING NUMBER: MLP-PF

SCALE: 1:500

REVISION: C

（資料來源：摘自由申請人提供的附件I）
(Source : Extract from Appendix I submitted by the Applicant)

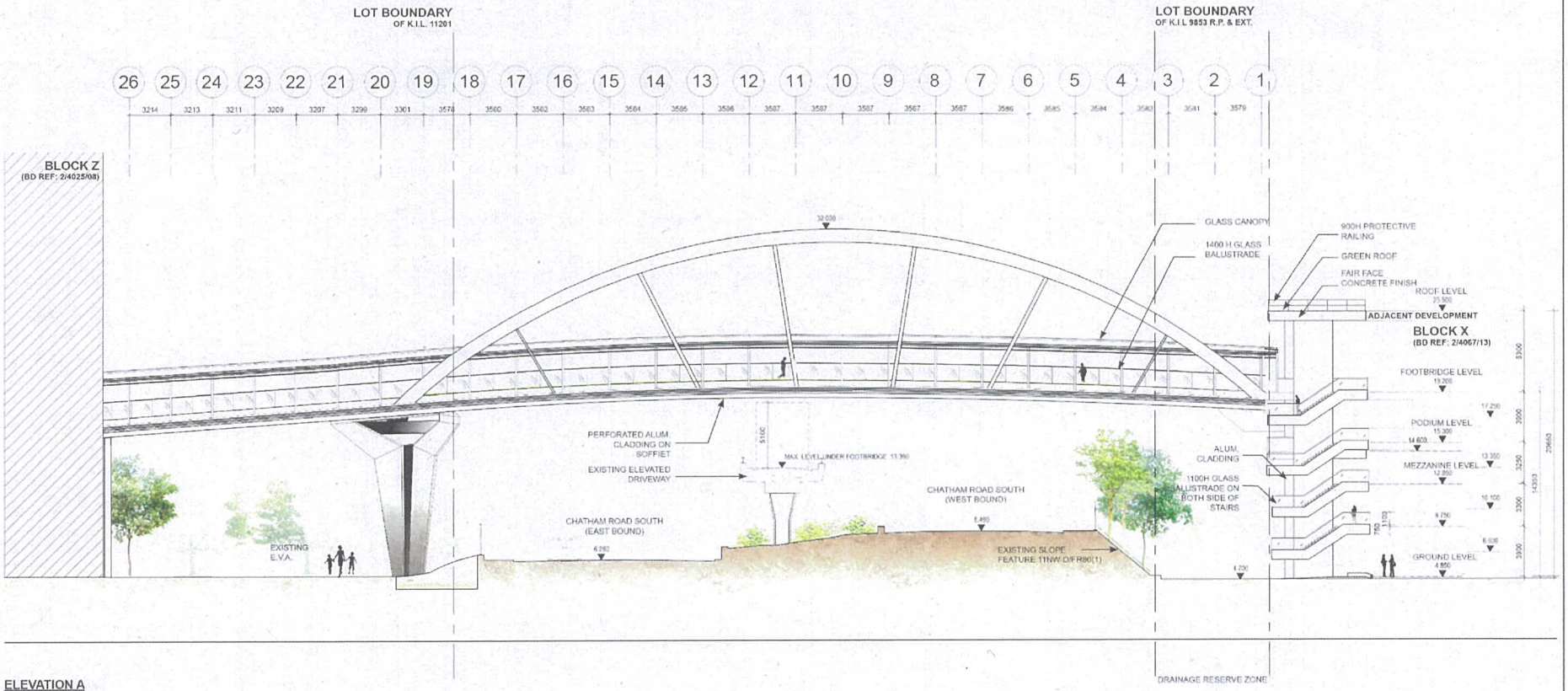
參考編號
REFERENCE No.
A/K2/184-2

繪圖
DRAWING
3

PROJECT	DRAWING TITLE	SCALE 1:400 (A3)	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	SITE LAYOUT PLAN		27/05/2015	A-1418	A1418/ACABAS/FB-07	B

（資料來源：摘自由申請人提供的附件I）
(Source : Extract from Appendix I submitted by the Applicant)

參考編號 REFERENCE No.	繪圖 DRAWING
A/K2/184-2	4



ELEVATION A

PROJECT	DRAWING TITLE	SCALE 1:300 (A3)	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	ELEVATION A		27/05/2015	A-1418	A1418/ACABAS/FB-12	B

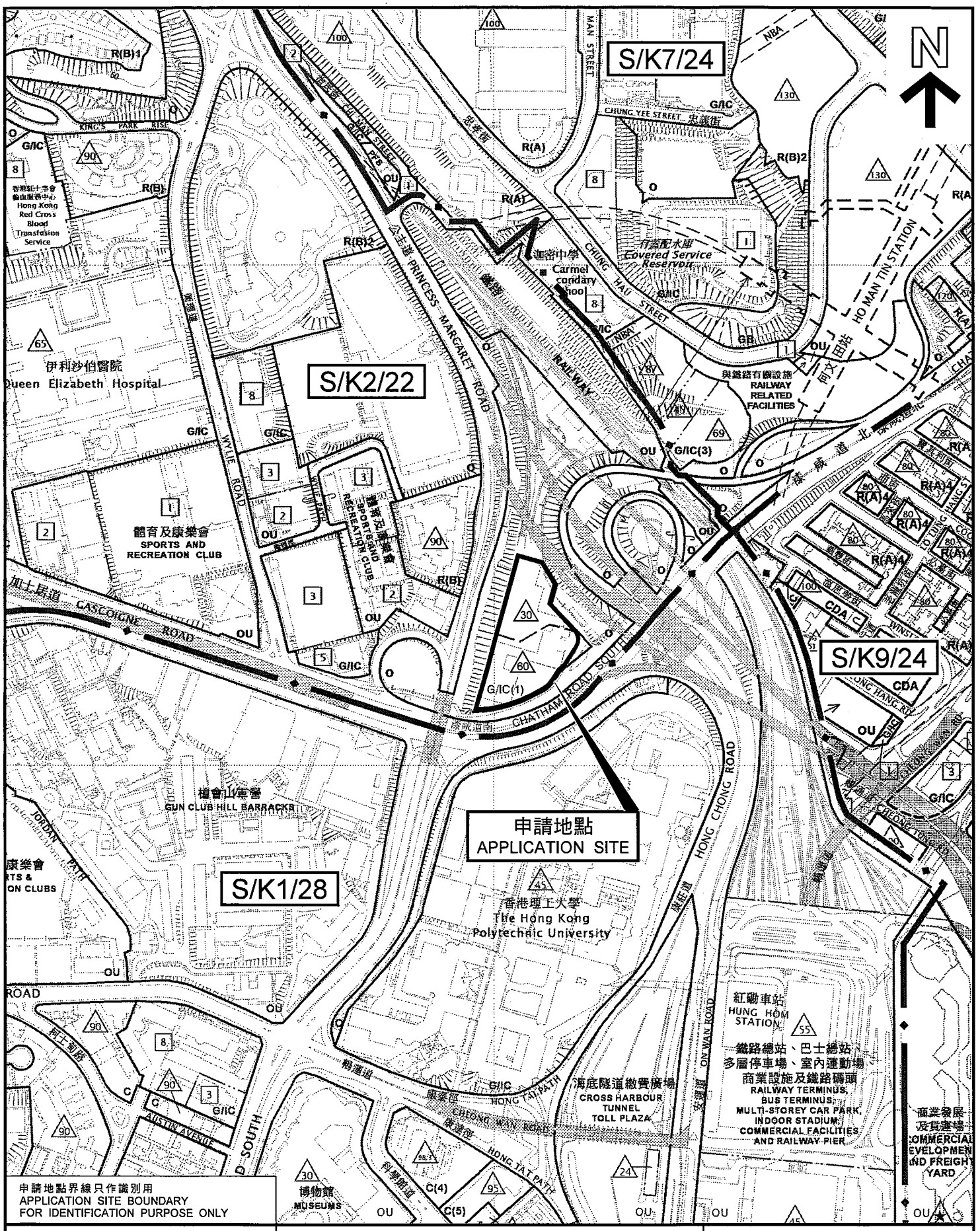
（資料來源：摘自由申請人提供的附件I）
(Source : Extract from Appendix I submitted by the Applicant)

參考編號 REFERENCE No.	繪圖 DRAWING
A/K2/184-2	5

PROJECT	DRAWING TITLE	DATE	JOB NUMBER	DRAWING NUMBER	REVISION
PEDESTRIAN FOOTBRIDGE CONNECTING PHASE 8 & MAIN CAMPUS FOR THE HONG KONG POLYTECHNIC UNIVERSITY	STREET VIEW 1	27/05/2015	A-1418	A1418/ACABAS/FB-01	B

（資料來源：摘自由申請人提供的附件I）
(Source : Extract from Appendix I submitted by the Applicant)

參考編號 REFERENCE No.	繪圖 DRAWING
A/K2/184-2	6



本摘要圖於2016年6月1日擬備，所根據的資料為：
於2013年12月3日核准的分區計劃大綱圖編號 S/K1/28，於2014年5月16日展示的分區計劃大綱圖編號 S/K2/22，於2015年9月18日核准的分區計劃大綱圖編號 S/K7/24，以及於2010年10月5日核准的分區計劃大綱圖編號 S/K9/24

EXTRACT PLAN PREPARED ON 1.6.2016
BASED ON OUTLINE ZONING PLANS No. S/K1/28 APPROVED ON 3.12.2013, S/K2/22 EXHIBITED ON 16.5.2014, S/K7/24 APPROVED ON 18.9.2015 AND S/K9/24 APPROVED ON 5.10.2010

位置圖 LOCATION PLAN

香港理工大學第8期發展
九龍油麻地漆咸道南及公主道交界
THE HONG KONG POLYTECHNIC UNIVERSITY
PHASE 8 DEVELOPMENT
JUNCTION OF CHATHAM ROAD SOUTH AND PRINCESS MARGARET ROAD, YAU MA TEI, KOWLOON

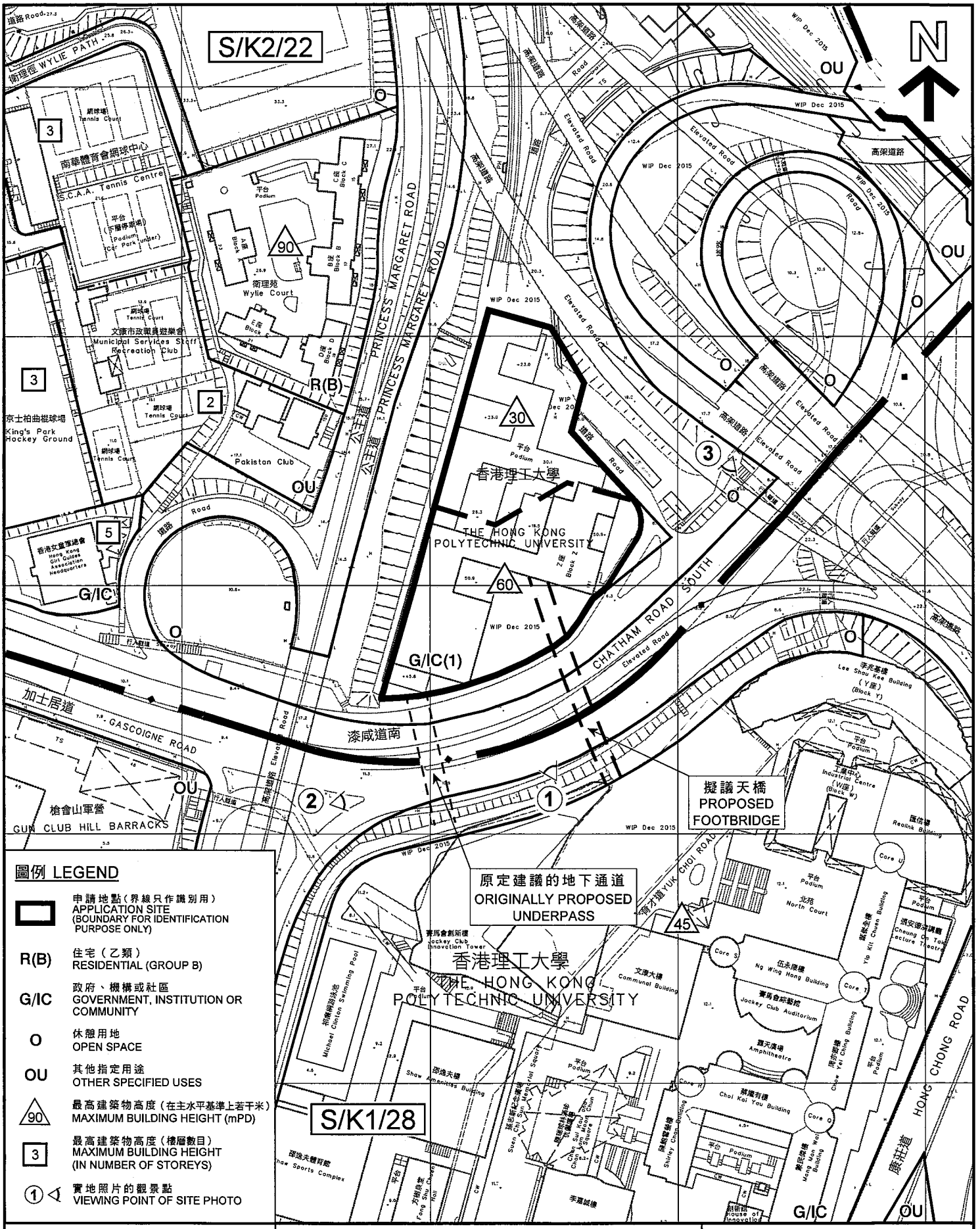
SCALE 1 : 5 000 比例尺

米 METRES 100 0 100 200 米 METRES

規劃署
PLANNING DEPARTMENT

參考編號
REFERENCE No.
A/K2/184-2

圖 PLAN
1



圖例 LEGEND

	申請地點（界線只作識別用） APPLICATION SITE (BOUNDARY FOR IDENTIFICATION PURPOSE ONLY)
R(B)	住宅（乙類） RESIDENTIAL (GROUP B)
G/IC	政府、機構或社區 GOVERNMENT, INSTITUTION OR COMMUNITY
O	休憩用地 OPEN SPACE
OU	其他指定用途 OTHER SPECIFIED USES
90	最高建築物高度（在主水平基準上若干米） MAXIMUM BUILDING HEIGHT (mPD)
3	最高建築物高度（樓層數目） MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)
①	實地照片的觀景點 VIEWING POINT OF SITE PHOTO

本摘要圖於2016年6月3日擬備，
所根據的資料為測量圖編號
11-NW-25A和25C

EXTRACT PLAN PREPARED ON 3.6.2016
BASED ON SURVEY SHEETS No.
11-NW-25A & 25C

平面圖 SITE PLAN

香港理工大學第8期發展
九龍油麻地漆咸道南及公主道交界
THE HONG KONG POLYTECHNIC UNIVERSITY
PHASE 8 DEVELOPMENT
JUNCTION OF CHATHAM ROAD SOUTH AND
PRINCESS MARGARET ROAD, YAU MA TEI, KOWLOON

SCALE 1 : 2 000 比例尺

米 METRES 40 0 40 80 METRES 米

規劃署
PLANNING DEPARTMENT

參考編號
REFERENCE No.
A/K2/184-2

圖 PLAN
2

照片 1 - 申請地點
PHOTO 1 - APPLICATION SITE

本摘要圖於2016年6月1日擬備，
所根據的資料為攝於
2016年5月26日的實地照片

PLAN PREPARED ON 1.6.2016
BASED ON SITE PHOTO
TAKEN ON 26.5.2016

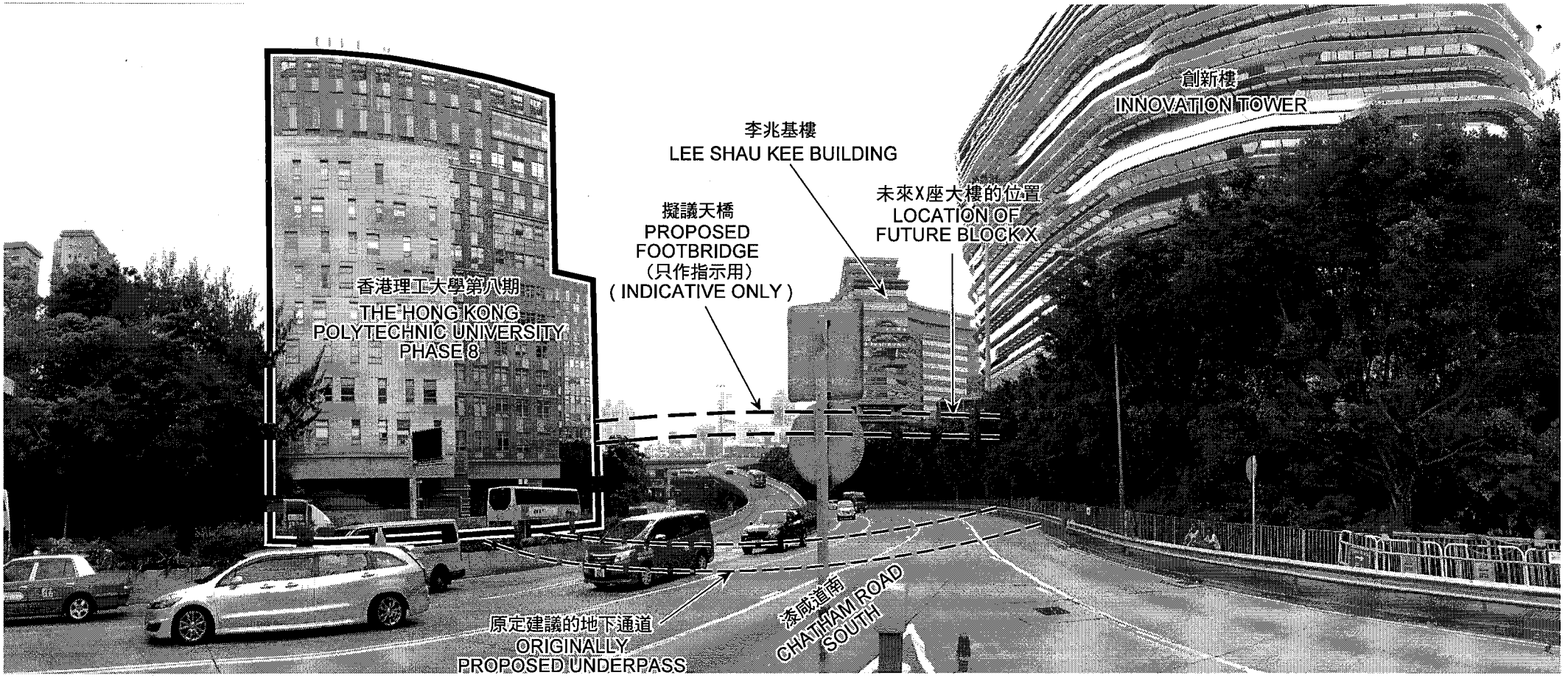
實地照片 SITE PHOTO

香港理工大學第8期發展
九龍油麻地漆咸道南及公主道交界
THE HONG KONG POLYTECHNIC UNIVERSITY
PHASE 8 DEVELOPMENT
JUNCTION OF CHATHAM ROAD SOUTH AND
PRINCESS MARGARET ROAD, YAU MA TEI, KOWLOON

規劃署
PLANNING
DEPARTMENT

參考編號
REFERENCE No.
A/K2/184-2

圖 PLAN
3



照片 2 - 申請地點

PHOTO 2 - APPLICATION SITE

界線只作識別用
BOUNDARY FOR
IDENTIFICATION PURPOSE ONLY

本摘要圖於2016年6月3日擬備，
所根據的資料為攝於
2016年5月26日的實地照片

PLAN PREPARED ON 3.6.2016
BASED ON SITE PHOTO
TAKEN ON 26.5.2016

實地照片 SITE PHOTO

香港理工大學第8期發展
九龍油麻地漆咸道南及公主道交界
THE HONG KONG POLYTECHNIC UNIVERSITY
PHASE 8 DEVELOPMENT
JUNCTION OF CHATHAM ROAD SOUTH AND
PRINCESS MARGARET ROAD, YAU MA TEI, KOWLOON

規劃署
PLANNING
DEPARTMENT

參考編號
REFERENCE No.
A/K2/184-2

圖 PLAN
4