

Appendix G

Drainage Impact Assessment

Civil Engineering and Development
Department

**Agreement No. CE 1/2020 (CE)
Hung Shui Kiu/Ha Tsuen New
Development Area Package A Works for
Second Phase Development – Design and
Construction**

S16 Planning Application for Proposed
Flat and Shop and Services and Eating
Place at Non-Domestic Podium within
“G/IC(1)” Zone of Planning Area 34E
of Hung Shui Kiu/ Ha Tsuen New
Development
Drainage Impact Assessment

Draft | September 2025

This report takes into account the particular
instructions and requirements of our client.

It is not intended for and should not be relied
upon by any third party and no responsibility
is undertaken to any third party.

Job number 278463

Ove Arup & Partners Hong Kong Ltd
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon
Hong Kong
www.arup.com

ARUP

Contents

	Page
1 Introduction	1
1.1 General	1
1.2 Scope of Updated Technical Assessments	1
2 Planning Data and Drainage Design Parameters	3
2.1 Baseline Site Layout	3
2.2 Proposed Development	3
2.3 Drainage Parameters and Assumptions	4
3 Assessment of Drainage Impact	5
3.1 Proposed Drainage System under Conforming Design	5
3.2 Drainage Impact	5
4 Summary	6

Appendices

- Appendix A Indicative Scheme for Site No. 4-1
Appendix B Drainage Layout Plan near Site No. 4-1

- Undertake a review of the proposed drainage network and identify if there would be any deficiency / inadequate capacity based on the new development parameters;
- Propose the preliminary modification measures for the purpose of the DIA; and
- Submit the DIA to support S16 application.

1.2.2

This section outlines the assessment of the drainage impact potentially induced by the proposed development parameters at Site No. 4-1 (i.e. the Application Site) in HSK/HT NDA and includes:

- Estimation of change in drainage catchment arising from the Application Site;
- Assessment of potential impact on the planned drainage system imposed by the Application Site; and
- Proposed preliminary drainage modification works, if considered necessary.

2.1 Baseline Site Layout

- S16 Planning Application No. A/HSK/452 (approved on 23 Jun 2023); and
- Updated planned population and employment figures at nine housing sites advised by the Housing Department (i.e. Site No. 4-3, 4-4, 4-5, 4-6, 4-22, 4-24, 4-28, 5-16 and 5-17).

2.2 Proposed Development

Table 2.1 Proposed Development Parameters for the Application Site

Development Parameters	Proposed Development
Application Site	About 7,760m ²
Total Plot Ratio (PR)	6.5
- Domestic PR	6
- Non-domestic PR	0.5
Total Gross Floor Area (GFA)	50,440m ²
- Domestic GFA	46,560m ²
- Non-domestic GFA	3,880m ²
No. of Blocks	4 nos. of residential towers on top of 5-storey retail, carpark cum clubhouse podium
Population	About 2,420
Clubhouse GFA	About 2,095.2m ²

2.3 Drainage Parameters and Assumptions

2.3.1 The assumptions for drainage design have been adopted with reference to those outlined in the accepted DSIA (Report No. REP-031-07) (F3D) for the HSK/HT NDA. To ensure consistency in impact identification and the provision of drainage mitigation measures, as well as alignment with the accepted drainage impact assessments and conforming drainage design, the DSD's Stormwater Drainage Manual (SDM) 2018 has been adopted as the design standard.

3.1 Proposed Drainage System under Conforming Design

3.1.1

A new drainage system comprising pipes with diameters ranging from 900 mm to 2,100 mm is proposed along Road L25 to collect surface runoff from Site No. 4-1 and the surrounding catchment. The collected runoff will be conveyed towards the Floodable Open Space at Site No. 1-27 for discharge into the Tin Shui Wai Main Channel.

3.1.2 Two 750 mm diameter lead-in pipes (i.e., LI-S4.1-1 and LI-S4.1-2) are proposed on the eastern side of Site No. 4-1 to collect site runoff.

3.1.3 The conforming drainage layout is presented in **Appendix B**.

3.2 Drainage Impact

3.2.1 The change in the planned site area is summarised in **Table 3.1**. The location plan is shown in **Appendix B**.

Table 3.1 Revised Site Area for Site No. 4-1

Site No.	Planned Site Area (m ²)		
	Base Case	After PI	Difference
4-1	7,757	7,760	+3 (0.04%)

3.2.2

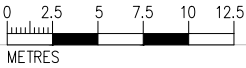
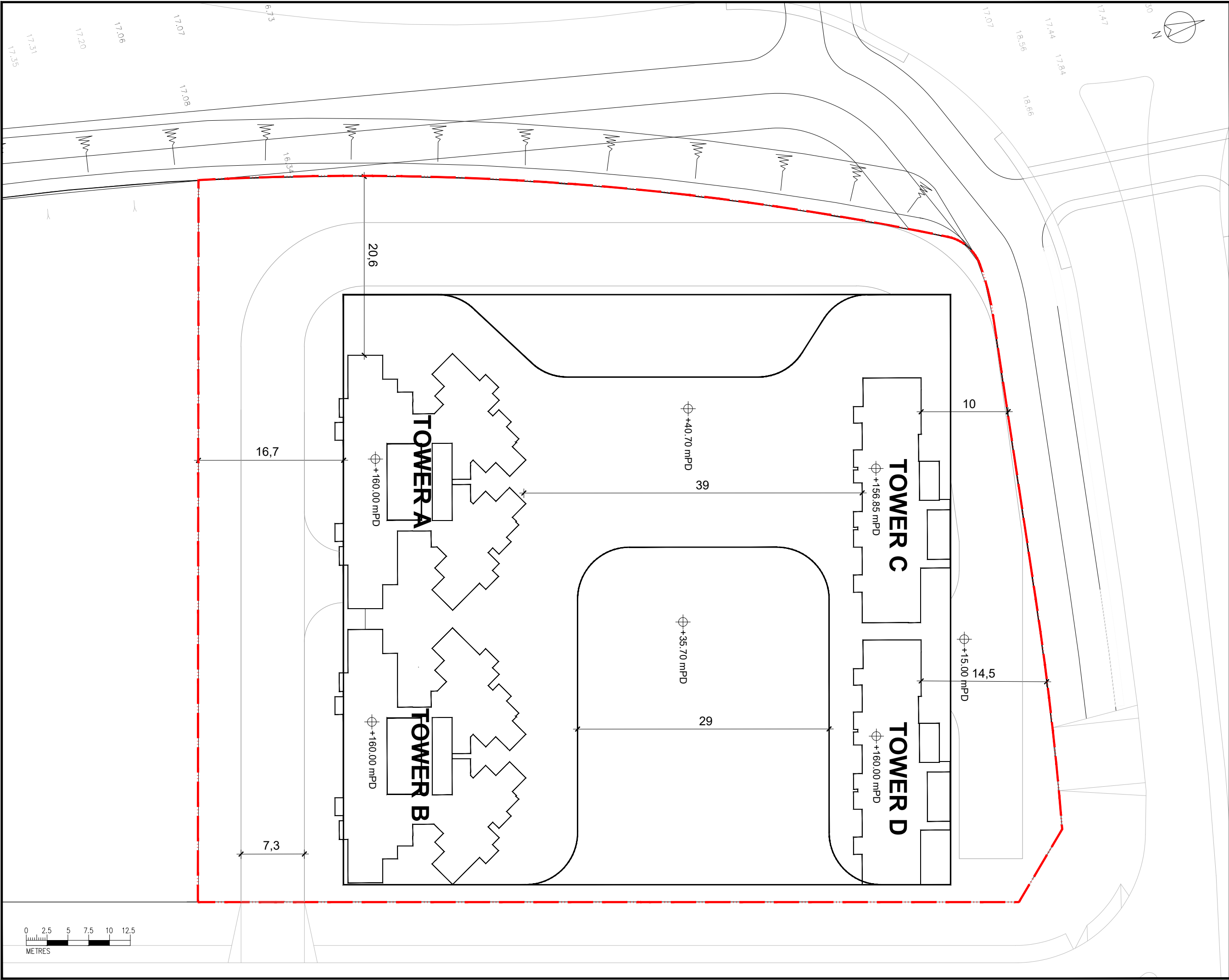
Since the revised development site area has increased by only 0.04%, the hydraulic capacity of the proposed lead-in pipes (2 nos. 750mm diameter) has been checked and confirmed remain well within the design capacity. As such, the drainage impact is considered negligible.

4.1.1 This report reviews changes in the drainage catchment area resulting from the revised development site area for Site No. 4-1, compares them with the base case scenario, and assesses the potential drainage impact.

4.1.2 Given that the revised catchment area for Site No. 4-1 has increased by only 0.04%, the impact on the planned drainage system is expected to be minimal and remains well within acceptable limits. Accordingly, no adverse effects on the planned drainage system are anticipated.

Appendix A

Indicative Scheme for Site No. 4-1



Rev.	Date	Description	Drawn
GENERAL NOTES:			
1.DO NOT SCALE DRAWING. FIGURED DIMENSIONS ARE TO BE FOLLOWED.			
2.ALL DIMENSIONS ARE TO BE CHECKED AT SITE BY THE MAIN CONTRACTOR/FABRICATOR.			
3.ALL RIGHT RESERVED. REPRODUCTION IN ANY FORM MUST BE APPROVED BY CLIENT/OWNER.			
4.READ THIS DRAWING IN CONNECTION WITH GENERAL ARCHITECTURAL PLANS, STRUCTURAL PLANS, AND OTHER RELATED DRAWINGS.			
<div><div></div>Application Site</div>			

Drainage Layout Plan near Site No. 4-1

Markup for Proposed Modification Works under S16 Planning Application for Proposed Flat and Shop and Services in G/IC (1) Zone in Planning Area 34E of Hung Shui Kiu/Ha Tsuen New Development Area

Site H6 (Site 4-1)
Original Catchment Area: 7757.14m²
New Catchment Area: 7760.27m²
Difference: 0.04% increased

Two nos. 750mm diameter lead-in pipes are proposed under conforming scheme well within acceptable limits with the new catchment area



KEY PLAN

NOTES

- FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C4/DRA/1001.
- PROPOSED U-CHANNELS AT RUN-INS SHALL BE PROVIDED WITH HEAVY DUTY CAST IRON COVERS AS SHOWN ON THE DRAWINGS.
- SPACING OF ROAD GULLIES THUS SHOWN:

G_s=9m GULLY SPACING, 9m MAXIMUM

Remark:

- 300UC Other Post-tender Markup
- 300UC Markup for Proposed Modification Works under HD's Technical Assessments
- 300UC Markup for Proposed Modification Works under S16 Planning Application for Proposed Flat and Shop and Services in G/IC (1) Zone in Planning Area 34E of Hung Shui Kiu/Ha Tsuen New Development Area

01	TENDER ADDENDUM NO. 1	EF	03/24
00	TENDER ISSUE	EF	02/24
Rev	Description	By	Date

Consultant

ARUP

Project Title
Contract No. YL/2023/04
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 4 -
Site Formation and Engineering
Infrastructure Works

Drawing title
DRAINAGE LAYOUT PLAN
(SHEET 2)

Drawing no.	278463/C4/DRA/1102	Rev.	01
Drawn	DT	Date	02/24
Checked	EF	Approved	DL
Scale	1:500 @ A1	Status	TENDER

COPYRIGHT RESERVED



土木工程拓展署
Civil Engineering and
Development Department

