

Annex F

Updated Drainage Impact Assessment

**PROPOSED MINOR RELAXATION OF
BUILDING HEIGHT RESTRICTION FOR
PERMITTED FLAT USE AT TUNG CHUNG
TOWN LOT 49, TUNG CHUNG ROAD NORTH,
LANTAU ISLAND**

Drainage Impact Assessment

MARCH 2026



PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND

Drainage Impact Assessment

Author Various

Reviewer Fernando Coutinho

Approver TK Ting

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1 INTRODUCTION

1.1 Background

1.1.1 Full Fame Development Limited (the “Applicant”) intends to seek approval from the Town Planning Board (“TPB”) under Section 16 of the Town Planning Ordinance for the Proposed Minor Relaxation of Building Height Restriction for Permitted Flat Use at Tung Chung Town Lot 49, Tung Chung Road North, Lantau Island (“the Site”). The Site falls primarily within an area zoned “Residential (Group B)3” (“R(B)3”) zone, with a minor portion of it shown as “Road” on the Approved Tung Chung Town Centre Area Outline Zoning Plan (“the Approved OZP”) No. S/I-TCTC/24.

1.1.2 Asia Infrastructure Solutions Limited was commissioned by the Applicant to undertake a Drainage Impact Assessment (DIA) for the Proposed Residential Development and provide technical justifications in supporting the application from the drainage point of view.

1.2 Objectives

1.2.1 This report outlines the existing drainage system in the vicinity of the Site, studies the potential drainage impacts that may arise from the proposed residential development and proposed appropriate mitigation measures where necessary.

1.2.2 The objectives of this Drainage Impact Assessment (DIA) are as follows:

- Identify any potential drainage impact arising from the Site;
- Assess the hydraulic performance of the existing drainage outfalls in the Site; and
- Identify design requirements of the drainage system of the proposed residential development.

1.3 Information Available for the Study

1.3.1 The following information was reviewed for the study:

- DSD Stormwater Drainage Manual (SDM) – Planning, Design and Management (Fifth Edition, January 2018) including its corrigenda No. 1/2022, No. 1/2024 and No. 2/2024.
- Approved Tung Chung Town Centre Area Outline Zoning Plan No. S/I-TCTC/24; and
- Cap. 123I Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulation.

2 PROJECT OUTLINE

2.1 Project Background and Project Site

- 2.1.1 The Site is located at the northwest of the planned public housing development at Area 23 of Tung Chung.
- 2.1.2 The Site is also bounded by Tung Chung Road North to the east and an existing nullah connecting to Ma Wan Chung to the west.
- 2.1.3 The Site has an area of approximate 5,400m² comprising mainly paved areas and some landscaped areas.
- 2.1.4 The proposed development is mainly comprised of two 13-storey residential towers and a 3-storey clubhouse block with an outdoor swimming pool, both atop 1 level of basement carpark. A master layout plan and a schematic section of the proposed residential development at Tung Chung Road North are contained in **Appendix A**.

3 EXISTING AND PROPOSED DRAINAGE SYSTEMS

3.1 Existing Drainage Network

- 3.1.1 With reference to Drainage Record Sheets No. 9-SE-8B-3, 9-SE-8B-4, 9-SE-8D-1 and 9-SE-8D-2 contained in **Appendix B**, there is an existing nullah in the west of the Site and there is no existing public drainage pipelines in the vicinity of the Site.
- 3.1.2 With reference to the topographical and tree survey conducted by KEL and Surveying, Planning & GIS Co. Ltd. contained in **Appendix C**, there are two existing 600mm diameter outfalls within the Site that are connected to the existing nullah. Surface runoff from the Site is discharged into the nullah through these two outfalls.
- 3.1.3 With reference to the topographical and tree survey contained in **Appendix C**, two existing 600mm diameter outfalls are identified. However, due to inaccessible dense vegetation within the current Site, existing drainage system of the Site is merely surveyed. In this report, two nodes are assumed to be manhole objects to receive the surface runoff from the Site in the existing scenario model.

3.2 Existing Catchments and Surface Runoffs

- 3.2.1 Existing drainage catchments associated with each of the existing outfalls from the site discharging stormwater to the nullah were identified based on the topography of the site.
- 3.2.2 The boundaries of the existing drainage catchments associated with the Site are shown in drawing no. KEB002681/DIA/1001.
- 3.2.3 Surface characteristics and times of concentration of existing stormwater catchments draining into the two existing outfalls are detailed in the Table contained in **Appendix D**.

3.3 Changes in Catchments and Surface Runoffs due to the Proposed Development

- 3.3.1 The proposed residential development will change the surface characteristics and slightly increase the total area of the catchments draining to the existing 600mm diameter outfalls.
- 3.3.2 Surface characteristics and times of concentration of the proposed drainage catchments (i.e. post-development) are presented in **Appendix E**.
- 3.3.3 The boundaries of the proposed drainage catchments are shown in drawing no. KEB002681/DIA/2001.
- 3.3.4 The proposed development will lead to changes in surface characteristics of Site. The potential drainage impact of this change in surface characteristics is assessed in Section 5.

4 METHOD OF ANALYSIS

4.1 Assessment Criteria

- 4.1.1 With reference to the DSD SDM, underground drainage pipes with a diameter smaller than 1.8m (or equivalent diameter in case of a box culvert) conveying stormwater to a trunk drain, river or sea are normally classified as “Urban Drainage Branch System”. An “Urban Drainage Trunk System” collects stormwater from branch drains and conveys the flow to outfalls in river or sea. Pipes with size or box culverts with equivalent diameter equal to or larger than 1.8m are normally considered as trunk drains. Recommended Design Return Periods from DSD SDM are shown in the Table 1:

Drainage Type	Design Return Period
Urban Drainage Trunk Systems	200 years
Urban Drainage Branch Systems	50 years

Table 1 Recommended Design Return Periods

- 4.1.2 For the purpose of this drainage impact assessment, 1 in 50 years design period is adopted for assessment of the drainage condition of the existing 600mm diameter outfalls. The 1 in 200 years design return period is adopted to assess the potential susceptibility to flooding of the Site due to backwater from the adjacent nullah.
- 4.1.3 For the selected return periods, the flood levels in the fluvial-tidal zone determining the flood level in the fluvial-tidal zone for selected return period, the following cases are considered:

Flood Level Return Period	Case A	Case B
50 years	50-yr rain + 10-yr sea level	10-yr rain + 50-yr sea level
200 years	200-yr rain + 10-yr sea level	10-yr rain + 200-yr sea level

- 4.1.4 The classical theory of unit hydrograph with constant proportional losses (runoff coefficient) was adopted to calculate the catchment surface runoffs.

4.1.5 The runoff coefficients adopted for roof/paved area, vegetated area with underlying structures and flat vegetated area are 1.00, 0.60 and 0.20 respectively.

4.1.6 The unit hydrograph used to simulate the 50-year rainfall event was derived synthetically using the symmetrically distributed rainfall based on RO (1991) as recommended in Section 4.3.5 of the DSD SDM. The formulation is shown below:

$$F(t) = \begin{cases} \frac{a[b + 2(1 - c)t]}{(2t + b)^{c+1}} & , \quad 0 \leq t \leq \frac{t_d}{2} \\ F(-t) & , \quad -\frac{t_d}{2} \leq t \leq 0 \end{cases}$$

where: $F(t)$ = rate of rainfall or instantaneous intensity in mm/hr at time t (in minutes)
 t_d = rainstorm duration (in minutes) ($t_d \leq 240$)
 a, b, c = storm constants are given in Table 3c of DSD SDM, which are the same as those given of the algebraic equation of the IDF relationship

4.1.7 The times of concentration (t_c) for the different types of catchments are summarized in Table 2.

Type of Catchment	Time of Concentration
Vegetated Area (flat area)	Based on Brandsby William's equation with a minimum of 5 minutes
Paved Area	Based on Brandsby William's equation with a minimum of 5 minutes

Table 2 – Times of concentration for Different Types of Catchment

4.1.8 The inlet times, or time of concentration of the catchments considered in this DIA Report were estimated using the Brandsby William's Equation as presented below:

$$t_0 = \frac{0.14465L}{H^{0.2}A^{0.1}}$$

where: t_0 = time of concentration of the catchment (min)
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)
 A = Catchment area (m^2)
 H = Average slope (m per 100m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

4.1.9 To account for the effect of Climate Change, the increase in rainfall intensity and increase in the design extreme sea levels presented in Table 3 to Table 6 are adopted.

Report	Increase in Rainfall Intensity due to Climate Change (Mid-21st Century)		
	Rainfall Increase	Design Allowance	Total
DSD SDM (2018) 2018 Including the Corrigendum No. 1 of 2022	11.1%	0.0%	11.1%

Table 3 - Increase in Rainfall Intensity due to Climate Change (Mid-21st Century) [SSP2-4.5]

Report	Increase in Rainfall Intensity due to Climate Change (End-21st Century)		
	Rainfall Increase	Design Allowance	Total
DSD SDM (2018) 2018 Including the Corrigendum No. 1 of 2022	16.0%	12.1%	28.1%

Table 4 - Increase in Rainfall Intensity due to Climate Change (End-21st Century) [SSP5-8.5]

4.1.10 The design sea levels adopted in the water level at the existing outfalls in the hydraulic assessment are summarized in Table 5 and Table 6.

Design Return Period (Years)	Tai O (1954-2019) (mPD)	Sea Level Rise due to climate change (m)	Storm Surge Increase in Mid-21st Century	Design Allowance in Mid-21st Century	Design Sea Level Mid-21st Century (mPD)
10	3.36	0.20	0.05	0.00	3.61
50	3.84	0.20	0.08	0.00	4.12
200	4.28	0.20	0.10	0.00	4.58

Table 5 – Design Sea Levels (Mid-21st Century) [SSP2-4.5]

Design Return Period (Years)	Tai O (1954-2019) (mPD)	Sea Level Rise due to climate change (m)	Storm Surge Increase in End of 21st Century	Design Allowance in End-21st Century	Design Sea Level End-21st Century (mPD)
10	3.36	0.47	0.10	0.21	4.14
50	3.84	0.47	0.14	0.22	4.67
200	4.28	0.47	0.18	0.24	5.17

Table 6 – Design Sea Levels (End-21st Century) [SSP5-8.5]

4.2 Hydraulic Modelling Details

- 4.2.1 Hydraulic modelling package InfoWorks ICM 2024.5 developed by Innovyze was used to assess surface water runoff and hydraulic performance of existing and proposed drainage systems.
- 4.2.2 A Colebrook white roughness value (ks) of 3mm was adopted for the concrete drainage pipes respectively.
- 4.2.3 Shaft and chamber areas for manholes (nodes) were modelled using InfoWorks default values. All manholes were modelled as a stored type manhole.
- 4.2.4 Flap valves fitted onto the proposed upgraded outfalls were modelled using InfoWorks built-in default values.
- 4.2.5 The following reduction of channel and pipe flow areas was adopted to simulate the pipe hydraulic performance of both existing public drainage system and the proposed drainage system for the site:

- i) A 5% reduction in flow area if the channel or pipe gradient is greater than 1 in 25 and
- ii) A 10% reduction in flow area for other parts of the drainage network

- 4.2.6 Unit hydrograph routing model was used for all catchments. The times of concentration were input manually in InfoWorks model adopting the values estimated according to the criteria detailed in Section 4.1.8.
- 4.2.7 The fixed runoff volume model was used for all catchments. The fixed runoff coefficients adopted are detailed in Section 4.1.5.
- 4.2.8 Hydraulic model output results in the form of longitudinal profiles are included in **Appendix F**.

5 ASSESSMENT

5.1 Changes to the Drainage Characteristics and Potential Drainage Impacts

Existing Catchments

- 5.1.1 Existing drainage catchments associated with the existing drainage systems serving the Site were identified based on topography of the area and DSD drainage record plans. The boundary of existing sub-catchments is presented in drawing no. KEB002681/DIA/1001.
- 5.1.2 A 50-year storm return period was adopted to assess the hydraulic performance of the existing drainage systems serving the Site.
- 5.1.3 The results of the InfoWorks model for the existing scenario (i.e. pre-development) are contained in **Appendix F2** and **Appendix F3**.
- 5.1.4 The site catchments and the surface runoff flow paths are shown on Figure 1.
- 5.1.5 The area and surface characteristics of the existing drainage catchments associated with the Site are presented in Table 7.

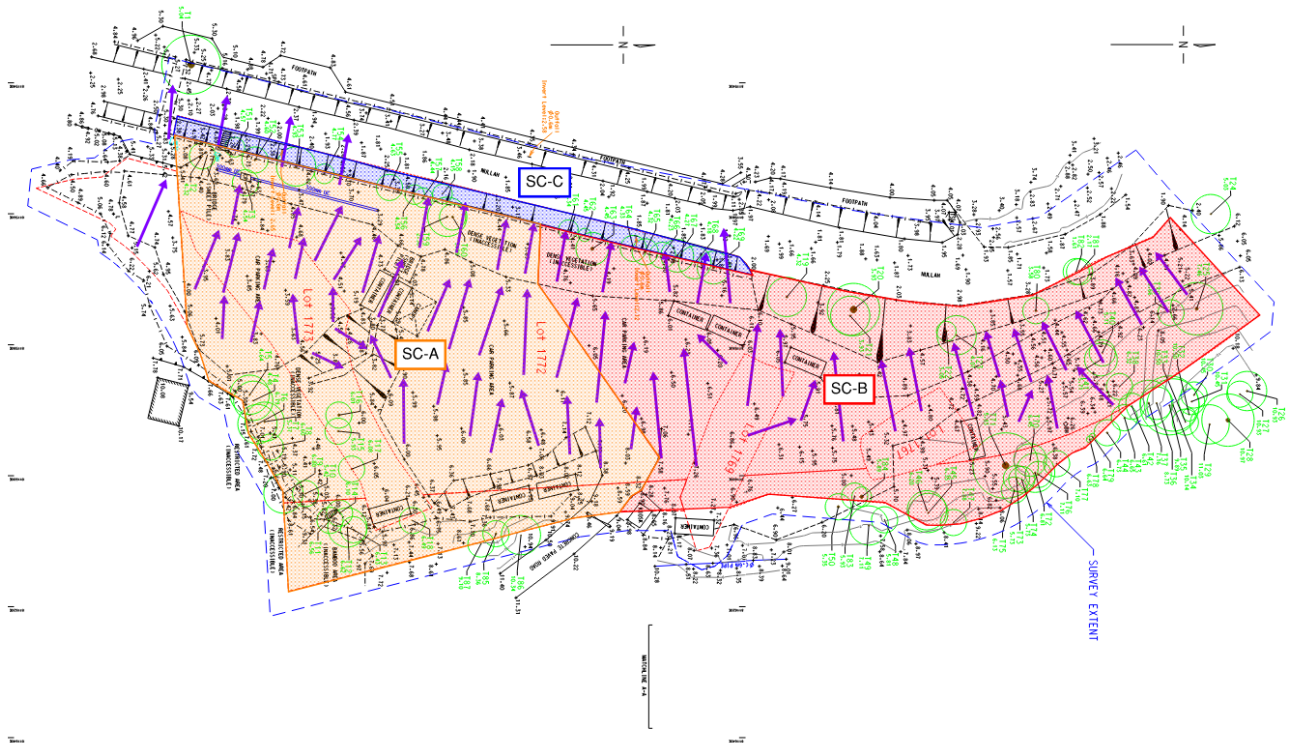


Figure 1 – Site Catchment Plan and Surface Runoff Flow Path

Catchment ID	Discharge to	Total Area (m ²)	Paved Area (m ²)	Vegetated w/ Underlying Structure (m ²)	Vegetated Area (m ²)	Paved Area (%)	Vegetated w/ Underlying Structure (%)	Vegetated Area (%)
SC-A	Outfall 1	2,884.4	1,680.8	0.0	1,203.5	58.3	0	41.7
SC-B	Outfall 2	3,229.5	1,860.6	0.0	1,368.9	57.6	0	42.4
SC-C	Nullah	304.4	304.4	0.0	0.0	100.0	0	0.0
Total		6,418.3	3,845.9	0	2,572.4	59.9	0	40.1

Table 7 – Area and Surface Characteristics of Existing Drainage Catchments

5.1.6 The estimated peak runoff of the existing drainage catchments is presented in Table 8.

Catchment ID	Discharge to	1 in 50yr Mid-21 st Century Peak Flow (Case A) (m ³ /s)	1 in 50yr Mid-21 st Century Peak Flow (Case B) (m ³ /s)
SC-A	Outfall 1	0.143	0.120
SC-B	Outfall 2	0.158	0.133
SC-C	Nullah	0.023	0.019
Total		0.324	0.271

Table 8 – Peak Runoff of the Existing Drainage Catchments

5.1.7 The hydraulic performance of the two existing 600mm diameter outfalls serving the Site is outlined in Table 9 and Table 10. The locations of existing outfalls shall refer to drawing no. KEB002681/DIA/1001.

Location	Diameter (mm)	Pipe Capacity (m ³ /s)	Existing Peak Flow Rate 1 in 50 years Mid-21 st Century Case A (m ³ /s)	Existing Peak Flow Rate 1 in 50 years Mid-21 st Century Case B (m ³ /s)	Pipe utilization 1 in 50 years Mid-21 st Century Case A (%)	Pipe utilization 1 in 50 years Mid-21 st Century Case A (%)
Outfall 1	600	0.473	0.143	0.120	30.1	25.3
Outfall 2	600	0.473	0.158	0.133	33.5	28.1

Table 9 – Result of the Hydraulic Assessment for the Existing Scenario: Flow Rates & Pipe Utilization

Location	Existing Ground Level at Upstream Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21 st Century Case A (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21 st Century Case B (mPD)	Freeboard 1 in 50 years Mid-21 st Century Case A (mm)	Freeboard 1 in 50 years Mid-21 st Century Case B (mm)
Outfall 1	4.50	3.617	4.124	883	376
Outfall 2	4.50	3.617	4.125	883	375

Table 10 – Result of the Hydraulic Assessment for the Existing Scenario: Water Levels & Freeboard

5.1.8 Due to high design water level at the existing nullah, backwater effect occurs at the existing outfalls, resulting to surcharge in the upstream drainage.

Proposed Catchments

- 5.1.9 The boundary of the proposed drainage catchments is presented in drawing no. KEB002681/DIA/2001.
- 5.1.10 The results of the InfoWorks model for proposed development scenario (i.e. post-development) are contained in **Appendix F2** and **Appendix F4**.
- 5.1.11 The area and surface characteristics of the proposed drainage catchments are presented in Table 11.

Catchment ID	Discharge to	Total Area (m ²)	Paved Area (m ²)	Vegetated w/ Underlying Structure (m ²)	Vegetated Area (m ²)	Paved Area (%)	Vegetated w/ Underlying Structure (%)	Vegetated Area (%)
SC-A	Outfall 1	3,061.8	2,449.4	37.2	575.1	80.0	1.2	18.8
SC-B	Outfall 2	3,356.5	2,685.2	671.3	0.0	80.0	20.0	0.0
Total		6,418.2	5,134.6	708.5	575.1	80.0	11.0	9.0

Table 11 – Area and Surface Characteristics of Proposed Drainage Catchments

- 5.1.12 The estimated peak runoff of the proposed drainage catchments is presented in Table 12.

Catchment ID	Discharge to	1 in 50yr Mid-21 st Century Peak Flow (Case A) (m ³ /s)	1 in 50yr Mid-21 st Century Peak Flow (Case B) (m ³ /s)
SC-A	Outfall 1	0.143	0.120
SC-B	Outfall 2	0.158	0.133
SC-C	Nullah	0.023	0.019
Total		0.324	0.271

Table 12 – Peak Runoff of the Existing Drainage Catchments

- 5.1.13 The hydraulic performance of the two existing 600mm diameter outfalls serving the Site after completion of the proposed residential development is outlined in Table 9 and Table 10.

Location	Diameter (mm)	Pipe Capacity (m ³ /s)	Proposed Peak Flow Rate 1 in 50 years Mid-21 st Century Case A (m ³ /s)	Proposed Peak Flow Rate 1 in 50 years Mid-21 st Century Case B (m ³ /s)	Pipe utilization 1 in 50 years Mid-21 st Century Case A (%)	Pipe utilization 1 in 50 years Mid-21 st Century Case A (mPD)
Outfall 1	600	0.473	0.192	0.161	40.6	34.0
Outfall 2	600	0.473	0.229	0.192	48.4	40.6

Table 13 – Result of the Hydraulic Assessment for the Proposed Development Scenario: Flow Rates & Pipe Utilization

Location	Proposed Ground Level at Terminal Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21 st Century Case A	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21 st Century Case B	Freeboard 1 in 50 years Mid-21 st Century Case A	Freeboard 1 in 50 years Mid-21 st Century Case B

		(mPD)	(mPD)	(mm)	(mm)
Outfall 1	6.00	3.623	4.127	2377	1873
Outfall 2	6.00	3.624	4.130	2376	1870

Table 14 – Result of the Hydraulic Assessment for the Proposed Development Scenario: Water Levels & Freeboard

5.2 Drainage Impact of the Proposed Development

5.2.1 The changes in peak flow from the Site due to the proposed development are presented in Table 15.

Existing Peak Flow Rate 1 in 50 years Mid-21 st Century, Case A (m ³ /s)	Existing Peak Flow Rate 1 in 50 years Mid-21 st Century, Case B (m ³ /s)	Proposed Peak Flow Rate 1 in 50 years Mid-21 st Century, Case A (m ³ /s)	Proposed Peak Flow Rate 1 in 50 years Mid-21 st Century, Case B (m ³ /s)	Increase in Peak Flow 1 in 50 years Mid-21 st Century, Case A (m ³ /s)	Increase in Peak Flow 1 in 50 years Mid-21 st Century, Case B (m ³ /s)
0.324	0.271	0.421	0.353	0.097	0.082

Table 15 – Result of the Hydraulic Assessment: Changes in Peak due to the Development of the Site

5.2.2 Presently, the ground surface of the existing catchments is 59.9% paved and 40.1% vegetated. The proposed development will change the ground surface of the existing catchments to 80% paved, 11% vegetated with underlying structure and 9% vegetated. Therefore, the proposed development will increase the surface runoff from the Site.

5.2.3 The surface flows from the Site are discharged to the existing 12m wide trapezoidal nullah running from south to north along the west boundary of the Site. Based on the hydraulic modelling results for the 50 years return period, taking into consideration the effects of climate change up to mid-21st Century, the increase of surface runoff (peak flow) for 1 in 50 case A and Case B are 0.097 m³/s and 0.082 m³/s respectively. Since the increase in surface runoff is small compared to the hydraulic capacity of the existing nullah, the drainage impact arising from the proposed development is considered minimal. No adverse impact is envisaged.

5.3 Hydraulic Assessment under the 200-years, End-21st Century (Proposed Development Scenario)

5.3.1 The results of the InfoWorks model for proposed development scenario (i.e. post-development) under the End-21st Century 1 in 200-years Return Period are contained in **Appendix F5** and summarized in Table 16 and Table 17.

Location	Diameter (mm)	Pipe Capacity (m ³ /s)	Proposed Peak Flow Rate 1 in 200 years End-21 st Century Case A (m ³ /s)	Proposed Peak Flow Rate 1 in 200 years Mid-21 st Century Case B (m ³ /s)	Pipe utilization 1 in 200 years Mid-21 st Century Case A (%)
Outfall 1	600	0.473	0.249	0.186	52.6
Outfall 2	600	0.473	0.297	0.222	62.8

Table 16 – Result of the Hydraulic Assessment for the Proposed Development Scenario: Flow Rates & Pipe Utilization

Location	Proposed Ground Level at Terminal Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 200 years End-21 st Century, Case A (mPD)	Maximum Water Level at Upstream Manhole 1 in 200 years End-21 st Century, Case B (mPD)	Freeboard 1 in 200 years End-21 st Century, Case A (mm)	Freeboard 1 in 200 years End-21 st Century, Case B (mm)
Outfall 1	6.00	4.157	5.179	1843	821
Outfall 2	6.00	4.163	5.183	1837	817

Table 17 – Result of the Hydraulic Assessment for the Proposed Development Scenario: Water Levels & Freeboard

5.4 Proposed Mitigation Measures

- 5.4.1 In the existing scenario model, backwater effect occurs at the existing outfall pipes due to high water level at the existing nullah. To avoid disturbing the existing nullah and potential environment impacts, the existing outfalls are proposed to be retained and improved by installing flap valves to prevent stormwater at nullah entering the drainage system within the Site.
- 5.4.2 The results of the hydraulic model simulation show that the flap valves fitted onto the outfalls will not adversely affect their hydraulic performance. The minor headlosses of the flap valves have neglectable drainage impact.
- 5.4.3 Peripheral drains shall be provided to collect the surface runoff within the site and convey to the nearby nullah via the proposed terminal manholes and existing 600mm drainage pipes.
- 5.4.4 Based on the hydraulic modelling results for the 200 years return period, taking into consideration the effects of climate change up to end-21st Century, the water level at the terminal manholes discharging to the existing 600mm diameter outfalls will reach about +5.2mPD under case B. Therefore, it is recommended that the formation level of the site be equal to or greater than +6.0mPD to provide long-term protection against tidal-driven flooding.

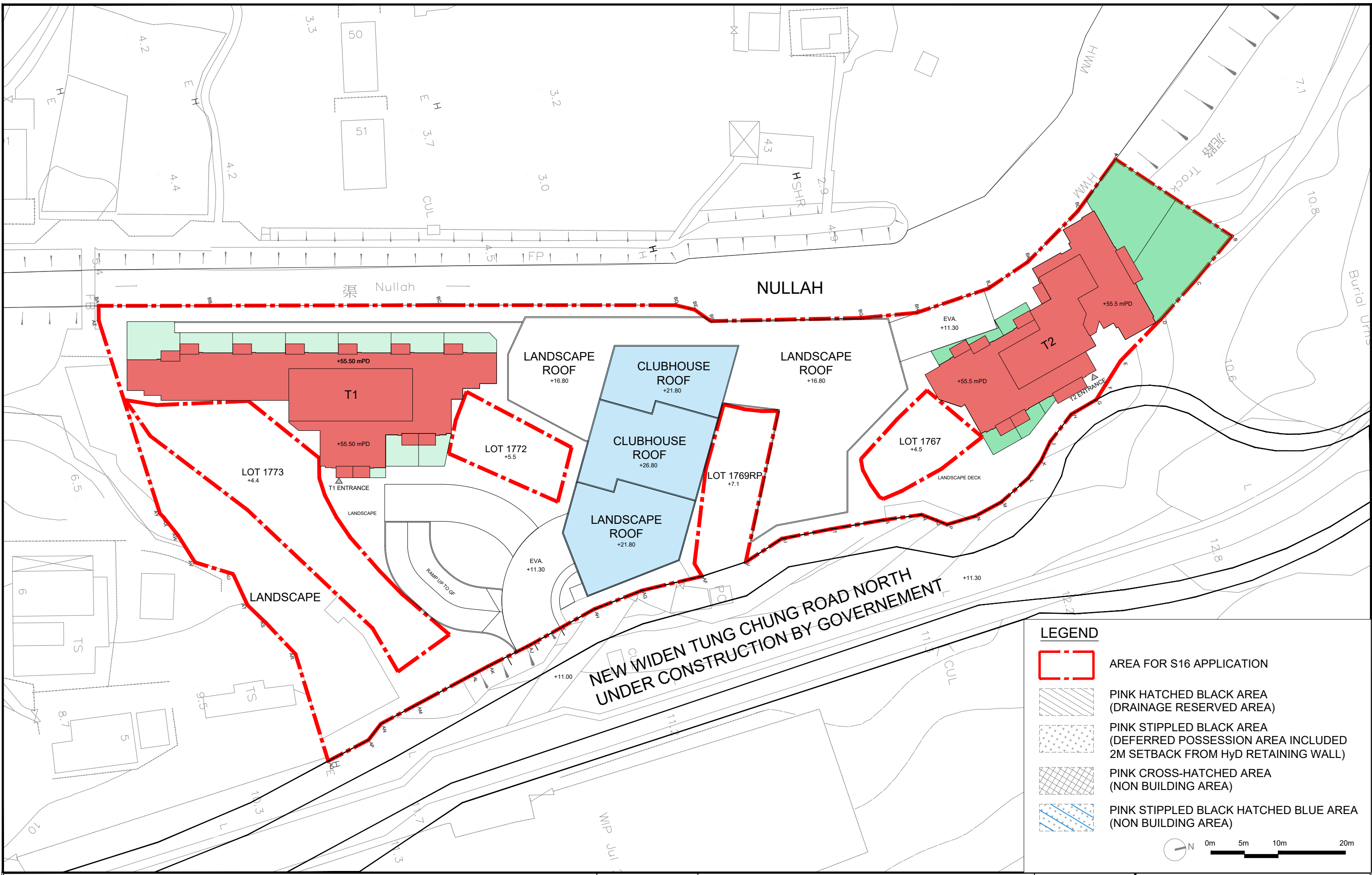
6 CONCLUSION

- 6.1.1 The proposed residential development will change the ground surface of the existing catchments from 59.9% paved and 40.1% vegetated to 80% paved, 11% vegetated with underlying structure and 9% vegetated. Therefore, the proposed development will increase the surface runoff from the Site.
- 6.1.2 The surface flows from the Site are discharged to the existing 12m wide trapezoidal nullah running from south to north along the west boundary of the Site via the proposed terminal manholes and existing 600mm drainage pipes. Based on the hydraulic modelling results for the 50 years return period, taking into consideration the effects of climate change up to mid-21st Century, the increase of surface runoff (peak flow) for 1 in 50 case A and Case B are 0.097 m³/s and 0.082 m³/s respectively. Since the increase in surface runoff is small compared to the hydraulic capacity of the existing nullah, the drainage impact arising from the proposed development is considered minimal. No adverse impact is envisaged.

- 6.1.3 According to the results of the hydraulic model simulation, the existing 600mm diameter outfalls serving the Site have adequate hydraulic capacity to cater for the peak flows from the development under the 200 years return period, taking into consideration the effects of climate change up to end-21st Century. As such, the existing outfalls are proposed to be retained and improved by installing flap valves to prevent stormwater at nullah entering the drainage system within the Site.
- 6.1.4 Based on the hydraulic modelling results for the 200 years return period, taking into consideration the effects of climate change up to end-21st Century, the water level at the terminal manholes discharging to the existing 600mm diameter outfalls will reach about +5.2mPD under case B. The proposed basement level for carpark and ground floor level are +6.8mPD and +11.30mPD respectively which provides long-term protection against tidal-driven flooding.
- 6.1.5 It can be concluded that the proposed development will not cause any adverse drainage impact in areas within, upstream and downstream of the Application Site.

APPENDIX A

Proposed Development – Master Layout Plan



Drawing Title
MASTER LAYOUT PLAN

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1:500 (A3)

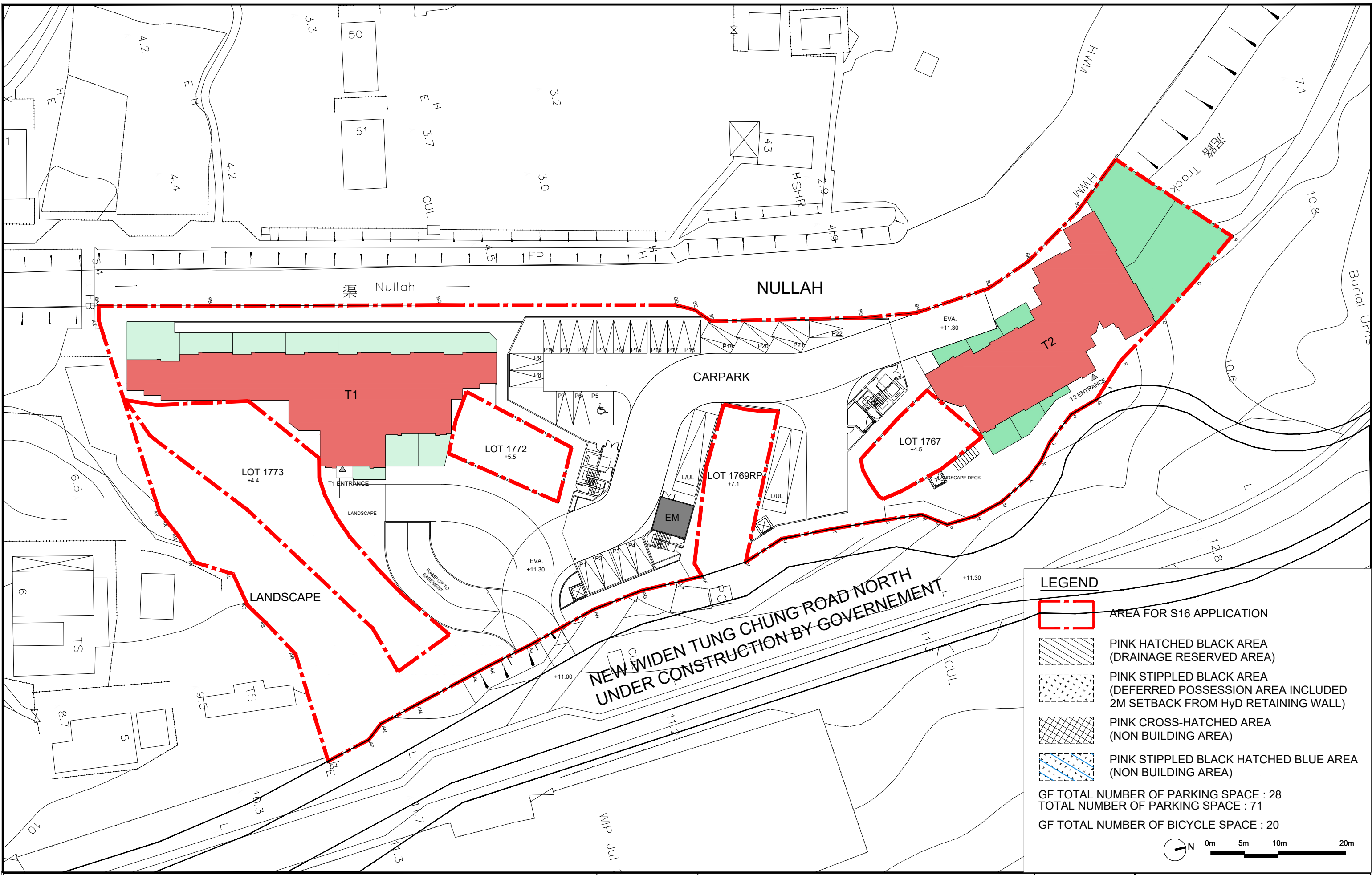
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Project
A-2517
 PROPOSED MINOR RELAXATION OF BUILDING HEIGHT
 RESTRICTION FOR PERMITTED FLAT USE AT
 TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH,
 LANTAU ISLAND



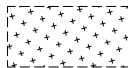

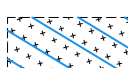
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Dwg No.
MLP-01





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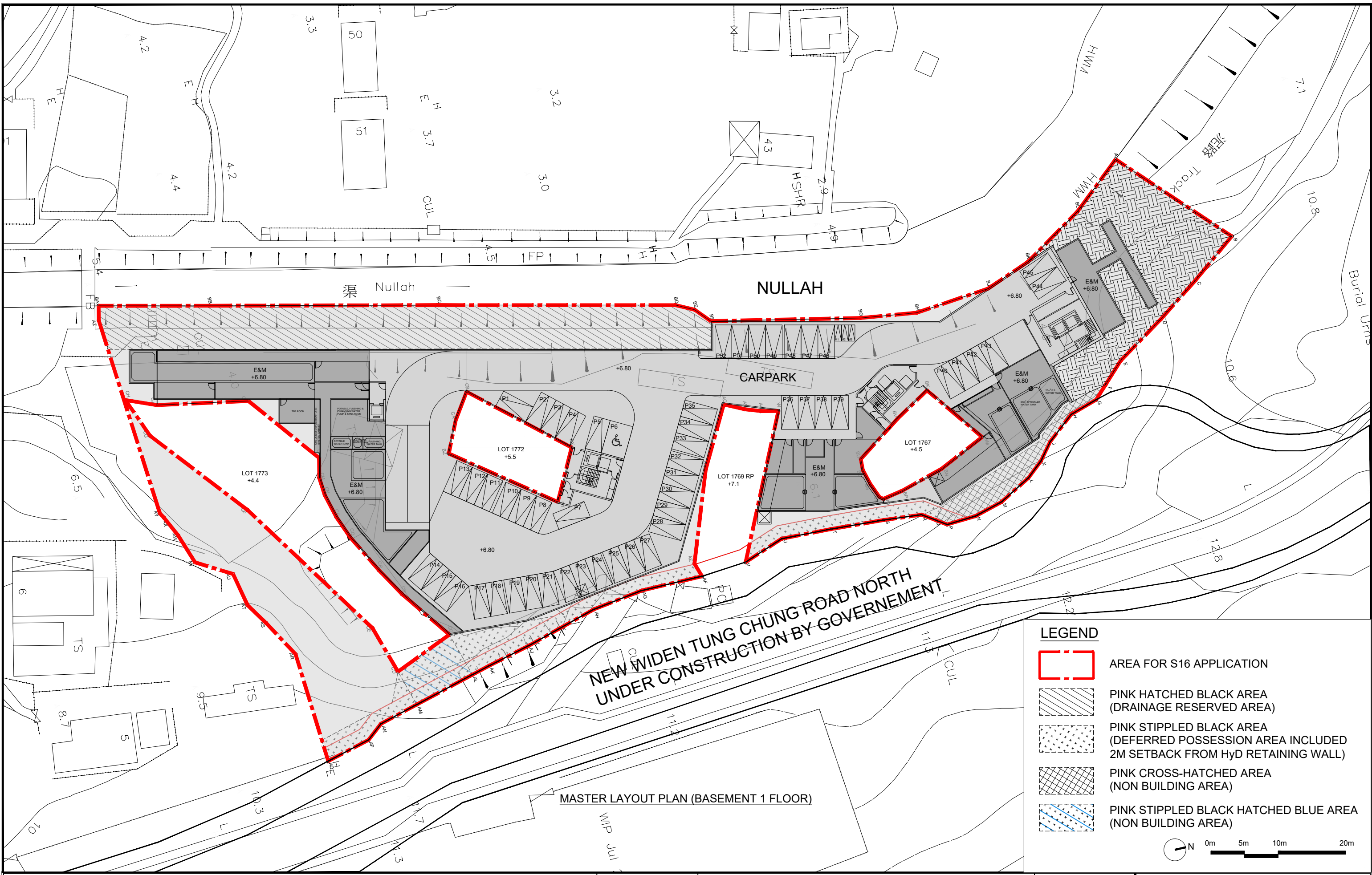
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-  PINK HATCHED BLACK AREA (DRAINAGE RESERVED AREA)
-  PINK STIPPLED BLACK AREA (DEFERRED POSSESSION AREA INCLUDED 2M SETBACK FROM Hyd RETAINING WALL)
-  PINK CROSS-HATCHED AREA (NON BUILDING AREA)
-  PINK STIPPLED BLACK HATCHED BLUE AREA (NON BUILDING AREA)

GF TOTAL NUMBER OF PARKING SPACE : 28
 TOTAL NUMBER OF PARKING SPACE : 71
 GF TOTAL NUMBER OF BICYCLE SPACE : 20


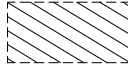
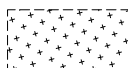

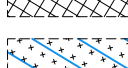
0m 5m 10m 20m


Drawing Title GROUND FLOOR PLAN	Scale 1:500 (A3)	Project A-2517 PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND	Job No. A-2517
	Date 25/03/2026		Dwg No. GP-01




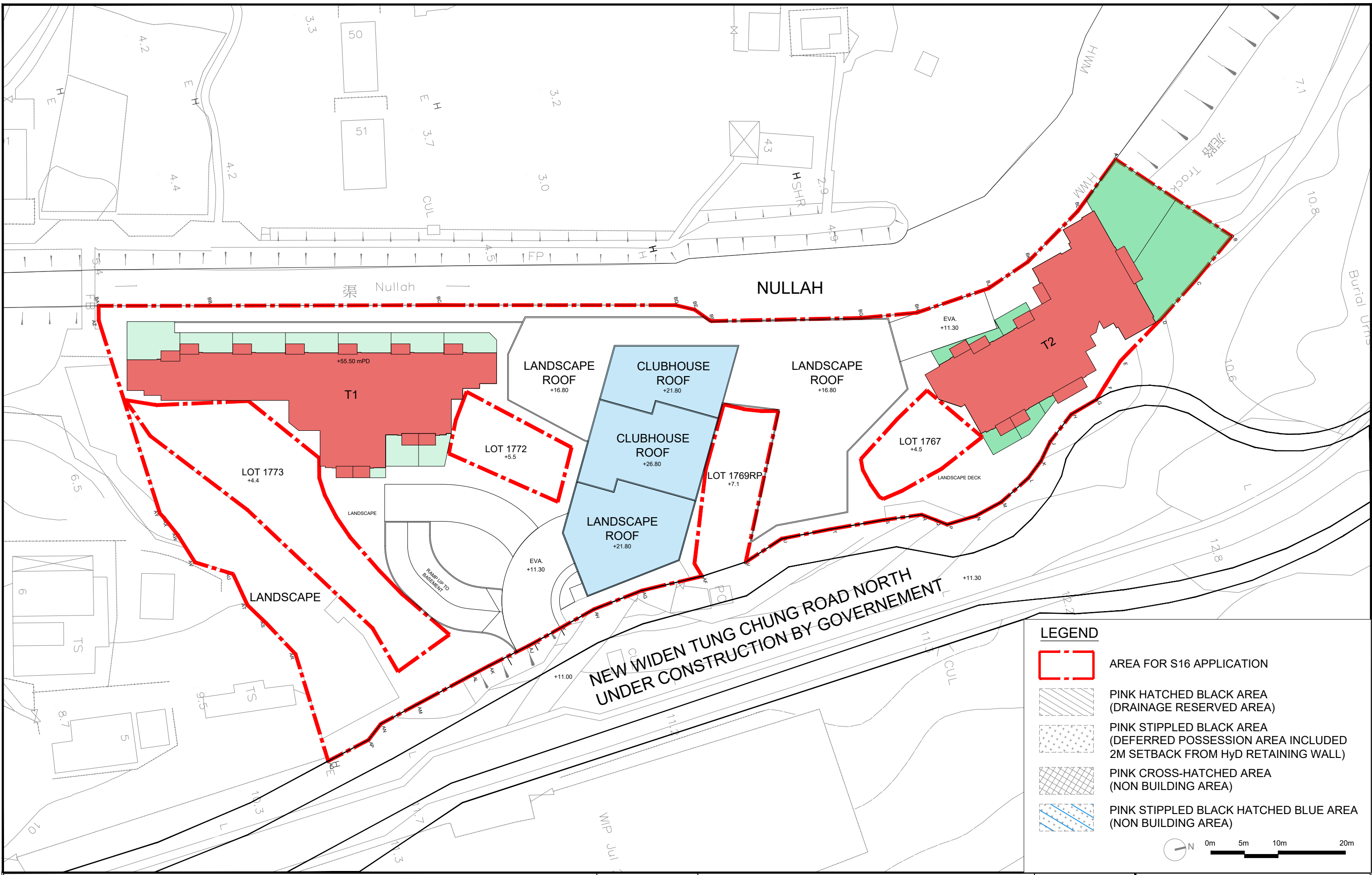


LEGEND





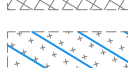
-  AREA FOR S16 APPLICATION
-  PINK HATCHED BLACK AREA (DRAINAGE RESERVED AREA)
-  PINK STIPPLED BLACK AREA (DEFERRED POSSESSION AREA INCLUDED 2M SETBACK FROM Hyd RETAINING WALL)
-  PINK CROSS-HATCHED AREA (NON BUILDING AREA)
-  PINK STIPPLED BLACK HATCHED BLUE AREA (NON BUILDING AREA)


 0m 5m 10m 20m

Drawing Title BASEMENT 1 FLOOR PLAN	Scale 1:500 (A3)	Project A-2517 PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND	Job No. A-2517
	Date 25/03/2026	Dwg No. GP-02	




LEGEND

-  AREA FOR S16 APPLICATION
-  PINK HATCHED BLACK AREA (DRAINAGE RESERVED AREA)
-  PINK STIPPLED BLACK AREA (DEFERRED POSSESSION AREA INCLUDED 2M SETBACK FROM HyD RETAINING WALL)
-  PINK CROSS-HATCHED AREA (NON BUILDING AREA)
-  PINK STIPPLED BLACK HATCHED BLUE AREA (NON BUILDING AREA)

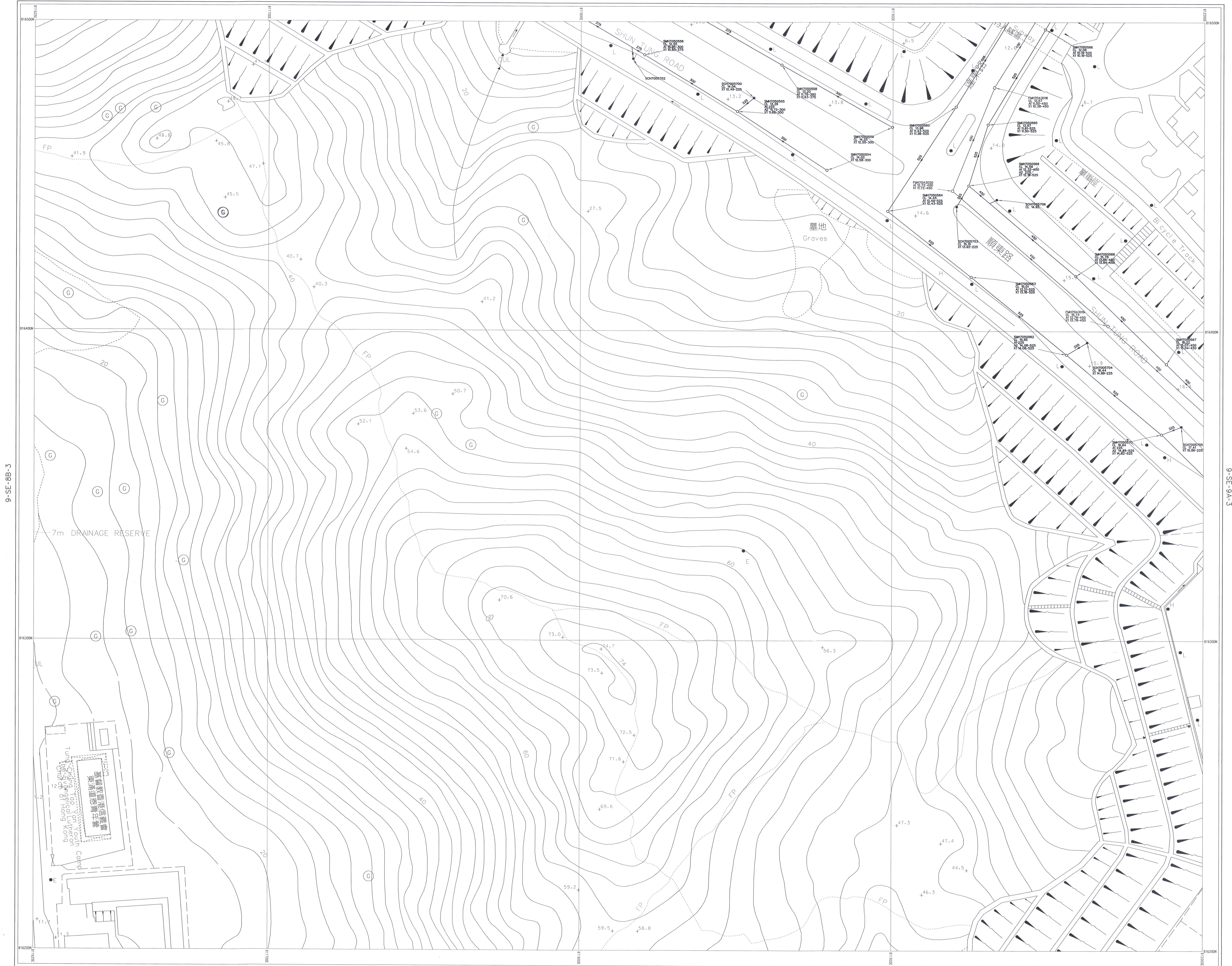


 0m 5m 10m 20m

Drawing Title TYPICAL LAYOUT PLAN	Scale 1:500 (A3)	Project A-2517 PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND	Job No. A-2517
	Date 25/03/2026	Dwg No. GP-03	 ANDREW LEE KING FUN & ASSOCIATES ARCHITECTS LTD

APPENDIX B

Drainage Records

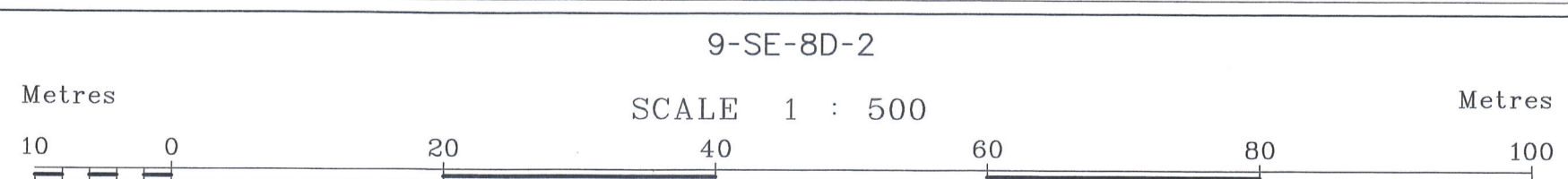


9-SE-8B-3

9-SE-9A-3

Legend :

○ Storm Water Manhole	Existing Pipe (Storm/Sewer/Combined)	●/● Gully Sump / Gully	▲ Slope Sign Board
○ Storm Water Terminal Manhole	Existing Pipe (Storm/Sewer/Combined)	H/H Tapping Point (Storm/Sewer)	▲ Slope Number
□ Sewer Manhole	Existing Pipe (Storm/Sewer/Combined)	G/G Overflow (Sewer/Combined)	--- Slope Boundary
■ Sewer Terminal Manhole	Proposed Pipe (Storm/Sewer)	■ Interface Valve Chamber	--- Existing Submarine Outfall with Diffuser
● Combined Manhole	Works In Progress Pipe (Storm/Sewer)	■ Oil / Petrol Interceptor	--- Proposed Submarine Outfall with Diffuser
● Catchpit	Abandoned Pipe	■ Valve	--- Works In Progress Submarine Outfall with Diffuser
● Desalting Opening	Abandoned Pipe (Filled with Materials)	■ Water Gauge	--- Harbour Area Treatment Scheme
● Inspection Opening	Existing U Channel / Stepped Channel (Storm)	●/▲ Spot Level (Storm/Sewer)	--- Sewage Tunnel Outer Protection Area (100m width)
■ Dry Weather Flow Interceptor	Proposed U Channel / Stepped Channel (Storm)	--- Harbour Area Treatment Scheme	--- Sewage Tunnel Outer Protection Area (200m width)
■ Sand Trap	Works In Progress U Channel / Stepped Channel (Storm)	--- Sewage Tunnel Outer Protection Area (100m width)	--- Sewage Tunnel Outer Protection Area (200m width)
■ Jet	Rising Main	--- Sewage Tunnel Outer Protection Area (100m width)	--- Sewage Tunnel Outer Protection Area (200m width)
■ Gully	Vacuum Sewer	--- Sewage Tunnel Outer Protection Area (100m width)	--- Sewage Tunnel Outer Protection Area (200m width)
■ Box Culvert (Storm/Sewer)	Drainage Reserve	--- Sewage Tunnel Outer Protection Area (100m width)	--- Sewage Tunnel Outer Protection Area (200m width)



Hong Kong and Islands Division
 Drainage Services Department

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Notes :

- All levels are in mPD.
- All dimensions shown are in millimetres unless otherwise stated.
- The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
- Abbreviations for Channels of width smaller or equal to 1200mm:
 900C - 900mm width Surface Channel
 900SC - 900mm width Stepped Channel
 900UC - 900mm width U Channel
 900WFC - 900mm width Dry Weather Flow Channel
- The Incoming Pipes are marked counting clockwise from the first Outgoing Pipe. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
- Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
- Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Drainage Record Sheet Number
 9-SE-8B-4

Manhole number
 Cover Level or Ground Level
 225mm dia. Incoming Pipe Invert Level
 375mm dia. Incoming Pipe Invert Level
 525mm dia. Outgoing Pipe Invert Level

Checked by: [Signature]
 Date: 27 JUL 2011

Last Updating: 27-02-2006

Map data renewed on June 2009



09-SE-08C-2

09-SE-08D-2

Legend:

○	Storm Water Manhole	—	Existing Pipe (Storm/Sewer/Combined)	—	Tunnel Protection Zone
○	Storm Water Terminal Manhole	—	Existing Pipe (Storm/Sewer/Combined) (Plugging / Identifying to be Abandoned)	—	Gully Sump / Gully
○	Storm Water Special Manhole	—	Proposed Pipe (Storm/Sewer)	—	H/W
○	Sewer Manhole	—	Works in Progress Pipe (Storm/Sewer)	—	H/H
○	Sewer Terminal Manhole	—	Not Yet Commissioned Pipe (Storm/Sewer)	—	G/G
○	Sewer Special Manhole	—	Abandoned Pipe	—	Interface Valve Chamber
○	Combined Manhole	—	Abandoned Pipe (Filled with Material)	—	Oil / Petrol Interceptor
○	Catchpit	—	Proposed U Channel / Stepped Channel (Storm)	—	Valve
○	Dealing Opening	—	U Channel / Stepped Channel (Storm)	—	Water Gauge
○	Inspection Opening	—	Rising Main	—	Spot Level (Storm/Sewer)
○	Dry Weather Flow Interceptor	—	Vacuum Sewer	—	Existing Y-Junction (Storm/Sewer/Combined)
○	Sand Trap	—	Drainage Reserve	—	Existing Y-Junction (Storm/Sewer/Combined)
○	Inlet	—		—	
○	Outlet	—		—	
○	Tunnel / Box Culvert (Storm/Sewer)	—		—	

—	Slope Sign Board	—	Harbour Area Treatment Scheme Sewage Tunnel Outer Protection Area (200m width)
—	Slope Number	—	Harbour Area Treatment Scheme Sewage Tunnel Outer Protection Area (100m width)
—	Slope Boundary	—	Works in Progress Submarine Outfall with Diffuser
—	Existing Submarine Outfall with Diffuser	—	Works in Progress Submarine Outfall with Diffuser

09-SE-08D-3

SCALE 1 : 500

Metres

Metres

D

Hong Kong and Islands Division
Drainage Services Department

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Notes:

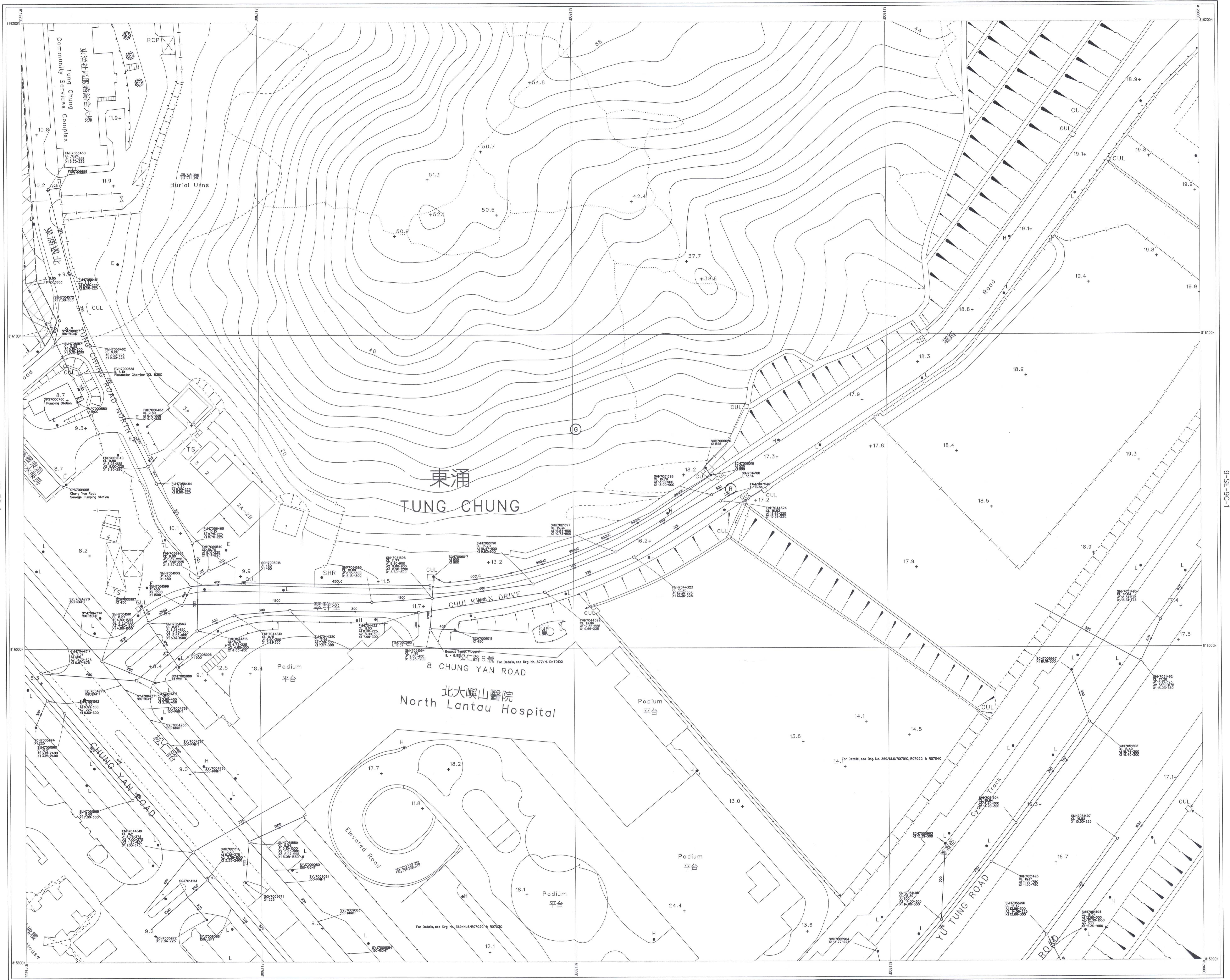
- All levels are given in metres principle datum.
- All dimensions shown are in millimetres unless otherwise stated.
- The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
- Abbreviations for Channels of width smaller or equal to 1200mm:
 - 900C = 900mm width Surface Channel
 - 900SC = 900mm width Stepped Channel
 - 900UC = 900mm width U Channel
 - 900DWC = 900mm width Dry Weather Flow Channel
- The Incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
- Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
- Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Drainage Record Sheet Number
9-SE-8D-1

Last Updating : 14/6/2016

Map data renewed on September 2015

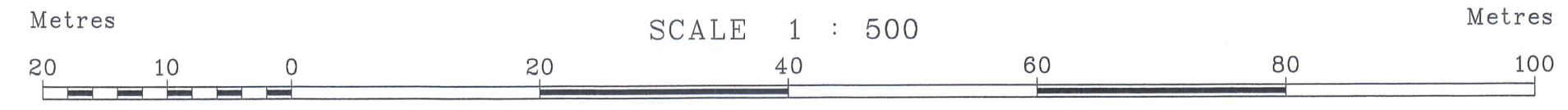
JUL 2011



9-SE-8D-4

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (<https://www.map.gov.hk/gm/?lg=en>). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)



Drainage Record Sheet Number

9-SE-8D-2

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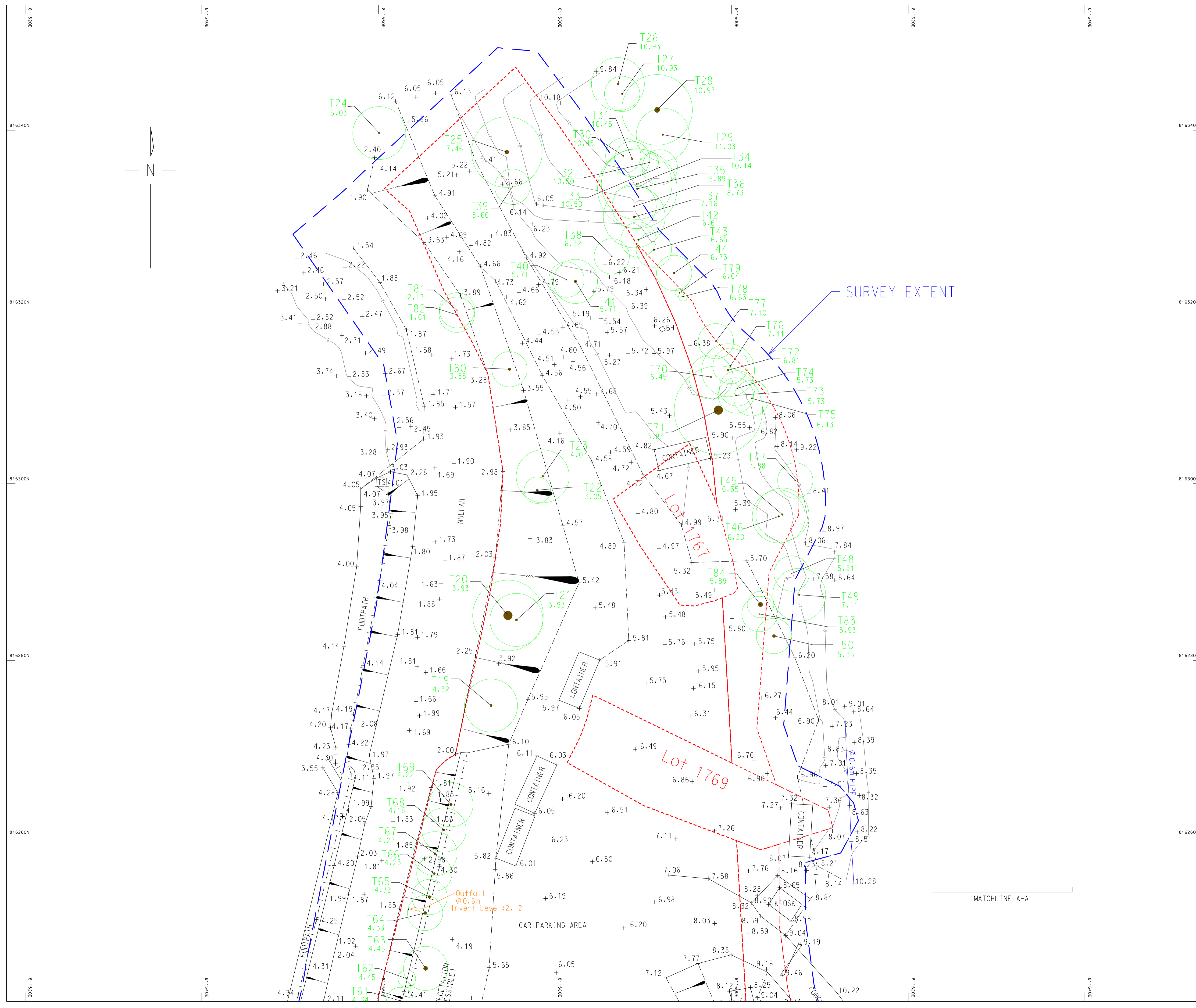
Last Updating : 28/01/2021

JUL 2021

Map data renewed on June 2020

APPENDIX C

Topographical and Tree Survey



KEY PLAN 1:5,000

- NOTES :
1. MEASUREMENTS ARE BASED ON HONG KONG 1980 METRIC GRID & HONG KONG PRINCIPAL DATUM.
 2. ALL UNITS ARE IN METRES OR OTHERWISE STATED.
 3. ALL LEVELS OF KERB WERE MEASURED FROM TOE OF KERB.
 4. PROPOSED RE-GRANT BOUNDARIES SHOWN HEREIN WERE ABSTRACTED FROM THE PLAN NO. KEL/BDY/20/82/PLAN-P02 DATED 10 MAY 2021 AND ARE FOR REFERENCE ONLY.

- LEGEND:
- 300mm CC 300mm COVERED U-CHANNEL
 - 300mm UC 300mm U-CHANNEL
 - 300mm SC 300mm STEPPED CHANNEL
 - FENCE/RAILING
 - + 3.00 LEVEL POINT
 - CP CATCH PIT
 - M MANHOLE
 - BH BOREHOLE
 - STAIR/STEP EDGE
 - GATE
 - RETAINING WALL TOP/TOE
 - FB FLOWER BED
 - T1 TREE & TREE NO.
 - BUILDING LINE
 - SLOPE
 - CONTOUR
 - PROPOSED RE-GRANT BOUNDARY
 - SURVEY EXTENT

PROJECT :

Topographical and Tree Survey for the Proposed Re-grant Site in D.D.3 Tung Chung (In Surrender of Lot Nos. 1766 RP, 1768, 1770, 1771 RP and 1774), Ma Wan Chung, Tung Chung

DATE OF SURVEY JUNE 2021	SCALE AT A1 1:200
-----------------------------	----------------------

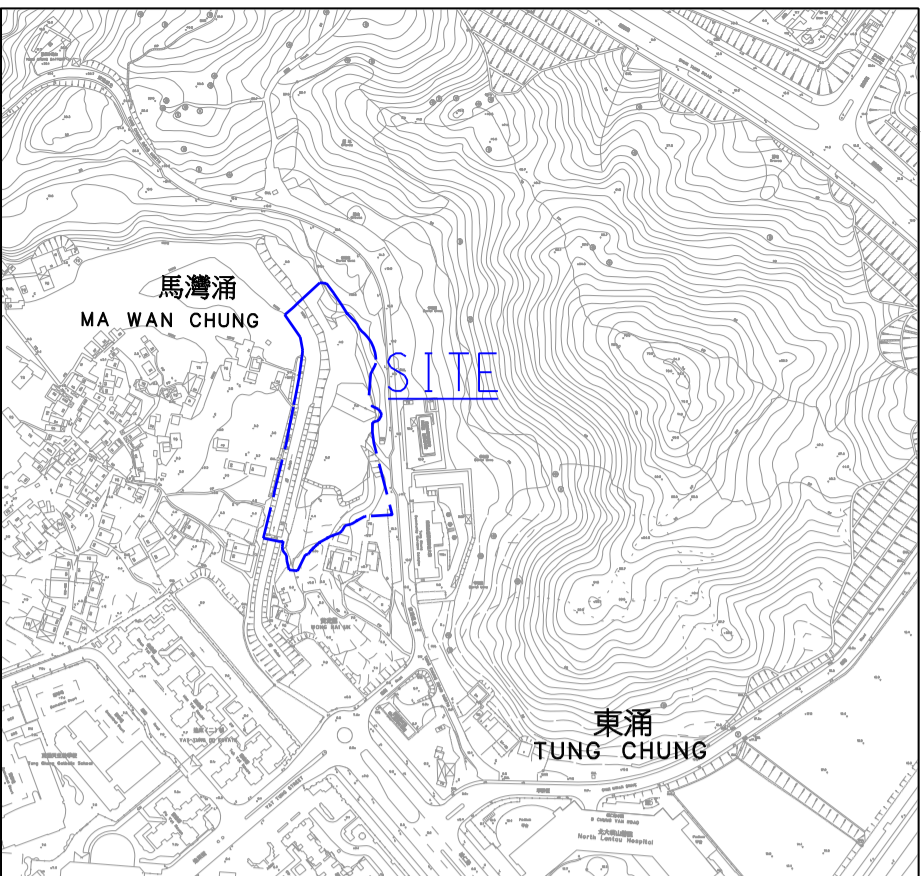
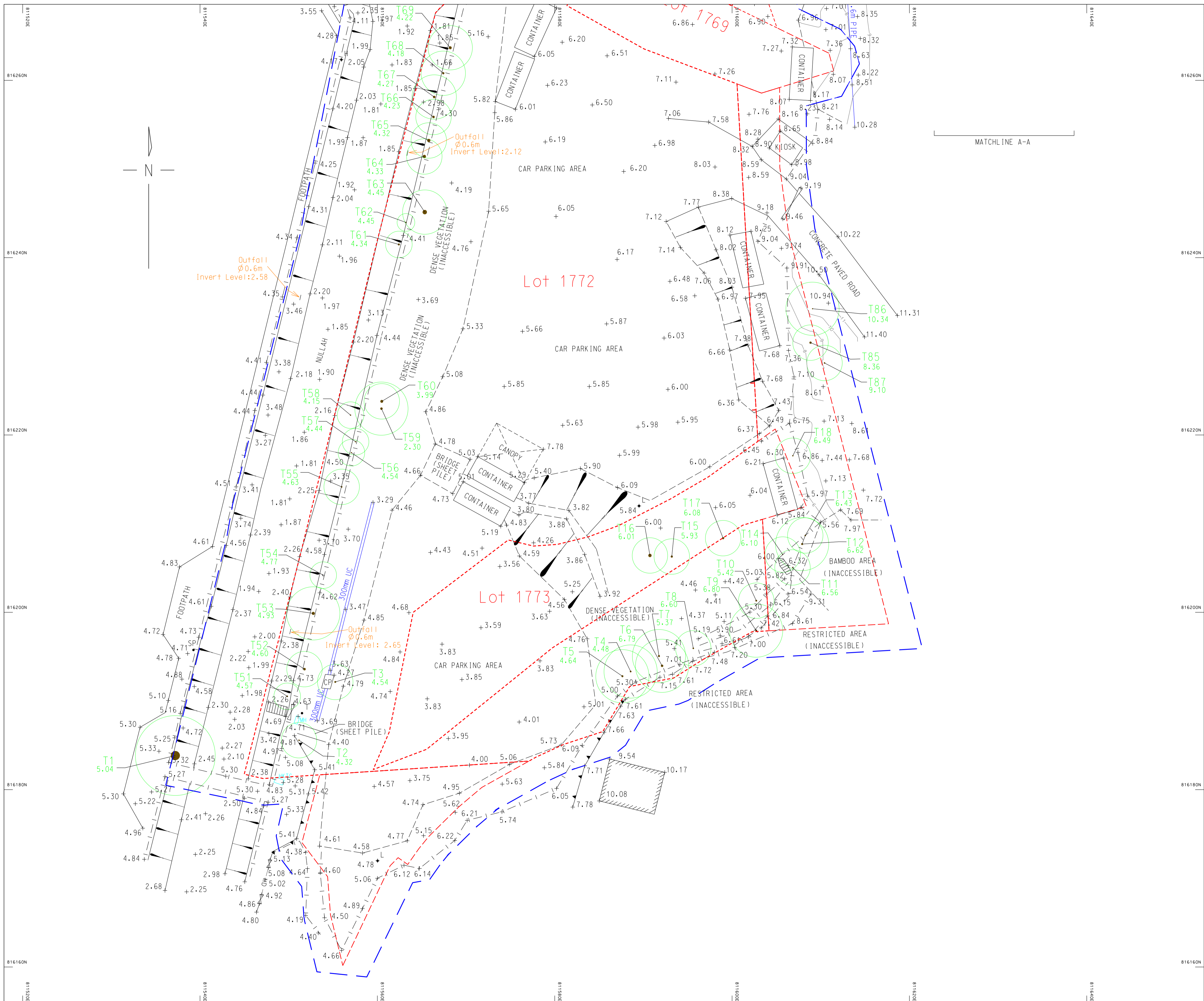
DRAWING NUMBER KEL/TOP0/21/11 (Sheet 1 of 2)	REVISION
---	----------

Plan Approved By:

Signature _____

Sr. Dr. Ching Siu-tong
Authorized Land Surveyor
FHKIS, FRICS, MIS(Aust.), RPS(LS), MCI(Arb), MSS1 (Aust.)

Dated this: .25th. day ofJune.2021.....



KEY PLAN 1:5,000

- NOTES :
1. MEASUREMENTS ARE BASED ON HONG KONG 1980 METRIC GRID & HONG KONG PRINCIPAL DATUM.
 2. ALL UNITS ARE IN METRES OR OTHERWISE STATED.
 3. ALL LEVELS OF KERB WERE MEASURED FROM TOE OF KERB.
 4. PROPOSED RE-GRANT BOUNDARIES SHOWN HEREIN WERE ABSTRACTED FROM THE PLAN NO. KEL/BDY/20/82/PLAN-P02 DATED 10 MAY 2021 AND ARE FOR REFERENCE ONLY.

- LEGEND:
- 300mm CC 300mm COVERED U-CHANNEL
 - 300mm UC 300mm U-CHANNEL
 - 300mm SC 300mm STEPPED CHANNEL
 - |-|- FENCE/RAILING
 - +3.00 LEVEL POINT
 - CP CATCH PIT
 - MH MANHOLE
 - BH BOREHOLE
 - ▤ STAIR/STEP EDGE
 - ▬ GATE
 - ▬▬▬ RETAINING WALL TOP/TOE
 - FB FLOWER BED
 - T1 TREE & TREE NO.
 - ▭ BUILDING LINE
 - ▨ SLOPE
 - ▭ CONTOUR
 - - - PROPOSED RE-GRANT BOUNDARY
 - - - SURVEY EXTENT

PROJECT :
 Topographical and Tree Survey for the Proposed Re-grant Site in D.D.3 Tung Chung (In Surrender of Lot Nos. 1766 RP, 1768, 1770, 1771 RP and 1774), Ma Wan Chung, Tung Chung

DATE OF SURVEY JUNE 2021	SCALE AT A1 1:200
-----------------------------	----------------------

DRAWING NUMBER KEL/TOPO/21/11 (Sheet 2 of 2)	REVISION
---	----------

Plan Approved By:

Signature _____
 Sr. Dr. Ching Siu-tong
 Authorized Land Surveyor
 FHKIS, FRICS, MIS(Aust.), RPS(LS), MC(ARB), MSSI (Aust.)

Dated this: 25th day of June, 2021.

APPENDIX D

Existing Catchments - Areas, Surface Types and Times of Concentration

Reference

- SD Stormwater Drainage Manual (SDM) – Planning, Design and Management (Fifth Edition, January 2018) including its corrigenda No. 1/2022, No. 1/2024 and No. 2/2024.

Runoff Coefficient

Surface Material	Coefficient
Roof/ Asphalt/ Concrete ("Paved")	1.00
Vegetated area w/ underlying structure	0.60
Vegetated	0.20

Catchment Area, Surface Type, and Time of Concentration (Existing Scenario)

Catchment ID	Discharge to	Total Area (m ²)	Paved Area (m ²)	Vegetated w/ underlying structure (m ²)	Vegetated Area (m ²)	Paved Area (%)	Vegetated w/ underlying structure (%)	Vegetated Area (%)	Flow Length (m)	Average Slope (m/m)	Time of Concentration, t _c (min)
SC-A	Outfall 1	2,884.4	1,680.8	0.0	1,203.5	58.3	0.0	41.7	68.3	0.050	5.0
SC-B	Outfall 2	3,229.5	1,860.6	0.0	1,368.9	57.6	0.0	42.4	71.4	0.029	5.0
SC-C	Nullah	304.4	304.4	0.0	0.0	100.0	0.0	0.0	3.5	0.286	5.0
Total		6,418.3	3,845.9	0.0	2,572.4	59.9	0.0	40.1			

Estimation of Peak Flow (Existing Scenario)

Catchment ID	Discharge to	1 in 50yr Mid-Century Peak Flow (Case A) (m ³ /s)	1 in 50yr Mid-Century Peak Flow (Case B) (m ³ /s)
SC-A	Outfall 1	0.143	0.120
SC-B	Outfall 2	0.158	0.133
SC-C	Nullah	0.023	0.019
Total		0.324	0.271

APPENDIX E

Proposed Catchments - Areas, Surface Types and Times of Concentration



a GIS Consulting Group company

Project No.: Proposed Residential Development in Tung Chung, Lantau Island
Date: September 2025
Designed By: Fernando Coutinho
Checked By: Fernando Coutinho
Proposed Catchment Area and Surface Types

Reference

- DSD Stormwater Drainage Manual (SDM) – Planning, Design and Management (Fifth Edition, January 2018) including its corrigenda No. 1/2022, No. 1/2024 and No. 2/2024.

Runoff Coefficient

Surface Material	Coefficient
Roof/ Asphalt/ Concrete ("Paved")	1.00
Vegetated area w/ underlying structure	0.60
Vegetated	0.20

Catchment Area, Surface Type, and Time of Concentration (Proposed Scenario)

Catchment ID	Discharge to	Total Area (m ²)	Paved Area (m ²)	Vegetated w/ underlying structure (m ²)	Vegetated Area (m ²)	Paved Area (%)	Vegetated w/ underlying structure (%)	Vegetated Area (%)	Flow Length (m)	Average Slope (m/m)	Time of Concentration, t _c (min)
SC-A	Outfall 1	3,061.8	2,449.4	37.2	575.1	80.0	1.2	18.8	68.3	0.050	5.0
SC-B	Outfall 2	3,356.5	2,685.2	671.3	-	80.0	20.0	0.0	71.4	0.029	5.0
Total		6,418.2	5,134.6	708.5	575.1	80.0	11.0	9.0			

Estimation of Peak Flow (Proposed Scenario)

Catchment ID	Discharge to	1 in 50yr Mid-Century Peak Flow (Case A) (m ³ /s)	1 in 50yr Mid-Century Peak Flow (Case B) (m ³ /s)	1 in 200yr End-Century Peak Flow (Case A) (m ³ /s)	1 in 200yr End-Century Peak Flow (Case B) (m ³ /s)
SC-A	Outfall 1	0.192	0.161	0.249	0.186
SC-B	Outfall 2	0.229	0.192	0.297	0.222
Total		0.421	0.353	0.546	0.407

APPENDIX F

Hydraulic Modelling Simulation Results

APPENDIX F1

Hydraulic Model Network



Hydraulic Model Network - Proposed Development Scenario

APPENDIX F2

Summary Tables

Existing Scenario: Flow Rates & Pipe Utilization

Location	Diameter (mm)	Pipe Capacity (m3/s)	Existing Peak Flow Rate 1 in 50 years Mid-21st Century Case A (m3/s)	Existing Peak Flow Rate 1 in 50 years Mid-21st Century Case B (m3/s)	Pipe utilization 1 in 50 years Mid-21st Century Case A (%)	Pipe utilization 1 in 50 years Mid-21st Century Case A (%)
Outfall 1	600	0.473	0.143	0.120	30.1	25.3
Outfall 2	600	0.473	0.158	0.133	33.5	28.1

Existing Scenario: Water Levels & Freeboard

Location	Existing Ground Level at Upstream Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21st Century Case A (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21st Century Case B (mPD)	Freeboard 1 in 50 years Mid-21st Century Case A (mm)	Freeboard 1 in 50 years Mid-21st Century Case B (mm)
Outfall 1	4.50	3.617	4.124	883	376
Outfall 2	4.50	3.617	4.125	883	375

Proposed Development Scenario: Flow Rates & Pipe Utilization

Location	Diameter (mm)	Pipe Capacity (m3/s)	Proposed Peak Flow Rate 1 in 50 years Mid-21st Century Case A (m3/s)	Proposed Peak Flow Rate 1 in 50 years Mid-21st Century Case B (m3/s)	Pipe utilization 1 in 50 years Mid-21st Century Case A (%)	Pipe utilization 1 in 50 years Mid-21st Century Case A (%)
Outfall 1	600	0.473	0.192	0.161	40.6	34.0
Outfall 2	600	0.473	0.229	0.192	48.4	40.6

Proposed Development Scenario: Water Levels & Freeboard

Location	Proposed Ground Level at Upstream Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21st Century Case A (mPD)	Maximum Water Level at Upstream Manhole 1 in 50 years Mid-21st Century Case B (mPD)	Freeboard 1 in 50 years Mid-21st Century Case A (mm)	Freeboard 1 in 50 years Mid-21st Century Case B (mm)
Outfall 1	6.00	3.623	4.127	2377	1873
Outfall 2	6.00	3.624	4.130	2376	1870

Proposed Development Scenario: Flow Rates & Pipe Utilization

Location	Diameter (mm)	Pipe Capacity (m ³ /s)	Proposed Peak Flow Rate 1 in 200 years End-21st Century Case A (m ³ /s)	Proposed Peak Flow Rate 1 in 200 years End-21st Century Case B (m ³ /s)	Pipe utilization 1 in 200 years End-21st Century Case A (%)	Pipe utilization 1 in 200 years End-21st Century Case A (%)
Outfall 1	600	0.473	0.249	0.186	52.6	39.2
Outfall 2	600	0.473	0.297	0.222	62.8	46.8

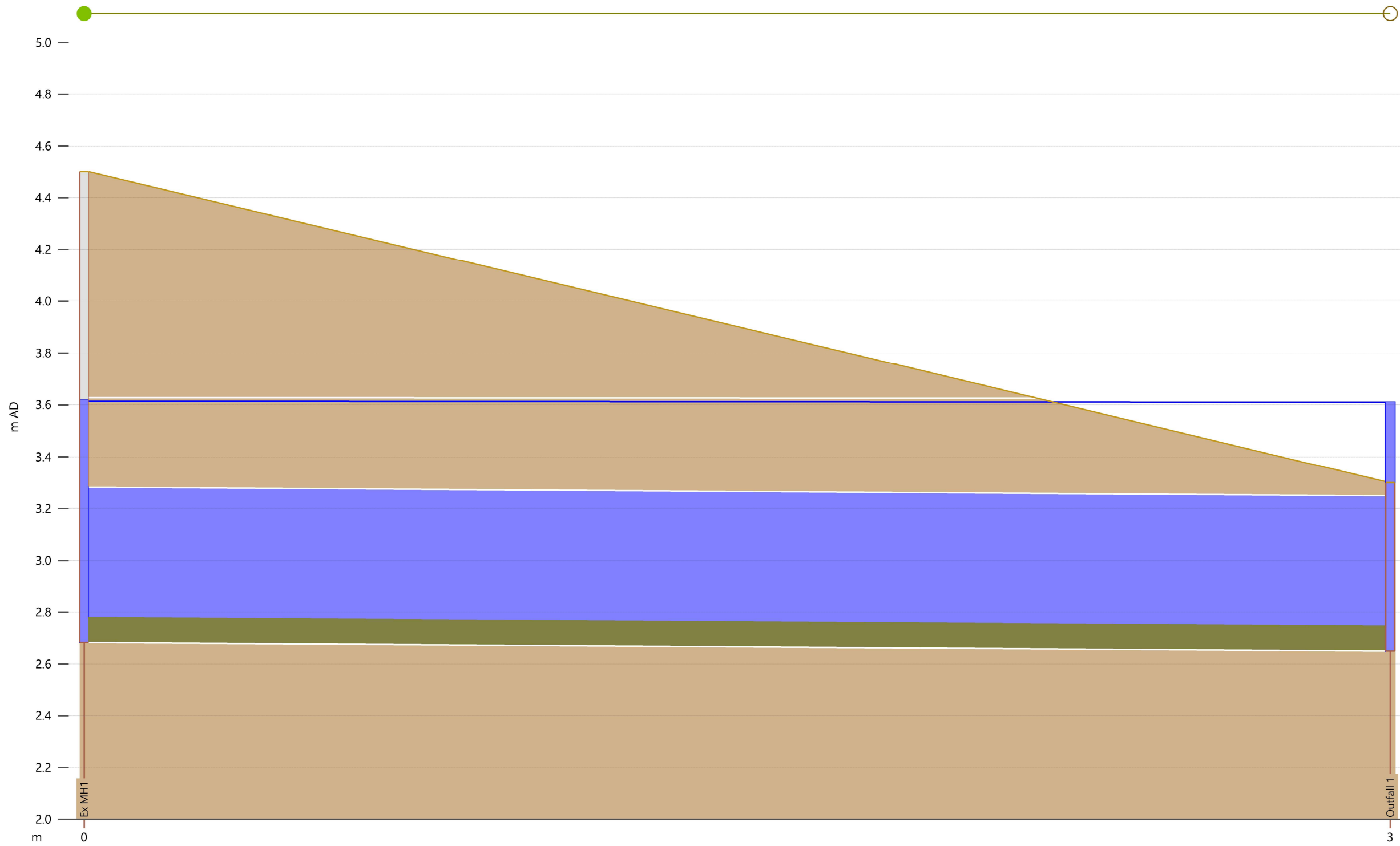
Proposed Development Scenario: Water Levels & Freeboard

Location	Proposed Ground Level at Upstream Manhole (mPD)	Maximum Water Level at Upstream Manhole 1 in 200 years End-21st Century Case A (mPD)	Maximum Water Level at Upstream Manhole 1 in 200 years End-21st Century Case B (mPD)	Freeboard 1 in 200 years End-21st Century Case A (mm)	Freeboard 1 in 200 years End-21st Century Case B (mm)
Outfall 1	6.00	4.157	5.179	1843	821
Outfall 2	6.00	4.163	5.183	1837	817

APPENDIX F3

Longitudinal Section

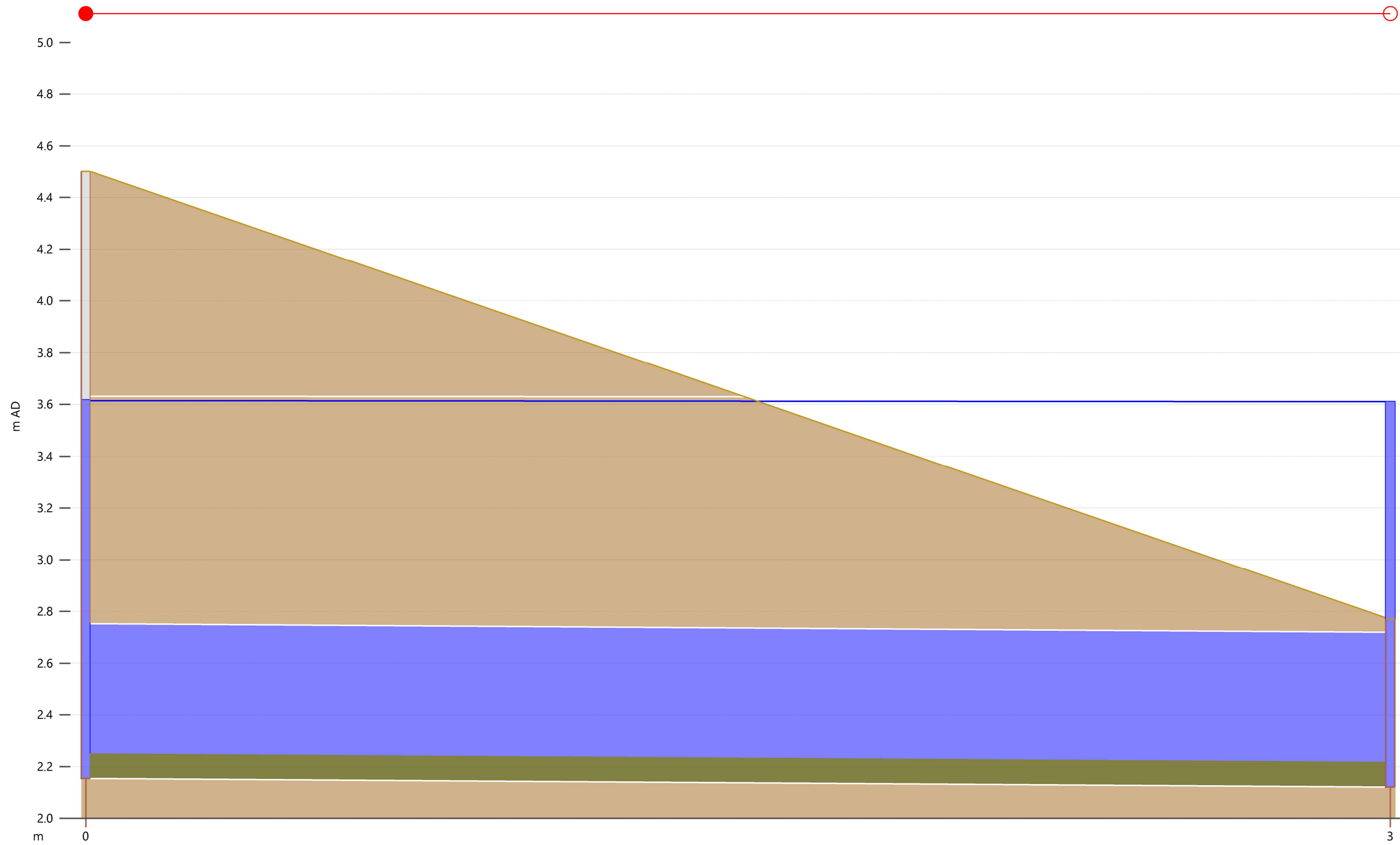
Existing Scenario: 1 in 50 Years Return Period



Link	Ex MH1.1	
width (mm)	600	
us inv (m AD)	2.683	
ds inv (m AD)	2.650	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.14262	
US velocity (m/s)	0.533	
DS velocity (m/s)	0.533	
DS flow (m3/s)	0.14262	

Node	Ex MH1	Outfall 1
ground (m AD)	4.500	3.300
level (m AD)	3.617	3.610

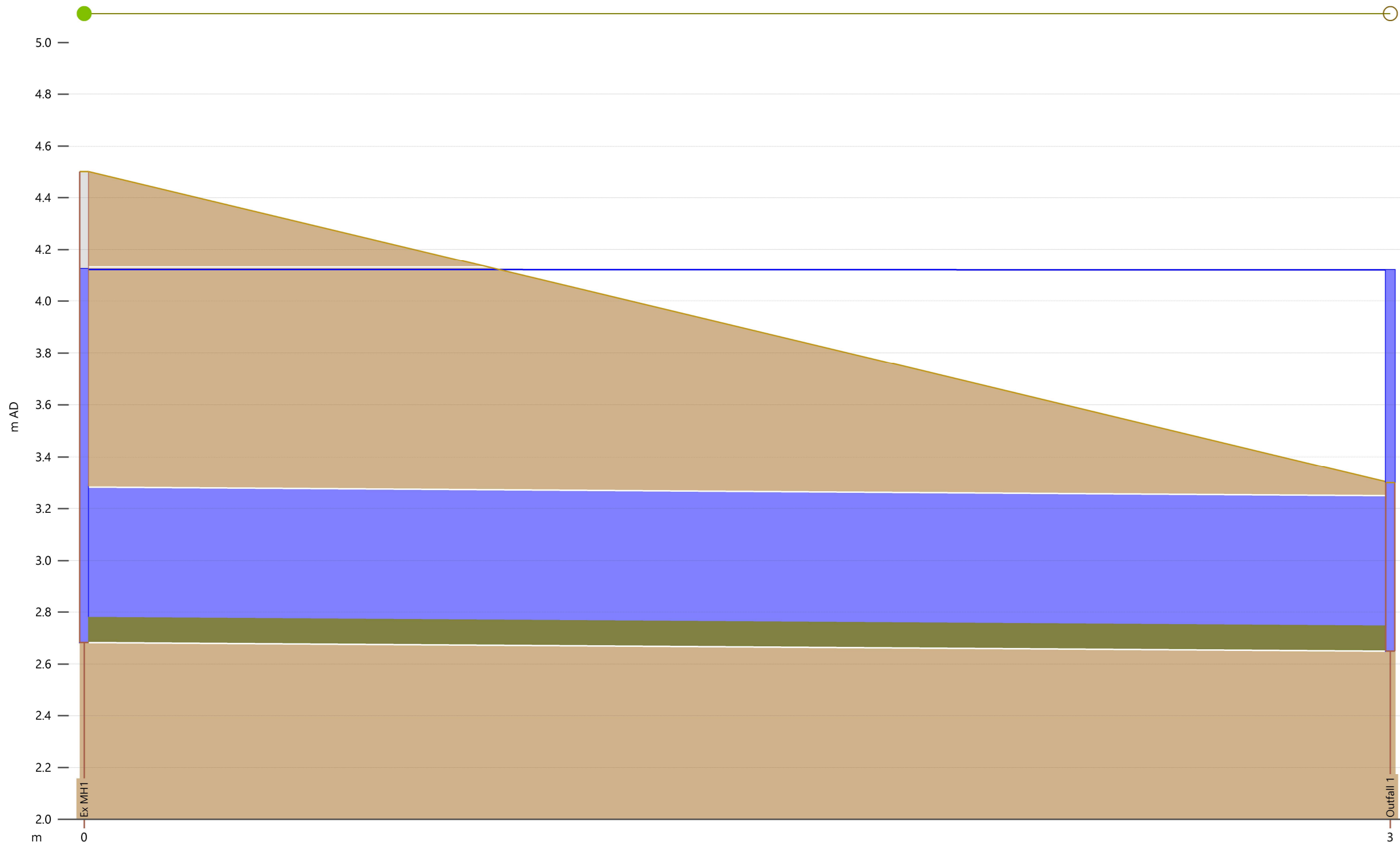
Existing Scenario: 50-year Rain + 10-year Sea Level
 Mid 21st Century
 Outfall 1



Link	Ex MH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.15835	
US velocity (m/s)	0.579	
DS velocity (m/s)	0.578	
DS flow (m3/s)	0.15835	

Node	Ex MH2	Outfall 2
ground (m AD)	4.500	2.770
level (m AD)	3.617	3.610

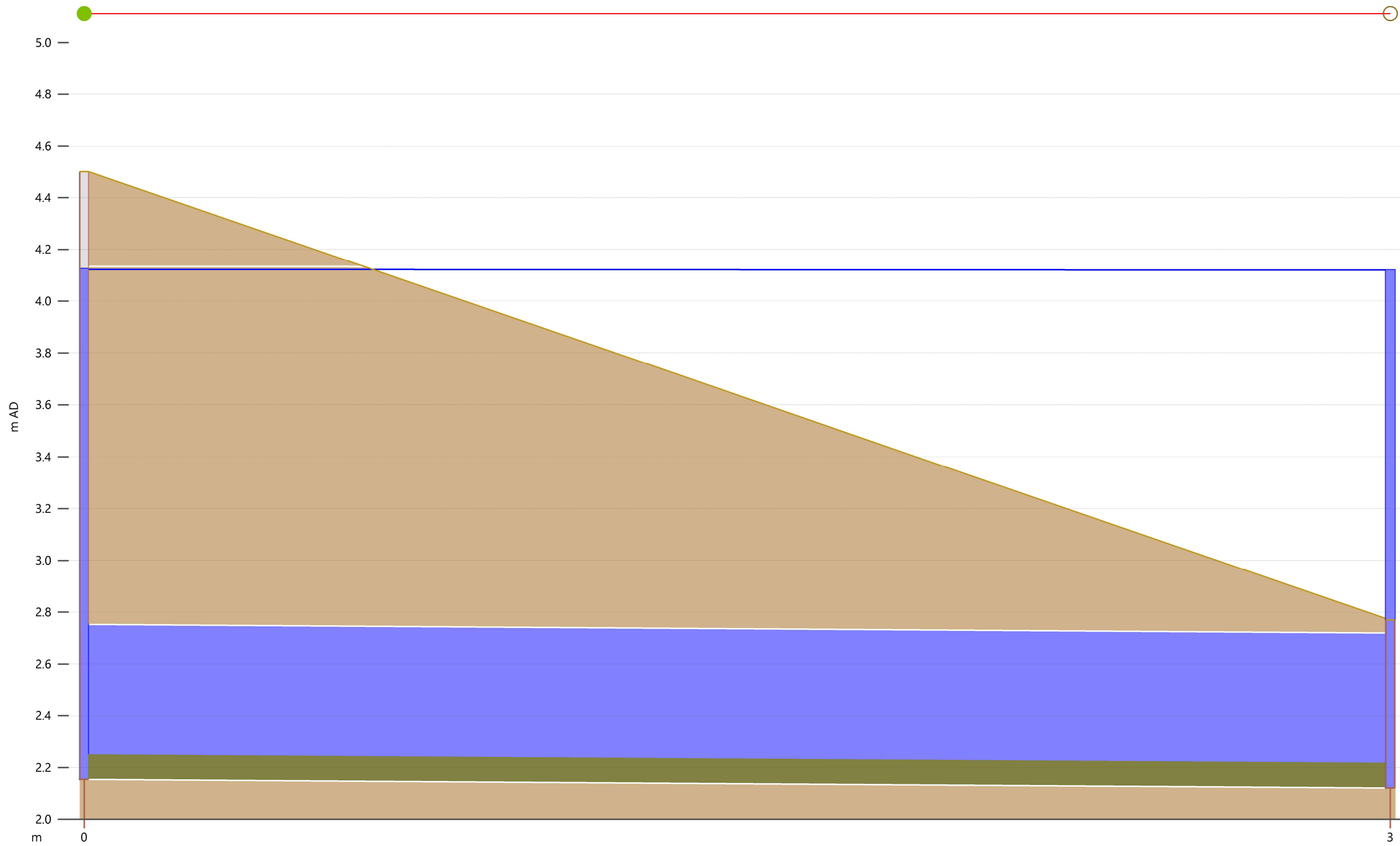
Existing Scenario: 50-year Rain + 10-year Sea Level
 Mid 21st Century
 Outfall 2



Link	Ex MH1.1	
width (mm)	600	
us inv (m AD)	2.683	
ds inv (m AD)	2.650	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.11956	
US velocity (m/s)	0.437	
DS velocity (m/s)	0.437	
DS flow (m3/s)	0.11956	

Node	Ex MH1	Outfall 1
ground (m AD)	4.500	3.300
level (m AD)	4.124	4.120

Existing Scenario: 10-year Rain + 50-year Sea Level
 Mid 21st Century
 Outfall 1



Link	Ex MH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.13275	
US velocity (m/s)	0.475	
DS velocity (m/s)	0.474	
DS flow (m3/s)	0.13275	

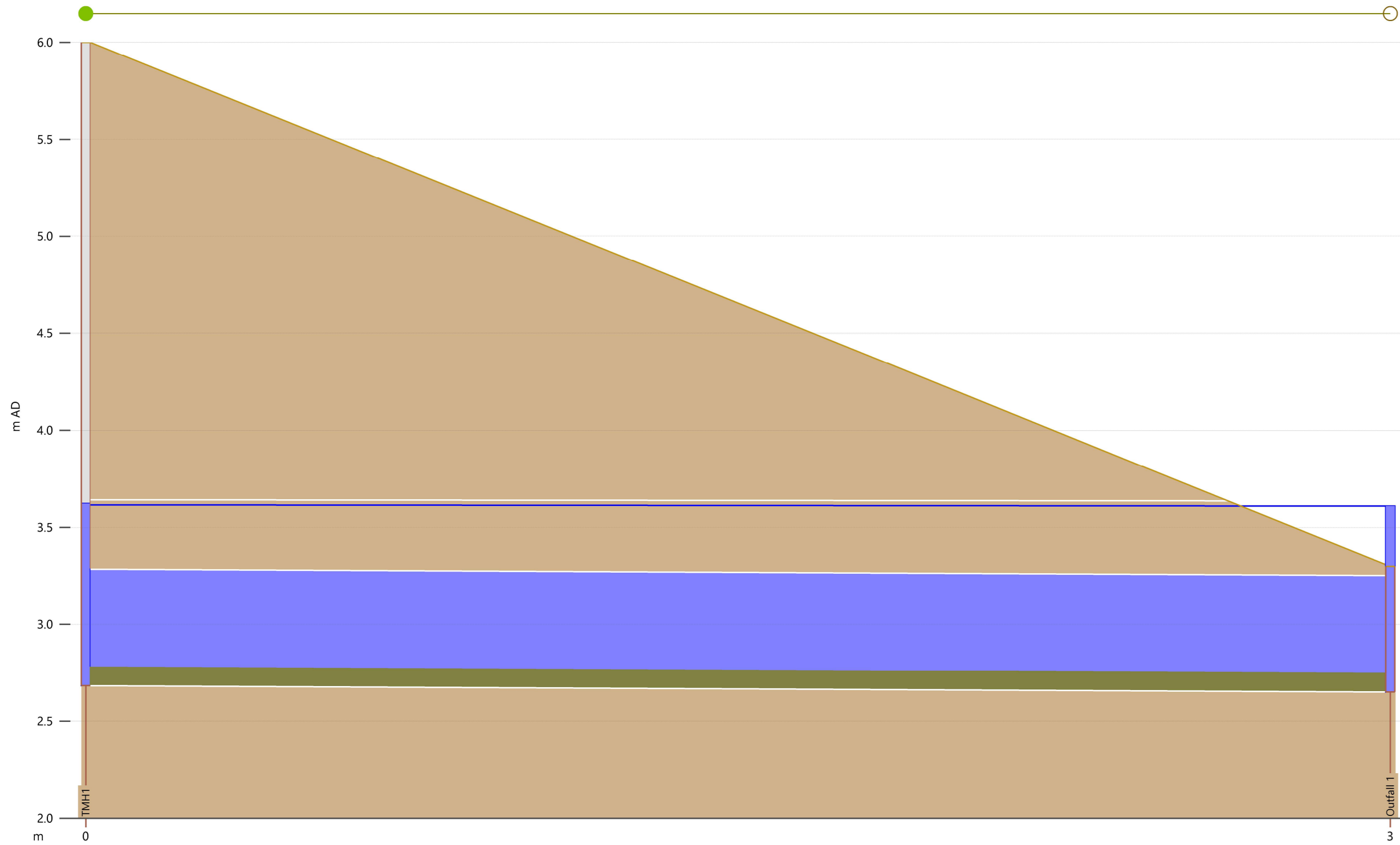
Node	Ex MH2	Outfall 2
ground (m AD)	4.500	2.770
level (m AD)	4.125	4.120

Existing Scenario: 10-year Rain + 50-year Sea Level
 Mid 21st Century
 Outfall 2

APPENDIX F4

Longitudinal Section

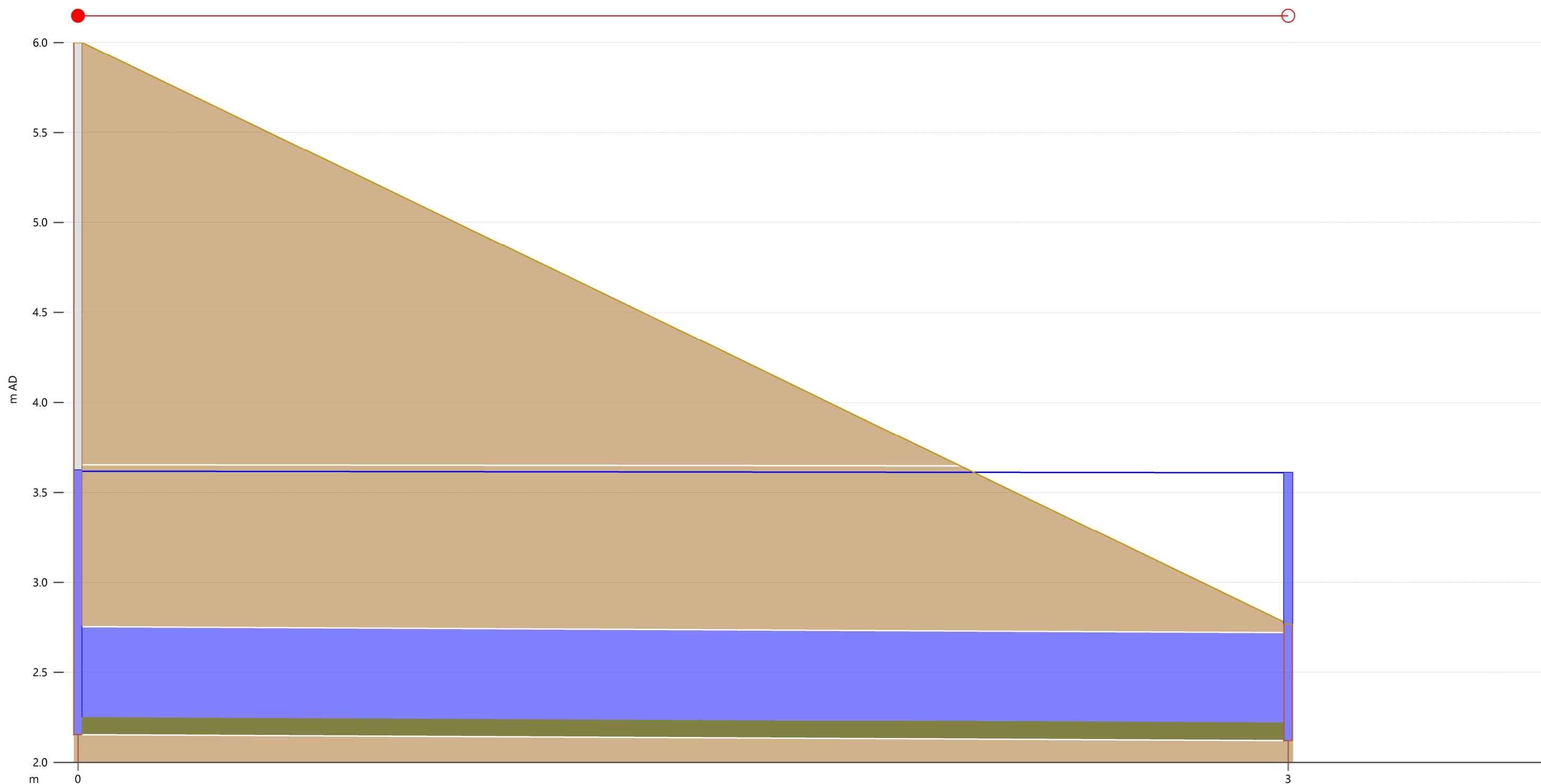
Proposed Development Scenario: 1 in 50 Years Return Period



Link		TMH1.1	
width (mm)		600	
us inv (m AD)		2.683	
ds inv (m AD)		2.650	
User text 4			
r.pfc (m3/s)		0.473	
surc		1.00	
US flow (m3/s)		0.19194	
US velocity (m/s)		0.718	
DS velocity (m/s)		0.717	
DS flow (m3/s)		0.19194	

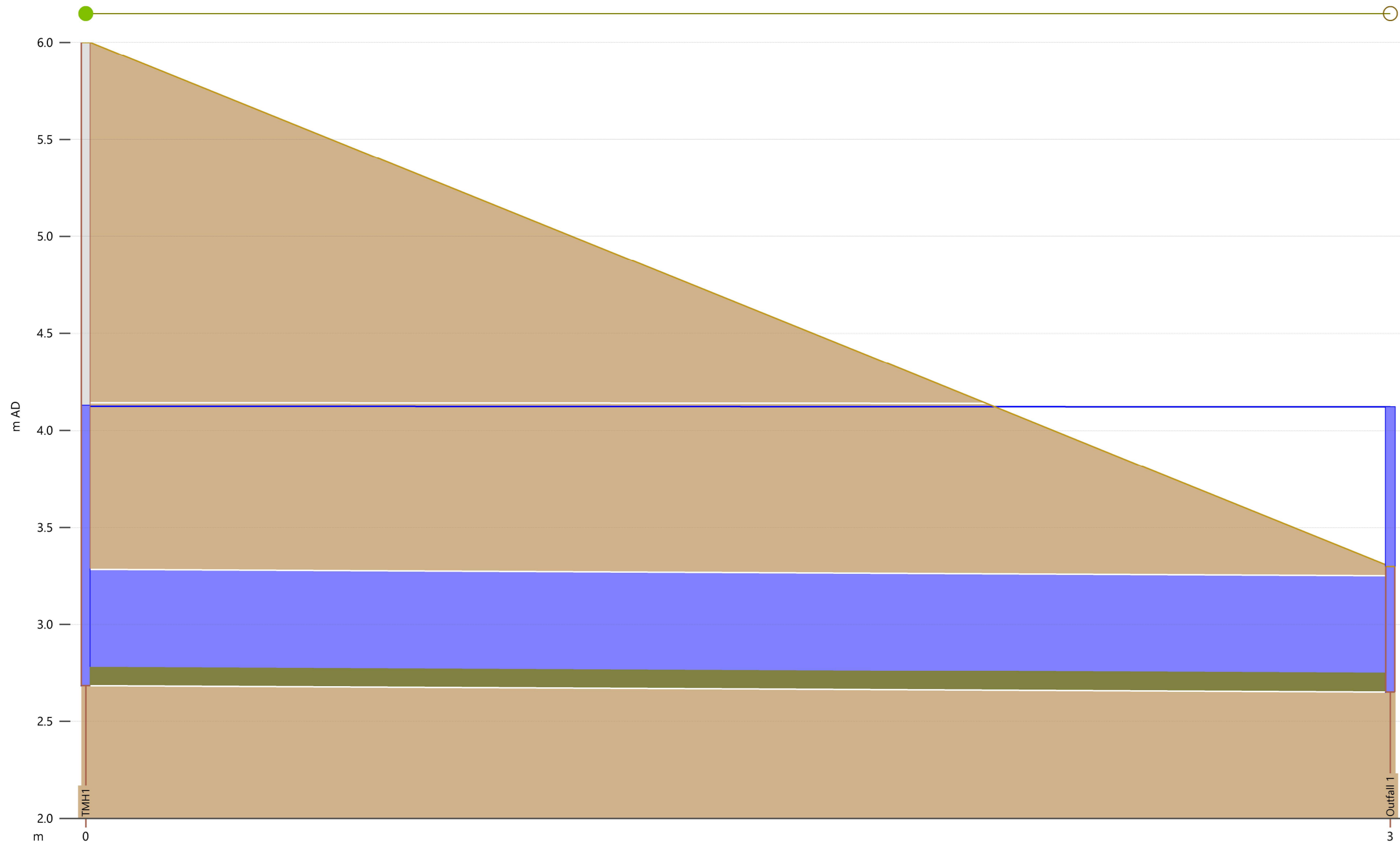
Node	TMH1		Outfall 1
ground (m AD)	6.000		3.300
level (m AD)	3.623		3.610

Proposed Development Scenario: 50-year Rain + 10-year Sea Level
 Mid 21st Century
 Outfall 1



Link	TMH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.22912	
US velocity (m/s)	0.837	
DS velocity (m/s)	0.836	
DS flow (m3/s)	0.22912	
Node	TMH2	Outfall 2
ground (m AD)	6.000	2.770
level (m AD)	3.624	3.610

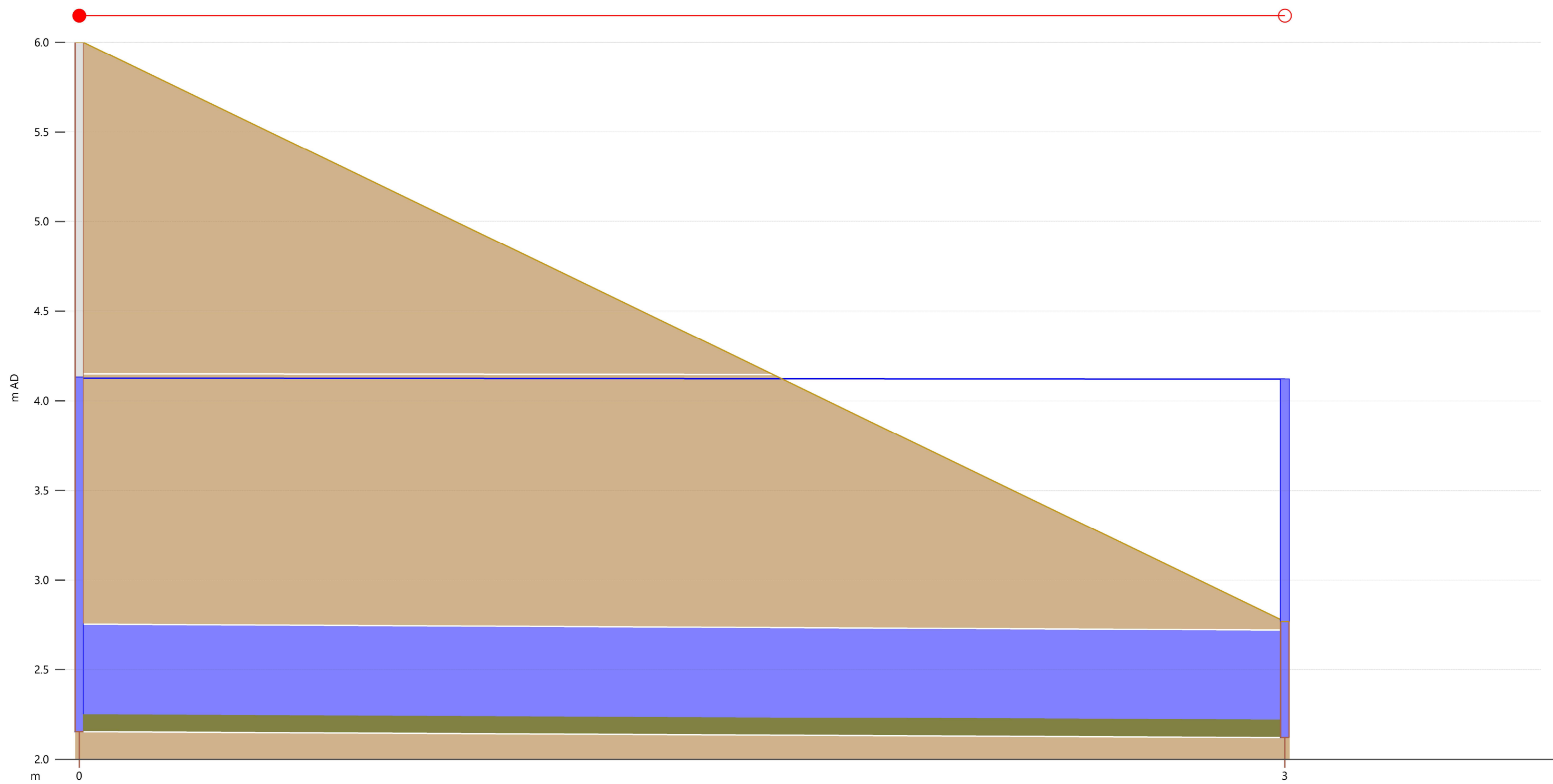
Proposed Development Scenario: 50-year Rain + 10-year Sea Level
 Mid 21st Century
 Outfall 2



Link	TMH1.1	
width (mm)	600	
us inv (m AD)	2.683	
ds inv (m AD)	2.650	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.16091	
US velocity (m/s)	0.589	
DS velocity (m/s)	0.588	
DS flow (m3/s)	0.16091	

Node	TMH1	Outfall 1
ground (m AD)	6.000	3.300
level (m AD)	4.127	4.120

Proposed Development Scenario: 10-year Rain + 50-year Sea Level
 Mid 21st Century
 Outfall 1



Link	TMH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.19208	
US velocity (m/s)	0.687	
DS velocity (m/s)	0.686	
DS flow (m3/s)	0.19208	

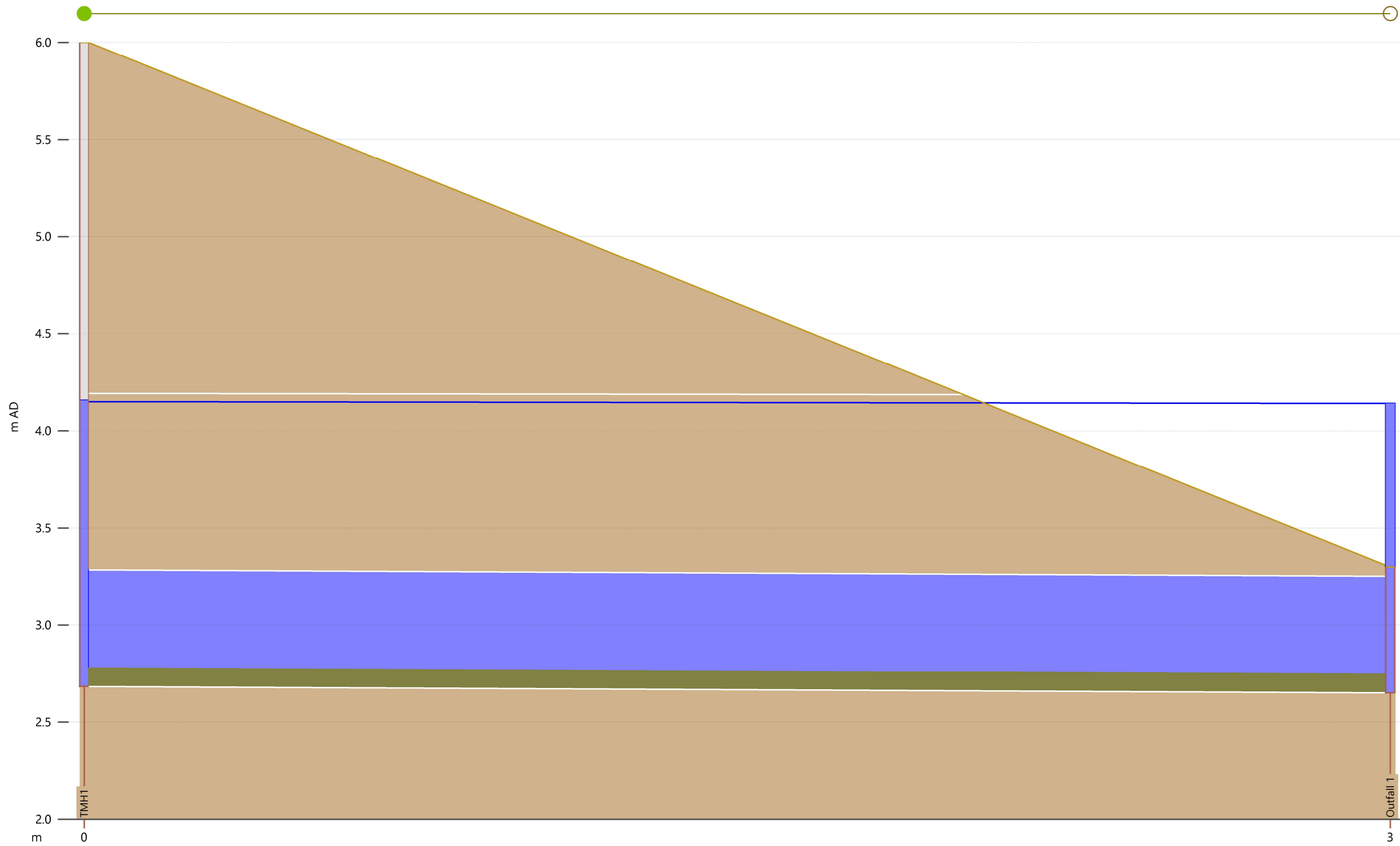
Node	TMH2	Outfall 2
ground (m AD)	6.000	2.770
level (m AD)	4.130	4.120

Proposed Development Scenario: 10-year Rain + 50-year Sea Level
 Mid 21st Century
 Outfall 2

APPENDIX F5

Longitudinal Section

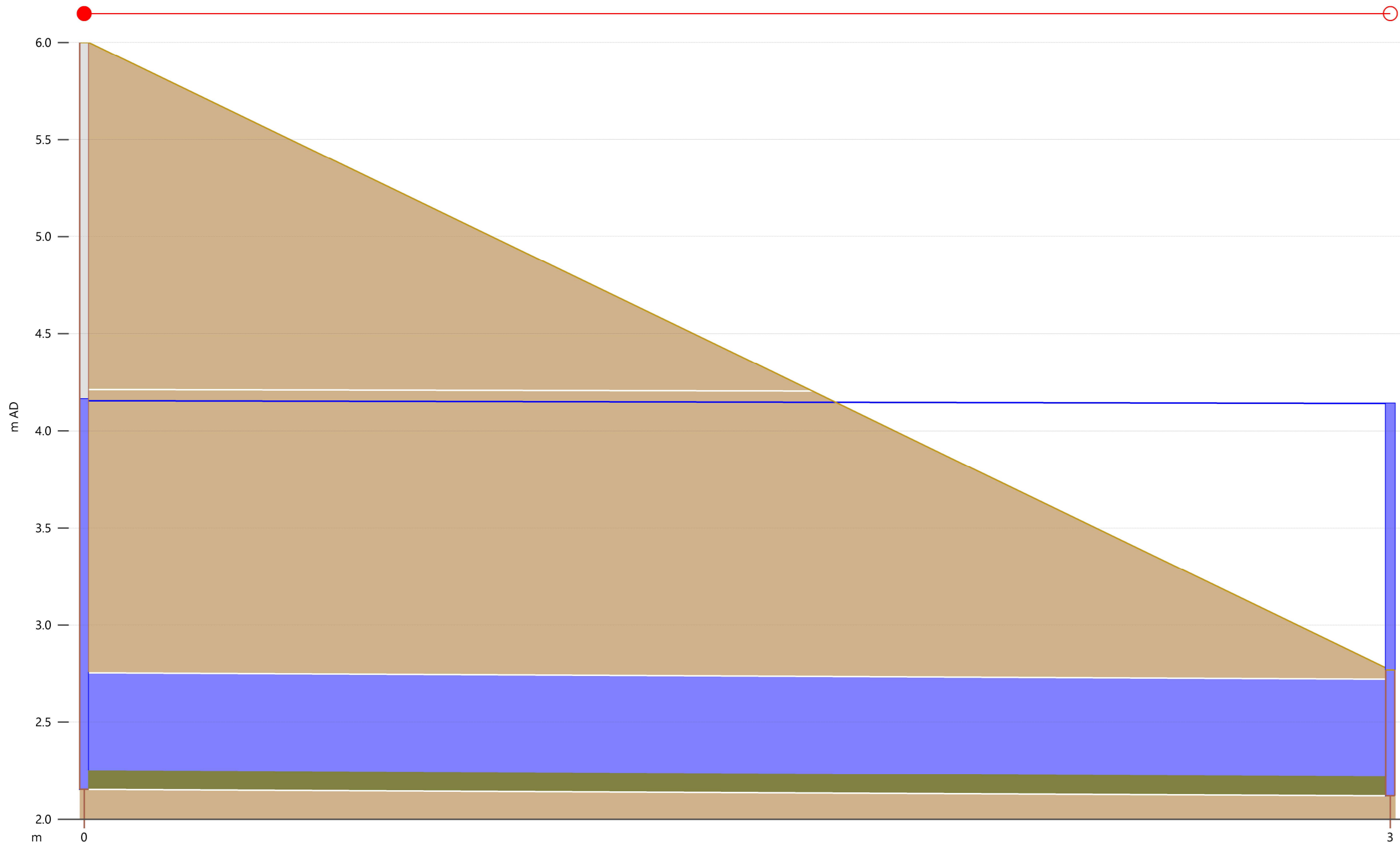
Proposed Development Scenario: 1 in 200 Years Return Period



Link		TMH1.1	
width (mm)		600	
us inv (m AD)		2.683	
ds inv (m AD)		2.650	
User text 4			
r.pfc (m3/s)		0.473	
surc		1.00	
US flow (m3/s)		0.24891	
US velocity (m/s)		0.909	
DS velocity (m/s)		0.908	
DS flow (m3/s)		0.24891	

Node	TMH1		Outfall 1
ground (m AD)	6.000		3.300
level (m AD)	4.157		4.140

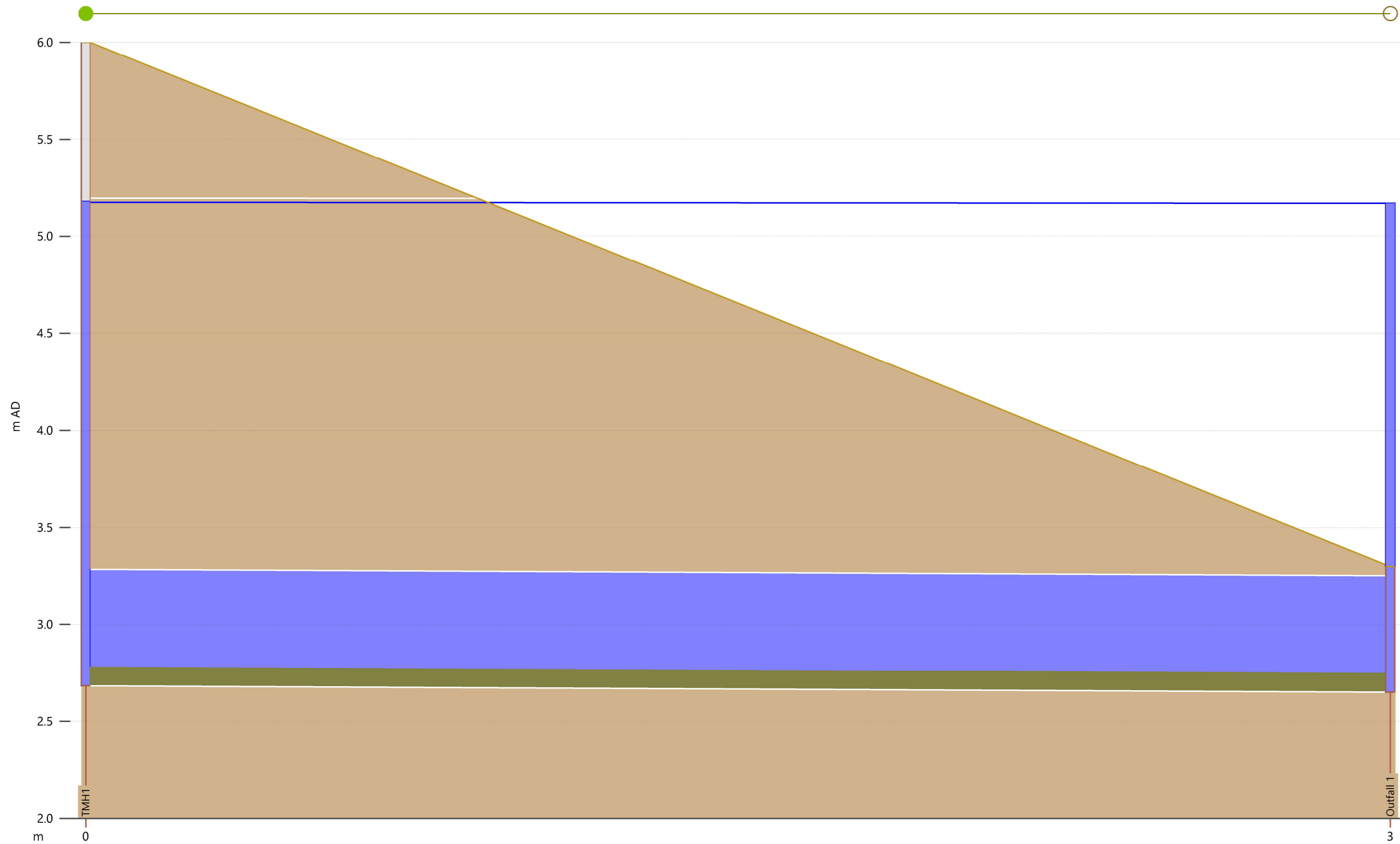
Proposed Development Scenario: 200-year Rain + 10-year Sea Level
 End 21st Century
 Outfall 1



Link	TMH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.29713	
US velocity (m/s)	1.061	
DS velocity (m/s)	1.060	
DS flow (m3/s)	0.29713	

Node	TMH2	Outfall 2
ground (m AD)	6.000	2.770
level (m AD)	4.163	4.140

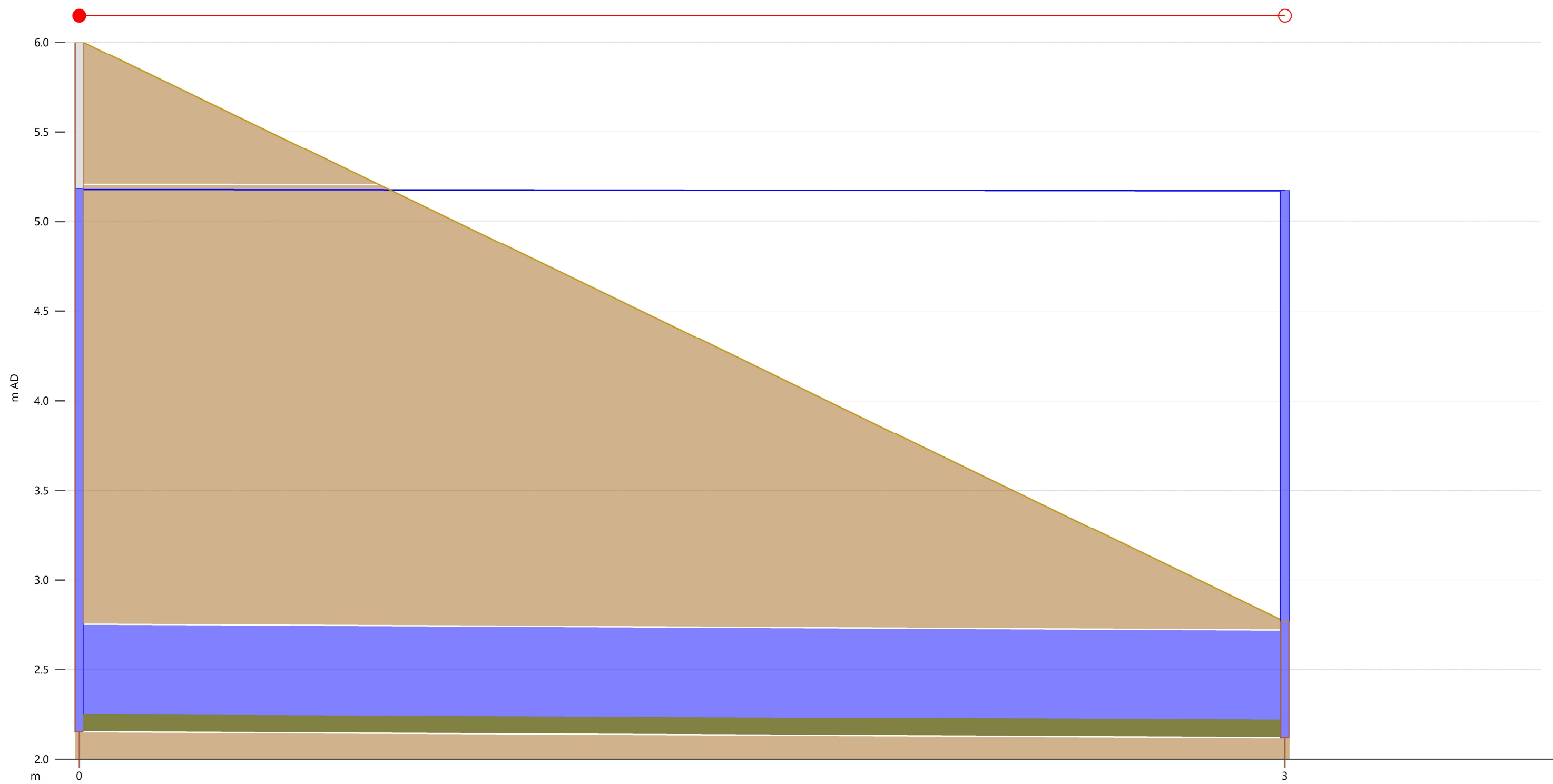
Proposed Development Scenario: 200-year Rain + 10-year Sea Level
 End 21st Century
 Outfall 2



Link		TMH1.1	
width (mm)		600	
us inv (m AD)		2.683	
ds inv (m AD)		2.650	
User text 4			
r.pfc (m3/s)		0.473	
surc		1.00	
US flow (m3/s)		0.18555	
US velocity (m/s)		0.649	
DS velocity (m/s)		0.648	
DS flow (m3/s)		0.18555	

Node	TMH1		Outfall 1
ground (m AD)	6.000		3.300
level (m AD)	5.179		5.170

Proposed Development Scenario: 10-year Rain + 200-year Sea Level
 End 21st Century
 Outfall 1

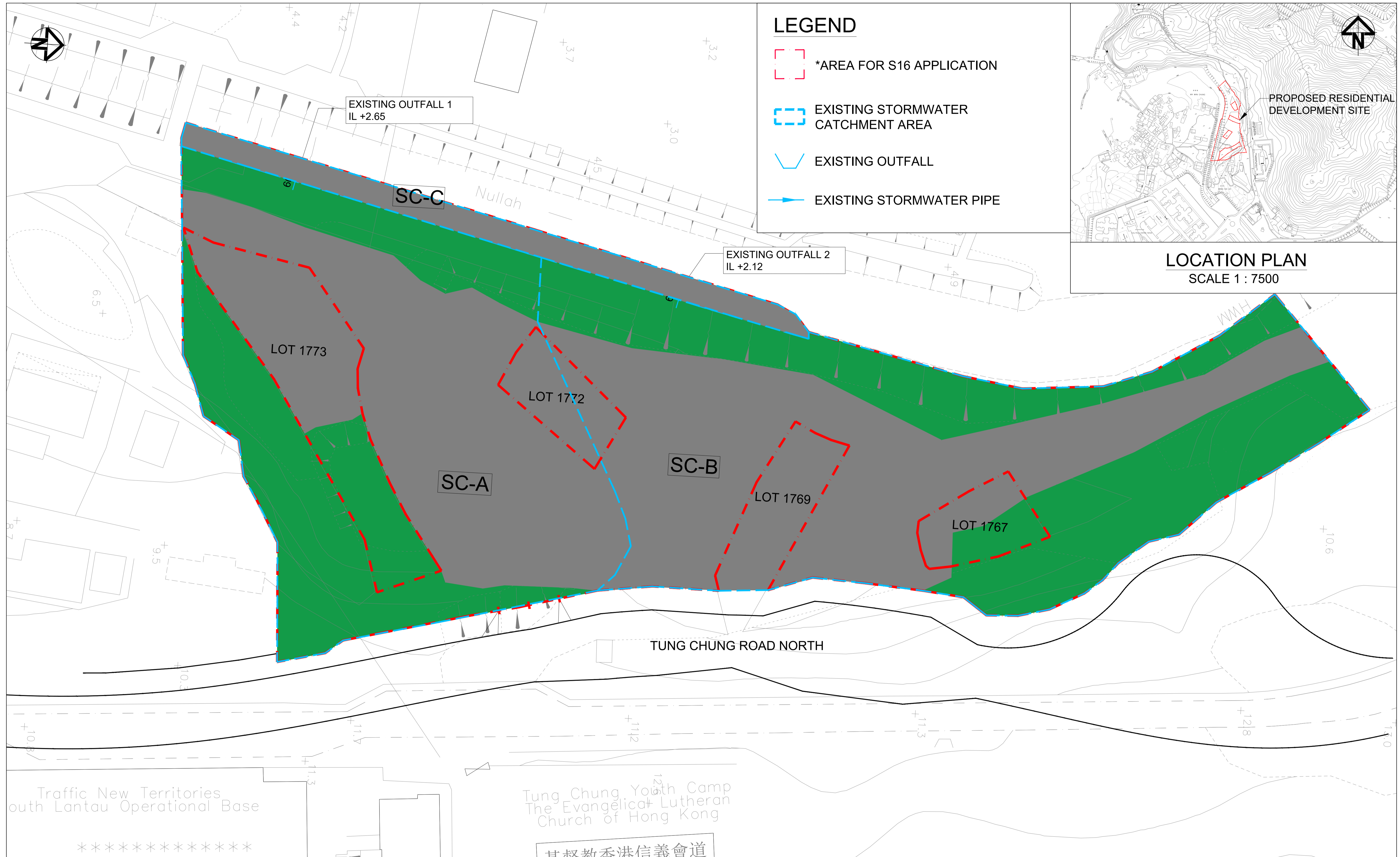


Link	TMH2.1	
width (mm)	600	
us inv (m AD)	2.153	
ds inv (m AD)	2.120	
User text 4		
r.pfc (m3/s)	0.473	
surc	1.00	
US flow (m3/s)	0.22150	
US velocity (m/s)	0.758	
DS velocity (m/s)	0.757	
DS flow (m3/s)	0.22150	

Node	TMH2	Outfall 2
ground (m AD)	6.000	2.770
level (m AD)	5.183	5.170

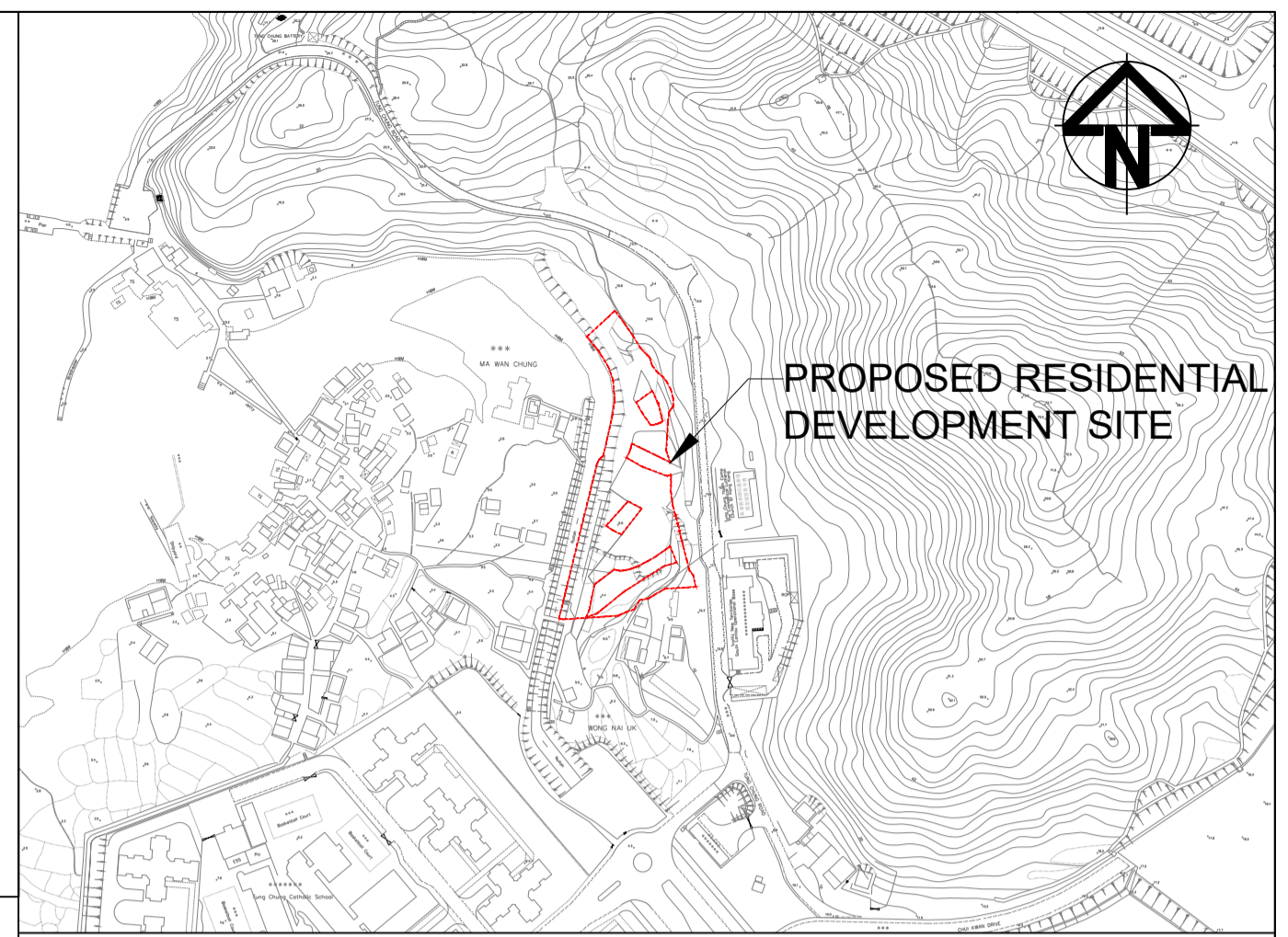
Proposed Development Scenario: 10-year Rain + 200-year Sea Level
 End 21st Century
 Outfall 2

DRAWINGS



LEGEND

- *AREA FOR S16 APPLICATION
- EXISTING STORMWATER CATCHMENT AREA
- EXISTING OUTFALL
- EXISTING STORMWATER PIPE



LOCATION PLAN
SCALE 1 : 7500

Traffic New Territories outh Lantau Operational Base	

Client	FULL FRAME DEVELOPMENT LIMITED

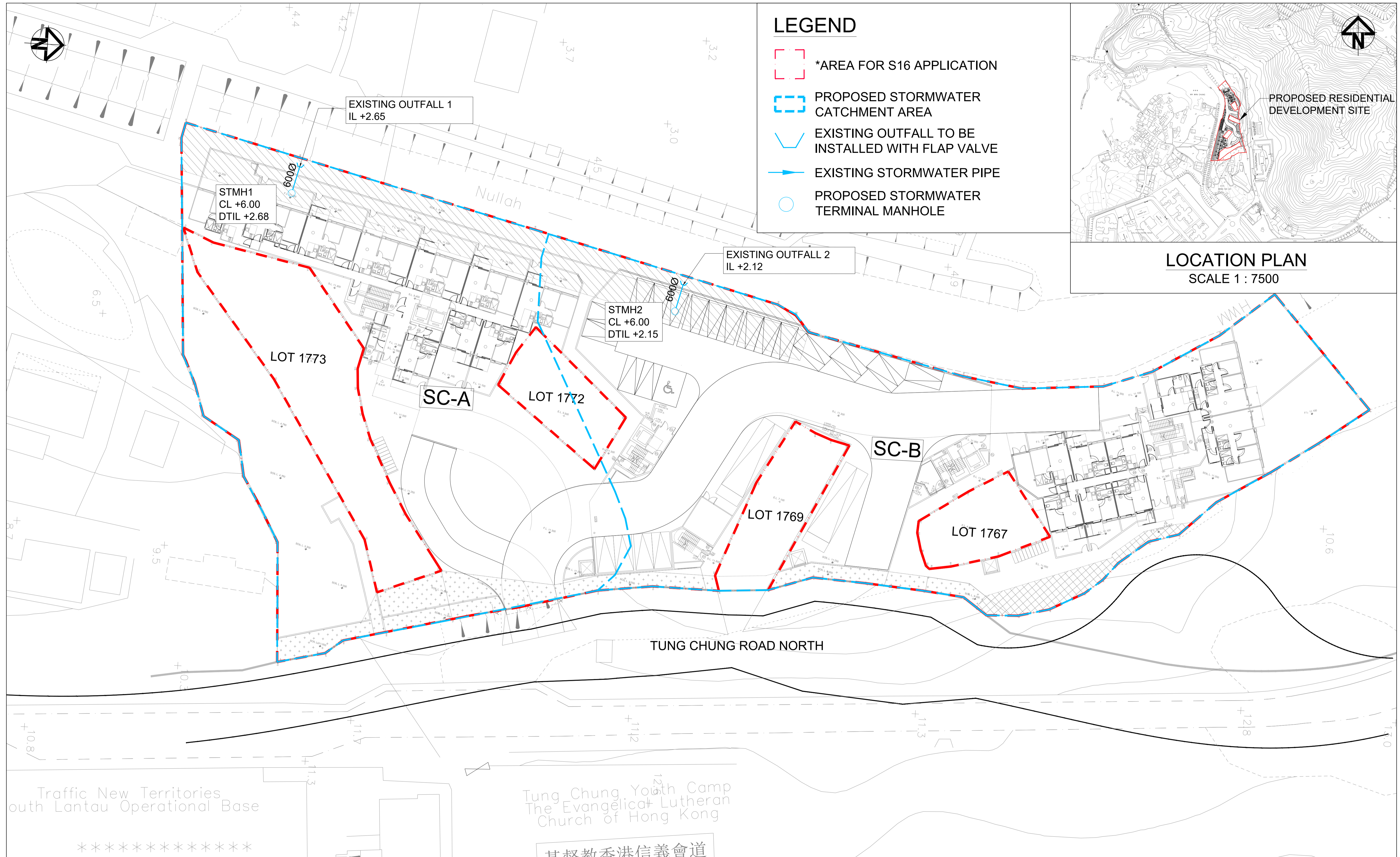
Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION
Scales	1 : 500 @ A3
Original Size	A3
Height Datum	HKPD
Grid	© Copyright reserved
Filename	KEB002681-DIA-1001DWG

Project	
S16 APPLICATION FOR PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND	
Title	
EXISTING DRAINAGE LAYOUT PLAN	

Client	Tung Chung Youth Camp The Evangelical Lutheran Church of Hong Kong 其叔勒香港信義會道
Draw	ML
Checker	FC
Approver	TK
Drawing No.	KEB002681/DIA/1001

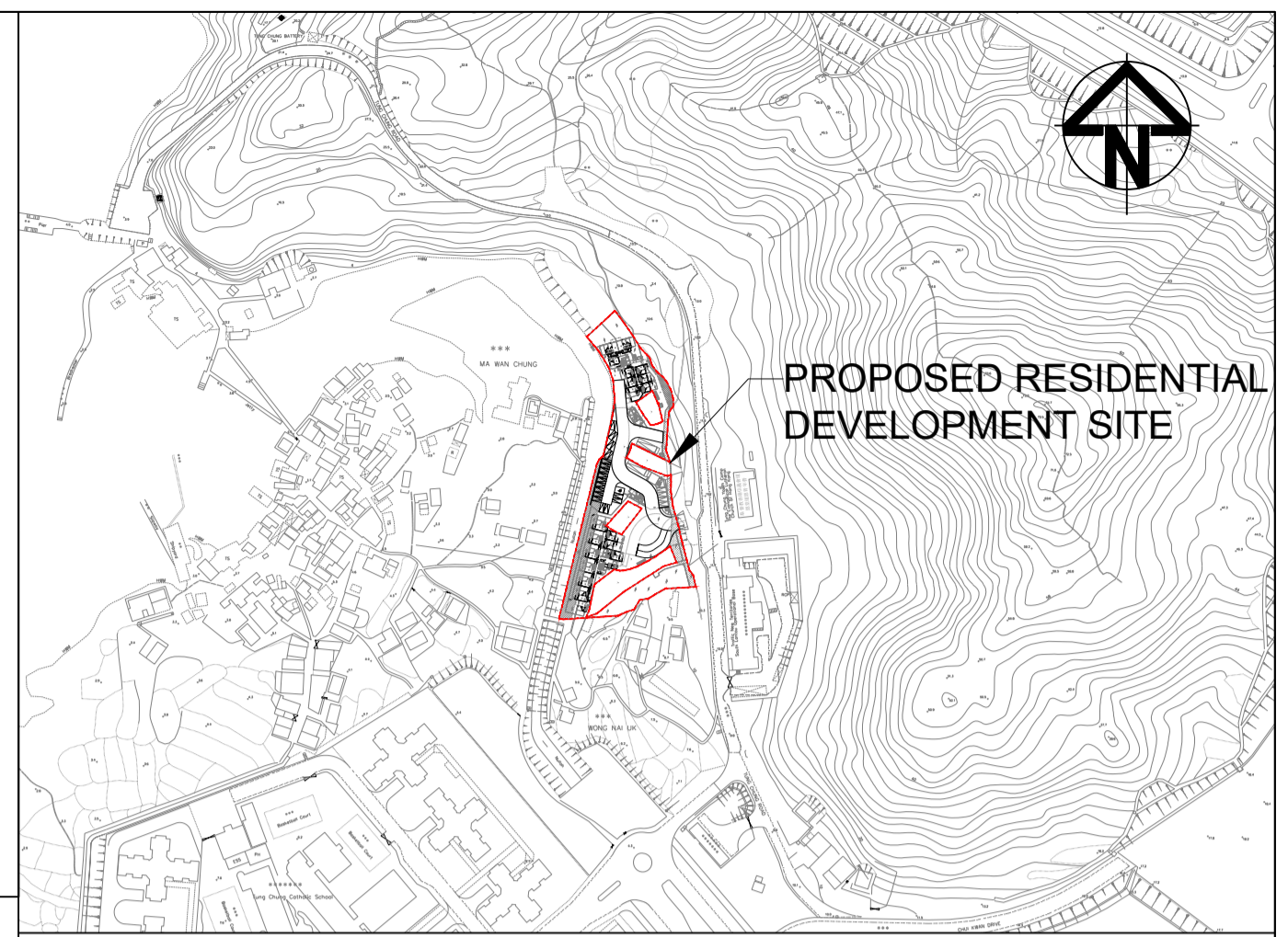
Drawing No. KEB002681/DIA/1001

50mm on Original



LEGEND

- *AREA FOR S16 APPLICATION
- PROPOSED STORMWATER CATCHMENT AREA
- ↔ EXISTING OUTFALL TO BE INSTALLED WITH FLAP VALVE
- EXISTING STORMWATER PIPE
- PROPOSED STORMWATER TERMINAL MANHOLE



LOCATION PLAN
SCALE 1 : 7500

Rev	Description	Date
B	PRELIMINARY DESIGN	20/03/2026
A	PRELIMINARY DESIGN	28/01/2026

Tung Chung Youth Camp
The Evangelical Lutheran Church of Hong Kong

其叔勒香港信義會道

Client
FULL FRAME DEVELOPMENT LIMITED

Status: **PRELIMINARY**
NOT TO BE USED FOR CONSTRUCTION

Scales: **1 : 500 @ A3**

Original Size: **A3**

Height Datum: **HKPD**

Grid: **© Copyright reserved**

Filename: **KEB002681-DIA-2001.DWG**

Project: **S16 APPLICATION FOR PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED FLAT USE AT TUNG CHUNG TOWN LOT 49, TUNG CHUNG ROAD NORTH, LANTAU ISLAND**

Title: **PROPOSED DRAINAGE LAYOUT PLAN**

Drawing No: **KEB002681/DIA/2001**



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For more details, contact us:

Sherine Chng | Head of Bid Management, Marketing & Communications

E: [REDACTED]

T: [REDACTED]

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