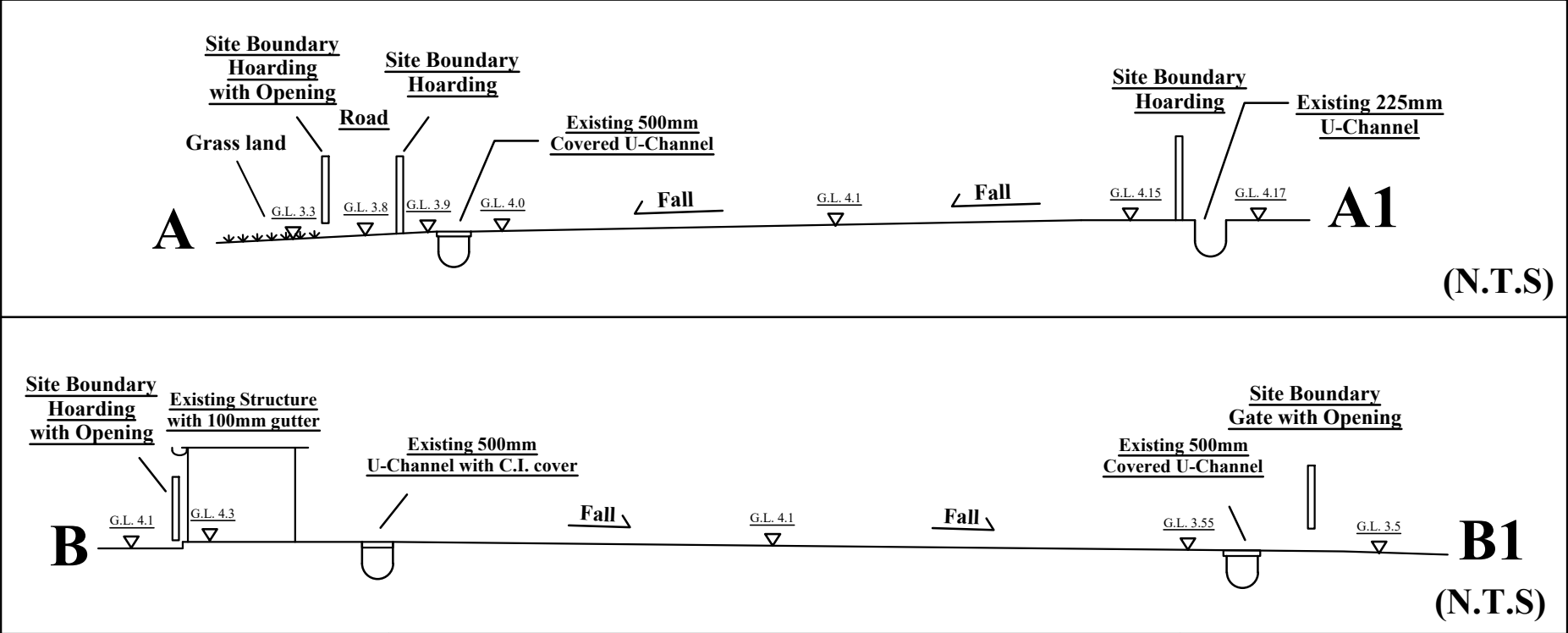
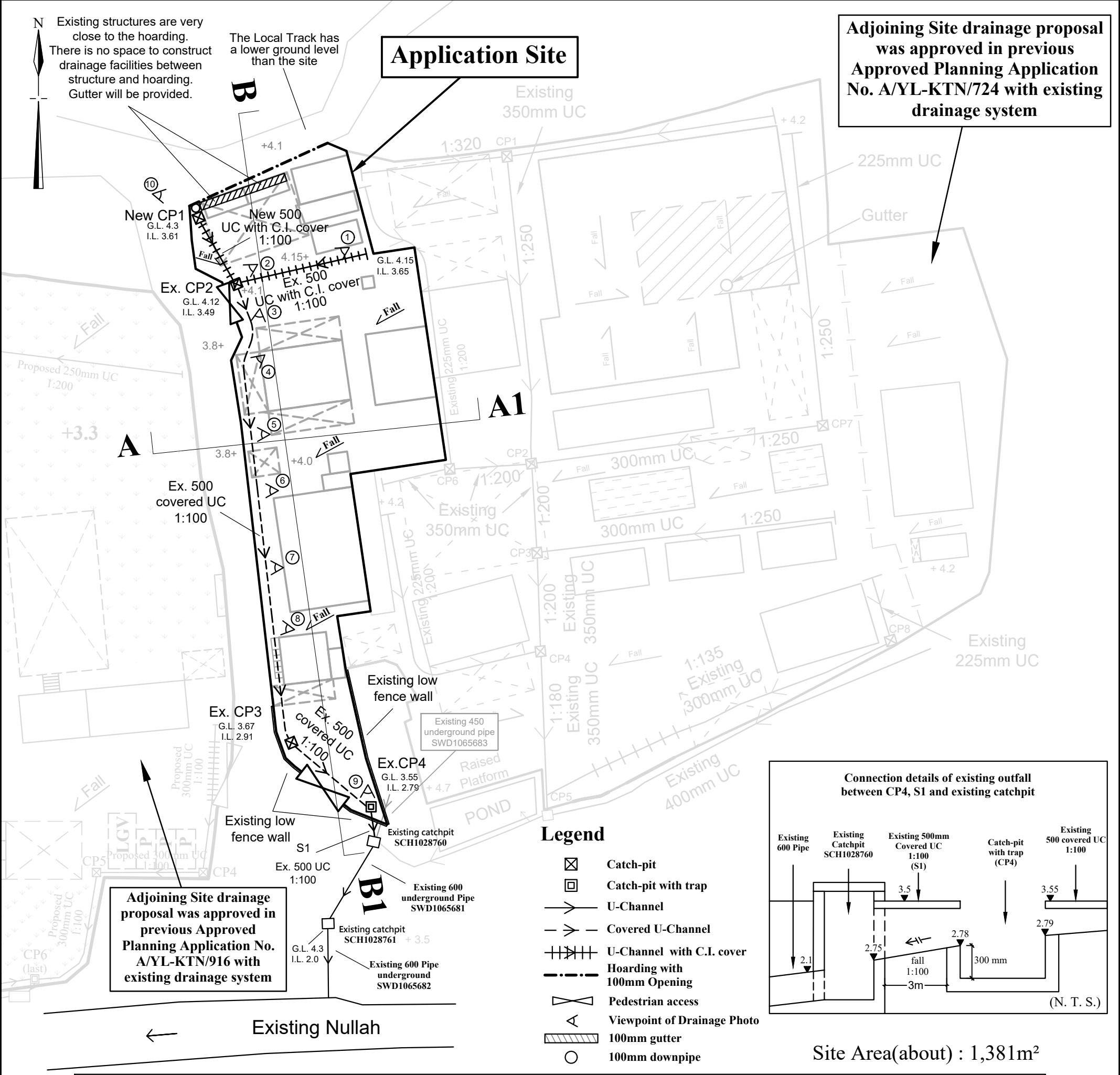
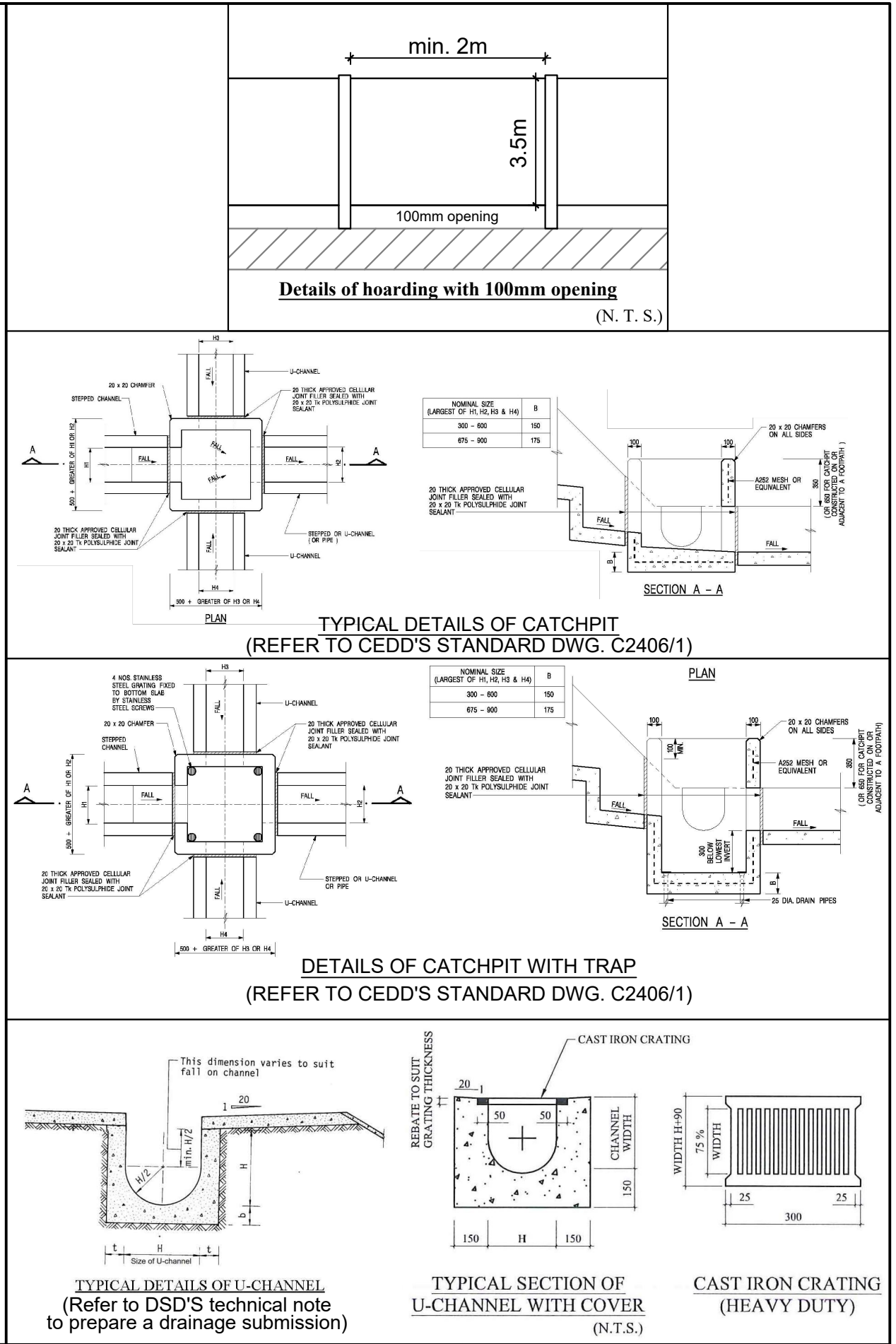
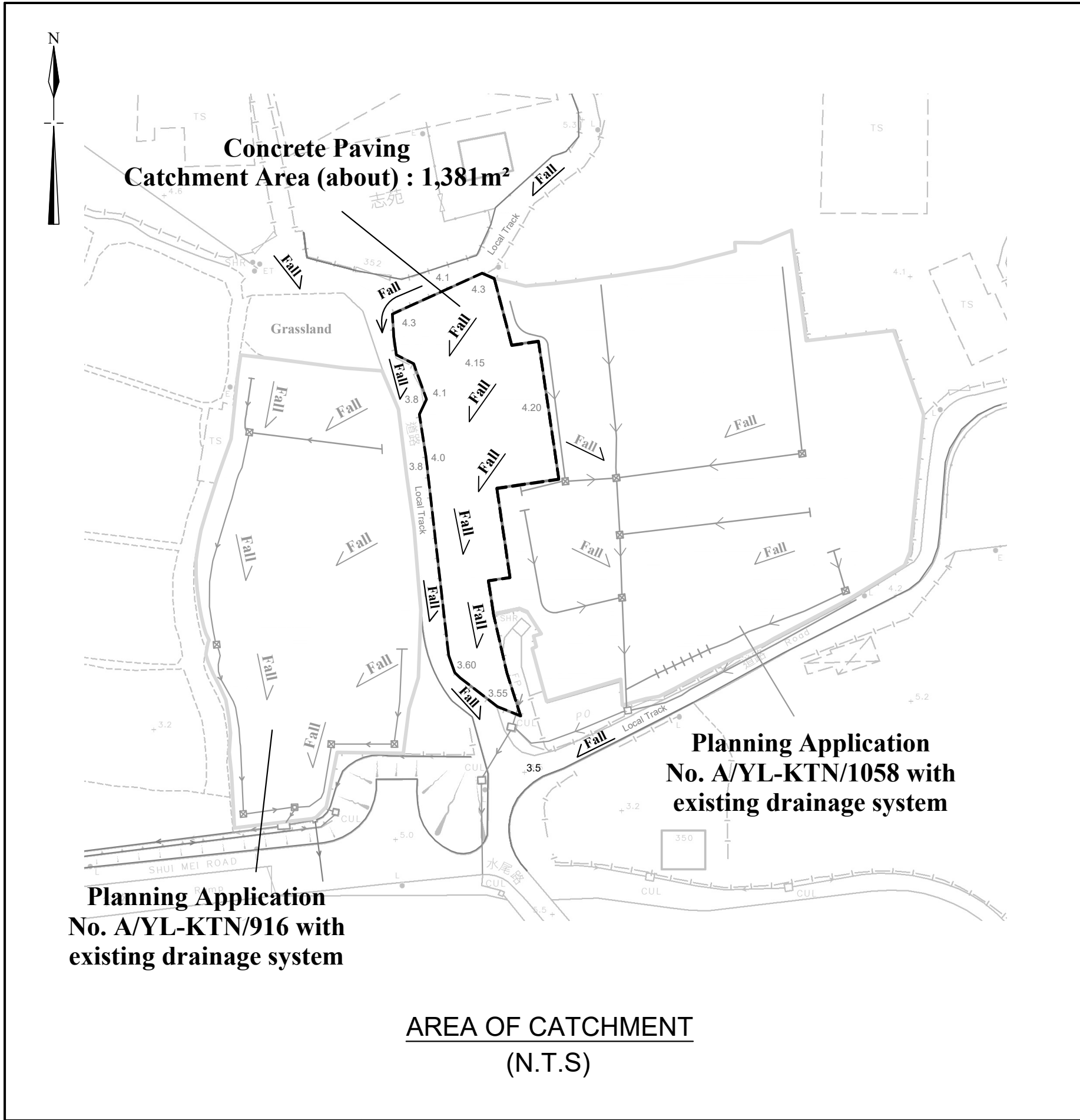






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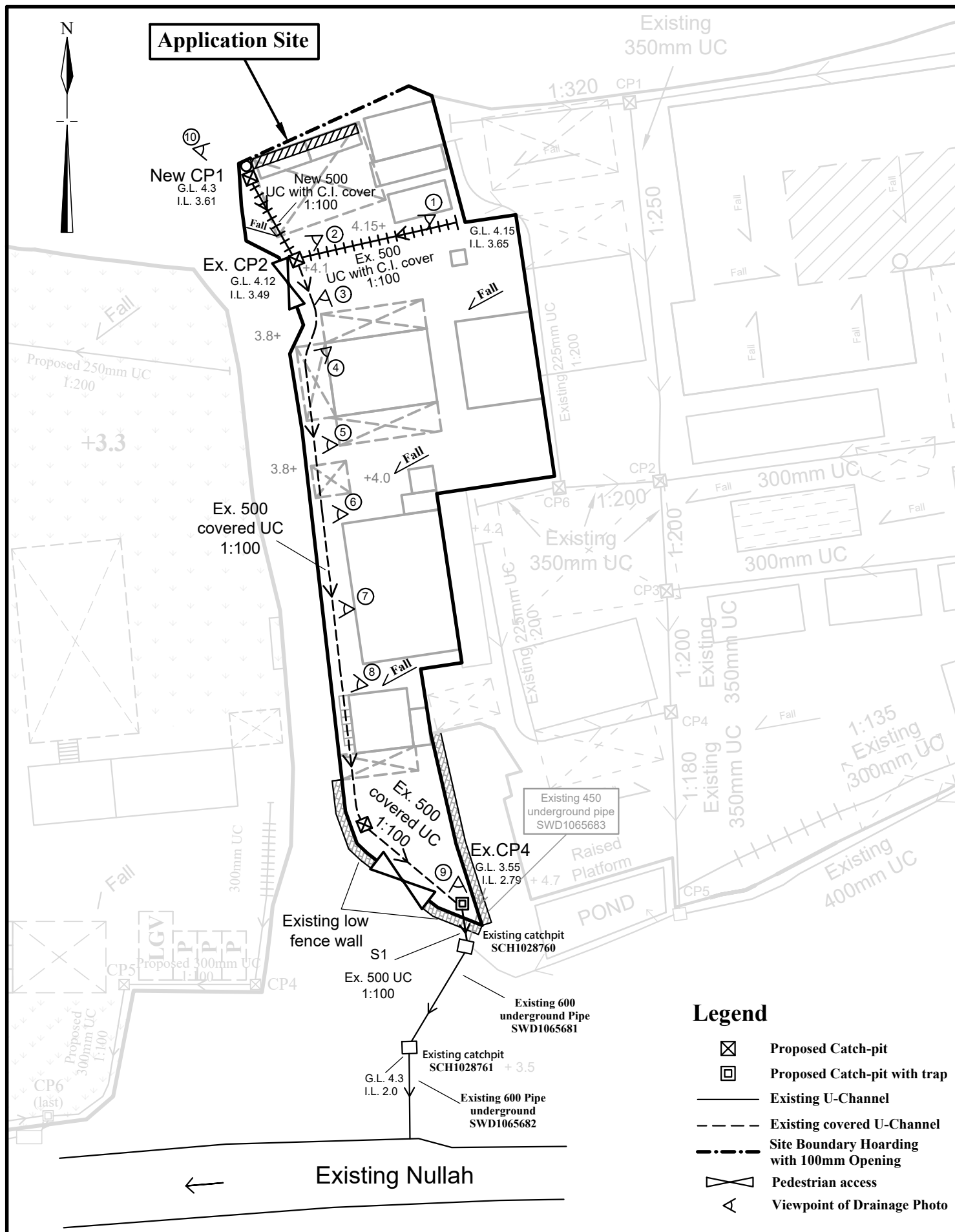
Drainage Proposal	
Lots 1493 (part), 1500 (part) in DD. 107 and adjoining government land Kam Tin North, New Territories	

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Plan 6.2a (P 23044)

1 For Catchment Area of Subject Site			Ref.
Area, A	=	1381 m ²	SDM 7.5.2 (d)
Average slope, H	=	0.1 m per 100m	
Distance on the line of natural flow, L	=	25 m	
Time of concentration, t _o	=	0.14465L / (H ^{0.2} A ^{0.1}) = 0.14465 (25) / (0.1 ^{0.2} *1381 ^{0.1}) = 2.8 min	
2 For Existing 500mm U-Channel to SCH1028760			
	From	To	
Ground level (mPD)	4.30	3.55	
Invert level (mPD)	3.61	2.75	
Width of u-channel, w	=	500 mm	SDM 9.3 (b) Sedimentation Reduction
Length of u-channel, L _c	=	86 m	
Depth of vertical part of u-channel, d	=	550 mm	
Gradient of u-channel, S _f	=	(3.61-2.75)/86 = 0.0100	
Cross-Section Area, a	=	0.5 π r ² + w d = 0.5 x 3.14 x 250 ² + 500 x 550 x 0.9	SDM 8.2.1
	=	0.336 m ²	
Wetted Perimeter, p	=	π r + 2 d = 3.14 x 250 + 2 x 550	
	=	1.885 m	
Hydraulic radius, R	=	a / p	
	=	0.178 m	
3 Use Manning Equation for estimating velocity of stormwater			
Take n	=	0.016 for concrete lined channels:-	SDM Table 13
Allowable velocity, v	=	R ^{1/6} x (RS _f) ^{1/2} /n = (0.178) ^{1/6} x (0.178 x 0.01) ^{1/2} / 0.016	SDM Table 12
	=	1.98 m/s	
Time of flow, t _f	=	0.7 min	
4 Use "Rational Method" for calculation of design flow			
Design intensity, i	=	a / (t _o + t _f +b) ^c	SDM 4.3.2
	=	505.5 / (2.8+0.7+3.29) ^{0.35} for return period T = 50 years	Corrigendum 1/2024
	=	256	SDM Table 3a
Type of surface	Runoff Coefficient C	Catchment Area A (m ²)	SDM 7.5.2 (b)
Flat Glassland(heavy soil)	0.25	0.0	
Concrete Paving	0.95	1381.0	
		SUM = 1312.0	
Upstream flow, Q _u	=	0 m ³ /s	
Design flow, Q _d	=	0.278i ∑ C _j A _j x 1.16 + Q _u where A _j is in km ²	SDM 7.5.2 (a)
	=	0.278 x 256 x 1311.95 / 1000000 x 1.16 + 0	Corrigendum 1/2022
	=	0.108 m ³ /s	
Allowable flow, Q _a	=	a x v	
	=	0.336 x 1.98	
	=	0.598 m ³ /s	
	>	Q _d (O.K.)	
Reference was made to Stormwater Drainage Manual (SDM) by DSD			

Scale: NA	Hydraulic Calculation Lots 1486 (Part), 1489 (Part) and adjoining Government Land in D. D. 107 Yuen Long, N. T.	Goldrich Planners & Surveyors Ltd.
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Scale: NA	Hydraulic Calculation Lots 1486 (Part), 1489 (Part) and adjoining Government Land in D. D. 107 Yuen Long, N. T.	Goldrich Planners & Surveyors Ltd.
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1:500	Plan Showing Viewpoints of Drainage Photographs Lots 1493 (part), 1500 (part) in DD. 107 and adjoining government land Kam Tin North, New Territories	Goldrich Planners & Surveyors Ltd.
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Viewpoint 1



Viewpoint 2



Viewpoint 3



Viewpoint 4



Viewpoint 5



Viewpoint 6



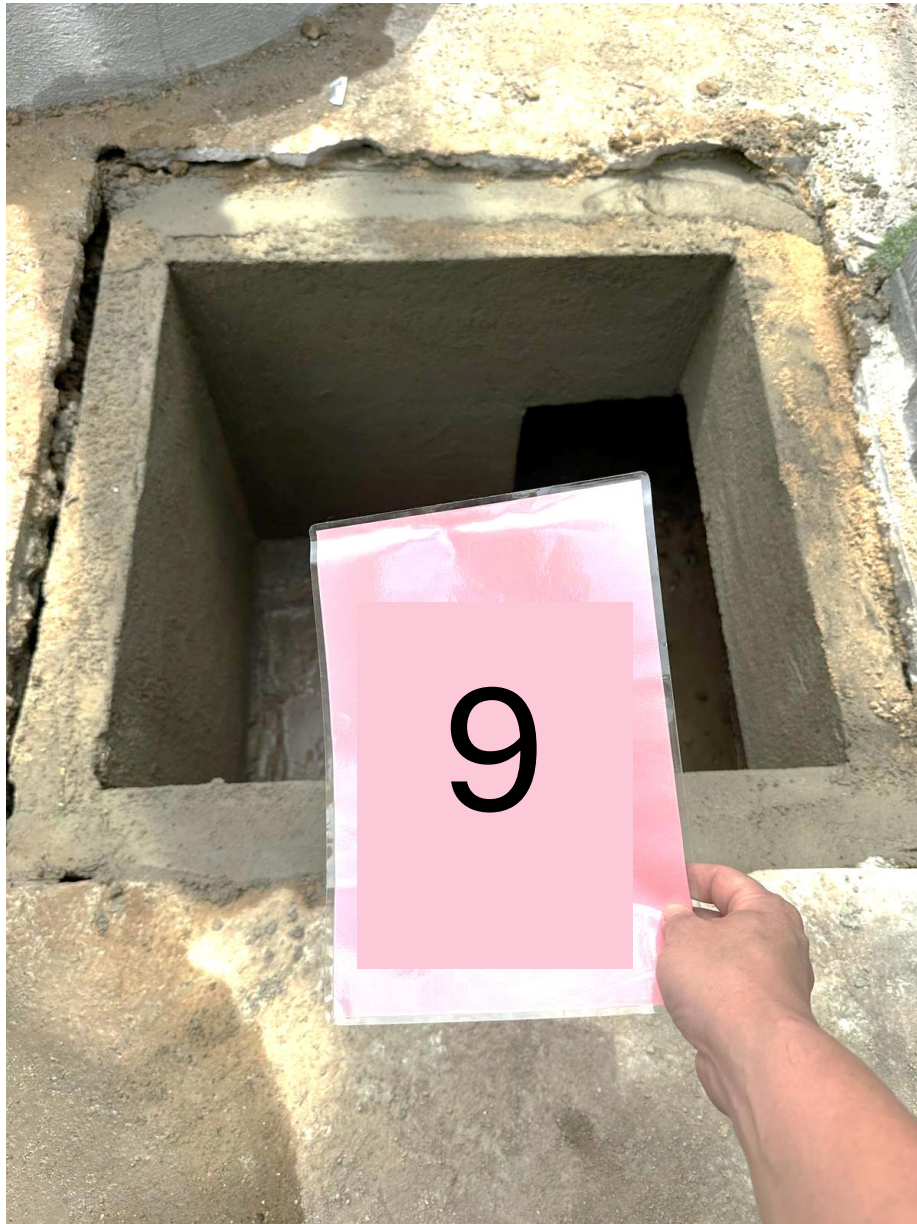
Viewpoint 7



Viewpoint 8



Viewpoint 9



Viewpoint 10



The ground level of the Site has been higher than the local track for many years. The surface runoff from the local track will not flow to the Site.