

Proposed Temporary Animal Boarding Establishment (Cattery) for a Period of 3 Years & Associated Filling of Land at Lot 1938 RP (Part) in D.D. 119, Yuen Long, New Territories

Annex 1 Drainage Proposal

1.1 Existing Situation

A. Site particulars

- 1.1.1 The application site occupies an area of about 730m².
- 1.1.2 The site is serviced by a vehicular access leading from Kiu Hing Road. The area adjacent to the proposed development is mainly rural in nature.

B. Level and gradient of the subject site & proposed surface channel

- 1.1.3 It has a gradient sloping from southwest to northeast from about +10.2mPD to +9.8mPD. (**Figure 4**)

C. Catchment area of the proposed drainage provision at the subject site

- 1.1.4 The land to the north, west and east is found lower in level than the application site. The land to the south of the application site is slightly higher than the application site but there are structures found to the immediate south of the site which blocks the surface runoff from the south. As such, no external catchment is identified.

D. Particulars of the existing drainage facilities to accept the surface runoff collected at the application site

- 1.1.5 As shown in **Figure 4**, an open drain is found to the east of the application site. The stormwater intercepted by the proposed surface drain at the application site will be dissipated to the said open drain

1.2 Runoff Estimation

1.2.1 Rational method is adopted for estimating the designed run-off

$$Q = k \times i \times A / 3,600$$

Assuming that:

- i. The area of the catchment is approximately 730m²; (**Figure 4**)
- ii. The application site has been fully paved. It is assumed that the value of run-off co-efficient (k) is taken as 1.

$$\text{Difference in Land Datum} = 10.2\text{m} - 9.8\text{m} = 0.4\text{m}$$

$$L = 48\text{m}$$

$$\therefore \text{Average fall} = 0.4\text{m in } 48\text{m} \text{ or } 1\text{m in } 120\text{m}$$

According to the Brandsby-Williams Equation adopted from the “Stormwater Drainage Manual – Planning, Design and Management” published by the Drainage Services Department (DSD),

$$\text{Time of Concentration (t}_c) = 0.14465 [L / (H^{0.2} \times A^{0.1})]$$

$$t_c = 0.14465 [48 / 0.83^{0.2} \times 730^{0.1}]$$

$$t_c = 3.72 \text{ minutes}$$

With reference to the Intensity-Duration-Frequency Curves provided in the abovementioned manual, the mean rainfall intensity (i) for 1 in 50 recurrent flooding period is found to be 300 mm/hr

By Rational Method,

$$Q_1 = 1 \times 300 \times 730 / 3,600$$

$$\therefore Q_1 = 60.83 \text{ l/s} = 3,650 \text{ l/min} = 0.049\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in “Geotechnical Manual for Slopes”, for an approximate gradient of about 1:150 in order to follow the gradient of the application site, 300mm surface U-channel along the site periphery is considered adequate to dissipate all the stormwater accrued by the application site.

1.3 Proposed Drainage Facilities

- 1.3.1 Subject to the calculations in 1.2 above, it is determined that proposed 300mm concrete surface U-channel along the site periphery is adequate to intercept storm water passing through and generated at the application site (**Figure 4**).
- 1.3.2 The collected stormwater will then be discharged directly to the open drain to the east of the application site as shown in **Figure 4**.
- 1.3.3 All the proposed drainage facilities will be provided and maintained at the applicant's own expense. Also, sand trap and surface U-channel will be cleaned at regular interval to avoid the accumulation of rubbish/debris which would affect the dissipation of storm water.
- 1.3.4 The provision of the proposed surface channel will follow the gradient of the application site. All the proposed drainage facilities will be constructed and maintained at the expense of the applicant.
- 1.3.5 Prior to the commencement of the drainage works, the applicant will seek consent from District Lands Office/North and relevant land owners for the provision of drainage facilities outside the application site.
- 1.3.6 The proposed development would not affect the existing ditches, drains and obstruct the flow of the flow of surface runoff.
- 1.3.7 The provision of trees and surface channel at site boundary is detailed hereunder:
- (a) Soil excavation at site periphery, is inevitably for the provision of surface channel and landscaping. The accumulation of excavated soil at the site periphery would obstruct the free flow of the surface runoff from the surroundings. Hence, the soil will be cleared at the soonest possible after the completion of the excavation process.
 - (b) In view of that soil excavation may be continued for several working days, surface channel will be dug in short sections and all soil excavated will be cleared before the excavation of another short section.
 - (c) No leveling work will be carried at the site periphery. The level of the site periphery will be maintained during and after the works. The works at the site periphery would not either alter the flow of surface runoff from adjacent areas.
 - (d) Holes will be provided at the toe of site hoarding to allow unobstructed flow of surface runoff.

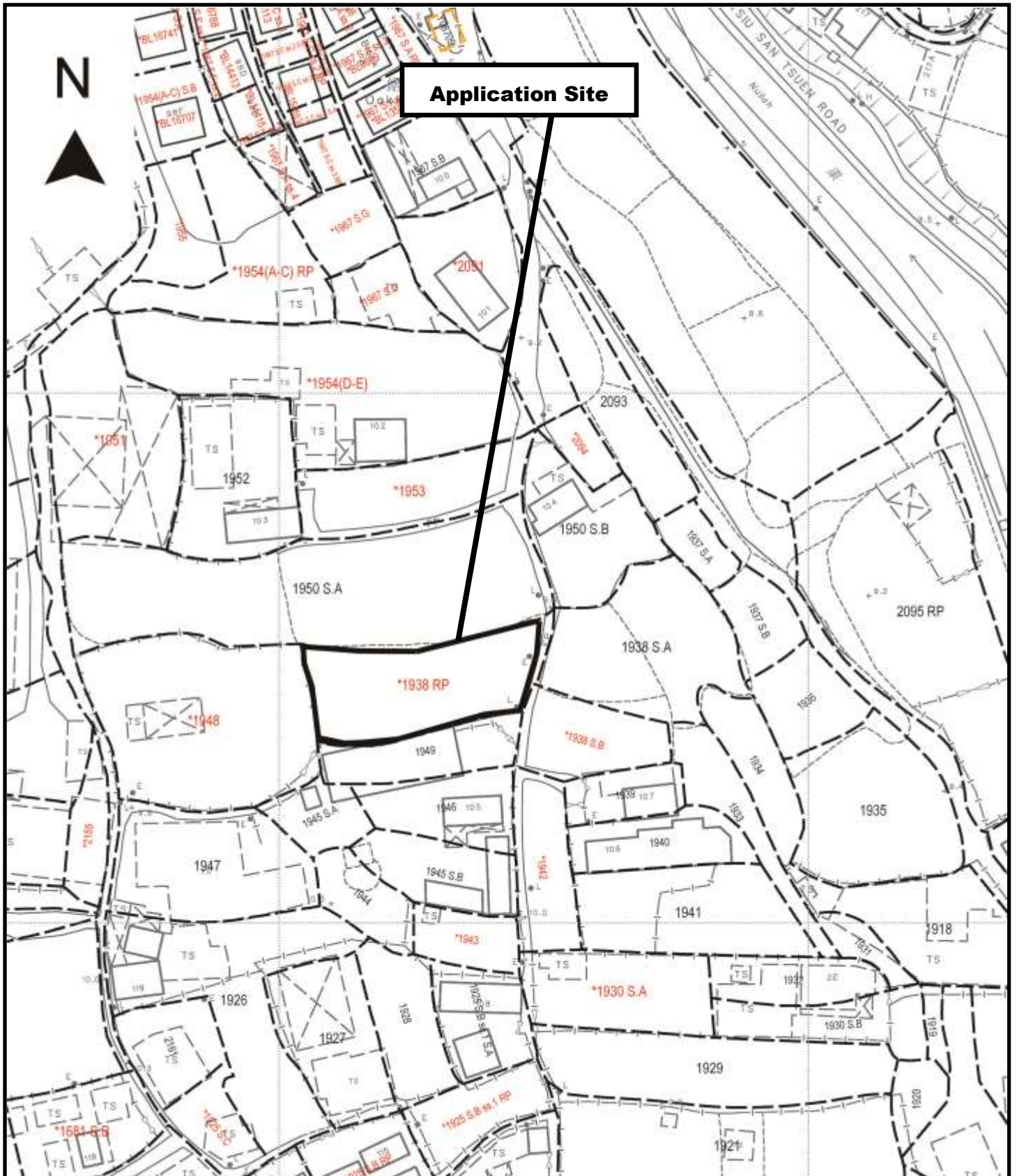
Annex 2 Estimated Traffic Generation

- 2.1 The application site is serviced by a vehicular access leading from Kiu Hing Road. Having mentioned that the site is intended for dog kennel, traffic generated by the proposed development is not significant.
- 2.2 The applicant will deliver the cats to and from the application site and no vehicle from customers will be allowed to park at the application site.
- 2.3 The proposed parking spaces at the application site would only be opened to applicant.
- 2.4 There will be 1 parking spaces of 5m x 2.5m for private car. The estimated traffic generation/attraction rate is shown below:

Type of Vehicle	<u>Average</u> Traffic Generation Rate (pcu/hr)	<u>Average</u> Traffic Attraction Rate (pcu/hr)	Traffic Generation Rate at <u>Peak Hours</u> (pcu/hr)	Traffic Attraction Rate at <u>Peak Hours</u> (pcu/hr)
Private car	0.33	0.33	2	0

Note:

1. The operation hours of the proposed development is from 9:00a.m. to 6:00p.m. from Mondays to Sundays and public holidays;
 2. The pcu of private car are taken as 1; &
 3. Morning peak is defined as 7:00a.m. to 9:00a.m. whereas afternoon peak is defined as 5:00p.m. to 7:00p.m.
- 2.5 In association with the intended purpose, adequate space for manoeuvring would be provided within the application site. Sufficient space within the application site is provided so that no queueing up of vehicle would be occurred outside the application site.



Project 項目名稱:

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Drawing Title 圖目:

Site Plan

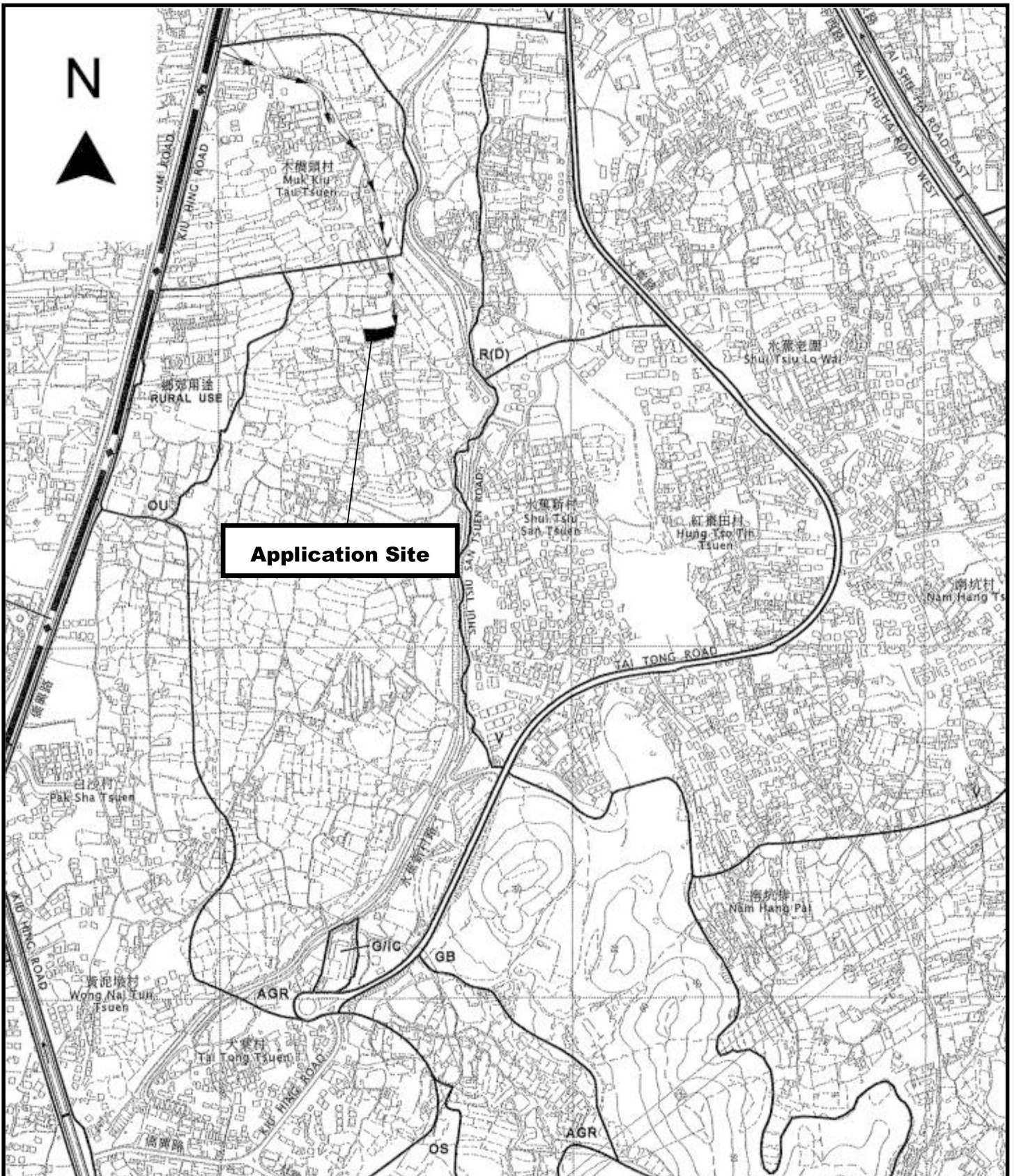
Drawing No. 圖號:

Figure 1

Remarks 備註:

Scale 比例:

1:1000



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Drawing Title 圖目:

Location Plan

Remarks 備註:

→ Vehicular access leading from Kiu Hing Road

Drawing No. 圖號:

Figure 2

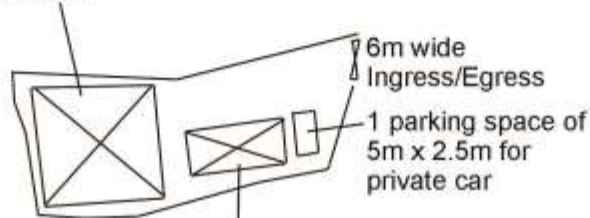
Scale 比例:

1:7500



Structure 1

Cattery
 GFA: Not exceeding 220m²
 Height: Not exceeding 4.5m
 No. of storey: 1



Structure 2

Site office & toilet
 GFA: Not exceeding 90m²
 Height: Not exceeding 4.5m
 No. of storey: 1

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Drawing Title 圖目:

Proposed Layout Plan

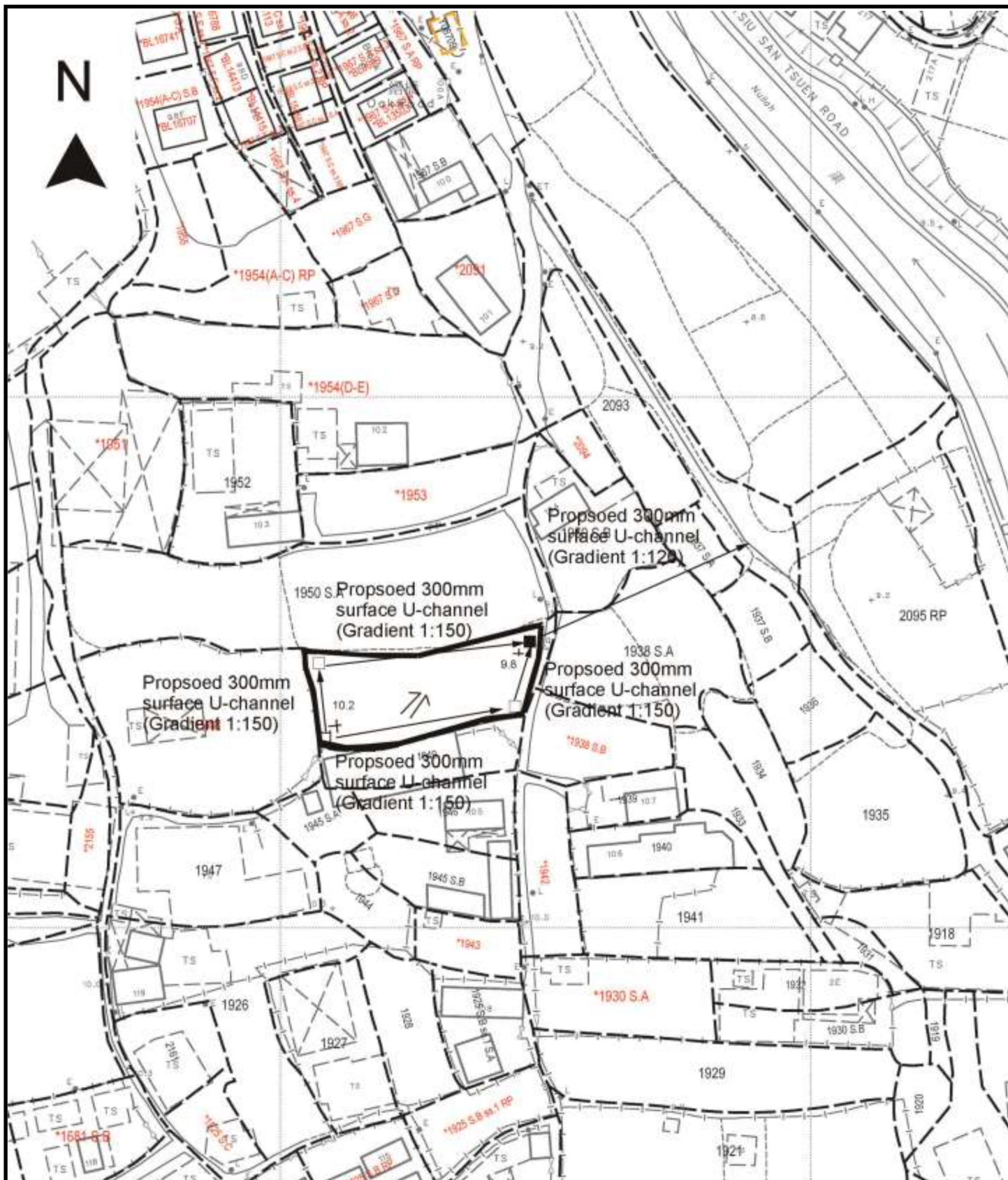
Drawing No. 圖號:

Figure 3

Remarks 備註:

Scale 比例:

1:1000



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Drawing Title 圖目:

Proposed Drainage Plan

Drawing No. 圖號:

Figure 4

Remarks 備註:

- Proposed catchpit
- Catchpit with sand trap
- ⇐ Flow of surface runoff
- + 9.8 Level (in mPD)

Scale 比例:

1:1000

