

**Proposed Temporary Animal Boarding Establishment (Dog Kennel) for
a Period of 3 Years and Associated Filling of Land
at
Lot 1455 RP in D.D. 118, Tai Shu Ha Road West, 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 660m².

1.1.2 The site is serviced by a vehicular access leading from Tai Shu Ha Road West. 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 +27.2mPD to +25.5mPD. (**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. However, there is a knoll to the southwest of the application site. As such, an external catchment has been identified as shown in **Figure 4**.

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 existing watercourse is found at the opposite side of Tai Shu Ha Road West. The stormwater intercepted by the proposed surface drain at the application site will be dissipated to the said public drain.

1.2.1 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 including the external catchment is approximately 2,900m²; **(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.

$$\text{Difference in Land Datum} = 56.9\text{m} - 25.5\text{m} = 31.4\text{m}$$

$$L = 166\text{m}$$

$$\therefore \text{Average fall} = 31.4\text{m in } 166\text{m} \text{ or } 1\text{m in } 5.29\text{m}$$

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

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

$$t_c = 0.14465 [157 / 18.92^{0.2} \times 2,900^{0.1}]$$

$$t_c = 6.00 \text{ minutes}$$

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 260 mm/hr

By Rational Method,

$$Q_1 = 1 \times 260 \times 2,900 / 3,600$$

$$\therefore Q_1 = 209.44 \text{ l/s} = 12,566.67 \text{ l/min} = 0.21\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in “Geotechnical Manual for Slopes”, for an approximate gradient of about 1:25 and 1:30 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 and adjacent land.

1.2.2 Capacity Calculation for the Proposed 600mm Diameter Underground Pipe Leading to the watercourse

Capacity of the proposed 600mm diameter underground pipe

Manning's Formula is adopted for estimating the maximum capacity of the proposed 600mm diameter underground pipe

$$Q_2 = A \times R^{2/3} \times S^{1/2} / n$$

Assuming that:

- i. Gradient (S) of the pipe is taken as 1:100;
- ii. Manning's roughness coefficient (n) is taken as 0.015 for concrete pipe;
- iii. $R = A/P$; &

By Manning's Formula:

$$\begin{aligned} Q_2 &= 0.282744 \times (0.15)^{2/3} \times (0.01)^{1/2} / 0.015 \\ &= 0.53 \text{m}^3/\text{s} \end{aligned}$$

The estimated peak runoff of catchment (Q_1) is $0.21 \text{m}^3/\text{s}$ but the estimated maximum capacity of the proposed 600mm diameter underground pipe is (Q_2) $0.53 \text{m}^3/\text{s}$. That is to say the proposed 600mm diameter underground pipe has spare capacity to cater for the stormwater generated at external catchment including 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 existing watercourse at the opposite side of Tai Shu Ha Road West.
- 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. 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) 100mm gap will be provided at the toe of site hoarding to allow unobstructed flow of surface runoff.

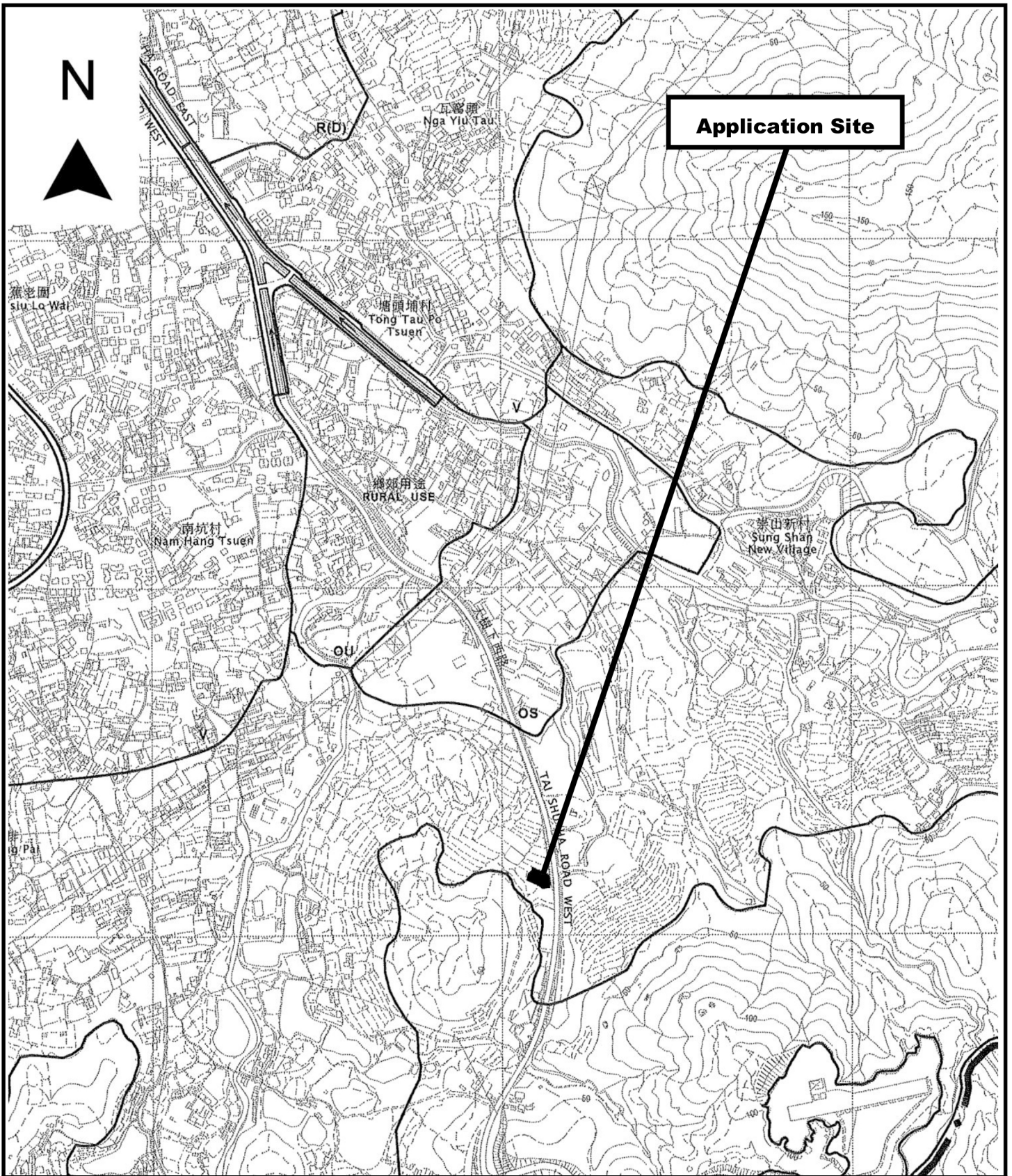
Annex 2 Estimated Traffic Generation

- 2.1 The application site is serviced by a vehicular access leading from Tai Shu Ha Road West. Having mentioned that the site is intended for dog kennel, traffic generated by the proposed development is not significant.
- 2.2 The proposed development would be opened to 2 customers at most. The applicant will provide one private car to deliver the dogs from customers so that 3 parking spaces proposed at the application site would be adequate.
- 2.3 The proposed parking spaces at the application site would only be opened to visitors with prior appointment.
- 2.4 There will be 3 parking spaces of 5m x 2.5m for private cars. 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 cars | 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.



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Drawing Title 圖目:

Location Plan

Drawing No. 圖號:

Figure 2

Remarks 備註:

Scale 比例:

1:7500

N



Structure 1

Dog Kennel

GFA: Not exceeding 210m²

Height: Not exceeding 4m

No. of storey: 1

Structure 2

Dog Kennel

GFA: Not exceeding 120m²

Height: Not exceeding 4m

No. of storey: 1

3 parking spaces of
5m x 2.5m for
private car

8m wide
Ingress/Egress

11m diameter
manoeuvring
circle

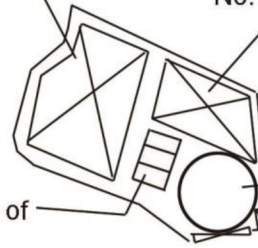
Structure 3

Toilet

GFA: Not exceeding 3m²

Height: Not exceeding 4m

No. of storey: 1



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RP in D.D. 118, Tai Shu Ha Road
West, Yuen Long, New Territories

Drawing Title 圖目:

Proposed Layout Plan

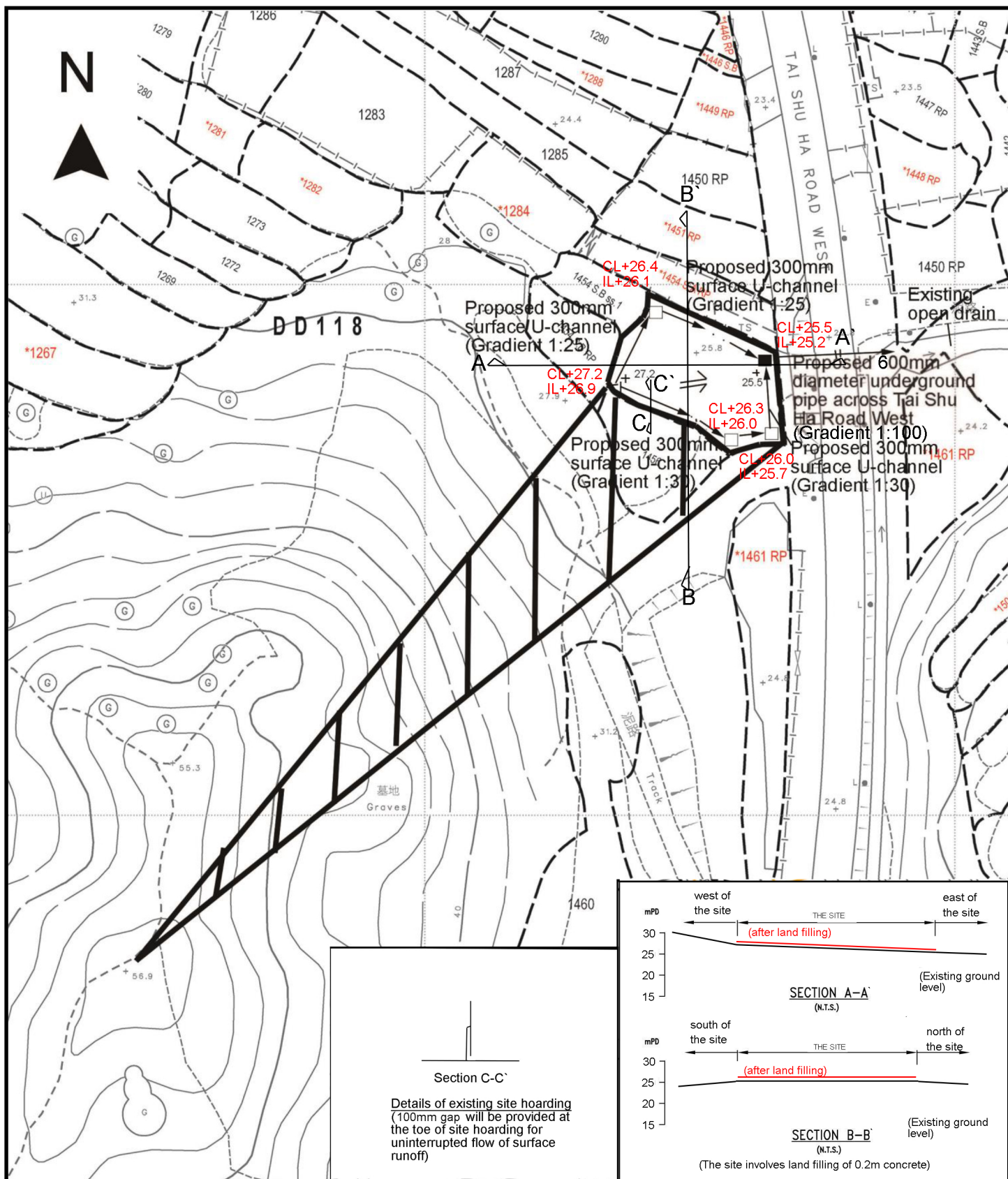
Drawing No. 圖號:

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:

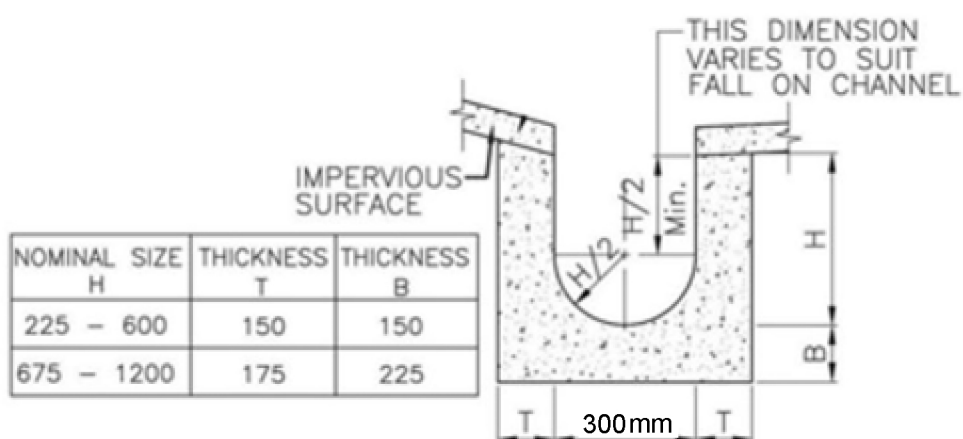
Figure 4

Remarks 備註:

- ☐ Proposed catchpit
- Flow of surface runoff
- + 25.5 Level (in mPD)
- External catchment
- Catchpit with sand trap

Scale 比例:

1:1000



DETAILS OF U-CHANNEL
(REFERENCE : FIG. 8.11 OF
GEOTECHNICAL MANUAL FOR SLOPES)
(N.T.S.)

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Drawing Title 圖目:

Details of Proposed
Surface U-channel

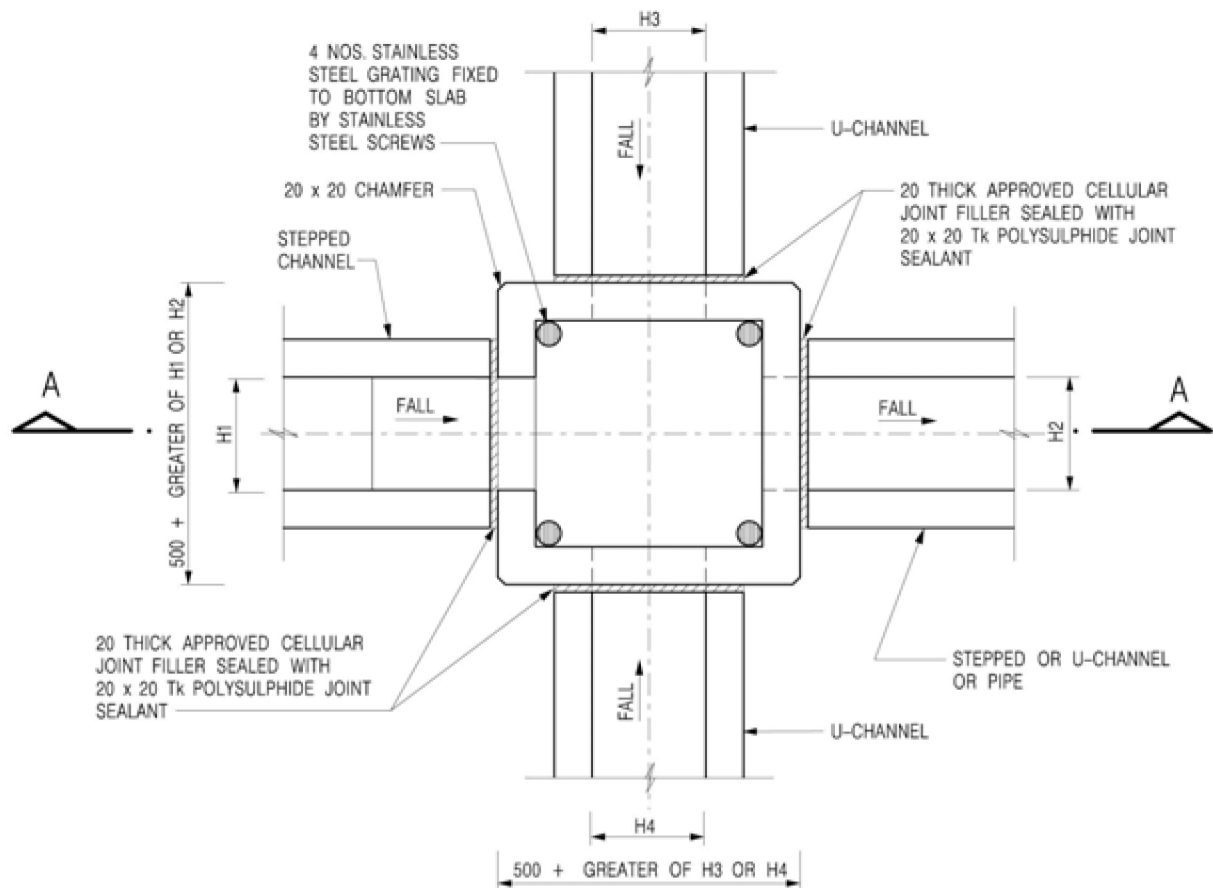
Remarks 備註:

Drawing No. 圖號:

Figure 5

Scale 比例:

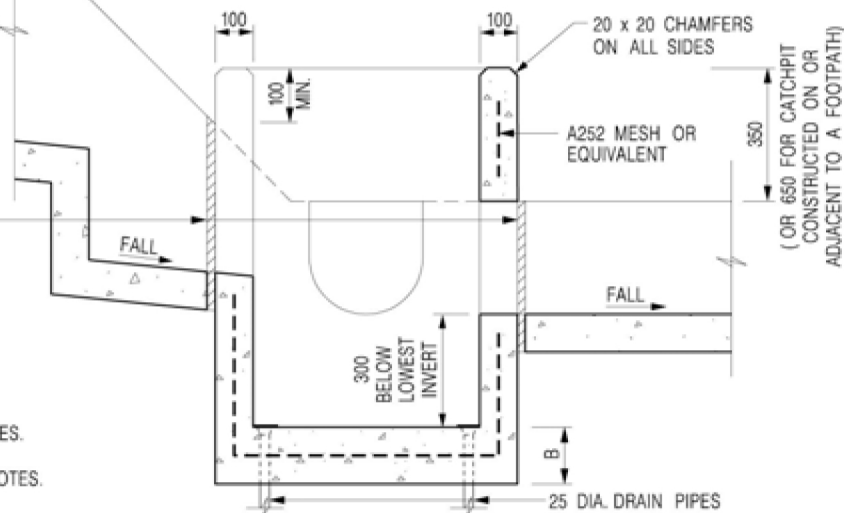
Not to scale



PLAN

| NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4) | B |
|--|-----|
| 300 - 600 | 150 |
| 675 - 900 | 175 |

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT



SECTION A - A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

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Drawing Title 圖名:

The Details of Catchpit with Desilting Function

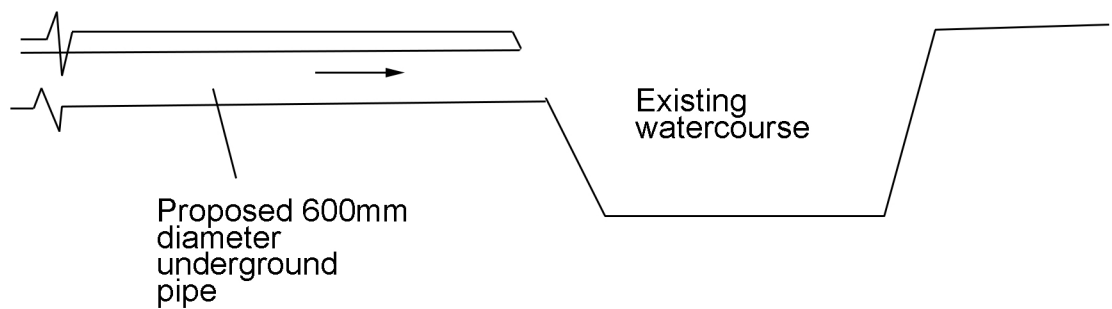
Drawing No. 圖號:

Figure 7

Remarks 備註:

Scale 比例:

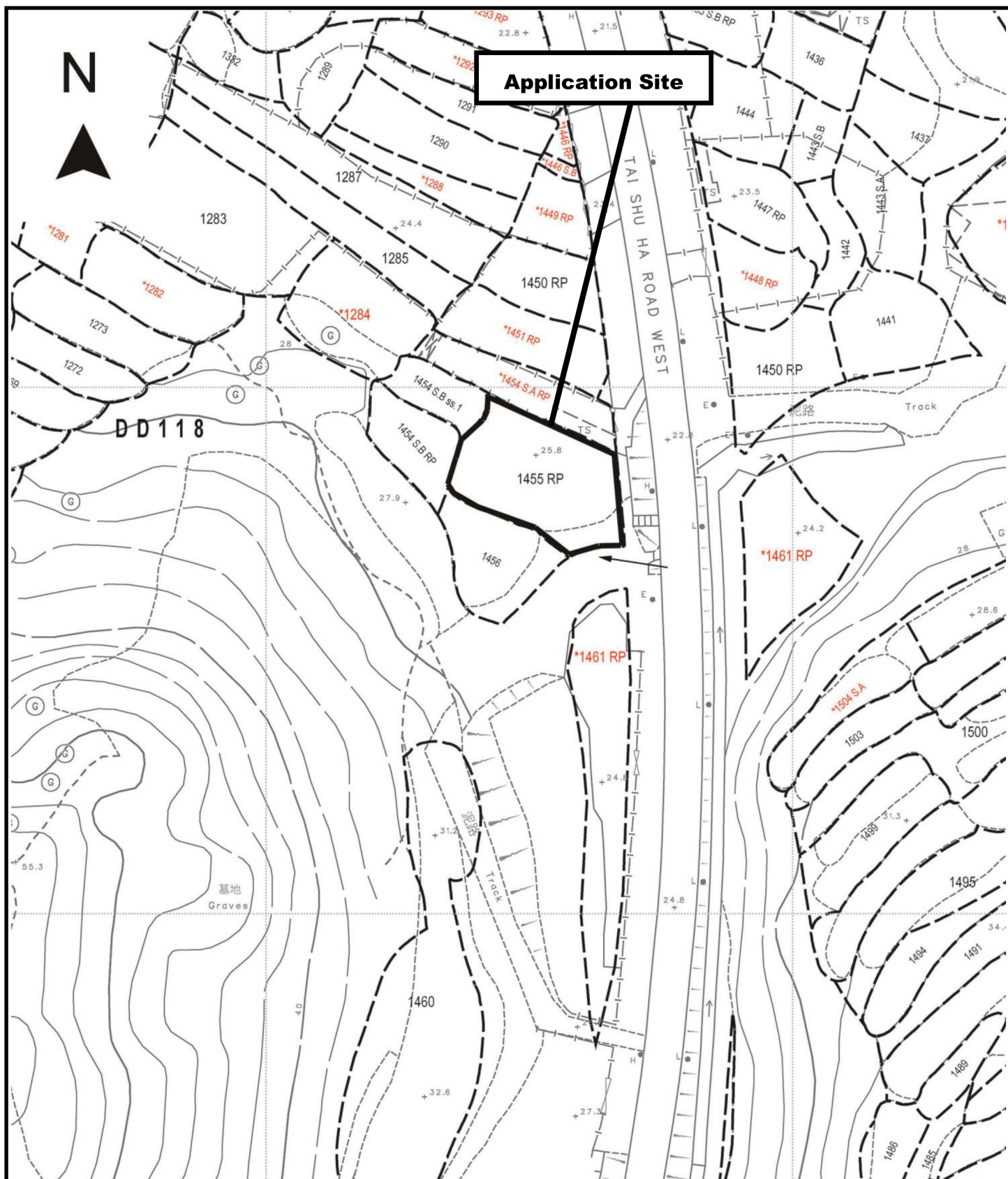
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| | | |
|---|---|--------------------|
| <p>Project 項目名稱:</p> <p>Proposed Temporary Animal Boarding Establishment (Dog Kennel) for a Period of 3 Years and Associated Filling of Land at Lot 1455 RP in D.D. 118, Tai Shu Ha Road West, Yuen Long, New Territories</p> | <p>Drawing Title 圖目:</p> <p>Connection Details to Ultimte Discharge Point</p> | <p>Remarks 備註:</p> |
| | <p>Drawing No. 圖號:</p> <p>Figure 8</p> | |

Scale 比例:

Not to scale



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Proposed Temporary Animal Boarding Establishment (Dog Kennel) for a Period of 3 Years and Associated Filling of Land at Lot 1455 RP in D.D. 118, Tai Shu Ha Road West, Yuen Long, New Territories

Drawing Title 圖目:

Vehicular Access Plan

Drawing No. 圖號:

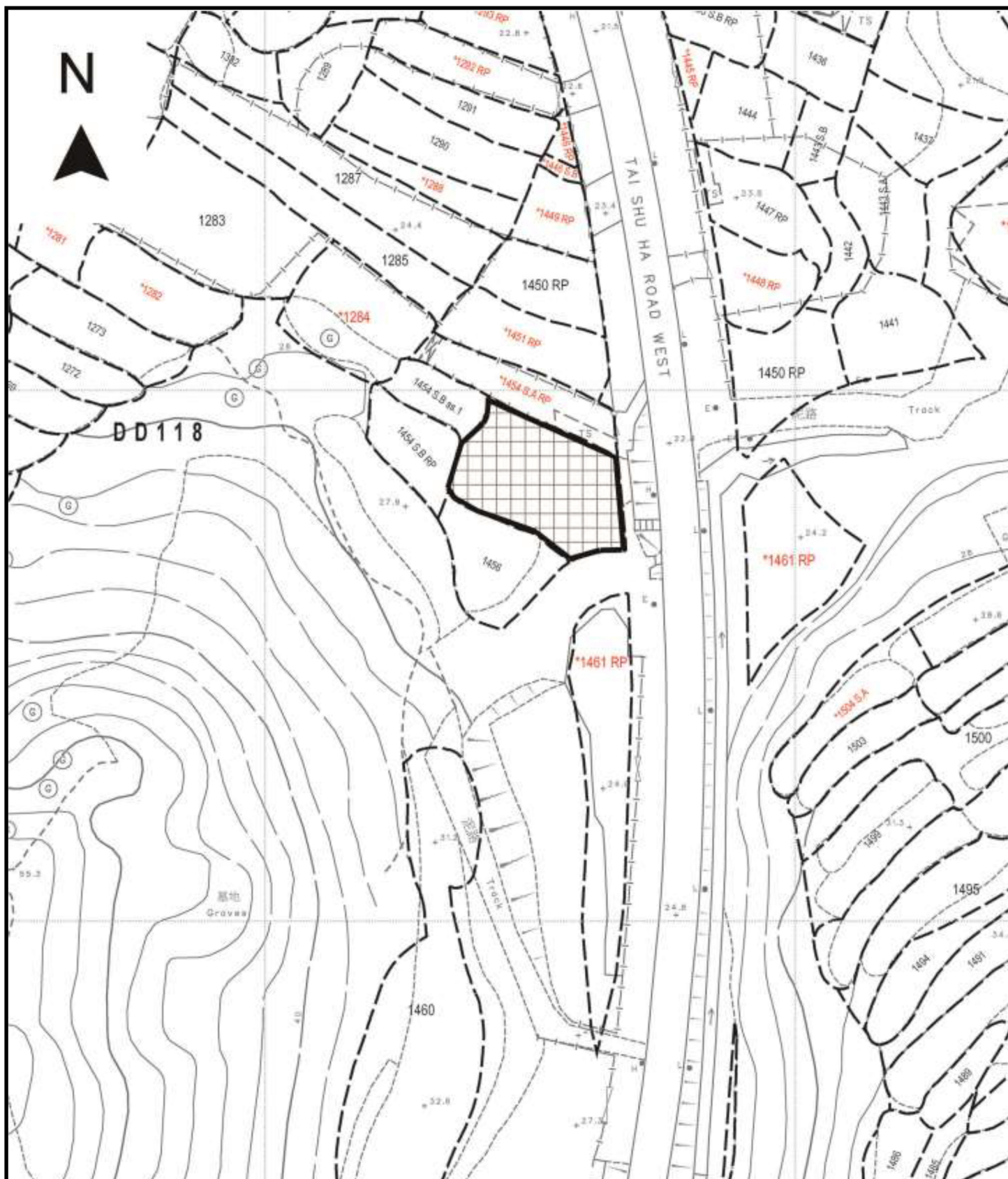
Figure 10

Remarks 備註:

→ Vehicular access leading from Tai Shu Ha Road West

Scale 比例:

1:1000



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Proposed Temporary Animal Boarding Establishment (Dog Kennel) for a Period of 3 Years and Filling of Land at Lot 1455 RP in D.D. 118, Tai Shu Ha Road West, Yuen Long, New Territories

Drawing Title 圖目:

Site Paving Plan

Drawing No. 圖號:

Figure 11

Remarks 備註:



Site paved by 200mm concrete

Scale 比例:

1:1000