Proposed Temporary Animal Boarding Establishment (Dog Kennel) & Associated Filling of Land for a Period of 5 Years
at
Lots 1047 S.A (Part) & 1049 S.B RP (Part) in D.D. 109, Kam Tin, 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 1,600m^2.

1.1.2 The site is serviced by a vehicular access leading from Kong Tai 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 northwest to southeast from about +11.8mPD to +11.0mPD. (**Figure 4**)

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

1.1.4 The land to the south, west and east is found lower in level than the application site. The land to the north is a knoll so that it is higher than the application site. As such, an external catchment has been identified 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,** a public 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 public drain via an existing culvert.

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 9,500m^2; (**Figure 4**)
ii. The application site will be fully paved. It is assumed that the value of run-off co-efficient (k) is taken as 0.75 because the majority of the catchment is unpaved.

$$\text{Difference in Land Datum} = 47.1\text{m} - 11.0\text{m} = 36.1\text{m}$$

$$L = 208\text{m}$$

$$\therefore \text{ Average fall} = 36.1\text{m in } 208\text{m} \quad \text{or} \quad 1\text{m in } 5.76\text{m}$$

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

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

$$t_c = 0.14465 \left[208/ 17.36^{0.2} \times 9,500^{0.1}) \right]$$

$$t_c = 6.8 \text{ minutes}$$

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 315 mm/hr

By Rational Method,

$$Q_1 = 0.75 \times 315 \times 9,500 / 3,600$$

$$\therefore Q_1 = 504.69 \text{ l/s} = 30,281.25 \text{ l/min} = 0.51\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in "Geotechnical Manual for Slopes", for an approximate gradient of about 1:145 to 1:155 in order to follow the gradient of the application site, 600mm surface U-channel along the site periphery is considered adequate to dissipate all the stormwater accrued by the application site and adjacent land.

1.3 Proposed Drainage Facilities

1.3.1 Subject to the calculations in 1.2 above, it is determined that proposed 600mm concrete surface 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 public drain to the east of the application site as shown in **Figure 4** via an existing culvert.

1.3.3 All the proposed drainage facilities will be provided and maintained at the applicant's own expense. Also, sand trap and surface 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/Yuen Long 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.

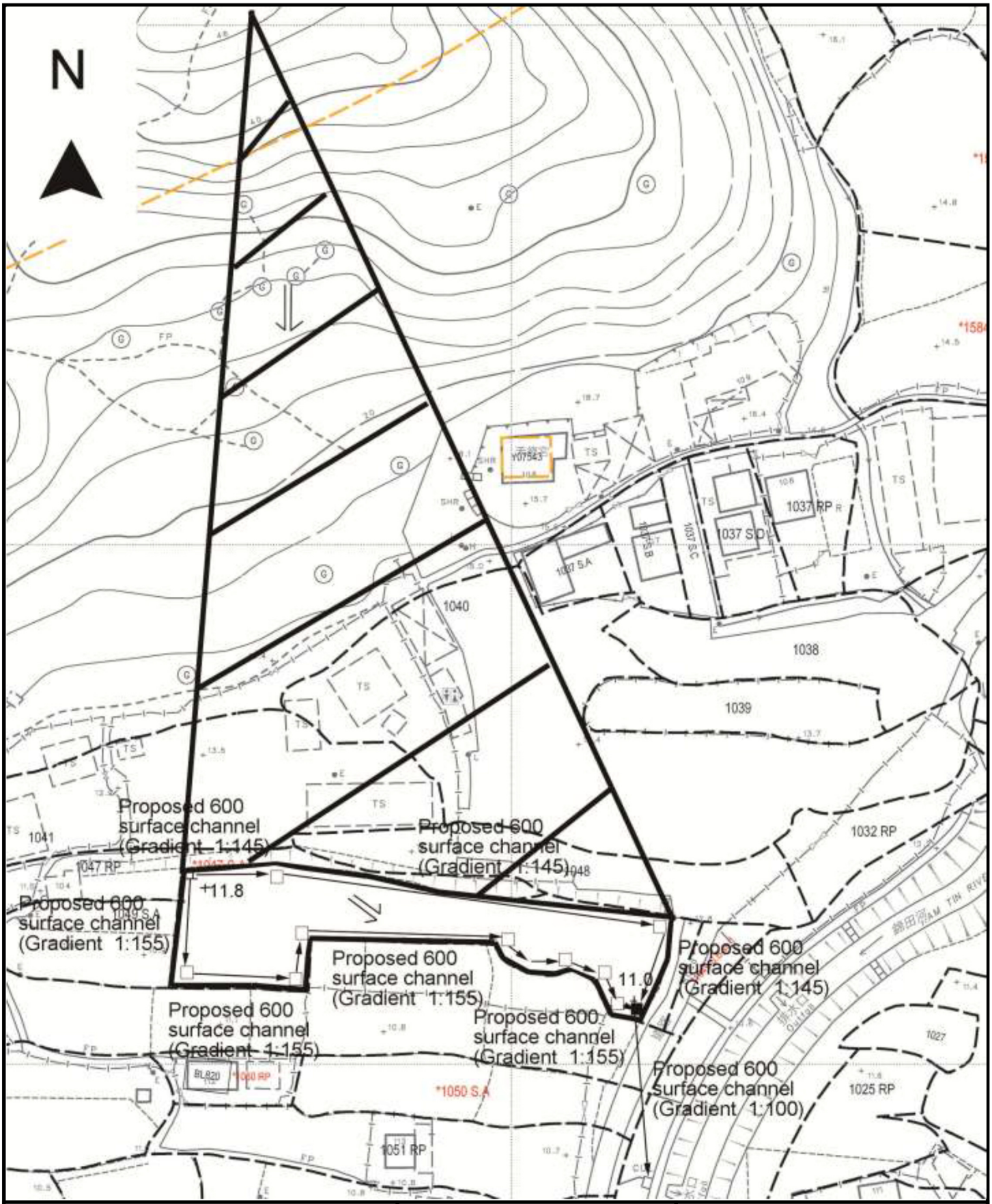
1.3.7 The provision of surface channel at site boundary is detailed hereunder:

(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) 100mm gap will be provided at the toe of site hoarding to allow unobstructed flow of surface runoff.



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Drawing Title 圖目:

Proposed Drainage Plan

Drawing No. 圖號:

Figure 4

Remarks 備註:

+11.0 Level (in mPD)

□ Proposed catchpit

■ Catchpit with sand trap

⟸ Flow of surface runoff

External Catchment

Scale 比例:

1:1000

Annex 2 Estimated Traffic Generation

2.1 The application site is serviced by a vehicular track leading from Kong Tai Road. 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 6 customers at most. The applicant will provide one private car to deliver the dogs from customers so that 4 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. 4 staff will be stationed at the application site and 1 staff will stay at the application site after the operation hours to look after the dogs. No more than 25 dogs will stay at the application site at the same time.

2.4 There will be 4 parking spaces of 5m x 2.5m for private cars. The estimated traffic generation/attraction rate is shown below:

Type of Vehicle	Average Traffic Generation Rate (pcu/hr)	Average Traffic Attraction Rate (pcu/hr)	Traffic Generation Rate at Peak Hours (pcu/hr)	Traffic Attraction Rate at Peak Hours (pcu/hr)
Private cars	0.44	0.44	4	1

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.