

**Proposed Temporary Shop & Services for a Period of 3 Years  
at  
Lots 4070 RP, 4071 (Part), 4072 (Part), 4073 (Part) & 4076 RP (Part) in  
D.D. 116, Tai Kei Leng, 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 900m<sup>2</sup>.
- 1.1.2 The site is serviced by a vehicular access leading from Tai Shu Ha Road East. The area adjacent to the proposed development is mainly rural in nature and many temporary structures adjacent to the site.

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

- 1.1.3 It has a gradient sloping from east to west from about +10.1mPD to +9.7mPD. **(Figure 4)**

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

- 1.1.4 The land to the west, east, north and south is found lower in level than the application site. 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**, a manhole is found to the south of the application site. The stormwater intercepted by the proposed surface channel at the application site will be dissipated to the said manhole and dissipate to the public 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 900m<sup>2</sup>; (**Figure 4**)
- ii. It is assumed that the value of run-off co-efficient (k) is taken as 1 for conservative reason.

$$\text{Difference in Land Datum} = 10.1\text{m} - 9.7\text{m} = 0.4\text{m}$$

$$L = 40\text{m}$$

$$\therefore \text{Average fall} = 0.4\text{m in } 40\text{m} \text{ or } 1\text{m in } 100\text{m}$$

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

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

$$t_c = 0.14465 [ 40 / (1.0^{0.2} \times 900^{0.1}) ]$$

$$t_c = 2.93 \text{ minutes}$$

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 305 mm/hr

***By Rational Method,***

$$Q_1 = 1 \times 305 \times 900 / 3,600$$

$$\therefore Q_1 = 76.25 \text{ l/s} = 4,575 \text{ l/min} = 0.076\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in “Geotechnical Manual for Slopes”, for an approximate gradient of about 1:135 and 1:165 in order to follow the gradient of the application site, 375mm underground pipe with gullies 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 375mm underground drain with gullies 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 manhole to the south 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/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 underground drain at site boundary is detailed hereunder:
- (a) Soil excavation at site periphery, is inevitably for the provision of underground drain. 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.

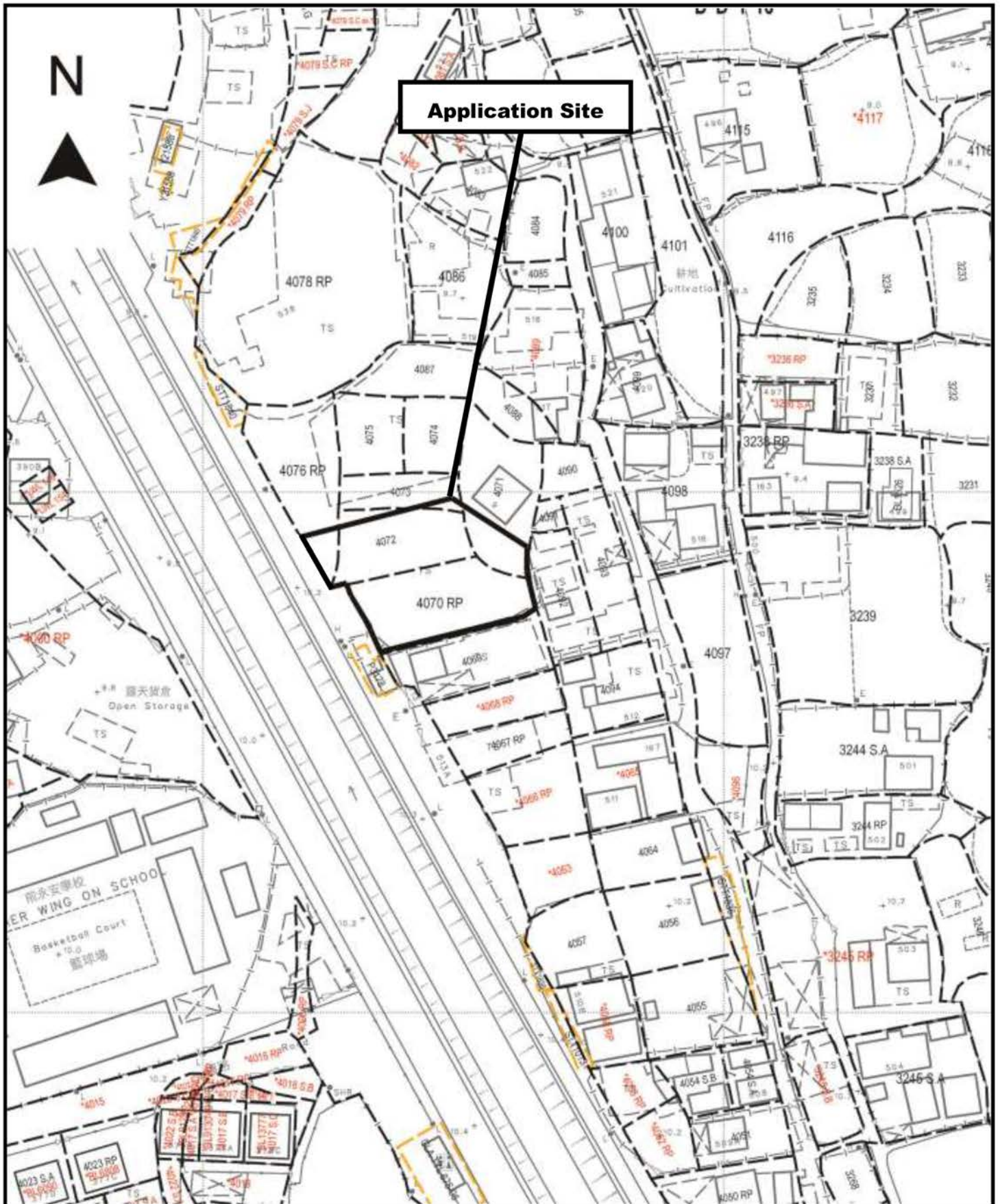
## Annex 2 Estimated Traffic Generation

- 2.1 The application site is serviced by a vehicular track leading from Tai Shu Ha Road East. Having mentioned that the site is intended for shop and services of which most of the customers would arrive the site on foot, traffic generated by the proposed development is not significant.
- 2.2 The proposed loading/unloading space at the application site would only be opened to visitors with prior appointment. The proposed shop & services will be occupied by a shop selling vehicle parts such as GPS and car audio systems. The applicant will provide delivery service to the clients. Also, car beauty service will be available at the application site.
- 2.3 There will be one loading/unloading space for light goods vehicle. 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	0.5	0.5	2	0
Light goods vehicle	0.15	0.15	1.5	0
Total	0.65	0.65	3.5	0

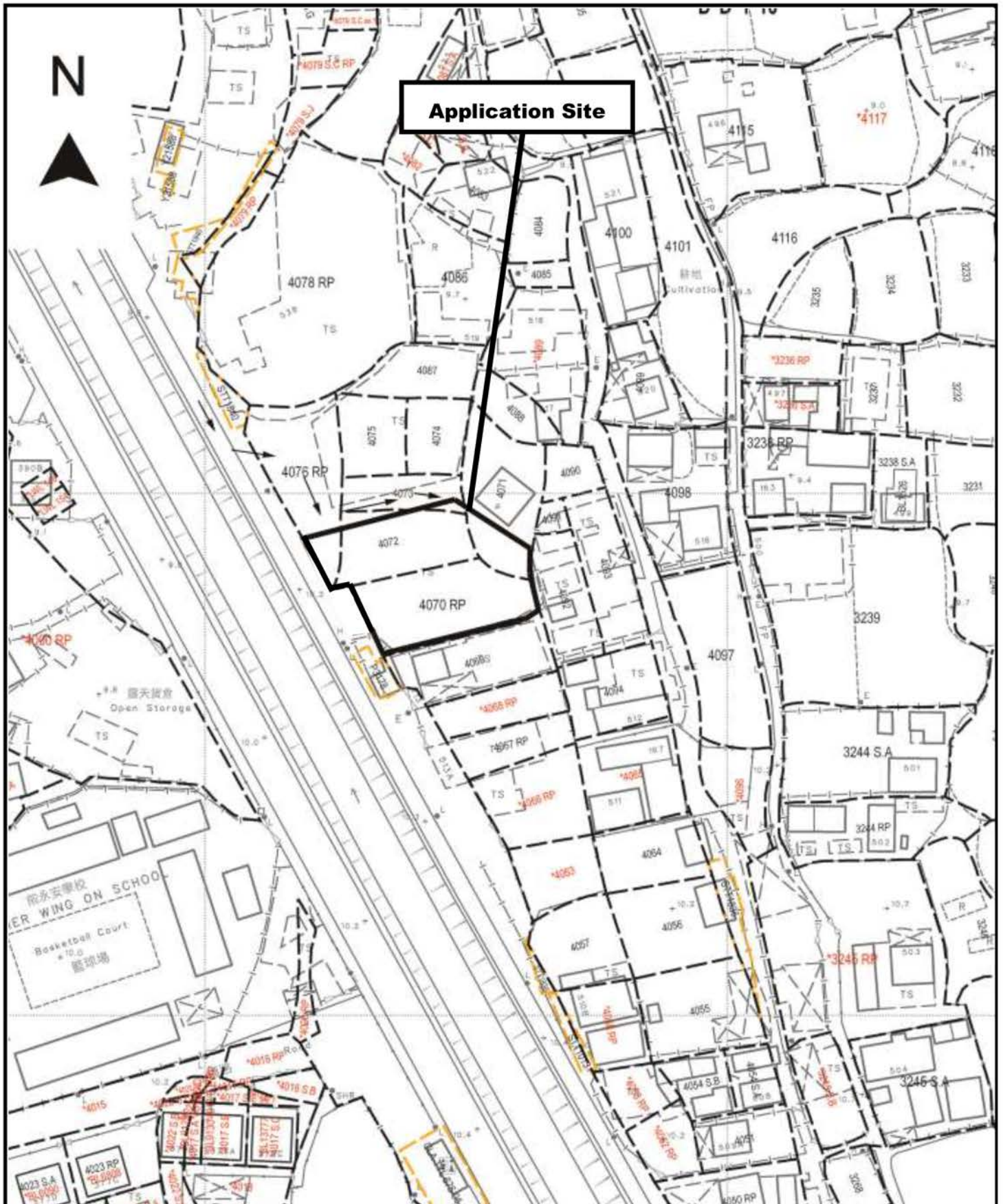
Note:

- The operation hours of the proposed development is from 9:00a.m. to 7:00p.m. from Mondays to Sundays and public holidays.
  - The pcu of private car and light goods vehicle is taken as 1 and 1.5 respectively; &
  - 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.
- 2.4 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.



**Application Site**

<p>Project 項目名稱:  <b>Proposed Temporary Shop &amp; Services for a Period of 3 Years at Lots 4070 RP, 4071 (Part), 4072 (Part), 4073 (Part) &amp; 4076 RP (Part) in D.D. 116, Tai Kei Leng, Yuen Long, New Territories</b></p>	<p>Drawing Title 圖目:  <b>Application Site</b></p>	<p>Remarks 備註:</p>
	<p>Drawing No. 圖號:  <b>Figure 1</b></p>	<p>Scale 比例:  <b>1:1000</b></p>



**Application Site**

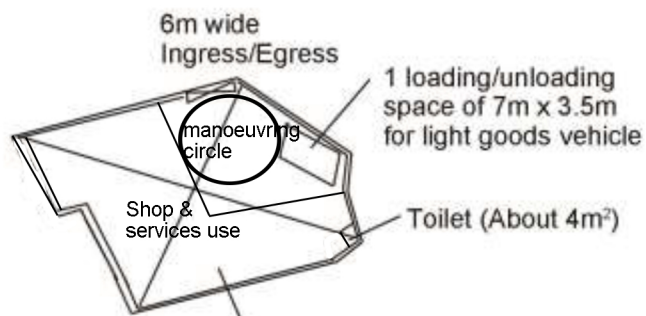
Project 項目名稱:  
**Proposed Temporary Shop & Services for a Period of 3 Years at Lots 4070 RP, 4071 (Part), 4072 (Part), 4073 (Part) & 4076 RP (Part) in D.D. 116, Tai Kei Leng, Yuen Long, New Territories**

Drawing Title 圖目:  
**Vehicular Access Plan**

Remarks 備註:  
 → Vehicular access leading from Tai Shu Ha Road East

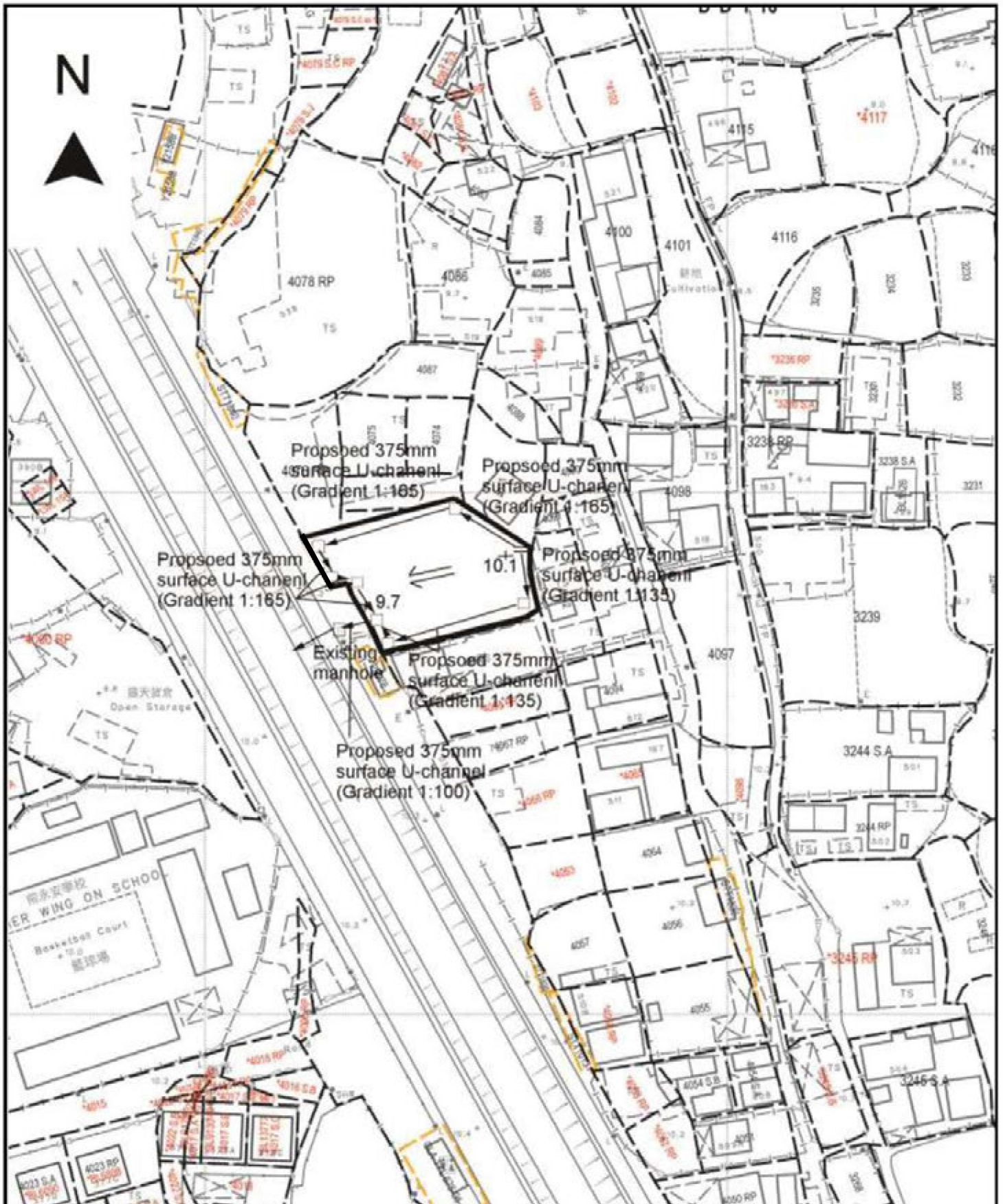
Drawing No. 圖號:  
**Figure 2**

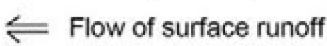

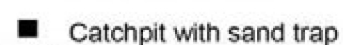
Scale 比例:  
**1:1000**



**Structure 1**  
 Proposed shop & services,  
 toilet and loading/unloading space  
 GFA: Not exceeding 830m<sup>2</sup>  
 Height: Not exceeding 6m  
 No. of storey: 1

Project 項目名稱: Proposed Temporary Shop & Services for a Period of 3 Years at Lots 4070 RP, 4071 (Part), 4072 (Part), 4073 (Part) & 4076 RP (Part) in D.D. 116, Tai Kei Leng, Yuen Long, New Territories	Drawing Title 圖目: Proposed Layout Plan	Remarks 備註:  Scale 比例: 1:1000
	Drawing No. 圖號: Figure 3	



<p>Project 項目名稱:  <b>Proposed Temporary Shop &amp; Services for a Period of 3 Years at Lots 4070 RP, 4071 (Part), 4072 (Part), 4073 (Part) &amp; 4076 RP (Part) in D.D. 116, Tai Kei Leng, Yuen Long, New Territories</b></p>	<p>Drawing Title 圖名:  <b>Proposed Drainage Plan</b></p> <p>Drawing No. 圖號:  <b>Figure 4</b></p>	<p>Remarks 備註:  <b>+10.1 Level (in mPD)</b>   Flow of surface runoff   Proposed catchpit   Catchpit with sand trap</p> <p>Scale 比例:  <b>1:1000</b></p>
---	---	---