

DD116 Lot 972 Vehicle Park

DRAINAGE PROPOSAL

Ref N° : DH/138

Issue : 6

Date : 18/06/2025

Application No.: TPB/A/YL-TT/753

Drainage Proposal for Temporary Office and Private Vehicle Park

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Compiled by:



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Desmond Huang, IEAust CIHT
(Civil Engineer, MIEAust No. 120889)

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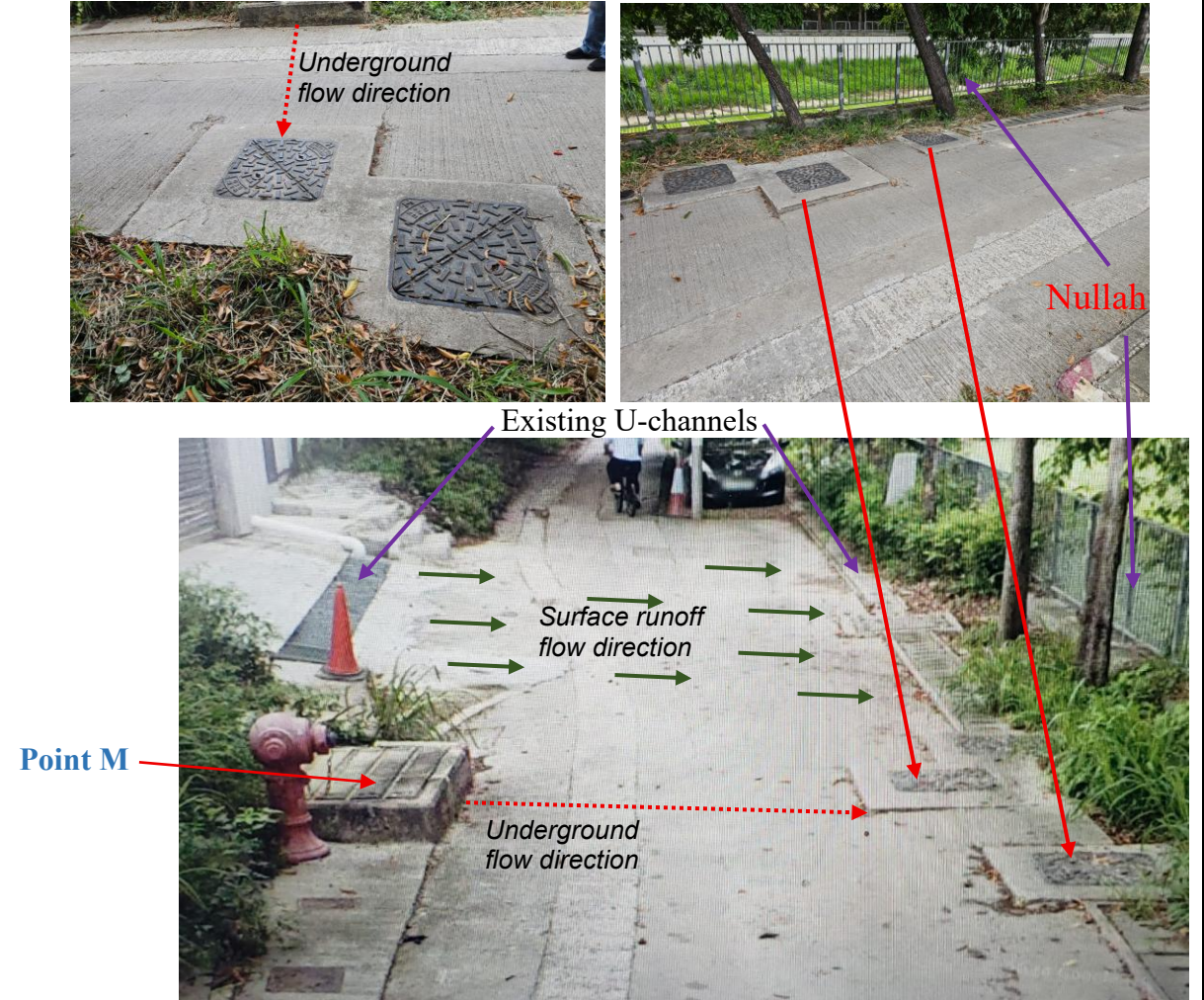
Comments of the CE/MN of DSD:

- i) Please make reference to the latest Technical Note No.1 issued by DSD for more details in preparing the drainage proposal.
- ii) Please provide a drainage plan showing all the existing and proposed drainage system on the drainage plan for comments. The gradients and the sizes of the proposed/existing drainage facilities should be shown on the drainage plan. Please also provide site photos to demonstrate the presence and condition of all existing drainage facilities for review.
- iii) The cover levels and invert levels of the proposed u-channels, catchpits/sand traps should be shown on the drainage plan.
- iv) Besides, the drainage plan should be clearly indicated the full alignment of the discharge path from the application site all the way down to the ultimate discharge point (e.g. A well-established stream course/public drainage system). Peripheral surface channels shall be provided along the site boundary to collect the surface runoff accrued on the application site and to intercept the overland flow from the adjacent lands.
- v) According to Photo 2, the existing 300mm u-channel was covered with timber, which is not desirable to intercept the overland flow from the adjacent lands. Please review.
- vi) Referring to R-to-C, it is noted that no wall or hoarding to be erected or laid along the site boundary under this planning application. Please clearly indicate the above on the drainage plan for clarify. Besides, please confirm if any site formation/levelling works to be carried out under this application. If affirmative, the existing and proposed ground levels of the captioned site with respect to the adjacent areas should be given in cross section drawing for clarity.
- vii) According to Photo E, it is not a typical sand trap or provision alike. Please be reminded that sand trap or provision alike should be provided inside the application site before the collected runoff is discharged to the public drainage facilities. Please make reference to DSD's standard drawing (DS 1025B) for the provision of sand trap for your information.
- viii) The existing 300mm channel, to which the applicant proposed to discharge the stormwater from the subject site was not maintained by this office. The applicant(s) shall resolve any conflict/disagreement arisen for discharging the runoff from the application site(s) to the proposed discharge point(s). In the case that it is a local village drains, DO/YL should be consulted. Moreover, the applicant(s) should ensure that this drainage system and the existing downstream drains/channels/streams have adequate capacity to convey the additional runoff from the application site(s). Regular maintenance should be carried out by the applicant(s) to avoid blockage of the system.
- ix) Standard details should be provided to indicate the sectional details of the proposed u-channel and the catchpit/sand trap.
- x) The development should neither obstruct overland flow and nor adversely affect existing natural streams, village drains, ditches and the adjacent areas, etc.
- xi) The applicant should resolve any conflict/disagreement with relevant lot owner(s) and seek permission from DLO/YL for laying new drains/channels and/or modifying/upgrading existing ones in other private lots or on Government Land, where required, outside the application site(s).

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Client Responses:	
i)	Technical Note No.1 issued December 2024 has been used as a reference guideline for this drainage proposal.

ii) Please refer to **Drawing No. 6** of the overall Drainage Plan.
The gradients and sizes of the existing drainage facilities are also shown on the drainage plan; the existing gradient is 1:24 approximately towards the existing nullah.
Relevant site photos to demonstrate the presence condition of existing drainage system are listed herewith:



The existing Yuen Long Bypass Floodway takes the capacity of water runoff from the site as shown in **Drawing No. 8** herewith.

iii) The cover levels and invert levels of the existing u-channels and modified catchpit are as shown on the drainage plan on **Drawing No.s 6 and 7**.

iv) **Drawing No. 6**, the Drainage Plan shows the full alignment with Invert Levels and existing Ground Levels from **points A to B, C, D, F (and from E to F), K, G, L, M** then to the final discharge point of the nullah.

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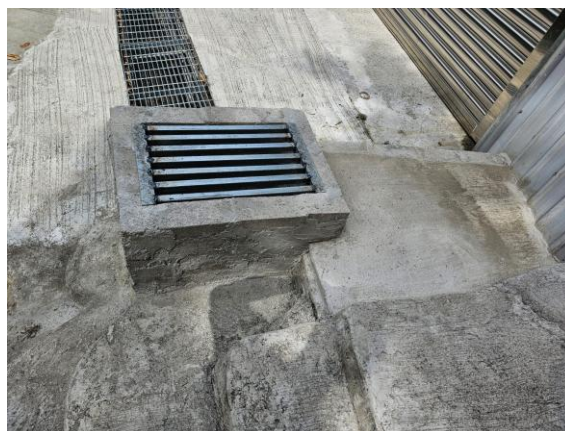
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- v) The existing 300mm u-channel as shown on Photo 2 was covered by timber board as to temporarily protect the channel from falling dirt and mud alongside the verge which belongs to Lands Department purview.
The owner has contacted the Yuen Long District of Lands Department to cleanse the u-channel and provide the grating cover permanently.
At the moment the owner conducts the cleansing regularly by himself as to maintain the good of the u-channel.



The above photos were taken early May 2025 showing the said timber board was removed from the 300mm u-channel and the u-channel is now adequately in service.

- vi) Please note that no site formation was carried out in the history, therefore no construction of wall / structural hoarding is under this application at all.
So, it is confirmed that there is no site formation/levelling works to be carried out under this application.
- vii) Yes, Photo E indicated a nonstandard catchpit which was constructed by previous land owner.
Instruction was given to the new owner to modify the catchpit early May 2025.
Below please find the modification of the said catchpit:



The nonstandard catchpit was modified as on 28 May 2025 as shown on **Drawing No. 7**

- viii) The owner has made several contacts with Yuen Long District Office of Lands Department for the maintenance of the existing 300mm u-channel, their Term

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Contractor has performed grass trimming and u-channel cleansing since last year after the new owner (the Applicant) took over the property.
However, the owner emphasized that their staff had also maintained the good condition of the u-channel regularly since the purchased of the land so far.

ix) The cross-sectional details of the existing 300mm u-channel and the catchpit are shown on **Drawing No.s 6 and 7** respectively for reference.

x) A further site inspection was carried out on 18 May 2025.

The existing drainage system is directly discharging the stormwater into the nullah (see above R-C Point ii), the existing village drains is working adequately for years and has no report on flooding after interviewed the local people living nearby.



The existing village drains functioning well and Lands Department has Term Contractor to clear the ditch and drains frequently.

xi) An interview with neighbour on 18 May 2025 found out that there is no disagreement with the existing drainage system at all, and there is no conflict with other private lots as well as the Government Land.



Government Land was preserved well so far.

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1.0 SCOPE OF WORK

This proposal has been prepared and updated as to suit with the contemporary condition of the site as to accommodate the stormwater drainage using the existing u-channel and catchpit to cater the capacity of volume of flow.

This is to demonstrate the existing and proposed drainage facilities to prevent potential flooding caused by the inclement weather.

DSD Technical Note No. 1 (Dec 2024) has been used as a step-by-step guideline in preparation of this drainage proposal accordingly.

2.0 DESCRIPTION

The site has existing drainage facilities built by the former owner years ago.

This drainage proposal is divided into two parts: Existing Formation and Proposed Improvement.

2.1 Site and Location

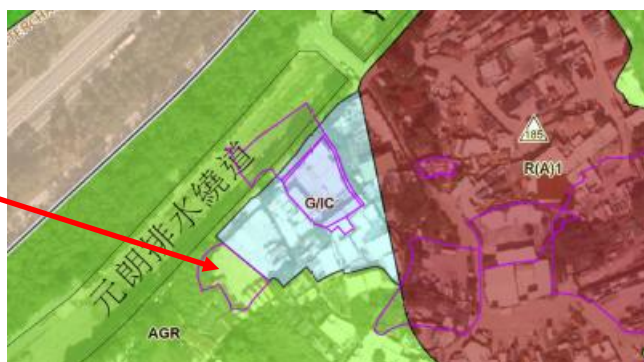
The site with existing concrete pavement for years before hand overed to new owner.

This concrete pavement site is less than 1 ha in size and which is not fall within the flood-prone areas (areas not as low-lying areas and flooding blackspots) and not in the pond filling or substantial earth filled area.

Therefore, the drainage requirements for this site are normally basic, a typical drainage proposal is needed as this is classified as a *simple site*.

2.1.1 Simple Site

DD116 LOT 972



Picture 1 Map of Land Uses

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In front of the subject there is s **Nullah called Yuan Long Drainage Bypass (元朗排水繞道)** which is connected to the existing U-channel along roadside for the stormwater discharge from Lot 972 particularly



Photo 1: Roadside existing U-Channel

Two sides around the subject is the agriculture lands as shown in green color in *Picture 1* with Lots 973, 974 and 982 respectively with a high ground are now being used as storage sites, the temporary structures.

The other side of the subject is the proposed governmental development project as shown in blue color in *Picture 1*.

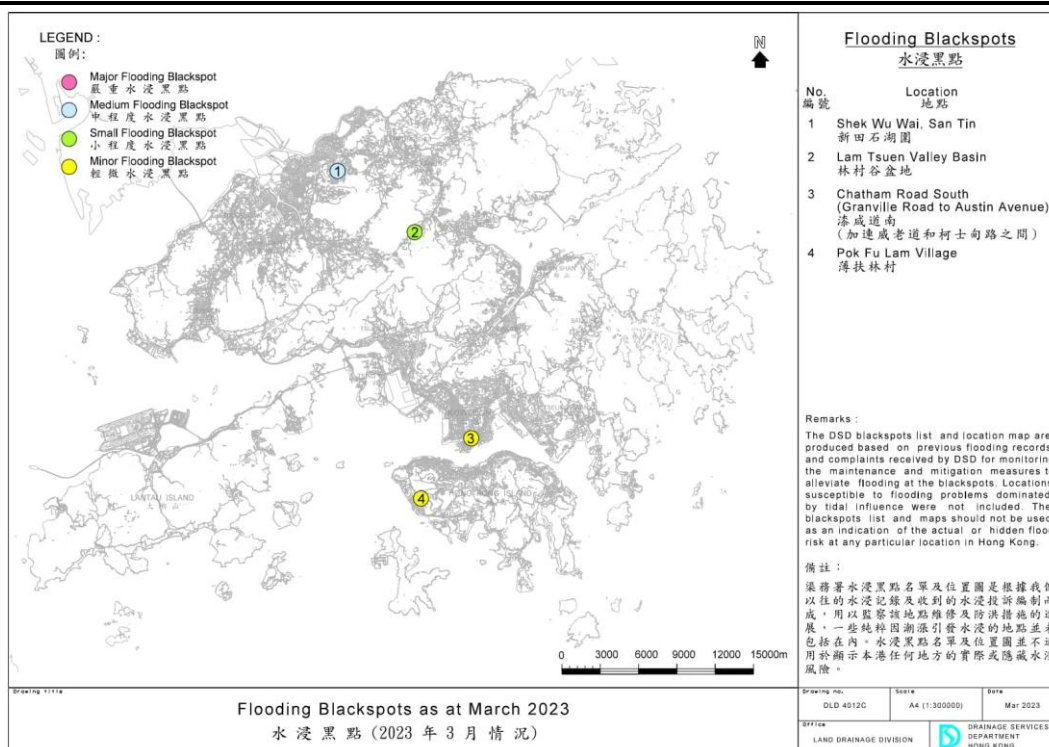
2.2 Existing Stormwater Drains, Stream courses, Pipes etc.

The existing overall drainage works of the said area was constructed by previous owner of the property before the premise was transacted to the new owner for the use of temporary office and private vehicle park.

Upon the site investigation in February 2024 the said premise already has existing 300mm drainage open channel established earlier.

The said premise with **total area less than one (1) hectare** and which **is not within the flood area (or so called the ‘Blackspot’)** in the history (refer to *Picture 2* below).

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Picture 2: the Flooding Blackspot

Also, it is understandable that the area is **not backfilled from a pond or a low land**.

The area has existing level with almost 8m approximately above sea level that is **providing a free surface run-off** to the existing 300mm U-Channel (refer to Drawing No. 04), stormwater in the area is to be collected by an existing 300mm U-channel before discharging to the existing roadside catchpit then onto the existing nullah which was constructed in 2002 under DSD Project DC/2002/06 **The Construction of Yuen Long Bypass Floodway**.



Photo 2: An existing 300mm open channel along the roadside before discharge into the public catchpit for the Nullah which is outside the private lot.

Please note: the timber board was removed on 23 May 2025 (refer to R-C Point V)

(Photo taken in February 2024, the **timber board is now no longer existed**)

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Photo 3: existing 300mm open channel
The outlet non-standard catchpit was modified in May 2025

Overland flow from adjacent lots has been observed that there is no obstruction by the existing hoarding.



Photos 4 & 5: Natural streams collect the stormwater from the adjacent lots into countryside natural channel.

The rainwater falling onto this site will be collected by the existing 300mm u-channel and the surface run-off down to another existing 300mm u-channel which is owned by DSD.

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2.3 Drainage Network with Proper Discharge Point

The existing 300mm u-channel is shown on Drawing No. 6 with yellow color, the rainwater runs along the existing u-channel from **Point A** to **Point F** will be collected into the existing 300mm uPVC pipeline from **Point F** to **Point G** before discharged into the new constructed sand trap.

The stormwater continues to run through the existing 300mm u-channel onto the manhole namely **Pont M** before fully discharge onto the nullah.

The surface run-off without obstruction from **Point B** onto **Points G, B and L** before get into Manhole named **Point M** then fully discharge onto the nullah (the surface run-off is shown on Drawing No. 4 in red arrows).

2.4 Earth Filling and Surface Paving

The site is not an earth filled site.

The site is a concrete pavement with impervious surface which increase the surface run-off capability and durability.

The concrete surface is fined grade that providing a positive rainfall surface run-off with a gradient greater than 1:200 approximately.

2.5 Run-in / Run-out

The existing u-channel alongside the site is 300mm in size and the underground drain pipeline is also DN300 in diameter. There is no blockage has been observed at each points say **Point F**, **Point G** and **Point M** respectively.

2.6 Boundary Fence / Boundary Wall

This site has no boundary fencing and wall at all but only has existing metal hoarding which was erected by the previous owner. A site survey was taken in early 2024 to check the ground levels and invert levels of the existing u-channel and the concrete pavement.

There are spaces underneath of the existing hoarding which allows excessive rainwater to pass through when applicable.

2.7 Observation

On 6th April 2024 the area was under the attack of a thunderstorm and heavier shower, almost 40mm of rainfall was recorded by the Hong Kong Observatory.

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However, no flooding around the site was reported at all, the surface discharge at the area is functioning well.

Obviously, the existing drainage 300mm open channel is working excellently as to provide stormwater discharge along the Lot boundary during the thunderstorm on 6th April.

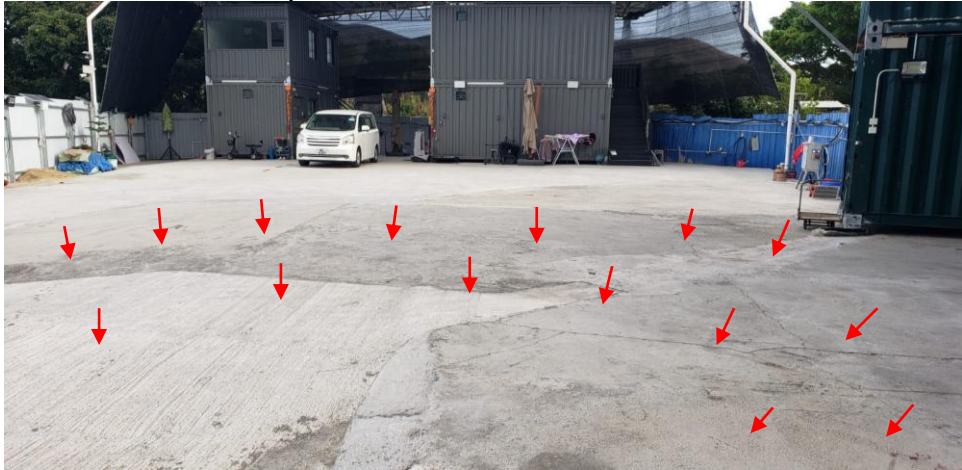


Photo 6: Directions of surface run-off



Photo 7: Series showing the 300mm open channel along the site boundary



Photo 8: Minimum 30mm spacing for water flow underneath of hoarding

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3.0 Drainage Proposal and Improvement

Since the drainage facilities are well developed years ago before the purchasing of the property. The maintenance of the existing drainage system is therefore important and considered seriously.

3.1 Drainage Maintenance & Improvement Proposal

Drawing No.04 shows the downstream alignment of existing 300mm open channel facilitating the surface water runs off to the existing 300mm open channel before ends up at the natural countryside channel surrounding.

The flow direction of surface runoff is shown on **Drawing No.04** that the existing concrete pavement profile provides a smooth water runoff into the existing U-channel and then the catchpit. Therefore, the pavement surface has to be well maintained and no broken or damages to be occurred during the rainy season.

Since the said premise has some areas having gradient greater than 1:200 (providing the area is $500 < 949.2 \text{ s.m} < 1200$) a 300mm U-channel is therefore to be maintained accordingly. (*Refer to Technical Note No. 1*)

Hence the existing 300mm U-channel is satisfactorily capable to cater the area surface run-off, the channel inside and outside the site have to be free from any obstruction such as dirt, rubbishes and wastes etc.

4.0 CONCLUSION

1. The flow direction of the open channel has been indicated clearly on **Drawing No. 04**, the surface water run off is in gradient of 1:200 or greater;
2. No right angle or greater (90-degree angle) of the open channel has been observed on site;
3. The 300mm surface channel around the site discharges the surface water into the existing U-channel accordingly without disturbing the overall water run-off;
4. The overall setting out of the drainage system on the site has been constructed by previous owner but not this owner regardingly;

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5. The surrounding facilities such as the natural countryside channel and the nullah, the no flooding result which proved that the area has excellent water discharge system remarkably;
6. The non-standard sand trap at **Point G** has been modified accordingly in May 2025 to suit the request of DSD's comment.

5.0 Reference Drawings

Drawing No. 01: Location Map

Drawing No. 02: Site of DD116 Lot 972

Drawing No. 03: Planning Layout

Drawing No. 04: Direction of Surface Run-Off

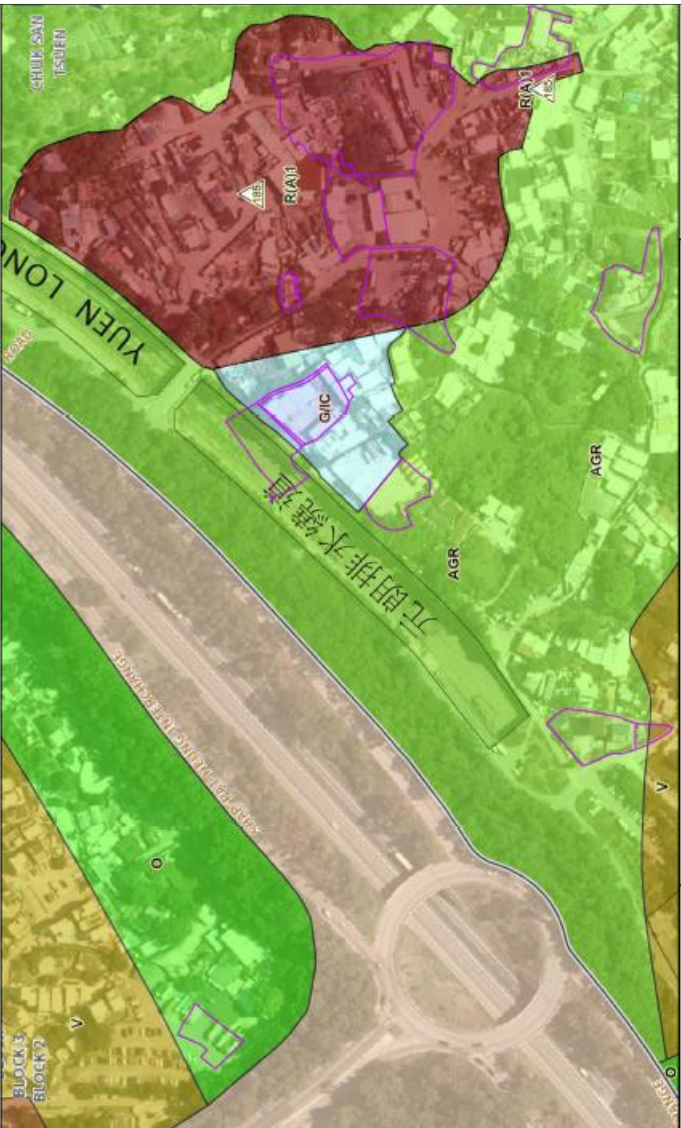
Drawing No. 05: Topographical Survey

Drawing No. 06: Cross Sections with Drainage Table

Drawing No. 07: Modification of Non-standard Catchpit (Point G)

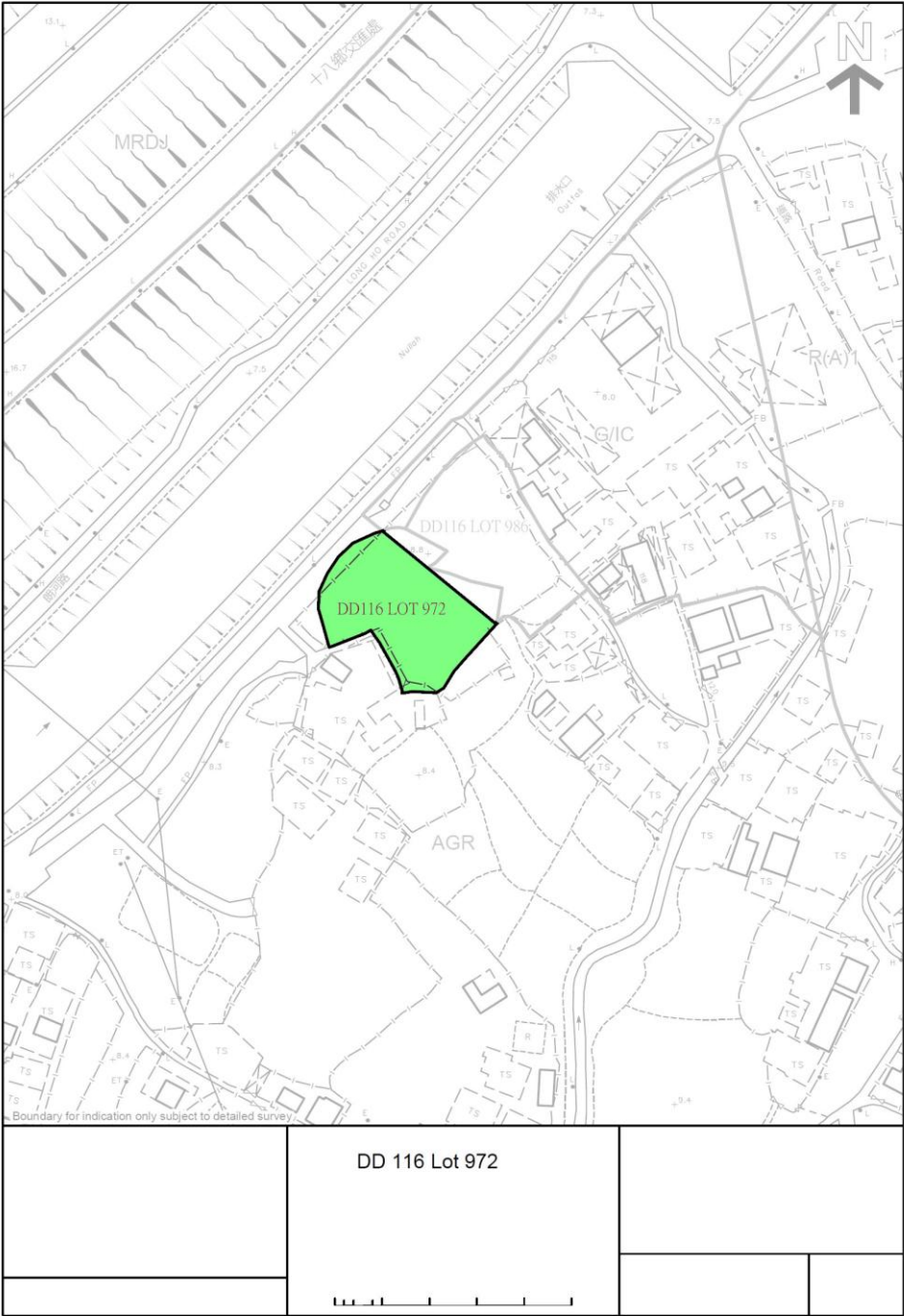
Drawing No. 08: Yuen Long Bypass Floodway (DC/2002/06)

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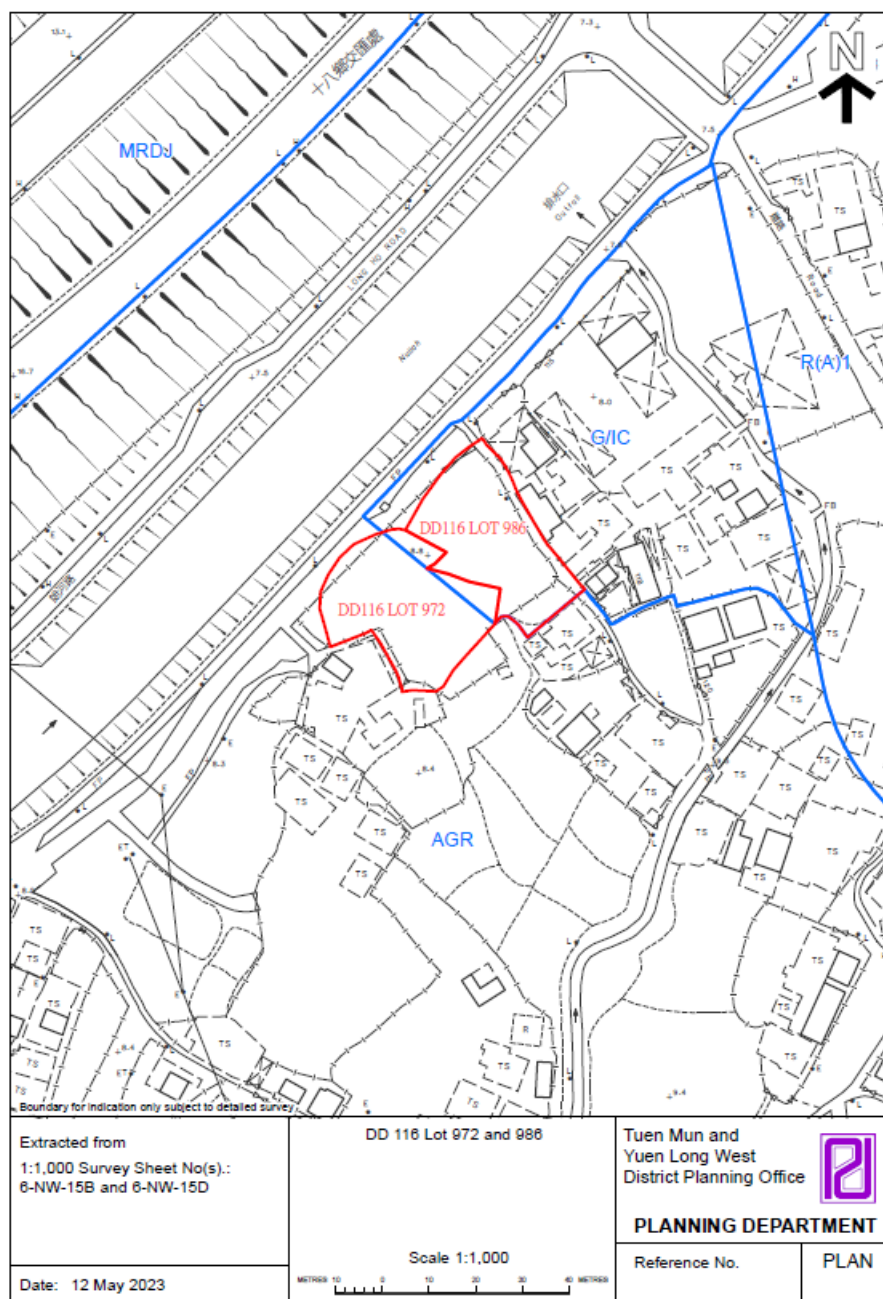
Drawing No. 01: Location Map

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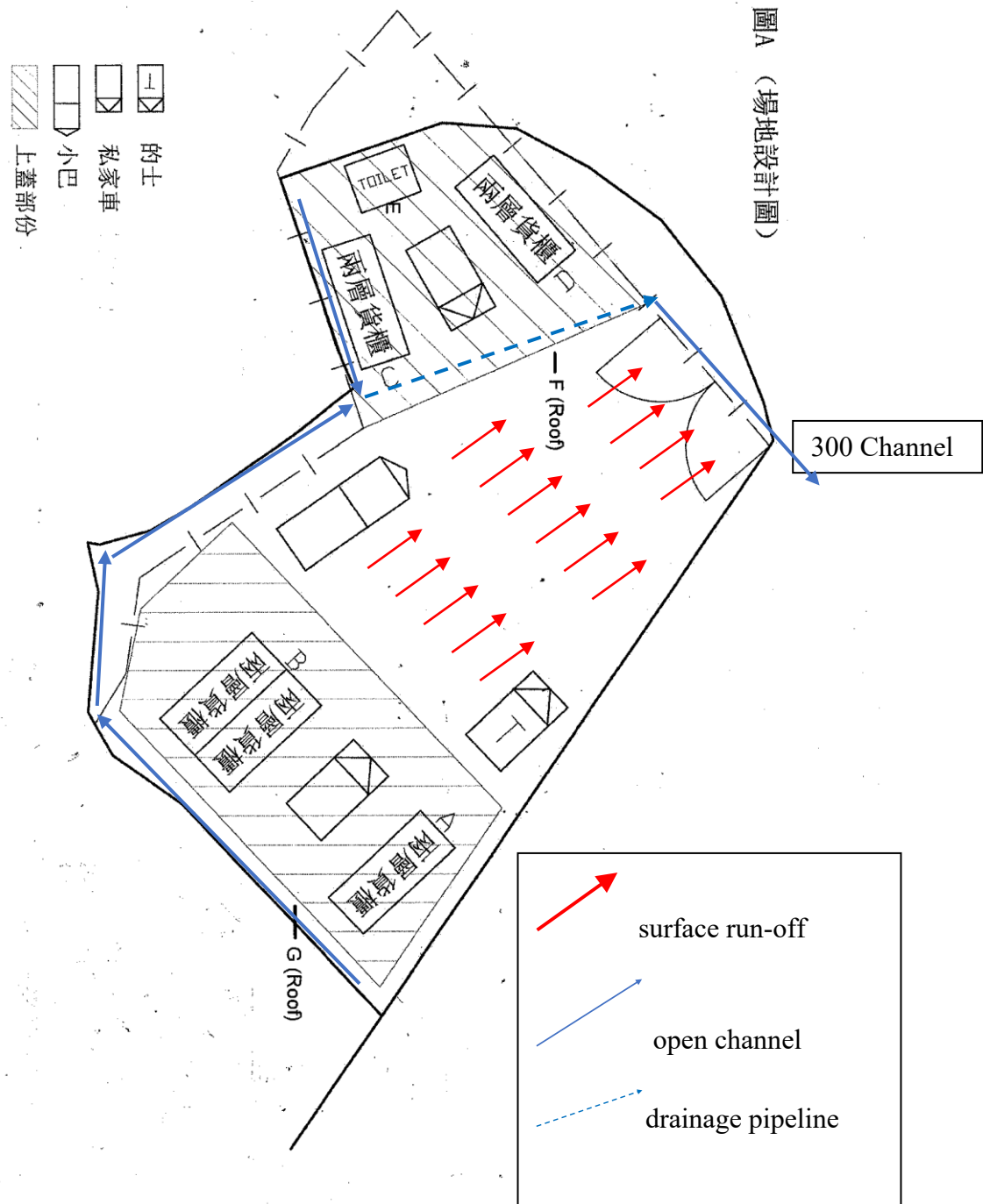
Drawing No. 02: Site of DD116 Lot 972

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Drawing No. 03: Planning Layout

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Drawing No. 04 Direction of Surface Run-Off

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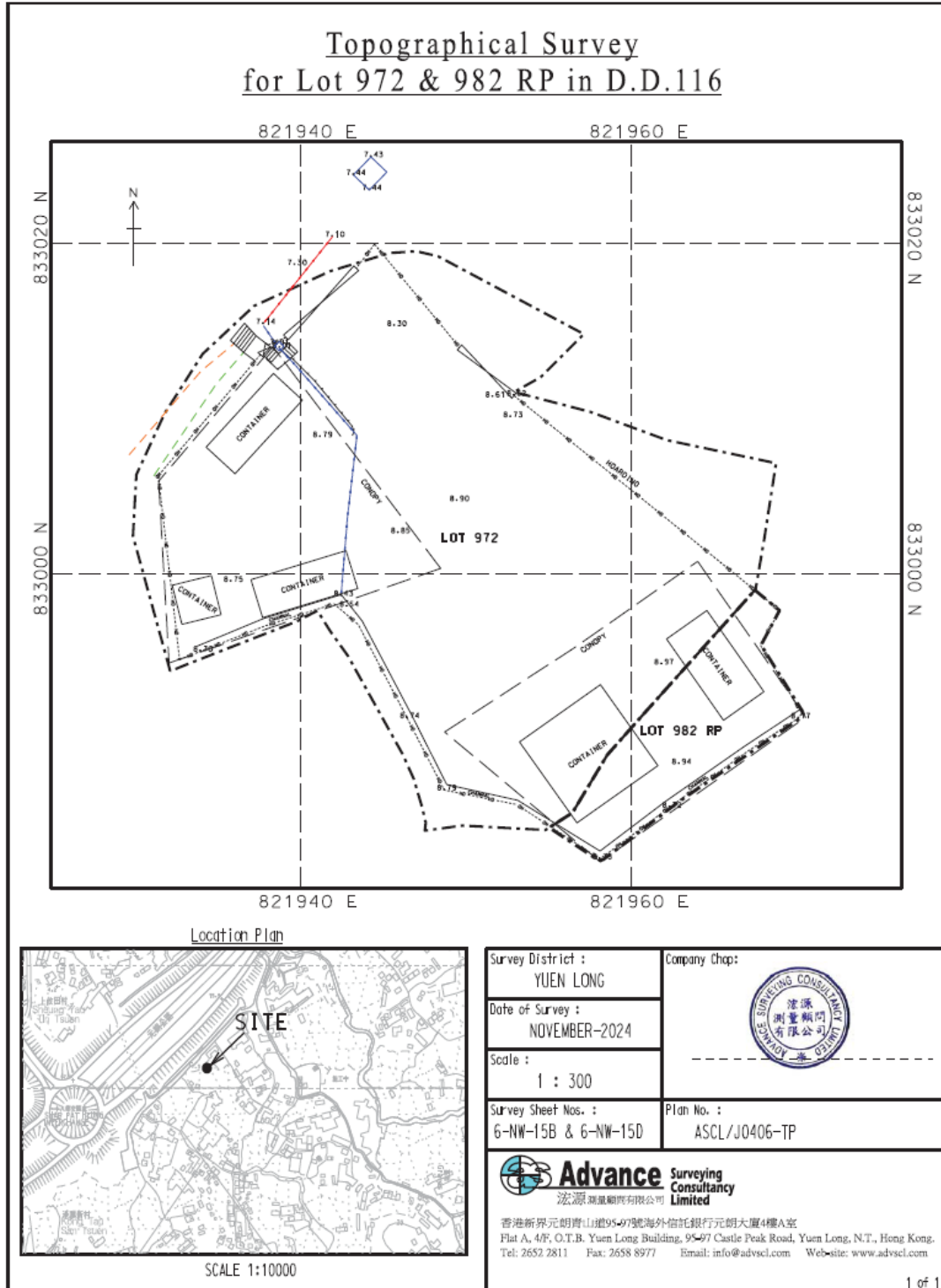
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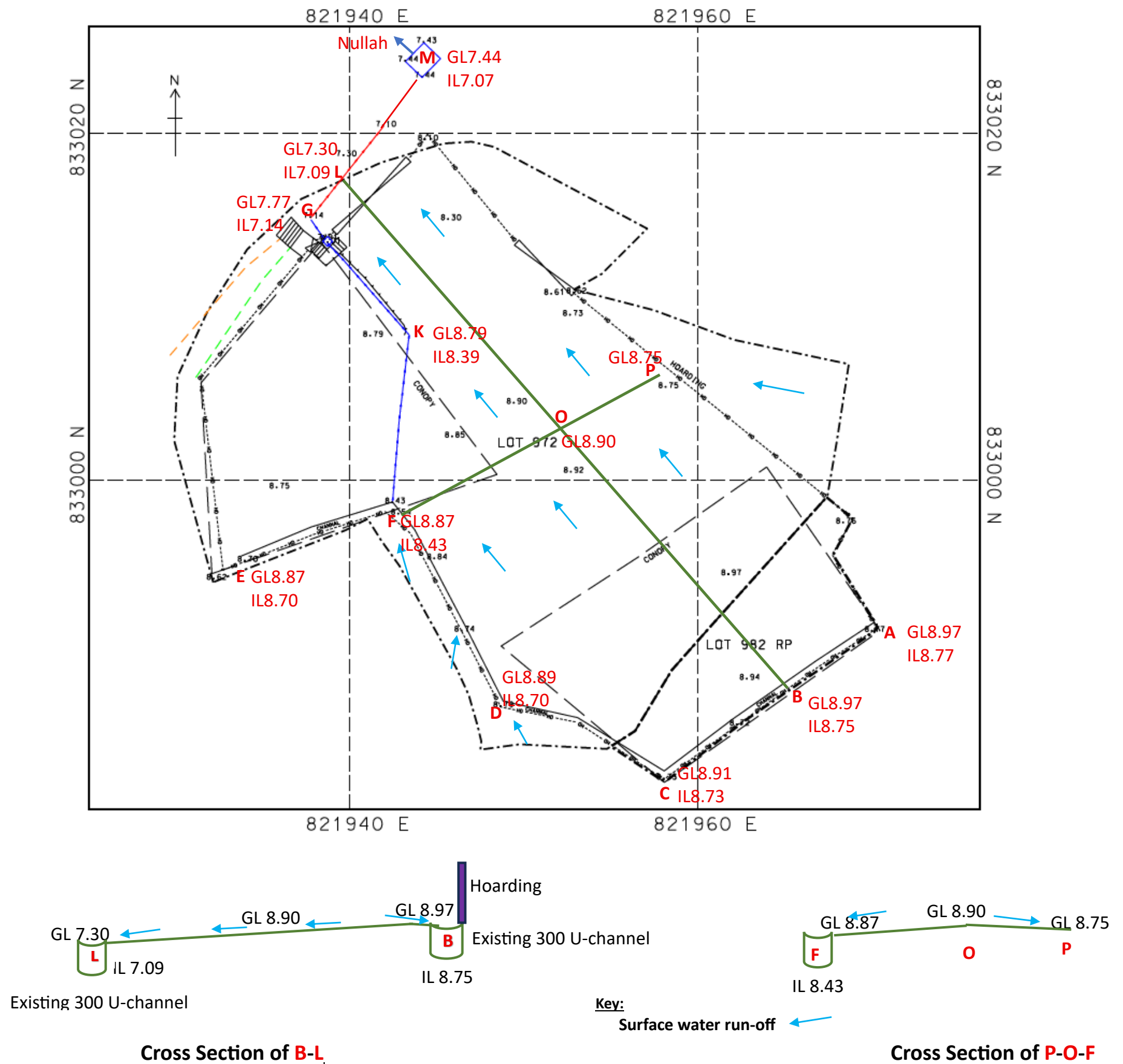
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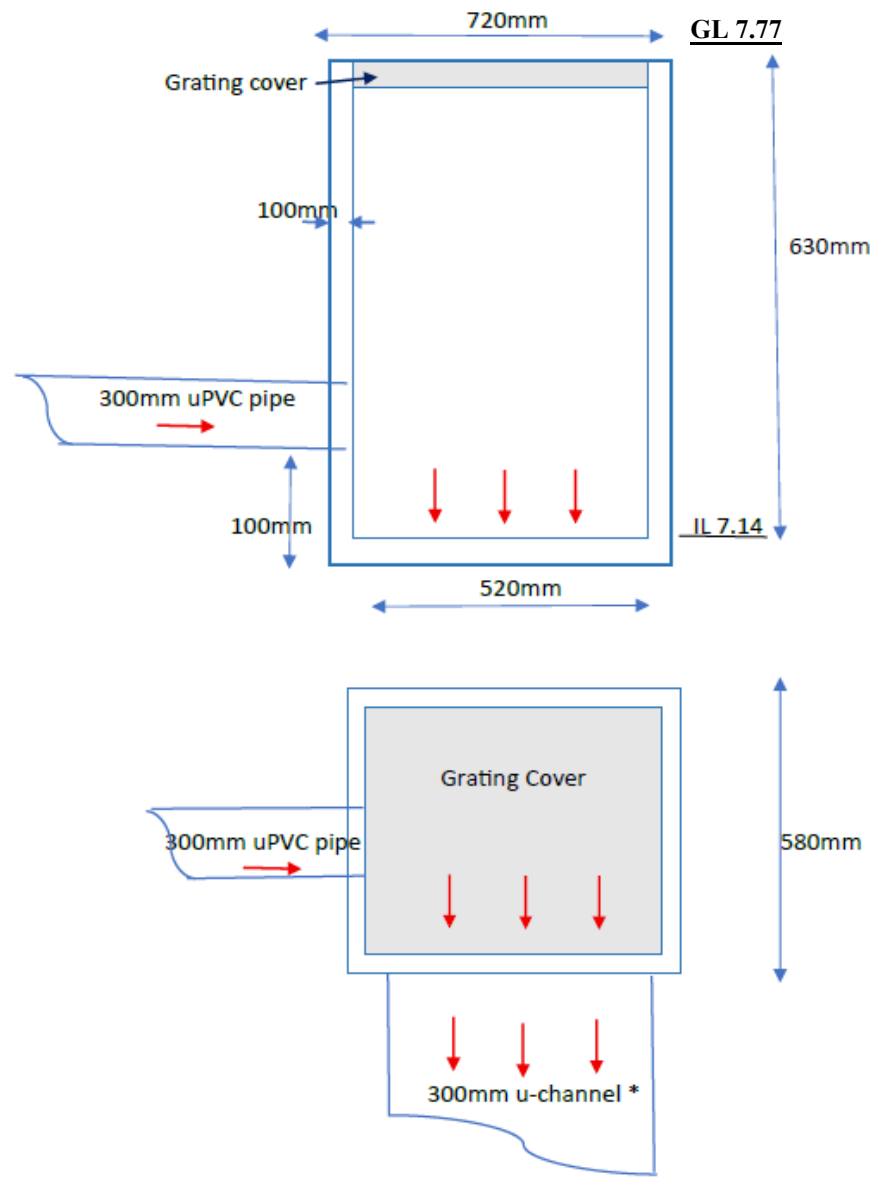
Drawing No. 05 Topographical Survey



Drawing No. 06 The Cross Sections with Drainage Table (NTS)

Points		Upstream		Downstream		Length (m) (Approximately)	Remark	Responsible Party
		GL (mPD)	IL (mPD)	GL (mPD)	IL (mPD)			
A	B	8.97	8.77	8.97	8.75	6.0	Open Chennel	Owner
B	C	8.97	8.75	8.91	8.73	14.4	Open Chennel	Owner
C	D	8.91	8.73	8.89	8.70	10.0	Open Chennel	Owner
O	P	8.90	-	8.75	-	7.2	Surface Runoff	Owner
O	F	8.90	-	8.87	8.43	9.0	Surface Runoff	Owner
E	F	8.87	8.70	8.87	8.43	9.6	Open Chennel	Owner
D	F	8.89	8.70	8.87	8.43	13.0	Open Chennel	Owner
F (Inlet)	K	8.87	8.43	8.79	8.39	9.2	300 uPVC Pipe	Owner
K	G (Catchpit)	8.79	8.39	7.77	7.14	8.6	300 uPVC Pipe	Owner
G	L	7.77	7.14	7.30	7.09	3.6	Cover Grating Channel	Owner
B	L	8.97	8.75	7.30	7.09	38.0	Surface Runoff	Owner
L	M (Manhole)	7.30	7.09	7.44	7.07	6.8	Covered Chennel	Lands/DSD
M	Nullah	7.44	7.07	-	-	3.2	Underground Pipeline	DSD

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Key:  flow direction

Note: * 300mm u-channel with 25mm chamfer edge

(Not to Scale)

Drawing No. 7 Modification of Non-standard Catchpit at Point G

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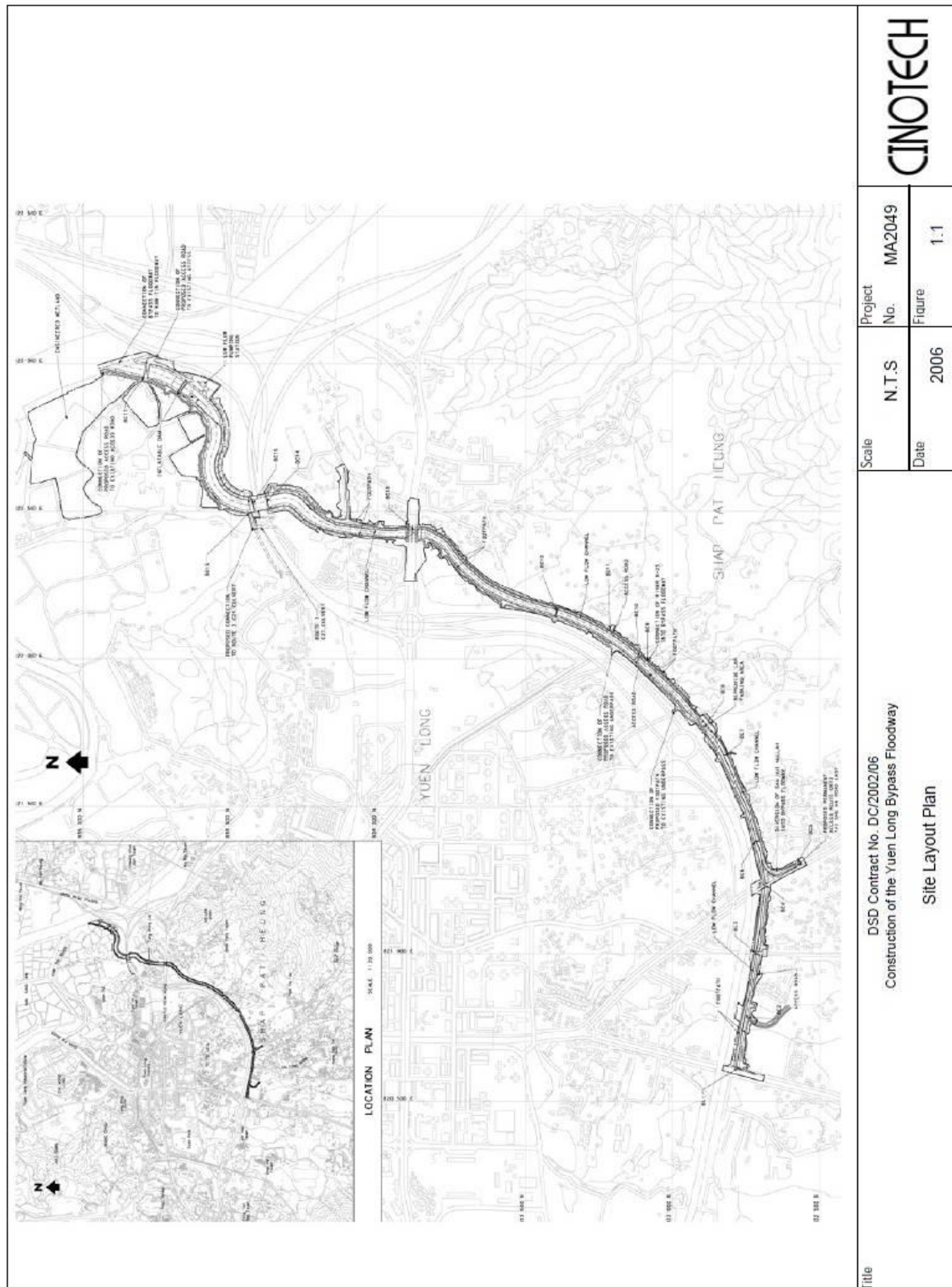
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Drawing No. 08 Yuen Long Bypass Floodway (DC/2022/06)