APPENDICES

Appendix I

Comparison Between the Current Application and the Previous Application No. A/NE-TKLN/77

Appendix I - Comparison of Details Between the Current and Previous Applications

Development Parameters	**Previous application (No. A/NE-TKLN/77) (a)**	**Current Application (b)**	***Differences (b) - (a)***
Site Area	122,819 m^2 (about), incl. 6,371 m^2 of GL (about)	123,320 m^2 (about), incl. 6,634 m^2 of GL (about)	*+501 m^2, +0.40 % (about)*
Covered Area	65,424 m^2 (about)	60,321 m^2 (about)	*-5,103 m^2, -7.80 % (about)*
Uncovered Area	57,395 m^2 (about)	62,999 m^2 (about)	*+5,604 m^2, +9.76 % (about)*
Plot Ratio	1.07 (about)	0.98 (about)	*-0.09, -8.41 % (about)*
Site Coverage	53 % (about)	49 % (about)	*-6 %, -11.32 % (about)*
No. of Structure	6	6	*No Change*
GFA	130,848 m^2 (about)	120,642 m^2 (about)	*-10,206 m^2, -7.80 % (about)*
Building Height	7 m - 15 m (about)	7 m - 15 m (about)	*No Change*
No. of Storey	2	2	*No Change*
Uses	Logistics Centre, Warehouse (excluding D.G.G.), Office and Washroom	Logistics Centre, Warehouse (excluding D.G.G.), Office and Washroom	*No Change*
Parking Spaces for Private Cars	16	16	*No Change*
Parking Spaces for Container Vehicles	33	33	*No Change*
Loading/unloading Spaces for Container Vehicles	53	53	*No Change*

** D.G.G. - Dangerous Goods Godown*

Appendix II

Drainage Proposal

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

Drainage Impact Assessment

November 2025

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1. Introduction

1.1 Background

1.1.1 The applicant seeks planning permission for a proposed temporary logistic centre, warehouse (excluding dangerous goods godown) and container vehicle park with ancillary facilities for a period of three years at the application site.

1.1.2 This Drainage Proposal aim to support the development in drainage aspect.

1.2 The Site

1.2.1 The Application Site situate beside Lin Ma Hang Road and Heung Yuen Wai Highway. It has an area of about 122,819 m^2. The Site is partially hard-paved and the remaining area is covered by vegetation. The site location plan is shown in **Figure 1**.

1.2.2 There is a small hill at the southeast side of the site. The site level beside the small hill is generally higher at approx. +12 to + 13.5 mPD. Site levels in other area are generally various from + 8.5 to + 10 mPD.

1.2.3 There is an existing nullah near the northern site and beside Lin Ma Hang Road. An existing stream (southern stream) is running toward west at south east side of the site near the small hill. Existing Drainage Plan are shown in **Figure 2** for reference.

1.2.4 Proposed Development Layout plan is shown in **Appendix B** for reference.

2. Development Proposal

2.1 The Proposed Development

2.1.1 The total site area is approximately 123,320 m^2. The indicative development schedule is summarized in **Table 1** below for technical assessment purpose. The catchment plan is shown in **Figure 4**.

Proposed Development	
Total Site Area (m^2)	123,320
Paved Area (m^2) Assume all proposed site area as paved area for assessment purpose	123,320
Northern Portion – Zone C1a, C1c, C1d (m^2)	17,206
Southern Portion – Zone C1b, C2 to C9 (m^2)	106,114

Table 1 - Key Development Parameters

3. Assessment Criteria

3.1.1 The Recommended Design Return Period based on Flood Level from SDM (Table 10) is adopted for this DIA. The recommendation is summarized in **Table 2** below.

Description	Design Return Periods
Intensively Used Agricultural Land	2 – 5 Years
Village Drainage Including Internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

Table 2– Design Return Periods under SDM

3.1.2 The proposed drainage system intended to collect runoff from internal site and external catchment. 1 in 50 years return period is adopted for the drainage design.

3.1.3 Stormwater drainage design will be carried out in accordance with the criteria set out in the Stormwater Drainage Manual published by DSD. The proposed design criteria to be adopted for design of this stormwater drainage system and factors which have been considered are summarised below.

1. Intensity-Duration-Frequency Relationship – The Recommended Intensity-Duration-Frequency relationship is used to estimate the intensity of rainfall. It can be expressed by the following algebraic equation.

$$i = \frac{a}{(t_d + b)^c}$$

The site is located within the North District Zone. Therefore, for 50 years return period, the following values are adopted.

a	=	474.6
b	=	2.9
c	=	0.371

(Corrigendum_No.1/2024)

2. The peak runoff is calculated by the Rational Method
   i.e. $Q_p = 0.278CiA$

where	Q_p	=	peak runoff in m^3/s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km^2

3. The run-off coefficient (C) of surface runoff are taken as follows:

   1. Paved Area: C = 0.95
   2. Unpaved Area: C = 0.35

4. Manning's Equation is used for calculation of velocity of flow inside the channels:

Manning's Equation: $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$

Where,

V = velocity of the pipe flow (m/s)
S_f = hydraulic gradient
n = manning's coefficient
R = hydraulic radius (m)

5. Colebrook-White Equation is used for calculation of velocity of flow inside the pipes:

Colebrook-White Equation: $\underline{v} = -\sqrt{32gRS}\ log\ log\ (\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRS_f}})$

where,

V	=	velocity of the pipe flow (m/s)
S_f	=	hydraulic gradient
k_f	=	roughness value (m)
v	=	kinematics viscosity of fluid
D	=	pipe diameter (m)
R	=	hydraulic radius (m)

6. The Brandsby William's Equation is used to determine the time of concentration.

$$t_o = \frac{0.14465L}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)

A = catchment area (m^2)

H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

7. Volume of Drainage Detention Tank:

Extreme Rainfall intensity (1 in 50 yr) at North District Area for rainfall duration of 120 mins, I = 81.8 mm/hr

(Corrigendum_No.1/2024)

2 hours rainfall duration is adopted

4. Proposed Drainage System

4.1. Proposed Stormwater Storage Tank

4.1.1 As per the approved drainage proposal under planning application no. A/NE-TKLN/77, stormwater storage tank is proposed at Northern Site so as to collect additional runoff generated from the site such that there is no drainage impact to the nearby area.

4.1.2 The storage tank is proposed to collect the additional runoff for a 1 in 50 year rainfall event for 4 hours. As per the design for volume of storage tank shown in **Appendix A2**, the total storage volume of the storage tank is not less than 1,870 m^3.

4.1.3 During rainstorm event, runoff would be first discharged to storage tank. When the tank is full, it would overflow to existing nullah. The dimension of storage tank and overflow arrangement is shown in **Figure 3.4** and **Figure 3.5**.

4.1.4 The stored stormwater will be reused as far as practicable and the surplus water will be pumped to the existing nullah or discharge by opening penstock of overflow channel after the rainfall event. The storage tank would be emptied in 8 hours after the rainfall event. The minimum pump rate is 0.065 m^3/s and calculation is shown in **Appendix A2**. Hence, there is no additional flooding risk caused by the Proposed Development.

4.2. Proposed UChannel and Drains

4.2.1 Proposed U Channels are designed for collection of runoff for Northern and Southern Development Site. The proposed discharge point for Northern and Southern Site are existing nullah beside Lin Ma Hang Road and existing southern stream respectively. The design calculations of proposed drains are shown in **Appendix A1**.

4.2.2 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3.1** to **Figure 3.5**. The catchment plan is shown in **Figure 4**.

5. Conclusion

5.1.1 Follow by the approval drainage study in the planning application, this drainage proposal has been conducted for the Proposed Development. Stormwater Storage Tank with volume 1,870m^3 is proposed at Northern Site. The surface runoff from Northern and Southern Site will be collected by the proposed drains and discharged to existing nullah and existing southern stream respectively.

5.1.2 This drainage proposal is served to fulfil approval condition (d) under planning application no. A/NE-TKLN/77.

- End of Text -

FIGURES

NOTES:
1. ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.
4. COVER LEVEL AND INVERT LEVEL SHALL REFER TO DRAINAGE SCHEDULE IN FIGURE 3.3.
5. COVER LEVEL IS APPROXMIATE ONLY AND SHOULD BE CHECK ON SITE.
6. MANHOLE AND DRAIN PIT LOCATIONS ARE APPROXMIATE ONLY.

OVERFLOW PIPE AND CHANNEL FROM STORAGE TANK TO EXISTING NULLAH (DETAILS REFER TO FIGURE 3.4)

OVERFLOW PIPE IN CASE OF EMERGENCY SEE SECTION A OF FIGURE 3.4

1.5m (W) CHANNEL MATCH WITH IL OF EXISTING NULLAH

STORAGE TANK WITH VOLUME NOT LESS THAN 1,870 m³

CONNECTION TO STORAGE TANK UC 900, 1 IN 400

CONNECTION TO STORAGE TANK UC 750, 1 IN 200

CONNECTION TO STORAGE TANK UC 750, 1 IN 350

UC 750, 1 IN 300

UC 750, 1 IN 350

UC 525, 1 IN 300

UC 825, 1 IN 500

UC 825, 1 IN 495

UC 750, 1 IN 200

UC 750, 1 IN 300

UC 1200, 1 IN 500

UC 750, 1 IN 500

UC 750, 1 IN 300

UC 1200, 1 IN 300

UC 1200, 1 IN 300

UC 1500, 1 IN 500

UC 1500, 1 IN 500

UC 750, 1 IN 350

UC 750, 1 IN 100

P14 P15 P13 P12 P3 P2 P6 P1 P7 P8

DP1.7 DP1.6 DP1.5 DP1.4a DP1.4 DP1.3 DP1.2 DP2.1 DP2.5 DP2.6 DP4.1a DP4.1b DP4.1c DP4.1 DP5.1 DP5.2

CUTLINE

LEGEND:

APPLICATION SITE BOUNDARY (FOR IDENTIIATION PURPOSE ONLY)

PROPOSED MANHOLE / CATCHPIT

PROPOSED UCHANNEL AS PER CEDD STANDARD DRAWING C 2409I, C 2410I, C 2412E

LIN MA HANG ROAD

HEUNG YUEN WAI HIGHWAY

香園圍公路

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REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM
SHEET 1 OF 2

DRAWING NUMBER
FIGURE 3.1B

DP2.1
UC 1500, 1 IN 500
UC 1500, 1 IN 500
DP2.5
DP2.6
UC 1500, 1 IN 500
UC 750, 1 IN 500
DP2.7
UC 1800, 1 IN 500
DP2.9
DP2.10
DP2.8b
DP2.8c
DP2.8a
P4
P16
UC 750, 1 IN 500
DP3.1
UC 750, 1 IN 100
P5
P11
UC 750, 1 IN 100
DP9.1
UC 750, 1 IN 200
DP2.14
DP9.2
DP9.3
DP9.4
簡頭圍
Kan Tau Wai
DP4.1b
UC 1200, 1 IN 300
UC 1200, 1 IN 300
DP4.1
UC 1200, 1 IN 300
CUTLINE
DP2.11
P12
UC 1200, 1 IN 500
BOX CULVERT 2100 (W) X 1300 (H), 1 IN 500
DP2.12
DP2.13
UC 1200, 1 IN 500
UC1800, 1 IN 500
CONNECTION TO SOUTHERN STREAM
UC 1800, 1 in 450 (REFER TO FIGURE 3.5)
UC 750, 1 IN 300
DP4.1c
DP5.1
UC 750, 1 IN 100
HEUNG YUEN WAI HIGHWAY
DP5.2
UC 750, 1 IN 350
DP6.2
DP6.1
P7
P8
UC 750, 1 IN 150
UC 750, 1 IN 80
DP7.2
DP7.1
UC 750, 1 IN 150
DP8.1
P9
P10
UC 750, 1 IN 200
DP8.2
DP8.4
DP8.3
UC 750, 1 IN 200
UC 750, 1 IN 200
DP8.5
UC 750, 1 IN 200
DP8.6
UC 1200, 1 IN 350

NOTES:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.

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REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM
SHEET 2 OF 2

DRAWING NUMBER
FIGURE 3.2B

DRAINAGE SCHEDULE

MANHOLE/ PIT NUMBER		CHANNEL							D/S MANHOLE/ PIT TYPE	Remark
		GROUND LEVEL		INVERT LEVEL		GRAD.	SIZE	LENGTH		
U/S	D/S	U/S	D/S	U/S	D/S	1 IN	mm	m		
P1	DP1.2	9.90	9.80	9.08	8.78	500	750	147.3	CATCH PIT	
DP1.2	DP1.3	9.80	9.70	8.78	8.66	495	825	61.5	CATCH PIT	
DP1.3	DP1.4	9.70	9.60	8.66	8.64	500	825	8.9	CATCH PIT	
DP1.4	DP1.4a	9.60	9.60	8.64	8.55	500	825	44.6	CATCH PIT	
DP1.4a	STORAGE TANK	9.60	9.60	8.55	8.54	400	900	4.0	CATCH PIT	
P12	DP1.5	10.00	10.10	9.18	8.85	200	750	66.0	CATCH PIT	
DP1.5	STORAGE TANK	10.10	10.10	8.85	8.83	200	750	4.0	CATCH PIT	
P13	DP1.6	10.00	9.80	9.18	8.98	300	750	42.5	CATCH PIT	
P14	DP1.7	9.60	9.50	8.78	8.68	350	750	12.9	CATCH PIT	
DP1.7	DP1.6	9.50	9.80	8.68	8.56	350	750	41.7	CATCH PIT	
DP1.6	STORAGE TANK	9.80	9.80	8.56	8.54	350	750	4.0	CATCH PIT	
P15	DP1.4a	9.60	9.60	8.78	8.70	300	750	22.7	CATCH PIT	
STORAGE TANK	NULLAH	9.60	9.10	8.54	8.43	100	600	6.0	EXISTING NULLAH	Pipe
P3	DP2.1	9.80	9.50	8.53	8.34	500	1200	91.3	G1	
DP2.1	DP2.5	9.50	9.50	8.34	8.16	500	1500	91.5	J	
DP2.5	DP2.6	9.50	9.50	8.16	8.06	500	1500	49.7	J	
DP2.6	DP2.7	9.50	9.00	8.06	7.80	500	1500	129.2	J	
DP2.7	DP2.9	9.00	8.80	7.78	7.74	500	1800	18.6	J	
DP2.9	DP2.10	8.80	9.00	7.64	7.52	500	1800	61.4	J	
DP2.10	DP2.11	9.00	9.00	7.52	7.51	500	1800	6.4	J	
DP2.11	DP2.14	9.00	9.00	7.51	7.29	500	2100 (W) x 1300 (H) Box Culvert	107.4	J	Box Culvert, assumed 100 free board from obvert level
P12	D2.11	9.00	9.00	7.73	7.51	500	1200	108.5	G1	
D2.11	DP2.13	9.00	9.00	7.73	7.66	500	1200	30.6	G1	
DP2.13	DP2.14	9.00	9.10	7.29	7.15	450	1800	65.9	J	
DP2.14	OULET	9.10	9.10	7.15	7.14	450	1800	4.0	TO SOUTHERN STREAM	
P4	DP2.7	8.80	9.00	7.98	7.88	500	750	47.4	CATCH PIT	
P16	DP2.8a	8.80	8.80	7.98	7.96	500	750	8.4	CATCH PIT	
DP2.8a	DP2.8b	8.80	8.80	7.96	7.89	500	750	33.5	CATCH PIT	
DP2.8b	DP2.8c	8.80	8.80	7.89	7.87	500	750	11.3	CATCH PIT	
DP2.8c	DP2.9	8.80	8.80	7.87	7.85	500	750	11.3	CATCH PIT	
P5	DP3.1	9.50	9.40	8.68	8.08	100	750	60.0	CATCH PIT	
DP3.1	DP2.10	9.40	9.00	8.08	7.79	100	750	28.4	CATCH PIT	
P2	D4.1a	10.10	10.10	9.28	8.98	300	750	88.7	CATCH PIT	
D4.1a	D4.1b	10.10	9.90	8.98	8.64	300	750	102.2	CATCH PIT	
P6	DP4.1c	10.10	10.10	9.28	9.02	300	750	77.9	CATCH PIT	
DP4.1c	D4.1b	10.10	9.90	9.02	8.63	300	1200	107.0	G1	
D4.1b	DP4.1	9.90	9.80	8.63	8.19	300	1200	129.3	G1	
DP4.1	DP2.11	9.80	9.00	8.19	7.67	300	1200	158.5	G1	
P7	DP5.1	13.50	10.10	12.68	9.28	100	750	112.7	CATCH PIT	
DP5.1	DP5.2	10.10	10.10	9.28	8.99	350	750	99.0	CATCH PIT	
DP5.2	DP2.12	10.10	9.00	8.99	7.73	350	1200	186.2	G1	
P8	DP6.1	13.50	11.80	12.68	10.98	80	750	48.8	CATCH PIT	
DP6.1	DP6.2	11.80	11.20	10.98	10.38	80	750	37.1	CATCH PIT	
DP6.2	DP5.2	11.20	10.10	10.33	9.28	80	750	41.8	CATCH PIT	
P9	DP7.1	11.90	11.50	11.08	10.68	80	750	26.2	CATCH PIT	
DP7.1	DP7.2	11.50	11.50	10.68	10.60	150	750	11.7	CATCH PIT	
DP7.2	DP6.2	11.50	11.20	10.60	10.33	150	750	40.1	CATCH PIT	
P10	DP8.1	11.90	11.90	11.08	11.00	200	750	14.8	CATCH PIT	
DP8.1	DP8.2	11.90	9.60	11.00	8.78	200	750	66.2	CATCH PIT	
DP8.2	DP8.3	9.60	9.60	8.78	8.65	200	750	24.9	CATCH PIT	
DP8.3	DP8.4	9.60	9.55	8.65	8.56	200	750	17.6	CATCH PIT	
DP8.4	DP8.5	9.55	9.50	8.56	8.25	200	750	62.5	CATCH PIT	
DP8.5	DP8.6	9.50	9.20	8.25	7.91	200	750	67.5	CATCH PIT	
DP8.6	DP2.13	9.20	9.00	7.91	7.78	200	750	27.3	CATCH PIT	
P11	DP9.1	9.50	9.10	8.68	8.14	100	750	53.9	CATCH PIT	
DP9.1	DP9.2	9.10	9.10	8.14	7.87	200	750	52.9	CATCH PIT	
DP9.2	DP9.3	9.10	9.10	7.87	7.84	200	750	6.0	CATCH PIT	
DP9.3	DP9.4	9.10	9.10	7.84	7.79	200	750	10.1	CATCH PIT	
DP9.4	DP2.14	9.10	9.10	7.79	7.58	200	750	41.9	CATCH PIT	

* DETAIL OF CONNECTION SHALL REFER TO FIGURE 3.4 AND 3.5

NOTES:

1. ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.
4. CATCHPIT AND COVER REFER TO CEDD STANDARD DRAWINGS NO. C 2405/1 ,C 2405/2,C 2405/3, C 2405/4, C 2405/5,C 2406/1, C 2406/2.
5. MANHOLE TYPE G1 AND TYPE J SHALL REFER TO DSD STANDARD DRAWING DS 1082 C AND DS 1013E RESPECTIVELY.
6. COVER LEVELS AND CONNECTION LEVELS ARE APPROXMIATE ONLY AND SHOULD BE CHECK ON SITE.
7. MANHOLE AND DRAIN PIT LOCATIONS ARE APPROXMIATE ONLY.

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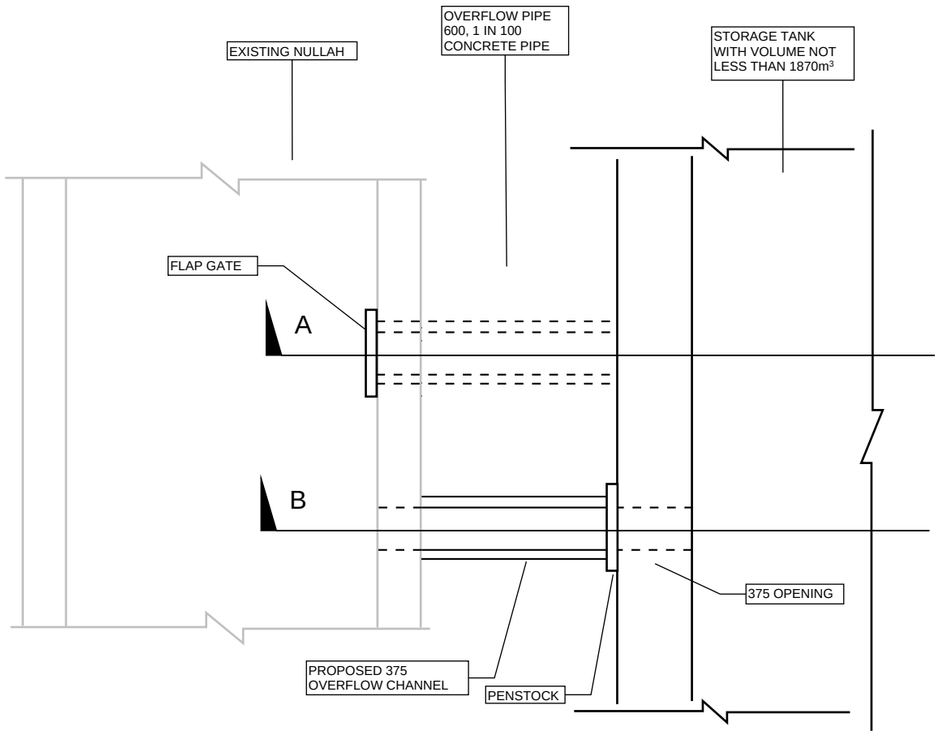
REV	DESCRIPTION	DATE

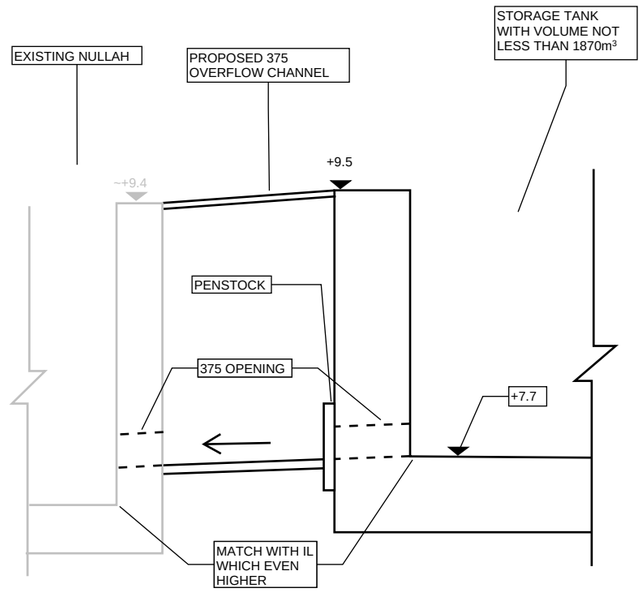
DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DRAINAGE SCHEDULE

DRAWING NUMBER
FIGURE 3.3

NOTES:
1.ALL DIMENSION ARE IN mm UNLESS OTHERWISE STATED.
2.LEVELS OF DRAINS SHALL REFER TO DRAINAGE SCHEDULE AT FIGURE 3.3
3.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5..

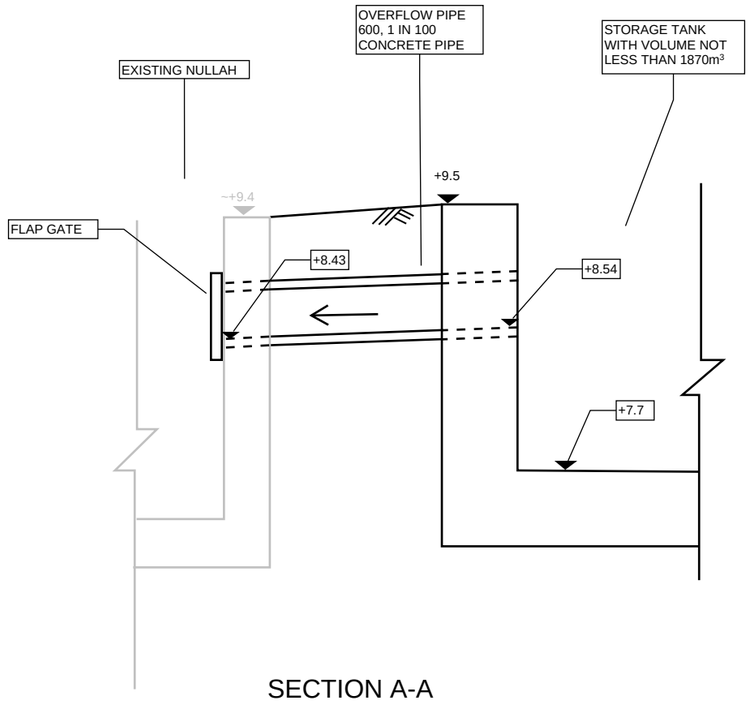


PLAN



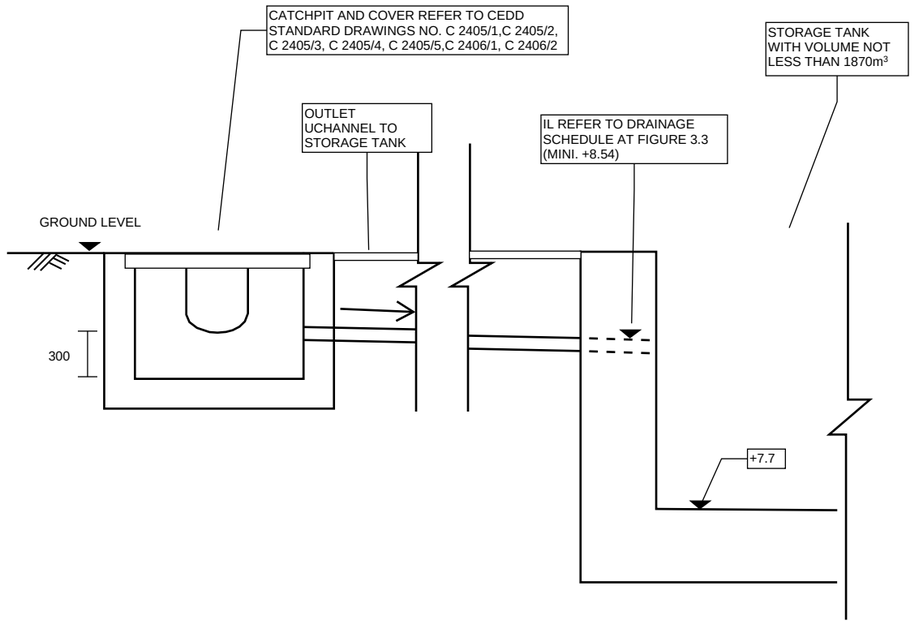
SECTION B-B

DETAIL OF OVERFLOW PIPE FROM STORAGE TANK
TO EXISTING NULLAH
N.T.S



SECTION A-A

DETAIL OF OVERFLOW PIPE FROM STORAGE TANK
TO EXISTING NULLAH
N.T.S



TYPICAL DETAIL OF CONNECTION OF CATCHPIT TO STORAGE TANK
N.T.S

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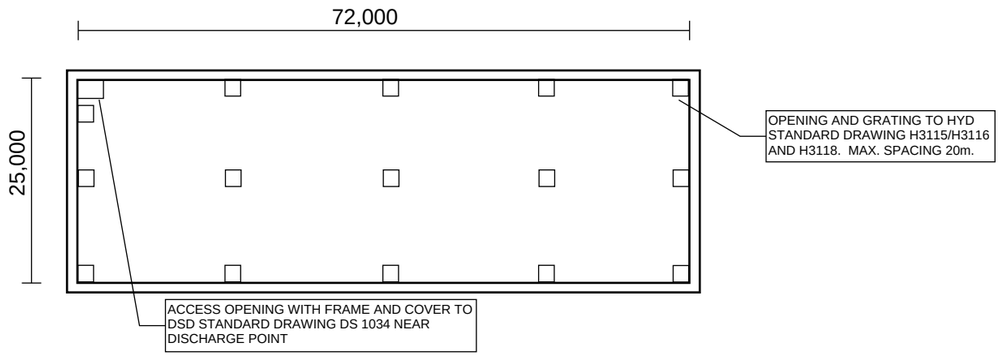
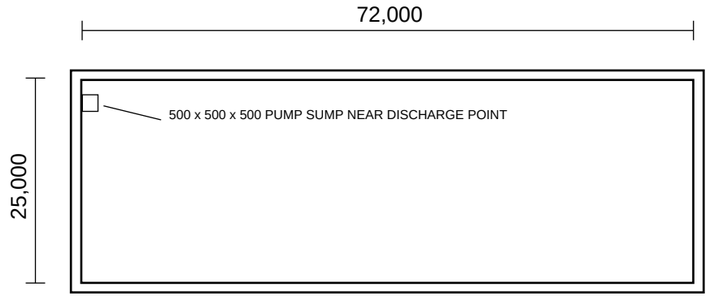
REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DETAILS
SHEET 1 OF 2

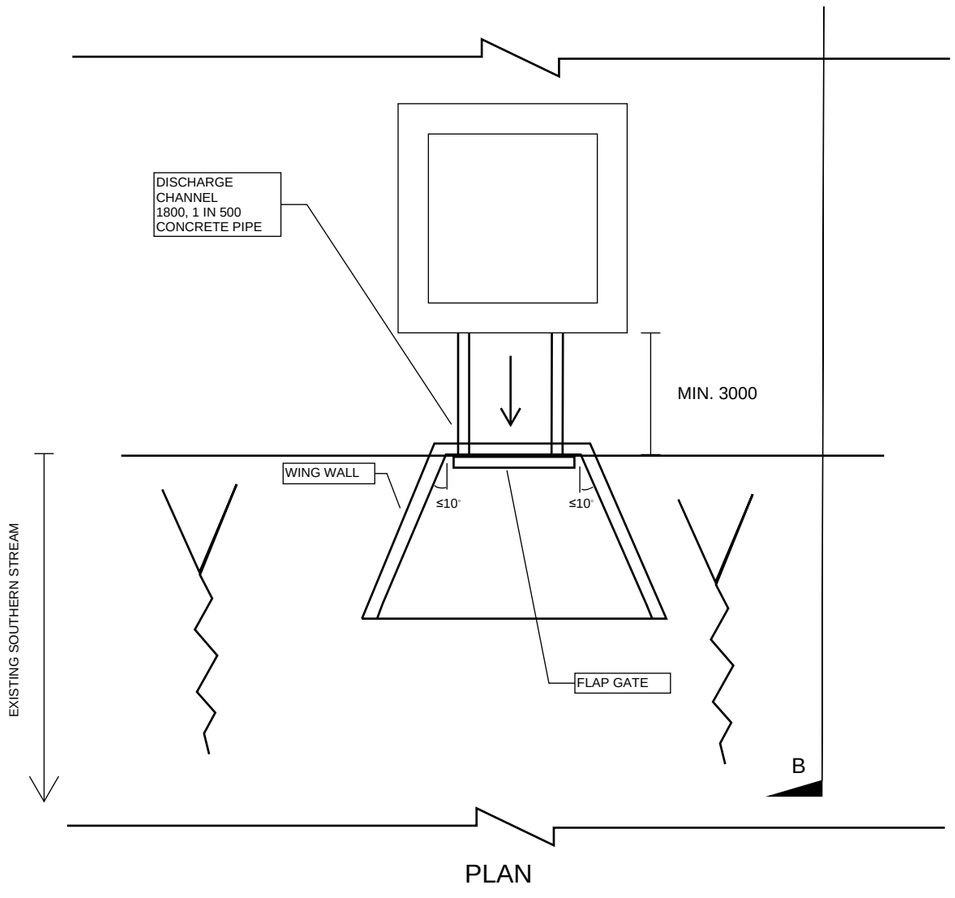
DRAWING NUMBER
FIGURE 3.4B



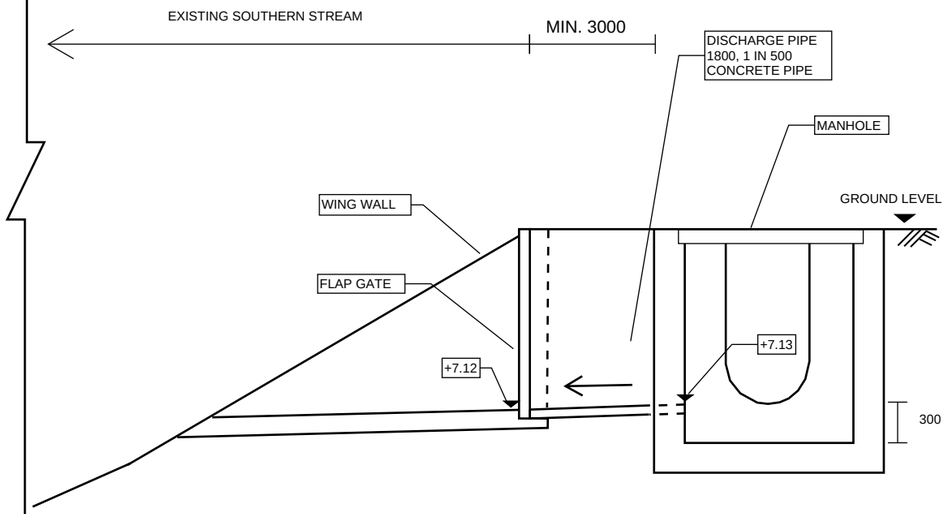
PLAN (GROUND LEVEL)
APPROX. INTERNAL DIMENSION OF STORAGE TANK



PLAN (UNDERGROUND LEVEL)
APPROX. INTERNAL DIMENSION OF STORAGE TANK



PLAN



SECTION B-B

DETAIL OF DISCHARGE PIPE TO SOUTHERN STREAM
TO EXISTING NULLAH
N.T.S

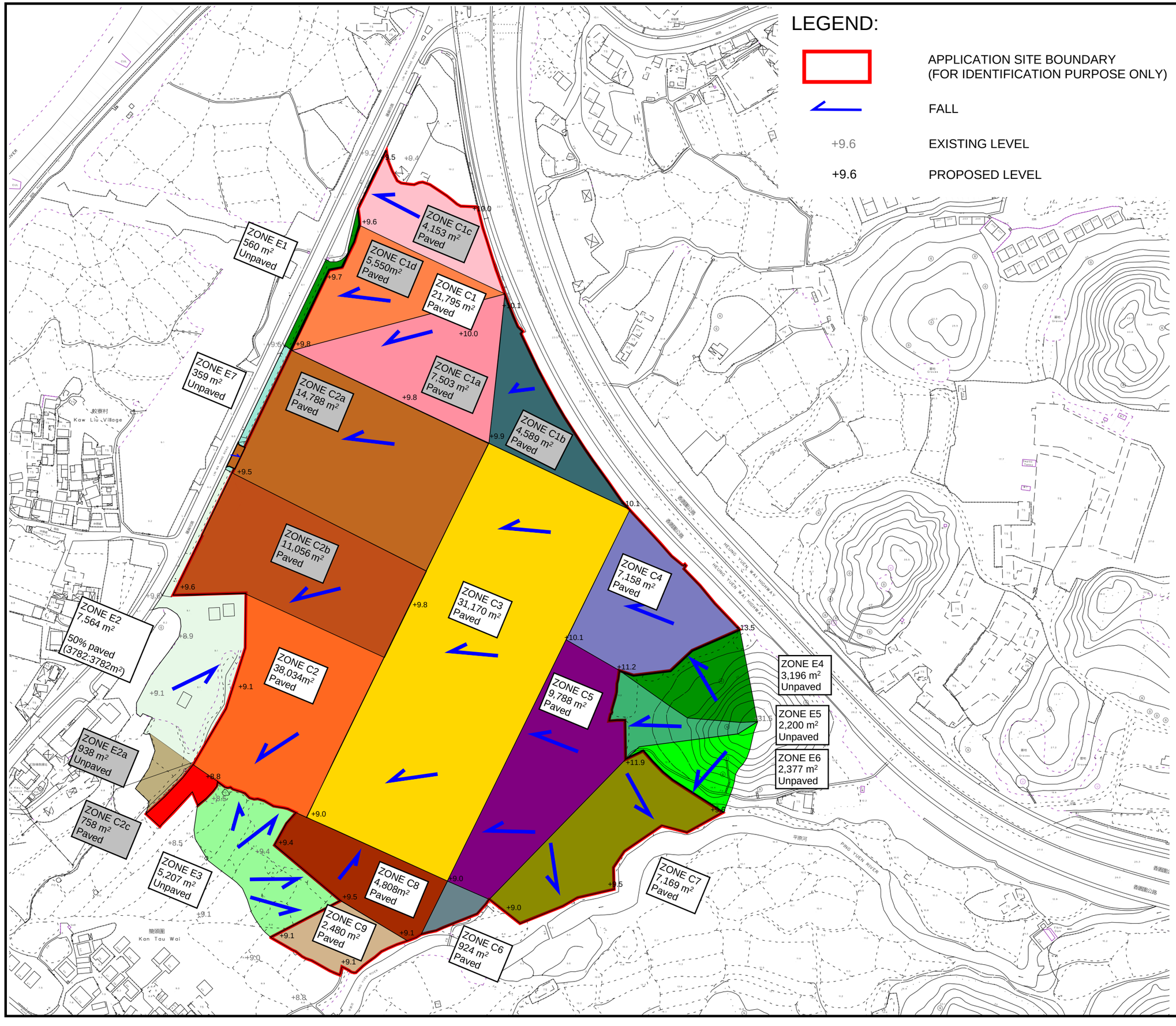
PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

NOTES:
1.ALL DIMENSION ARE IN mm UNLESS OTHERWISE STATED.
2.LEVELS OF DRAINS SHALL REFER TO DRAINAGE SCHEDULE AT FIGURE 3.3
3.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5..

REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DETAILS SHEET 2 of 2

DRAWING NUMBER
FIGURE 3.5A



LEGEND:

	APPLICATION SITE BOUNDARY (FOR IDENTIFICATION PURPOSE ONLY)
	FALL
+9.6	EXISTING LEVEL
+9.6	PROPOSED LEVEL

PROJECT:

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

REV	DESCRIPTION	DATE

DRAWING TITLE

CATCHMENT PLAN

DRAWING NUMBER

FIGURE 4A

APPENDIX

Appendix A1 - Drainage Design

MANHOLE/ PIT NUMBER		CHANNEL							D/S MANHOLE/ PIT TYPE	CAPACITY		PAVED AREA		GRASSLAND		EQUIVALENT		INTENSITY	DISCHARGE		Remark
		GROUND LEVEL		INVERT LEVEL		GRAD.	SIZE	LENGTH		VELOCITY			C	AREA	C	AREA	Tc	I	RATE	Utilization	
U/S	D/S	U/S	D/S	U/S	D/S	1 IN	mm	m		m/s	m^3/s	m^2		m^2		m^2	mins.	mm/hr	m^3/s	%	
P1	DP1.2	9.90	9.80	9.08	8.78	500	750	147.3	CATCH PIT	1.30	0.654	7,503	0.95	-	0.35	7,127.85	5.00	220	0.44	67%	
DP1.2	DP1.3	9.80	9.70	8.78	8.66	495	825	61.5	CATCH PIT	1.40	0.848	13,053	0.95	560	0.35	12,596.35	6.88	204	0.71	84%	
DP1.3	DP1.4	9.70	9.60	8.66	8.64	500	825	8.9	CATCH PIT	1.39	0.843	13,053	0.95	560	0.35	12,596.35	7.62	198	0.69	82%	
DP1.4	DP1.4a	9.60	9.60	8.64	8.55	500	825	44.6	CATCH PIT	1.39	0.843	13,053	0.95	560	0.35	12,596.35	7.73	197	0.69	82%	
DP1.4a	STORAGE TANK	9.60	9.60	8.55	8.54	400	900	4.0	CATCH PIT	1.64	1.189	18,770	0.95	560	0.35	18,027.50	8.26	194	0.97	82%	
P12	DP1.5	10.00	10.10	9.18	8.85	200	750	66.0	CATCH PIT	2.06	1.034	4,153	0.95	-	0.35	3,945.35	5.00	220	0.24	23%	
DP1.5	STORAGE TANK	10.10	10.10	8.85	8.83	200	750	4.0	CATCH PIT	2.06	1.034	4,153	0.95	-	0.35	3,945.35	5.53	215	0.24	23%	
P13	DP1.6	10.00	9.80	9.18	8.98	300	750	42.5	CATCH PIT	1.68	0.845	4,153	0.95	-	0.35	3,945.35	5.00	220	0.24	29%	
P14	DP1.7	9.60	9.50	8.78	8.68	350	750	12.9	CATCH PIT	1.56	0.782	4,153	0.95	560	0.35	4,141.35	5.00	220	0.25	32%	
DP1.7	DP1.6	9.50	9.80	8.68	8.56	350	750	41.7	CATCH PIT	1.56	0.782	4,153	0.95	560	0.35	4,141.35	5.14	219	0.25	32%	
DP1.6	STORAGE TANK	9.80	9.80	8.56	8.54	350	750	4.0	CATCH PIT	1.56	0.782	4,153	0.95	560	0.35	4,141.35	5.58	215	0.25	32%	
P15	DP1.4a	9.60	9.60	8.78	8.70	300	750	22.7	CATCH PIT	1.68	0.845	4,153	0.95	560	0.35	4,141.35	5.00	220	0.25	30%	
STORAGE TANK	NULLAH	9.60	9.10	8.54	8.43	100	600	6.0	EXISTING NULLAH	Refer to Overflow Pipe Design											Pipe
P3	DP2.1	9.80	9.50	8.53	8.34	500	1200	91.3	G1	1.77	2.182	14,788	0.95	359	0.35	14,174.25	5.00	220	0.87	40%	
DP2.1	DP2.5	9.50	9.50	8.34	8.16	500	1500	91.5	J	1.93	2.893	29,626	0.95	4,141	0.35	29,594.05	5.86	212	1.75	60%	
DP2.5	DP2.6	9.50	9.50	8.16	8.06	500	1500	49.7	J	2.01	3.562	29,626	0.95	4,141	0.35	29,594.05	6.65	205	1.69	47%	
DP2.6	DP2.7	9.50	9.00	8.06	7.80	500	1500	129.2	J	1.95	3.041	41,816	0.95	4,141	0.35	41,174.55	7.06	202	2.32	76%	
DP2.7	DP2.9	9.00	8.80	7.78	7.74	500	1800	18.6	J	2.00	3.102	41,816	0.95	9,348	0.35	42,997.00	8.16	195	2.33	75%	
DP2.9	DP2.10	8.80	9.00	7.64	7.52	500	1800	61.4	J	2.06	3.574	41,816	0.95	9,348	0.35	42,997.00	8.32	194	2.31	65%	
DP2.10	DP2.11	9.00	9.00	7.52	7.51	500	1800	6.4	J	2.22	5.144	46,624	0.95	9,348	0.35	47,564.60	8.81	190	2.52	49%	
DP2.11	DP2.14	9.00	9.00	7.51	7.29	500	2100 (W) x 1300 (H) Box Culvert	107.4	J	2.17	5.469	82,383	0.95	9,348	0.35	81,535.65	8.86	190	4.31	79%	Box Culvert, assumed 100 free board from obvert level
P12	D2.11	9.00	9.00	7.73	7.51	500	1200	108.5	G1	1.81	2.484	35,978	0.95	-	0.35	34,179.10	5.00	220	2.09	84%	
D2.11	DP2.13	9.00	9.00	7.73	7.66	500	1200	30.6	G1	1.81	2.484	17,870	0.95	5,396	0.35	18,865.10	8.16	195	1.02	41%	
DP2.13	DP2.14	9.00	9.10	7.29	7.15	450	1800	65.9	J	2.43	6.624	61,017	0.95	7,773	0.35	60,686.70	8.44	193	3.25	49%	
DP2.14	OULET	9.10	9.10	7.15	7.14	450	1800	4.0	TO SOUTHERN STREAM	2.51	7.940	109,902	0.95	17,121	0.35	110,399.25	8.90	190	5.83	73%	
P4	DP2.7	8.80	9.00	7.98	7.88	500	750	47.4	CATCH PIT	1.30	0.654	758	0.95	938	0.35	1,048.40	5.00	220	0.06	10%	
P16	DP2.8a	8.80	8.80	7.98	7.96	500	750	8.4	CATCH PIT	1.30	0.654	758	0.95	938	0.35	1,048.40	5.00	220	0.06	10%	
DP2.8a	DP2.8b	8.80	8.80	7.96	7.89	500	750	33.5	CATCH PIT	1.30	0.654	758	0.95	938	0.35	1,048.40	5.00	220	0.06	10%	
DP2.8b	DP2.8c	8.80	8.80	7.89	7.87	500	750	11.3	CATCH PIT	1.30	0.654	758	0.95	938	0.35	1,048.40	5.00	220	0.06	10%	
DP2.8c	DP2.9	8.80	8.80	7.87	7.85	500	750	11.3	CATCH PIT	1.30	0.654	758	0.95	938	0.35	1,048.40	5.00	220	0.06	10%	
P5	DP3.1	9.50	9.40	8.68	8.08	100	750	60.0	CATCH PIT	2.91	1.463	4,808	0.95	5,207	0.35	6,390.05	5.00	220	0.39	27%	
DP3.1	DP2.10	9.40	9.00	8.08	7.79	100	750	28.4	CATCH PIT	2.91	1.463	4,808	0.95	5,207	0.35	6,390.05	5.34	217	0.39	26%	
P2	D4.1a	10.10	10.10	9.28	8.98	300	750	88.7	CATCH PIT	1.68	0.845	4,589	0.95	-	0.35	4,359.55	5.00	220	0.27	32%	
D4.1a	D4.1b	10.10	9.90	8.98	8.64	300	750	102.2	CATCH PIT	1.68	0.845	4,589	0.95	-	0.35	4,359.55	5.88	212	0.26	30%	
P6	DP4.1c	10.10	10.10	9.28	9.02	300	750	77.9	CATCH PIT	1.68	0.845	4,589	0.95	-	0.35	4,359.55	5.00	220	0.27	32%	
DP4.1c	D4.1b	10.10	9.90	9.02	8.63	300	1200	107.0	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	5.77	213	2.01	68%	
D4.1b	DP4.1	9.90	9.80	8.63	8.19	300	1200	129.3	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	6.55	206	1.95	66%	
DP4.1	DP2.11	9.80	9.00	8.19	7.67	300	1200	158.5	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	7.48	199	1.88	64%	
P7	DP5.1	13.50	10.10	12.68	9.28	100	750	112.7	CATCH PIT	2.91	1.463	7,158	0.95	-	0.35	6,800.10	5.00	220	0.42	28%	
DP5.1	DP5.2	10.10	10.10	9.28	8.99	350	750	99.0	CATCH PIT	1.56	0.782	7,158	0.95	-	0.35	6,800.10	5.64	214	0.40	52%	
DP5.2	DP2.12	10.10	9.00	8.99	7.73	350	1200	186.2	G1	2.13	2.738	16,946	0.95	5,396	0.35	17,987.30	6.70	205	1.03	37%	
P8	DP6.1	13.50	11.80	12.68	10.98	80	750	48.8	CATCH PIT	3.26	1.635	-	0.95	3,196	0.35	1,118.60	5.00	220	0.07	4%	
DP6.1	DP6.2	11.80	11.20	10.98	10.38	80	750	37.1	CATCH PIT	3.26	1.635	-	0.95	3,196	0.35	1,118.60	5.25	218	0.07	4%	
DP6.2	DP5.2	11.20	10.10	10.33	9.28	80	750	41.8	CATCH PIT	3.26	1.635	-	0.95	5,396	0.35	1,888.60	5.44	216	0.11	7%	
P9	DP7.1	11.90	11.50	11.08	10.68	80	750	26.2	CATCH PIT	3.26	1.635	-	0.95	2,200	0.35	770.00	5.00	220	0.05	3%	
DP7.1	DP7.2	11.50	11.50	10.68	10.60	150	750	11.7	CATCH PIT	2.38	1.194	-	0.95	2,200	0.35	770.00	5.13	219	0.05	4%	
DP7.2	DP6.2	11.50	11.20	10.60	10.33	150	750	40.1	CATCH PIT	2.38	1.194	-	0.95	2,200	0.35	770.00	5.22	218	0.05	4%	
P10	DP8.1	11.90	11.90	11.08	11.00	200	750	14.8	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	5.00	220	0.47	45%	
DP8.1	DP8.2	11.90	9.60	11.00	8.78	200	750	66.2	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	5.12	219	0.47	45%	
DP8.2	DP8.3	9.60	9.60	8.78	8.65	200	750	24.9	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	5.66	214	0.45	44%	
DP8.3	DP8.4	9.60	9.55	8.65	8.56	200	750	17.6	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	5.86	212	0.45	44%	
DP8.4	DP8.5	9.55	9.50	8.56	8.25	200	750	62.5	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	6.00	211	0.45	43%	
DP8.5	DP8.6	9.50	9.20	8.25	7.91	200	750	67.5	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	6.51	207	0.44	42%	
DP8.6	DP2.13	9.20	9.00	7.91	7.78	200	750	27.3	CATCH PIT	2.06	1.034	7,169	0.95	2,377	0.35	7,642.50	7.05	202	0.43	42%	
P11	DP9.1	9.50	9.10	8.68	8.14	100	750	53.9	CATCH PIT	2.91	1.463	2,480	0.95	5,207	0.35	4,178.45	5.00	220	0.26	18%	
DP9.1	DP9.2	9.10	9.10	8.14	7.87	200	750	52.9	CATCH PIT	2.06	1.034	2,480	0.95	5,207	0.35	4,178.45	5.31	217	0.25	24%	
DP9.2	DP9.3	9.10	9.10	7.87	7.84	200	750	6.0	CATCH PIT	2.06	1.034	2,480	0.95	5,207	0.35	4,178.45	5.74	213	0.25	24%	
DP9.3	DP9.4	9.10	9.10	7.84	7.79	200	750	10.1	CATCH PIT	2.06	1.034	2,480	0.95	5,207	0.35	4,178.45	5.78	213	0.25	24%	
DP9.4	DP2.14	9.10	9.10	7.79	7.58	200	750	41.9	CATCH PIT	2.06	1.034	2,480	0.95	5,207	0.35	4,178.45	5.87	212	0.25	24%	

Appendix A2 - Volume Required for Stormwater Storage Tank

Area of Site		17,206	m^2	(Catchment C1a, C1c, C1d)
Design Return Period	1 in	50	yr	
Assume change of pavement ratio before and after development				
From	5% to	100%	Paved	
North District				
Rainfall intensity (1 in 50 yr)	I =	81.8	mm/hr	(Corrigendum No.1/2024)
		2	hours rainfall duration is adopted	

Pre-Development Volume of Runoff in 2 hours

Paved Area	17206 x 0.05 =	860.3	m^2
Unpaved Area	17206 x (1 - 0.05) =	16345.7	m^2
Total Equivalent Area	860 x 0.95 + 16346 x 0.35=	6538.3	m^2
Rainfall Intensity, I		81.8	mm/hr
Design Discharge Rate, Q	0.278 x 6538 x 82 / 1000000 =	0.149	m^3/s
Volume of Runoff in 2 hours	0.149 x 2 x 60 x 60 =	1,071	m^3

Post-Development Volume of Runoff in 2 hours

Paved Area	(17206 - 0) x 1 =	17206	m^2
Unpaved Area	17206 x (1 - 1) =	0	m^2
Total Equivalent Area	17206x0.95 + 0x0.35=	16345.7	m^2
Rainfall Intensity, I		81.8	mm/hr
Design Discharge Rate, Q	0.278 x 16346 x 82 / 1000000 =	0.372	m^3/s
Volume of Runoff in 2 hours	0.372 x 2 x 60 x 60 =	2,676	m^3

Increase in Runoff Volume (2 hours)	2676 - 1071 =	1,606	m^3

Proposed Storage Tank	Volume		1,870	m^3 allow for buffer volume for site formation

Provide Storage Tank	Area	= 72 x 25 =	1,800	m^2 As discussed with DSD, the water storage level is
	Depth	= 8.74 - 7.7 =	1.04	m adjusted as agreed
	Volume	=	1,873	m^3

Minimum Pump Rate for discharge of water from storage tank to existing stream (in 8 hours after rainfall event)

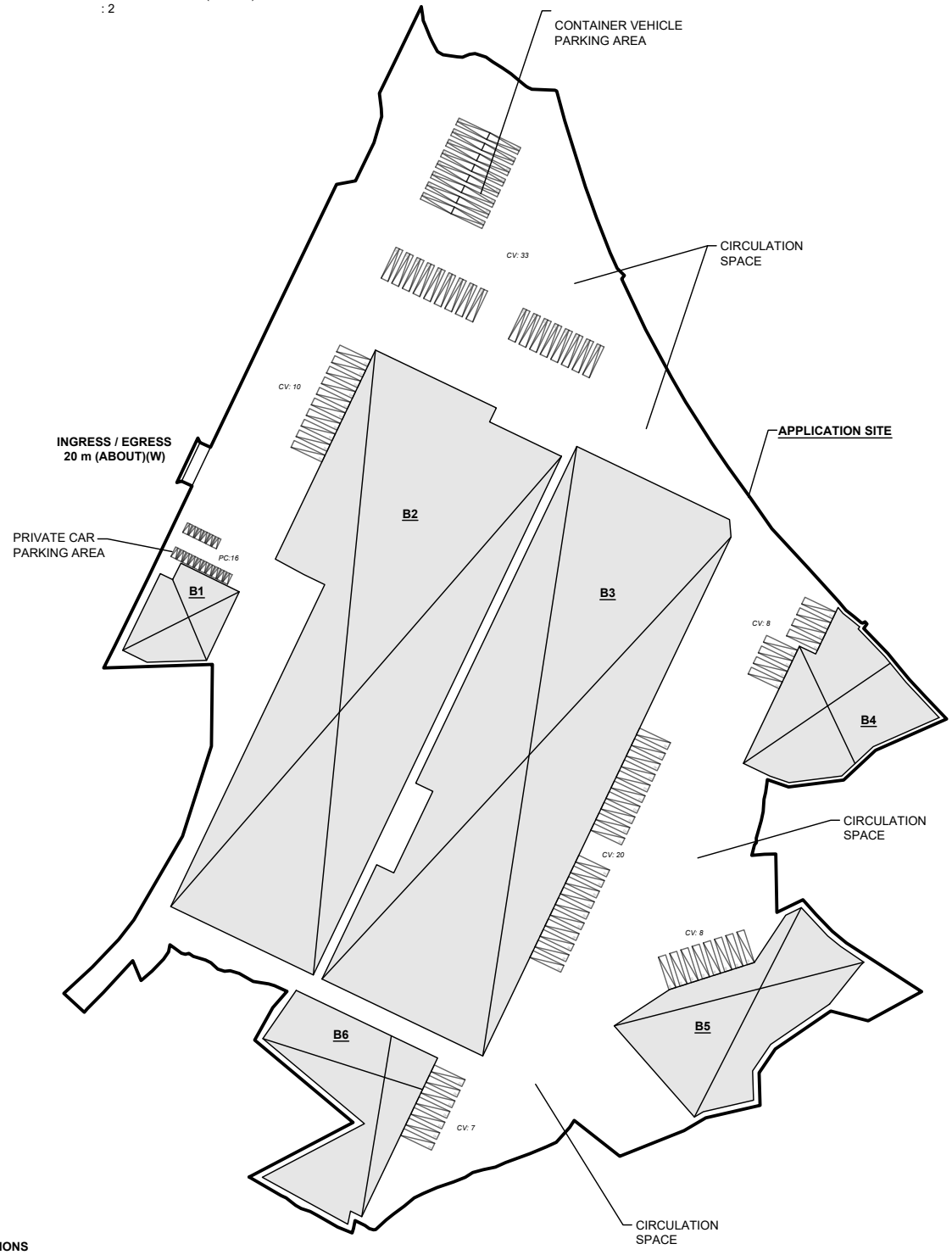
Volumn of stored water	1,873	m^3
Disharge Duration	8	hr
Minimum Discharge Rate	0.065	m^3/s

Appendix B - Proposed Development Layout Plan

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 123,320 m^2	(ABOUT)
COVERED AREA	: 60,321 m^2	(ABOUT)
UNCOVERED AREA	: 62,999 m^2	(ABOUT)
PLOT RATIO	: 0.98	(ABOUT)
SITE COVERAGE	: 49 %	(ABOUT)
NO. OF STRUCTURE	: 6	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 120,642 m^2	(ABOUT)
TOTAL GFA	: 120,642 m^2	(ABOUT)
BUILDING HEIGHT	: 7 m - 15 m	(ABOUT)
NO. OF STOREY	: 2	

STRUCTURE	USE	COVERED AREA	GROSS FLOOR AREA	BUILDING HEIGHT
B1	OFFICE AND WASHROOM	1,591 m^2 (ABOUT)	3,182 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
B2	LOGISTICS CENTRE	23,006 m^2 (ABOUT)	46,012 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B3	LOGISTICS CENTRE	22,642 m^2 (ABOUT)	45,284 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B4	WAREHOUSE (EXCL. D.G.G.)	3,840 m^2 (ABOUT)	7,680 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B5	WAREHOUSE (EXCL. D.G.G.)	4,965 m^2 (ABOUT)	9,930 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B6	WAREHOUSE (EXCL. D.G.G.)	4,277 m^2 (ABOUT)	8,554 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
	TOTAL	**60,321 m^2 (ABOUT)**	**120,642 m^2 (ABOUT)**	



PARKING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 16
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF CONTAINER VEHICLE PARKING SPACE	: 33
DIMENSION OF PARKING SPACE	: 16 m (L) X 3.5 m (W)

LOADING / UNLOADING PROVISIONS

NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 53
DIMENSION OF PARKING SPACE	: 16 m (L) X 3.5 m (W)

LEGEND

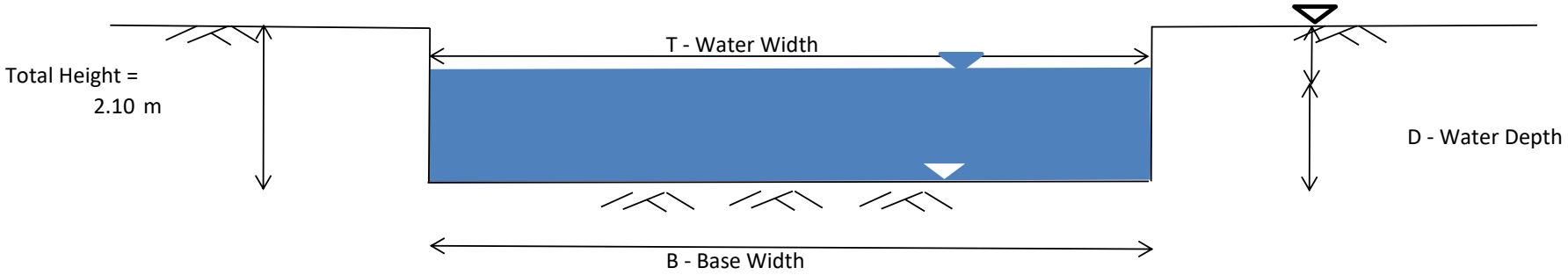
- APPLICATION SITE
- STRUCTURE
- PARKING SPACE (PC)
- LOADING / UNLOADING SPACE (CV)
- LOADING / UNLOADING SPACE (CV)

**SITE BOUNDARY FOR IDENTIFICATION PURPOSE ONLY.*

PLANNING CONSULTANT: TAI WAH DEVELOPMENT CONSULTANTS LIMITED	PROJECT: PROPOSED TEMPORARY LOGISTICS CENTRE, WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) AND CONTAINER VEHICLE PARK WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS	ADDRESS: VARIOUS LOTS IN D.D. 78 AND D.D.82 AND ADJOINING GOVERNMENT LAND, TA KWU LING, NEW TERRITORIES	SCALE: 1 : 3000 @ A4	TITLE: LAYOUT PLAN	NORTH
			DRAWN BY: MN / DATE: 20.11.2025		
			REVISED BY / DATE	DWG NO.: PLAN 7 / VER.: 001	

Appendix C - Assessment of Southern Stream against Site Discharge

Checking of Capacity of Southern Stream



Scenario & Case	Assumed Water Depth (m)	Water Width (m)	Base Width (m)	Area (m^2)	Wetted Perimeter (m)	Hydralic Radius (m)	Manning's Roughness n	Friction Slope S_f (1 in)	Velocity (m/s)	Capacity (m^3/s)
A	D_1	T	B	A_1	P_1	R_1	n	S_f	V_1	Q_1
	1.60	13.00	13	20.80	16.20	1.28	0.035	150	2.7558	57.321

Discharge Rate to existing southern stream		=	5.83	m^3/s	
Utilitization	5.831 / 57.321	=	10.17	%	OK

Appendix III

Accepted Drainage Proposal under the Previous Application No. A/NE-TKLN/77

規劃署

沙田、大埔及北區規劃處
香港新界沙田上禾輋路一號
沙田政府合署
十三樓 1301-1314 室

Planning Department

Sha Tin, Tai Po & North
District Planning Office
Rooms 1301-1314, 13/F,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin,
N.T., Hong Kong

來函檔號	Your Reference	DD82 Lot 79 RP & VL
本署檔號	Our Reference	( ) in TPB/A/NE-TKLN/77
電話號碼	Tel. No.:	2158 6237
傳真機號碼	Fax No.:	2691 2806

By Post and Fax [redacted]

17 September 2024

Tai Wah Development Consultants Ltd.

[redacted]

(Attn.: Matthew Ng)

Dear Sir/Madam,

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Lin Ma Hang Road, Ta Kwu Ling North (Compliance with Approval Condition (d) for Planning Application No. A/NE-TKLN/77)

I refer to your submissions dated 12.8.2024 and 12.9.2024 for compliance with approval condition (d) in relation to the submission of a drainage proposal before the commencement of any construction works or operations including site formation works under the captioned planning application.

Chief Engineer/Mainland North, Drainage Services Department (Contact person: Mr. LEE Wai-chung; Tel.: 2300 1274) has been consulted and considered the approval condition (d) has been complied with. Please proceed to implement the accepted drainage proposal for compliance with approval condition (e).

Should you have any other queries related to planning matters, please contact Mr. Timothy WU of this department at 2158 6031.

Yours faithfully,

(Ivy WONG)
for Director of Planning

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

(for Condition (d) under
Application No. A/NE-TKLN/77)

Drainage Proposal

August 24

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1. Introduction

1.1 Background

1.1.1 Reference is made to the approval on planning application no. A/NE-TKLN/77 (supported together with a drainage proposal), in which the applicant seeks planning permission for a proposed temporary logistic centre, warehouse (excluding dangerous goods godown) and container vehicle park with ancillary facilities for a period of three years at the application site.

1.1.2 This Drainage Proposal aim to discharge/fulfil the planning approval condition (d) and to support the development in drainage aspect.

1.2 The Site

1.2.1 The Application Site situate beside Lin Ma Hang Road and Heung Yuen Wai Highway. It has an area of about 122,819 m^2. The Site is partially hard-paved and the remaining area is covered by vegetation.

1.2.2 There is a small hill at the southeast side of the site. The site level beside the small hill is generally higher at approx. +12 to + 13.5 mPD. Site levels in other area are generally various from + 8.5 to + 10 mPD.

1.2.3 There is an existing nullah near the northern site and beside Lin Ma Hang Road. An existing stream (southern stream) is running toward west at south east side of the site near the small hill.

1.2.4 Proposed Development Layout plan is shown in **Appendix B** for reference.

2. Development Proposal

2.1 The Proposed Development

2.1.1 The total site area is approximately 122,819 m^2. The indicative development schedule is summarized in **Table 1** below for technical assessment purpose. The catchment plan is shown in **Figure 4**.

Proposed Development	
Total Site Area (m^2)	122,819
Paved Area (m^2) Assume all proposed site area as paved area for assessment purpose	122,819
Northern Portion – Zone C1a, C1c, C1d (m^2)	17,206
Southern Portion – Zone C1b, C2 to C9 (m^2)	105,613

Table 1 - Key Development Parameters

3. Assessment Criteria

3.1.1 The Recommended Design Return Period based on Flood Level from SDM (Table 10) is adopted for this DIA. The recommendation is summarized in **Table 2** below.

Description	Design Return Periods
Intensively Used Agricultural Land	2 – 5 Years
Village Drainage Including Internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

Table 2– Design Return Periods under SDM

3.1.2 The proposed drainage system intended to collect runoff from internal site and external catchment. 1 in 50 years return period is adopted for the drainage design.

3.1.3 Stormwater drainage design will be carried out in accordance with the criteria set out in the Stormwater Drainage Manual published by DSD. The proposed design criteria to be adopted for design of this stormwater drainage system and factors which have been considered are summarised below.

1. Intensity-Duration-Frequency Relationship – The Recommended Intensity-Duration-Frequency relationship is used to estimate the intensity of rainfall. It can be expressed by the following algebraic equation.

$$i = \frac{a}{(t_d + b)^c}$$

The site is located within the North District Zone. Therefore, for 50 years return period, the following values are adopted.

a	=	474.6
b	=	2.9
c	=	0.371

(Corrigendum_No.1/2024)

2. The peak runoff is calculated by the Rational Method
   i.e. $Q_p = 0.278CiA$

where	Q_p	=	peak runoff in m^3/s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km^2

3. The run-off coefficient (C) of surface runoff are taken as follows:

   1. Paved Area: C = 0.95
   2. Unpaved Area: C = 0.35

4. Manning's Equation is used for calculation of velocity of flow inside the channels:

Manning's Equation: $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$

Where,

V = velocity of the pipe flow (m/s)
S_f = hydraulic gradient
n = manning's coefficient
R = hydraulic radius (m)

5. Colebrook-White Equation is used for calculation of velocity of flow inside the pipes:

Colebrook-White Equation: $\underline{v} = -\sqrt{32gRS}\ log\ log\ (\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRS_f}})$

where,

V	=	velocity of the pipe flow (m/s)
S_f	=	hydraulic gradient
k_f	=	roughness value (m)
v	=	kinematics viscosity of fluid
D	=	pipe diameter (m)
R	=	hydraulic radius (m)

6. The Brandsby William's Equation is used to determine the time of concentration.

$$t_o = \frac{0.14465L}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)

A = catchment area (m^2)

H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

7. Volume of Drainage Detention Tank:

Extreme Rainfall intensity (1 in 50 yr) at North District Area for rainfall duration of 120 mins, I = 81.8 mm/hr

(Corrigendum No.1/2024)

2 hours rainfall duration is adopted

4. Proposed Drainage System

4.1. Proposed Stormwater Storage Tank

4.1.1 As per the approved drainage proposal under planning application no. A/NE-TKLN/77, stormwater storage tank is proposed at Northern Site so as to collect additional runoff generated from the site such that there is no drainage impact to the nearby area.

4.1.2 The storage tank is proposed to collect the additional runoff for a 1 in 50 year rainfall event for 2 hours. As per the design for volume of storage tank shown in **Appendix A2**, the total storage volume of the storage tank is proposed to be 1,870 m^3.

4.1.3 During rainstorm event, runoff would be first discharged to storage tank. When the tank is full, it would overflow to existing nullah. The dimension of storage tank and overflow arrangement is shown in **Figure 3.4** and **Figure 3.5**.

4.1.4 The stored stormwater will be reused as far as practicable and the surplus water will be pumped to the existing nullah or discharge by opening penstock of overflow channel after the rainfall event. The storage tank would be emptied in 8 hours after the rainfall event. The minimum pump rate is 0.065 m^3/s and calculation is shown in **Appendix A2**. Hence, there is no additional flooding risk caused by the Proposed Development.

4.2. Proposed UChannel and Drains

4.2.1 Proposed U Channels are designed for collection of runoff for Northern and Southern Development Site. The proposed discharge point for Northern and Southern Site are existing nullah beside Lin Ma Hang Road and existing southern stream respectively. The design calculations of proposed drains are shown in **Appendix A1**.

4.2.2 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3.1** to **Figure 3.5**. The catchment plan is shown in **Figure 4**.

5. Conclusion

5.1.1 Follow by the approval drainage study in the planning application, this drainage proposal has been conducted for the Proposed Development. Stormwater Storage Tank with volume 1,870m^3 is proposed at Northern Site. The surface runoff from Northern and Southern Site will be collected by the proposed drains and discharged to existing nullah and existing southern stream respectively.

5.1.2 This drainage proposal is served to fulfil approval condition (d) under planning application no. A/NE-TKLN/77.

- End of Text -

FIGURES

NOTES:
1. ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.
4. COVER LEVEL AND INVERT LEVEL SHALL REFER TO DRAINAGE SCHEDULE IN FIGURE 3.3.
5. COVER LEVEL IS APPROXMIATE ONLY AND SHOULD BE CHECK ON SITE.
6. MANHOLE AND DRAIN PIT LOCATIONS ARE APPROXMIATE ONLY.

OVERFLOW PIPE AND CHANNEL FROM STORAGE TANK TO EXISTING NULLAH (DETAILS REFER TO FIGURE 3.4)

OVERFLOW PIPE IN CASE OF EMERGENCY SEE SECTION A OF FIGURE 3.4

1.5m (W) CHANNEL MATCH WITH IL OF EXISTING NULLAH

STORAGE TANK WITH VOLUME NOT LESS THAN 1,870 m³

P15 P14 DP1.7 DP1.6 P13 DP1.5 DP1.4a DP1.3 DP1.4 DP1.2 P3 DP2.1 DP2.2 DP2.3 DP2.4 DP2.5 DP2.6 P12 DP4.1a P1 DP4.1b P2 P6 DP4.1c DP5.1 DP4.1 DP5.2 P7 P8

UC 525, 1 IN 300
CONNECTION TO STORAGE TANK UC 525, 1 IN 300
UC 825, 1 IN 500
CONNECTION TO STORAGE TANK UC 525, 1 IN 200
CONNECTION TO STORAGE TANK UC 900, 1 IN 400
UC 525, 1 IN 200
UC 825, 1 IN 500
UC 1050, 1 IN 500
UC 750, 1 IN 500
UC 600, 1 IN 300
UC 600, 1 IN 300
UC 1200, 1 IN 300
UC 1200, 1 IN 300
UC 600, 1 IN 300
UC 1350, 1 IN 500
UC 1350, 1 IN 500
UC 525, 1 IN 100
UC 675, 1 IN 350

CUTLINE

LIN MA HANG ROAD
HEUNG YUEN WAI HIGHWAY
香園圍公路

LEGEND:

APPLICATION SITE BOUNDARY (FOR IDENTIIATION PURPOSE ONLY)

PROPOSED MANHOLE / CATCHPIT

PROPOSED UCHANNEL AS PER CEDD STANDARD DRAWING C 2409I, C 2410I, C 2412E

PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM
SHEET 1 OF 2

DRAWING NUMBER
FIGURE 3.1C

DP2.1
DP2.2
UC 1350, 1 IN 500
DP2.3
DP2.4
UC 1350, 1 IN 500
DP2.5
DP2.6
UC 1500, 1 IN 500
UC 525, 1 IN 500
DP2.7
UC 1800, 1 IN 500
DP2.9
DP2.10
DP2.11
P4
P16
DP2.8a
DP2.8b
DP2.8c
UC 525, 1 IN 500
DP3.1
UC 600, 1 IN 100
UC 525, 1 IN 100
P5
P11
DP9.1
UC 600, 1 IN 200
DP2.14
DP9.2
DP9.3
DP9.4
UC1800, 1 IN 500
CONNECTION TO SOUTHERN STREAM
UC 1800, 1 in 500 (REFER TO FIGURE 3.5)
DP2.12
DP2.13
UC 600, 1 IN 200
UC 600, 1 IN 200
DP8.6
DP8.5
DP8.4
DP8.3
DP8.2
UC 600, 1 IN 200
DP8.1
P9
P10
UC 600, 1 IN 200
DP7.2
DP7.1
UC 375, 1 IN 150
UC 375, 1 IN 80
DP6.2
DP6.1
DP5.2
P7
P8
UC 525, 1 IN 100
DP5.1
DP4.1c
UC 600, 1 IN 300
DP4.1b
UC 1200, 1 IN 300
UC 1200, 1 IN 300
DP4.1
UC 675, 1 IN 350
UC 900, 1 IN 350
CUTLINE
LIN MA HANG ROAD
HEUNG YUEN WAI HIGHWAY
簡頭圍
Kan Tau Wai

NOTES:
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.

PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM
SHEET 2 OF 2

DRAWING NUMBER
FIGURE 3.2B

DRAINAGE SCHEDULE

MANHOLE/ PIT NUMBER		CHANNEL							D/S MANHOLE/ PIT TYPE
		GROUND LEVEL		INVERT LEVEL		GRAD.	SIZE	LENGTH	
U/S	D/S	U/S	D/S	U/S	D/S	1 IN	mm	m	
P1	DP1.2	9.90	9.80	9.08	8.78	500	750	147.3	CATCH PIT
DP1.2	DP1.3	9.80	9.70	8.78	8.66	500	825	61.5	CATCH PIT
DP1.3	DP1.4	9.70	9.60	8.66	8.64	500	825	8.9	CATCH PIT
DP1.4	DP1.4a	9.60	9.60	8.64	8.55	500	825	44.6	CATCH PIT
DP1.4a	STORAGE TANK	9.60	9.60	8.55	8.54	400	900	4.0	CATCH PIT
P12	DP1.5	10.00	10.10	9.40	9.07	200	525	66.0	CATCH PIT
DP1.5	STORAGE TANK	10.10	10.10	9.07	9.05	200	525	4.0	CATCH PIT
P13	DP1.6	10.00	9.80	9.40	9.20	300	525	42.5	CATCH PIT
P14	DP1.7	9.60	9.50	9.00	8.90	300	525	12.9	CATCH PIT
DP1.7	DP1.6	9.50	9.80	8.90	8.76	300	525	41.7	CATCH PIT
DP1.6	STORAGE TANK	9.80	9.80	8.76	8.75	300	525	4.0	CATCH PIT
P15	DP1.4a	9.60	9.60	9.00	8.92	300	525	22.7	CATCH PIT
STORAGE TANK	NULLAH	9.60	9.10	8.54	8.43	100	600	6.0	EXISTING NULLAH
P3	DP2.1	9.80	9.50	8.68	8.49	500	1050	91.3	G1
DP2.1	DP2.2	9.50	9.50	8.39	8.35	500	1350	18.9	J
DP2.2	DP2.3	9.50	9.50	8.35	8.33	500	1350	14.4	J
DP2.3	DP2.4	9.50	9.50	8.33	8.28	500	1350	24.4	J
DP2.4	DP2.5	9.50	9.60	8.28	8.19	500	1350	44.3	J
DP2.5	DP2.6	9.60	9.50	8.19	8.09	500	1350	49.7	J
DP2.6	DP2.7	9.50	9.00	8.09	7.83	500	1500	129.2	J
DP2.7	DP2.9	9.00	8.80	7.81	7.77	500	1800	18.6	J
DP2.9	DP2.10	8.80	9.00	7.67	7.55	500	1800	61.4	J
DP2.10	DP2.11	9.00	9.00	7.55	7.54	500	1800	6.4	J
DP2.11	DP2.12	9.00	9.00	7.54	7.32	500	1800	108.5	J
DP2.12	DP2.13	9.00	9.00	7.32	7.26	500	1800	30.6	J
DP2.13	DP2.14	9.00	9.10	7.26	7.13	500	1800	65.9	J
DP2.14	OULET	9.10	9.10	7.13	7.12	500	1800	4.0	TO SOUTHERN STREAM
P4	DP2.7	8.80	9.00	8.20	8.11	500	525	47.4	CATCH PIT
P16	DP2.8a	8.80	8.80	8.20	8.18	500	525	8.4	CATCH PIT
DP2.8a	DP2.8b	8.80	8.80	8.18	8.12	500	525	33.5	CATCH PIT
DP2.8b	DP2.8c	8.80	8.80	8.12	8.09	500	525	11.3	CATCH PIT
DP2.8c	DP2.9	8.80	8.80	8.09	8.07	500	525	11.3	CATCH PIT
P5	DP3.1	9.50	9.40	8.83	8.23	100	600	60.0	CATCH PIT
DP3.1	DP2.10	9.40	9.00	8.23	7.94	100	600	28.4	CATCH PIT
P2	D4.1a	10.10	10.10	9.43	9.13	300	600	88.7	CATCH PIT
D4.1a	D4.1b	10.10	9.90	9.13	8.79	300	600	102.2	CATCH PIT
P6	DP4.1c	10.10	10.10	9.43	9.17	300	600	77.9	CATCH PIT
DP4.1c	D4.1b	10.10	9.90	9.17	8.63	300	1200	107.0	G1
D4.1b	DP4.1	9.90	9.80	8.63	8.19	300	1200	129.3	G1
DP4.1	DP2.11	9.80	9.00	8.19	7.67	300	1200	158.5	G1
P7	DP5.1	13.50	10.10	12.90	9.50	100	525	112.7	CATCH PIT
DP5.1	DP5.2	10.10	10.10	9.50	9.22	350	675	99.0	CATCH PIT
DP5.2	DP2.12	10.10	9.00	9.22	8.03	350	900	186.2	CATCH PIT
P8	DP6.1	13.50	11.80	13.05	11.35	80	375	48.8	CATCH PIT
DP6.1	DP6.2	11.80	11.20	11.35	10.75	80	375	37.1	CATCH PIT
DP6.2	DP5.2	11.20	10.10	10.70	9.65	80	375	41.8	CATCH PIT
P9	DP7.1	11.90	11.50	11.45	11.05	80	375	26.2	CATCH PIT
DP7.1	DP7.2	11.50	11.50	11.05	10.97	150	375	11.7	CATCH PIT
DP7.2	DP6.2	11.50	11.20	10.97	10.70	150	375	40.1	CATCH PIT
P10	DP8.1	11.90	11.90	11.23	11.15	200	600	14.8	CATCH PIT
DP8.1	DP8.2	11.90	9.60	11.15	8.93	200	600	66.2	CATCH PIT
DP8.2	DP8.3	9.60	9.60	8.93	8.80	200	600	24.9	CATCH PIT
DP8.3	DP8.4	9.60	9.55	8.80	8.71	200	600	17.6	CATCH PIT
DP8.4	DP8.5	9.55	9.50	8.71	8.40	200	600	62.5	CATCH PIT
DP8.5	DP8.6	9.50	9.20	8.40	8.06	200	600	67.5	CATCH PIT
DP8.6	DP2.13	9.20	9.00	8.06	7.93	200	600	27.3	CATCH PIT
P11	DP9.1	9.50	9.10	8.90	8.36	100	525	53.9	CATCH PIT
DP9.1	DP9.2	9.10	9.10	8.36	8.10	200	600	52.9	CATCH PIT
DP9.2	DP9.3	9.10	9.10	8.10	8.07	200	600	6.0	CATCH PIT
DP9.3	DP9.4	9.10	9.10	8.07	8.02	200	600	10.1	CATCH PIT
DP9.4	DP2.14	9.10	9.10	8.02	7.81	200	600	41.9	CATCH PIT

* DETAIL OF CONNECTION SHALL REFER TO FIGURE 3.4 AND 3.5

NOTES:

1. ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5.
4. CATCHPIT AND COVER REFER TO CEDD STANDARD DRAWINGS NO. C 2405/ 1,C 2405/2,C 2405/3, C 2405/4, C 2405/5,C 2406/1, C 2406/2.
5. MANHOLE TYPE G1 AND TYPE J SHALL REFER TO DSD STANDARD DRAWING DS 1082 C AND DS 1013E RESPECTIVELY.
6. COVER LEVELS AND CONNECTION LEVELS ARE APPROXMIATE ONLY AND SHOULD BE CHECK ON SITE.
7. MANHOLE AND DRAIN PIT LOCATIONS ARE APPROXMIATE ONLY.

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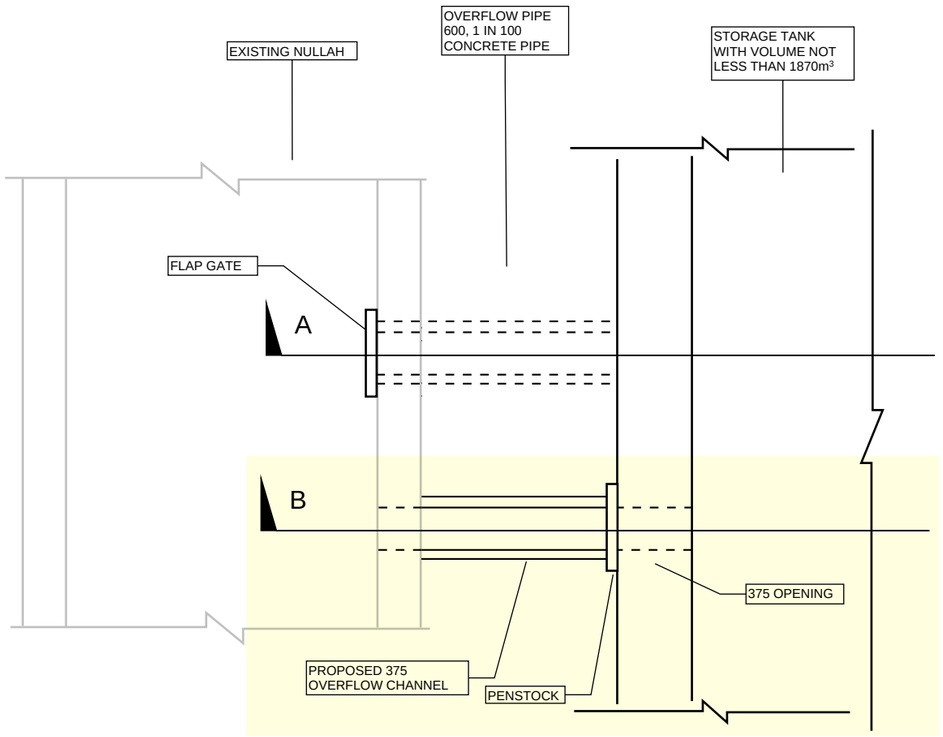
REV	DESCRIPTION	DATE

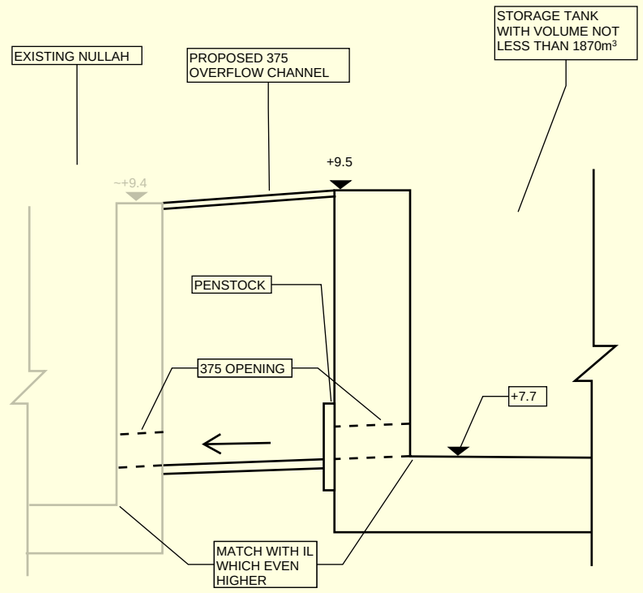
DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DRAINAGE SCHEDULE

DRAWING NUMBER
FIGURE 3.3B



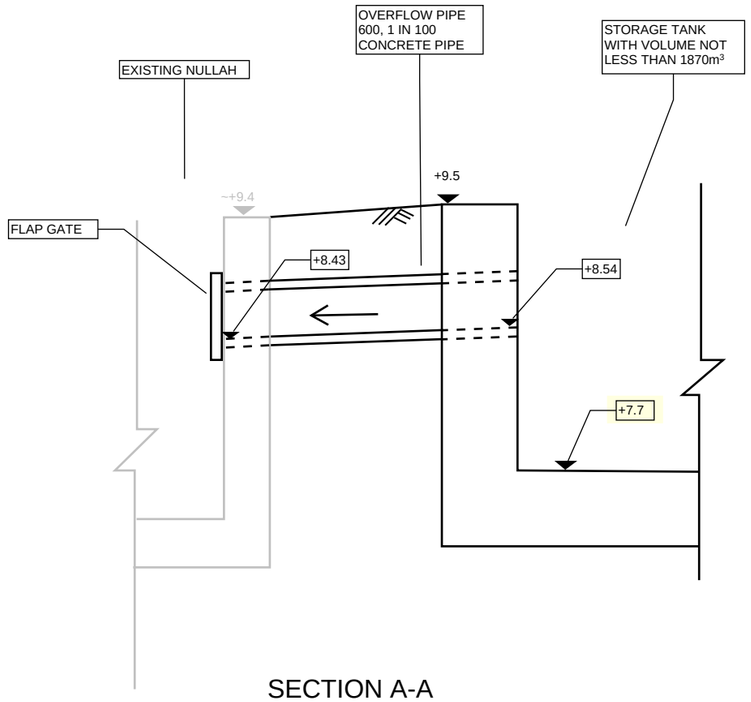
PLAN

NOTES:
1.ALL DIMENSION ARE IN mm UNLESS OTHERWISE STATED.
2.LEVELS OF DRAINS SHALL REFER TO DRAINAGE SCHEDULE AT FIGURE 3.3
3.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5..



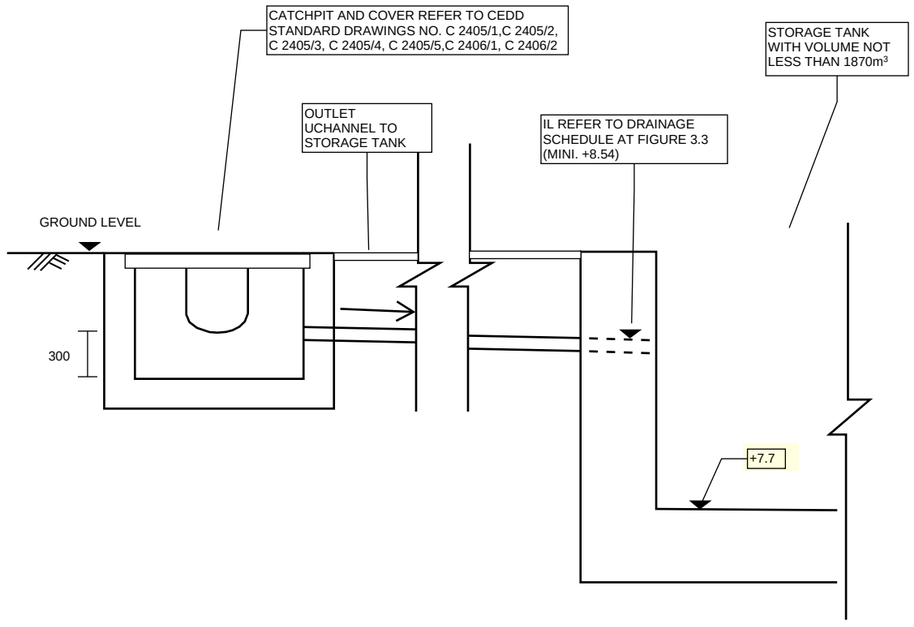
SECTION B-B

DETAIL OF OVERFLOW PIPE FROM STORAGE TANK
TO EXISTING NULLAH
N.T.S



SECTION A-A

DETAIL OF OVERFLOW PIPE FROM STORAGE TANK
TO EXISTING NULLAH
N.T.S



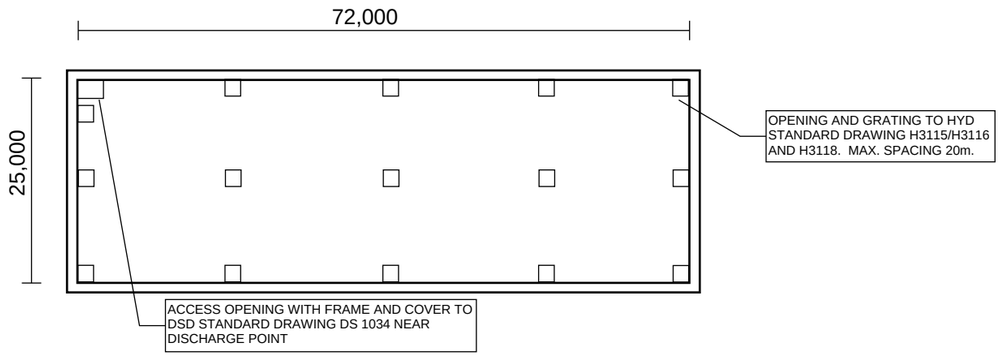
TYPICAL DETAIL OF CONNECTION OF CATCHPIT TO STORAGE TANK
N.T.S

PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in “Recreation” Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

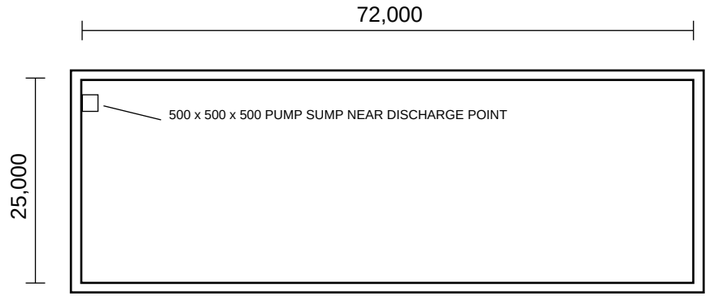
REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DETAILS
SHEET 1 OF 2

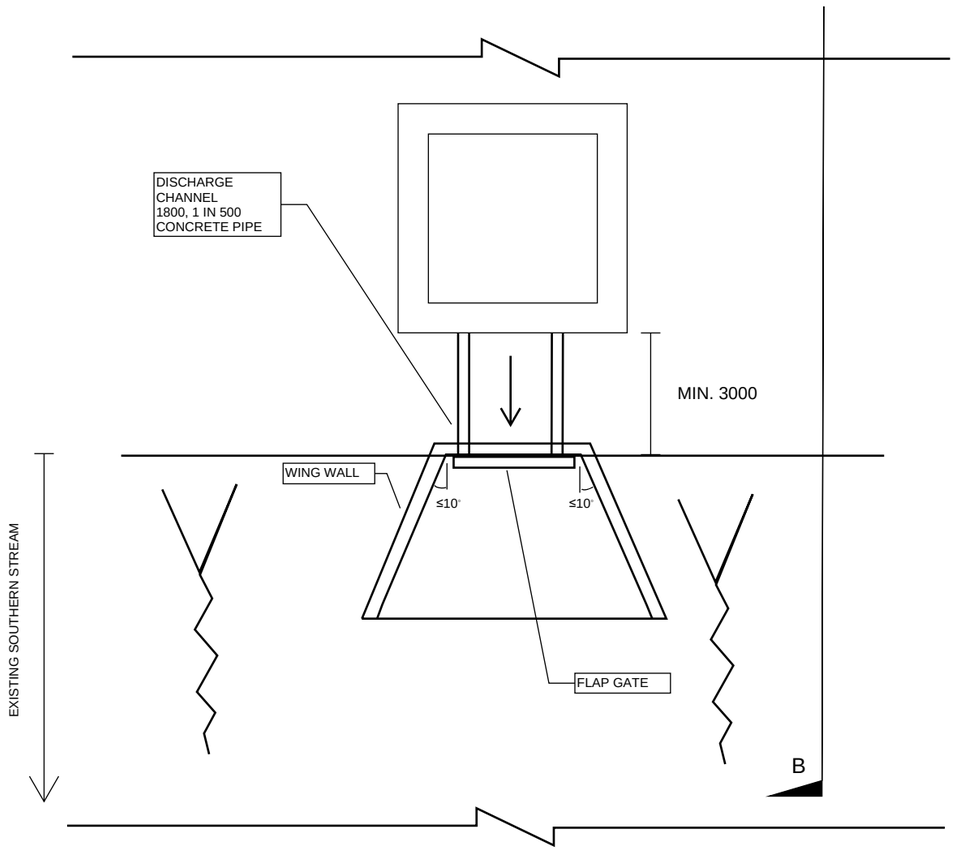
DRAWING NUMBER
FIGURE 3.4B



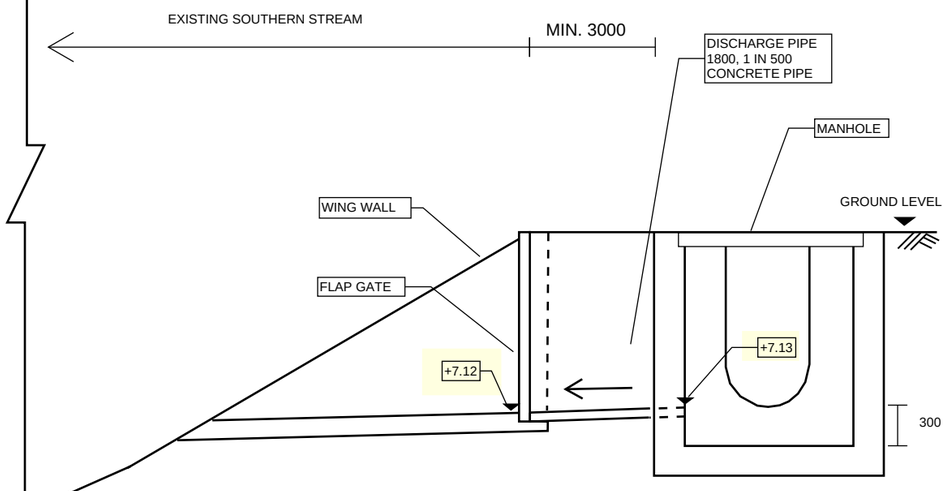
PLAN (GROUND LEVEL)
APPROX. INTERNAL DIMENSION OF STORAGE TANK



PLAN (UNDERGROUND LEVEL)
APPROX. INTERNAL DIMENSION OF STORAGE TANK



PLAN



SECTION B-B

DETAIL OF DISCHARGE PIPE TO SOUTHERN STREAM
TO EXISTING NULLAH
N.T.S

PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

NOTES:
1.ALL DIMENSION ARE IN mm UNLESS OTHERWISE STATED.
2.LEVELS OF DRAINS SHALL REFER TO DRAINAGE SCHEDULE AT FIGURE 3.3
3.THIS DRAWING SHALL BE READ IN CONJUNCTION WITH FIGURE 3.1 TO 3.5..

REV	DESCRIPTION	DATE

DRAWING TITLE
PROPOSED DRAINAGE SYSTEM - DETAILS SHEET 2 of 2

DRAWING NUMBER
FIGURE 3.5A

LEGEND:

APPLICATION SITE BOUNDARY
(FOR IDENTIFICATION PURPOSE ONLY)

FALL

+9.6 EXISTING LEVEL

+9.6 PROPOSED LEVEL

ZONE E1
560 m² Unpaved

ZONE C1c
4,153 m² Paved

ZONE C1d
5,550m² Paved

ZONE C1
21,795 m² Paved

ZONE E7
506 m² Unpaved

ZONE C2a
14,641 m² Paved

ZONE C1a
7,503 m² Paved

ZONE C1b
4,589 m² Paved

ZONE C2c
10,696 m² Paved

ZONE C3
31,170 m² Paved

ZONE C4
7,158 m² Paved

ZONE E2
7,564 m²
50% paved
(3782:3782m²)

ZONE C2
37,527m² Paved

ZONE C5
9,788 m² Paved

ZONE E4
3,196 m² Unpaved

ZONE E5
2,200 m² Unpaved

ZONE E6
2,377 m² Unpaved

ZONE E2a
938 m² Unpaved

ZONE C2c
758 m² Paved

ZONE E3
5,207 m² Unpaved

ZONE C8
4,808m² Paved

ZONE C9
2,480 m² Paved

ZONE C6
924 m² Paved

ZONE C7
7,169 m² Paved

Kaw Liu Village

Kan Tau Wai

HEUNG YUEN WAI HIGHWAY

PING YUEN RIVER

PROJECT:
Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

REV	DESCRIPTION	DATE

DRAWING TITLE
CATCHMENT PLAN

DRAWING NUMBER
FIGURE 4A

APPENDIX

Appendix A1 - Drainage Design

MANHOLE/ PIT NUMBER		CHANNEL							D/S MANHOLE/	CAPACITY		PAVED AREA		GRASSLAND		EQUIVALENT		INTENSITY	DISCHARE	
		GROUND LEVEL		INVERT LEVEL		GRAD.	SIZE	LENGTH	PIT TYPE	VELOCITY			C	AREA	C	AREA	Tc	I	RATE	Utilization
U/S	D/S	U/S	D/S	U/S	D/S	1 IN	mm	m		m/s	m^3/s	m^2		m^2		m^2	mins.	mm/hr	m^3/s	%
P1	DP1.2	9.90	9.80	9.08	8.78	500	750	147.3	CATCH PIT	1.30	0.654	7,503	0.95	-	0.35	7,127.85	5.00	220	0.44	67%
DP1.2	DP1.3	9.80	9.70	8.78	8.66	500	825	61.5	CATCH PIT	1.39	0.843	13,053	0.95	560	0.35	12,596.35	6.88	204	0.71	85%
DP1.3	DP1.4	9.70	9.60	8.66	8.64	500	825	8.9	CATCH PIT	1.39	0.843	13,053	0.95	560	0.35	12,596.35	7.62	198	0.69	82%
DP1.4	DP1.4a	9.60	9.60	8.64	8.55	500	825	44.6	CATCH PIT	1.39	0.843	13,053	0.95	560	0.35	12,596.35	7.73	197	0.69	82%
DP1.4a	STORAGE TANK	9.60	9.60	8.55	8.54	400	900	4.0	CATCH PIT	1.64	1.189	18,770	0.95	560	0.35	18,027.50	8.26	194	0.97	82%
P12	DP1.5	10.00	10.10	9.40	9.07	200	525	66.0	CATCH PIT	1.62	0.400	4,153	0.95	-	0.35	3,945.35	5.00	220	0.24	61%
DP1.5	STORAGE TANK	10.10	10.10	9.07	9.05	200	525	4.0	CATCH PIT	1.62	0.400	4,153	0.95	-	0.35	3,945.35	5.68	214	0.23	59%
P13	DP1.6	10.00	9.80	9.40	9.20	300	525	42.5	CATCH PIT	1.33	0.326	4,153	0.95	-	0.35	3,945.35	5.00	220	0.24	74%
P14	DP1.7	9.60	9.50	9.00	8.90	300	525	12.9	CATCH PIT	1.33	0.326	4,153	0.95	560	0.35	4,141.35	5.00	220	0.25	78%
DP1.7	DP1.6	9.50	9.80	8.90	8.76	300	525	41.7	CATCH PIT	1.33	0.326	4,153	0.95	560	0.35	4,141.35	5.16	219	0.25	77%
DP1.6	STORAGE TANK	9.80	9.80	8.76	8.75	300	525	4.0	CATCH PIT	1.33	0.326	4,153	0.95	560	0.35	4,141.35	5.69	214	0.25	75%
P15	DP1.4a	9.60	9.60	9.00	8.92	300	525	22.7	CATCH PIT	1.33	0.326	4,153	0.95	560	0.35	4,141.35	5.00	220	0.25	78%
STORAGE TANK	NULLAH	9.60	9.10	8.54	8.43	100	600	6.0	EXISTING NULLAH	Refer to Overflow Pipe Design										
P3	DP2.1	9.80	9.50	8.68	8.49	500	1050	91.3	G1	1.61	1.517	14,641	0.95	506	0.35	14,086.05	5.00	220	0.86	57%
DP2.1	DP2.2	9.50	9.50	8.39	8.35	500	1350	18.9	J	1.83	2.385	29,119	0.95	4,288	0.35	29,163.85	5.94	211	1.71	72%
DP2.2	DP2.3	9.50	9.50	8.35	8.33	500	1350	14.4	J	1.85	2.501	29,119	0.95	4,288	0.35	29,163.85	6.11	210	1.70	68%
DP2.3	DP2.4	9.50	9.50	8.33	8.28	500	1350	24.4	J	1.86	2.589	29,119	0.95	4,288	0.35	29,163.85	6.24	209	1.69	65%
DP2.4	DP2.5	9.50	9.60	8.28	8.19	500	1350	44.3	J	1.88	2.740	29,119	0.95	4,288	0.35	29,163.85	6.46	207	1.68	61%
DP2.5	DP2.6	9.60	9.50	8.19	8.09	500	1350	49.7	J	1.95	3.328	29,119	0.95	4,288	0.35	29,163.85	6.85	204	1.65	50%
DP2.6	DP2.7	9.50	9.00	8.09	7.83	500	1500	129.2	J	1.94	2.935	41,309	0.95	4,288	0.35	40,744.35	7.28	201	2.27	77%
DP2.7	DP2.9	9.00	8.80	7.81	7.77	500	1800	18.6	J	1.98	2.966	41,309	0.95	9,495	0.35	42,566.80	8.39	193	2.29	77%
DP2.9	DP2.10	8.80	9.00	7.67	7.55	500	1800	61.4	J	2.04	3.436	41,309	0.95	9,495	0.35	42,566.80	8.55	192	2.27	66%
DP2.10	DP2.11	9.00	9.00	7.55	7.54	500	1800	6.4	J	2.21	5.000	46,117	0.95	9,495	0.35	47,134.40	9.05	189	2.48	50%
DP2.11	DP2.12	9.00	9.00	7.54	7.32	500	1800	108.5	J	2.22	5.063	81,876	0.95	9,495	0.35	81,105.45	9.09	189	4.26	84%
DP2.12	DP2.13	9.00	9.00	7.32	7.26	500	1800	30.6	J	2.30	6.145	99,746	0.95	14,891	0.35	99,970.55	9.91	184	5.12	83%
DP2.13	DP2.14	9.00	9.10	7.26	7.13	500	1800	65.9	J	2.32	6.453	106,915	0.95	17,268	0.35	107,613.05	10.13	183	5.48	85%
DP2.14	OULET	9.10	9.10	7.13	7.12	500	1800	4.0	TO SOUTHERN STREAM	2.38	7.629	109,395	0.95	17,268	0.35	109,969.05	10.61	181	5.52	72%
P4	DP2.7	8.80	9.00	8.20	8.11	500	525	47.4	CATCH PIT	1.03	0.253	758	0.95	938	0.35	1,048.40	5.00	220	0.06	25%
P16	DP2.8a	8.80	8.80	8.20	8.18	500	525	8.4	CATCH PIT	1.03	0.253	758	0.95	938	0.35	1,048.40	5.00	220	0.06	25%
DP2.8a	DP2.8b	8.80	8.80	8.18	8.12	500	525	33.5	CATCH PIT	1.03	0.253	758	0.95	938	0.35	1,048.40	5.00	220	0.06	25%
DP2.8b	DP2.8c	8.80	8.80	8.12	8.09	500	525	11.3	CATCH PIT	1.03	0.253	758	0.95	938	0.35	1,048.40	5.00	220	0.06	25%
DP2.8c	DP2.9	8.80	8.80	8.09	8.07	500	525	11.3	CATCH PIT	1.03	0.253	758	0.95	938	0.35	1,048.40	5.00	220	0.06	25%
P5	DP3.1	9.50	9.40	8.83	8.23	100	600	60.0	CATCH PIT	2.51	0.807	4,808	0.95	5,207	0.35	6,390.05	5.00	220	0.39	49%
DP3.1	DP2.10	9.40	9.00	8.23	7.94	100	600	28.4	CATCH PIT	2.51	0.807	4,808	0.95	5,207	0.35	6,390.05	5.40	216	0.38	48%
P2	D4.1a	10.10	10.10	9.43	9.13	300	600	88.7	CATCH PIT	1.45	0.466	4,589	0.95	-	0.35	4,359.55	5.00	220	0.27	57%
D4.1a	D4.1b	10.10	9.90	9.13	8.79	300	600	102.2	CATCH PIT	1.45	0.466	4,589	0.95	-	0.35	4,359.55	6.02	211	0.26	55%
P6	DP4.1c	10.10	10.10	9.43	9.17	300	600	77.9	CATCH PIT	1.45	0.466	4,589	0.95	-	0.35	4,359.55	5.00	220	0.27	57%
DP4.1c	D4.1b	10.10	9.90	9.17	8.63	300	1200	107.0	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	5.90	212	2.00	68%
D4.1b	DP4.1	9.90	9.80	8.63	8.19	300	1200	129.3	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	6.67	205	1.94	66%
DP4.1	DP2.11	9.80	9.00	8.19	7.67	300	1200	158.5	G1	2.30	2.957	35,759	0.95	-	0.35	33,971.05	7.61	198	1.87	63%
P7	DP5.1	13.50	10.10	12.90	9.50	100	525	112.7	CATCH PIT	2.30	0.565	7,158	0.95	-	0.35	6,800.10	5.00	220	0.42	74%
DP5.1	DP5.2	10.10	10.10	9.50	9.22	350	675	99.0	CATCH PIT	1.45	0.590	7,158	0.95	-	0.35	6,800.10	5.82	213	0.40	68%
DP5.2	DP2.12	10.10	9.00	9.22	8.03	350	900	186.2	CATCH PIT	1.76	1.271	16,946	0.95	5,396	0.35	17,987.30	6.95	203	1.02	80%
P8	DP6.1	13.50	11.80	13.05	11.35	80	375	48.8	CATCH PIT	2.05	0.258	-	0.95	3,196	0.35	1,118.60	5.00	220	0.07	27%
DP6.1	DP6.2	11.80	11.20	11.35	10.75	80	375	37.1	CATCH PIT	2.05	0.258	-	0.95	3,196	0.35	1,118.60	5.40	216	0.07	26%
DP6.2	DP5.2	11.20	10.10	10.70	9.65	80	375	41.8	CATCH PIT	2.05	0.258	-	0.95	5,396	0.35	1,888.60	5.70	214	0.11	44%
P9	DP7.1	11.90	11.50	11.45	11.05	80	375	26.2	CATCH PIT	2.05	0.258	-	0.95	2,200	0.35	770.00	5.00	220	0.05	18%
DP7.1	DP7.2	11.50	11.50	11.05	10.97	150	375	11.7	CATCH PIT	1.50	0.188	-	0.95	2,200	0.35	770.00	5.21	218	0.05	25%
DP7.2	DP6.2	11.50	11.20	10.97	10.70	150	375	40.1	CATCH PIT	1.50	0.188	-	0.95	2,200	0.35	770.00	5.34	217	0.05	25%
P10	DP8.1	11.90	11.90	11.23	11.15	200	600	14.8	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	5.00	220	0.47	82%
DP8.1	DP8.2	11.90	9.60	11.15	8.93	200	600	66.2	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	5.14	219	0.47	82%
DP8.2	DP8.3	9.60	9.60	8.93	8.80	200	600	24.9	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	5.76	213	0.45	79%
DP8.3	DP8.4	9.60	9.55	8.80	8.71	200	600	17.6	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	5.99	211	0.45	79%
DP8.4	DP8.5	9.55	9.50	8.71	8.40	200	600	62.5	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	6.16	210	0.45	78%
DP8.5	DP8.6	9.50	9.20	8.40	8.06	200	600	67.5	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	6.75	205	0.43	76%
DP8.6	DP2.13	9.20	9.00	8.06	7.93	200	600	27.3	CATCH PIT	1.78	0.570	7,169	0.95	2,377	0.35	7,642.50	7.38	200	0.42	74%
P11	DP9.1	9.50	9.10	8.90	8.36	100	525	53.9	CATCH PIT	2.30	0.565	2,480	0.95	5,207	0.35	4,178.45	5.00	220	0.26	45%
DP9.1	DP9.2	9.10	9.10	8.36	8.10	200	600	52.9	CATCH PIT	1.78	0.570	2,480	0.95	5,207	0.35	4,178.45	5.39	217	0.25	44%
DP9.2	DP9.3	9.10	9.10	8.10	8.07	200	600	6.0	CATCH PIT	1.78	0.570	2,480	0.95	5,207	0.35	4,178.45	5.89	212	0.25	43%
DP9.3	DP9.4	9.10	9.10	8.07	8.02	200	600	10.1	CATCH PIT	1.78	0.570	2,480	0.95	5,207	0.35	4,178.45	5.94	211	0.25	43%
DP9.4	DP2.14	9.10	9.10	8.02	7.81	200	600	41.9	CATCH PIT	1.78	0.570	2,480	0.95	5,207	0.35	4,178.45	6.04	211	0.24	43%

Appendix A2 - Volume Required for Stormwater Storage Tank

Area of Site		17,206	m^2	(Catchment C1a, C1c, C1d)
Design Return Period	1 in	50	yr	
Assume change of pavement ratio before and after development				
From	5% to	100%	Paved	
North District				
Rainfall intensity (1 in 50 yr)	I =	81.8	mm/hr	(Corrigendum No.1/2024)
		2	hours rainfall duration is adopted	

Pre-Development Volume of Runoff in 2 hours

Paved Area	17206 x 0.05 =	860.3	m^2
Unpaved Area	17206 x (1 - 0.05) =	16345.7	m^2
Total Equivalent Area	860 x 0.95 + 16346 x 0.35=	6538.3	m^2
Rainfall Intensity, I		81.8	mm/hr
Design Discharge Rate, Q	0.278 x 6538 x 82 / 1000000 =	0.149	m^3/s
Volume of Runoff in 2 hours	0.149 x 2 x 60 x 60 =	1,071	m^3

Post-Development Volume of Runoff in 2 hours

Paved Area	(17206 - 0) x 1 =	17206	m^2
Unpaved Area	17206 x (1 - 1) =	0	m^2
Total Equivalent Area	17206x0.95 + 0x0.35=	16345.7	m^2
Rainfall Intensity, I		81.8	mm/hr
Design Discharge Rate, Q	0.278 x 16346 x 82 / 1000000 =	0.372	m^3/s
Volume of Runoff in 2 hours	0.372 x 2 x 60 x 60 =	2,676	m^3

Increase in Runoff Volume (2 hours)	2676 - 1071 =	1,606	m^3

Proposed Storage Tank	Volume		1,870 m^3	allow for buffer volume for site formation

Provide Storage Tank	Area	= 72 x 25 =	1,800 m^2	As discussed with DSD, the water storage level is adjusted as agreed
	Depth	= 8.74 - 7.7 =	1.04 m	
	Volume	=	1,873 m^3	

Minimum Pump Rate for discharge of water from storage tank to existing stream (in 8 hours after rainfall event)

Volumn of stored water	1,873	m^3
Disharge Duration	8	hr
Minimum Discharge Rate	0.065	m^3/s

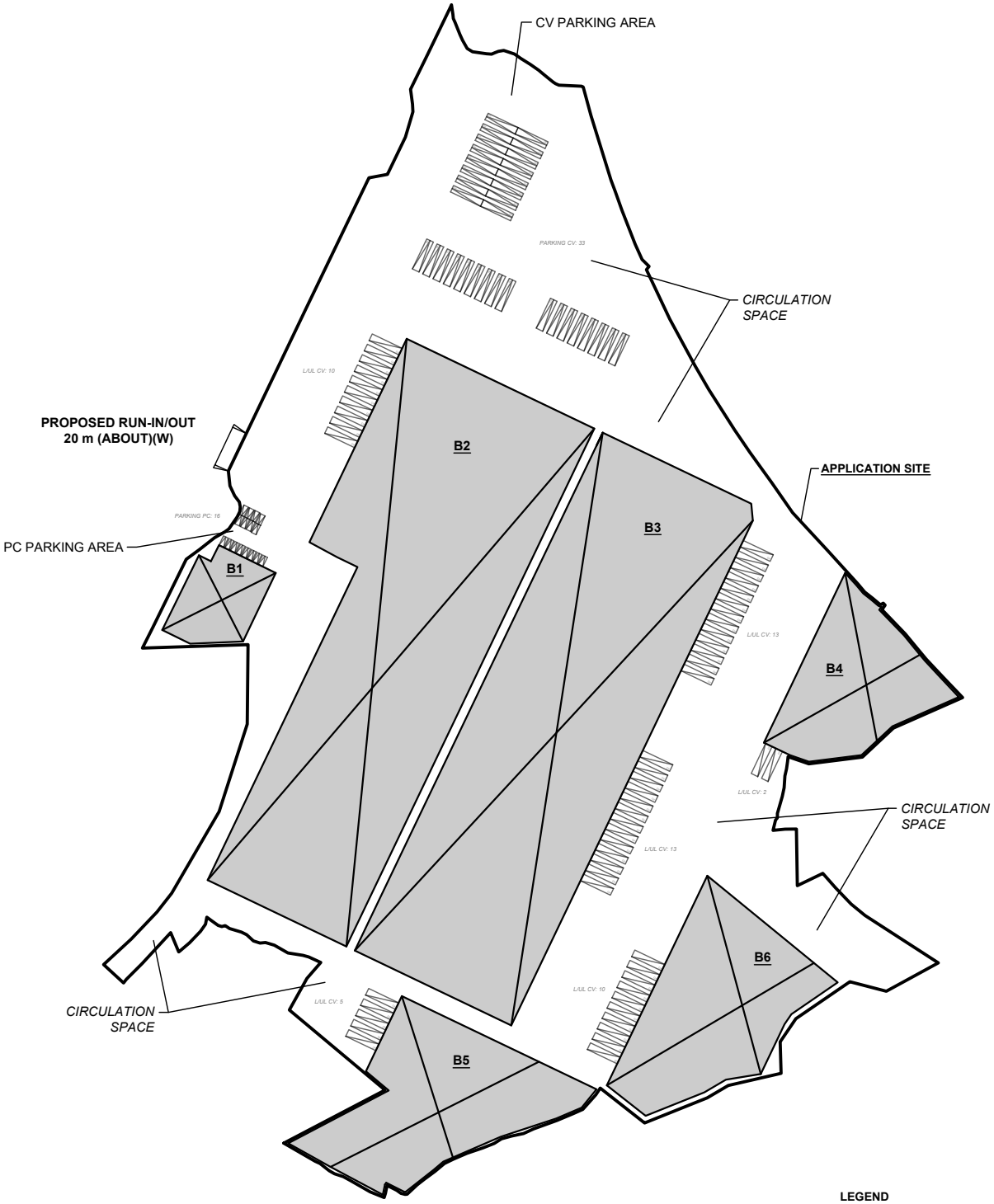
Appendix B - Proposed Development Layout Plan

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 122,819 m^2	(ABOUT)
COVERED AREA	: 64,763 m^2	(ABOUT)
UNCOVERED AREA	: 58,056 m^2	(ABOUT)
PLOT RATIO	: 0.63	(ABOUT)
SITE COVERAGE	: 53 %	(ABOUT)
NO. OF STRUCTURE	: 6	
DOMESTIC GFA	: N/A	
NON-DOMESTIC GFA	: 76,995 m^2	(ABOUT)
TOTAL GFA	: 76,995 m^2	(ABOUT)
BUILDING HEIGHT	: 7 m - 15 m	(ABOUT)
NO. OF STOREY	: 1 - 2	

		AREA		HEIGHT
B1	OFFICE AND WASHROOM	1,615 m^2 (ABOUT)	3,230 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
B2	LOGISTICS CENTRE	23,275 m^2 (ABOUT)	23,275 m^2 (ABOUT)	15 m (ABOUT)(1-STOREY)
B3	LOGISTICS CENTRE	23,016 m^2 (ABOUT)	23,016 m^2 (ABOUT)	15 m (ABOUT)(1-STOREY)
B4	WAREHOUSE (EXCL. D.G.G.)	4,245 m^2 (ABOUT)	8,490 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B5	WAREHOUSE (EXCL. D.G.G.)	6,372 m^2 (ABOUT)	12,744 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B6	WAREHOUSE (EXCL. D.G.G.)	6,240 m^2 (ABOUT)	6,240 m^2 (ABOUT)	15 m (ABOUT)(1-STOREY)
	TOTAL	**64,763 m^2** (ABOUT)	**76,995 m^2** (ABOUT)	

*D.G.G. - DANGEROUS GOODS GODOWN



PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 16
DIMENSION OF PARKING SPACE	: 5 m (L) x 2.5 m (W)
NO. OF CONTAINER VEHICLE PARKING SPACE	: 33
DIMENSION OF L/UL SPACE	: 16 m (L) x 3.5 m (W)
NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 53
DIMENSION OF L/UL SPACE	: 16 m (L) x 3.5 m (W)

LEGEND

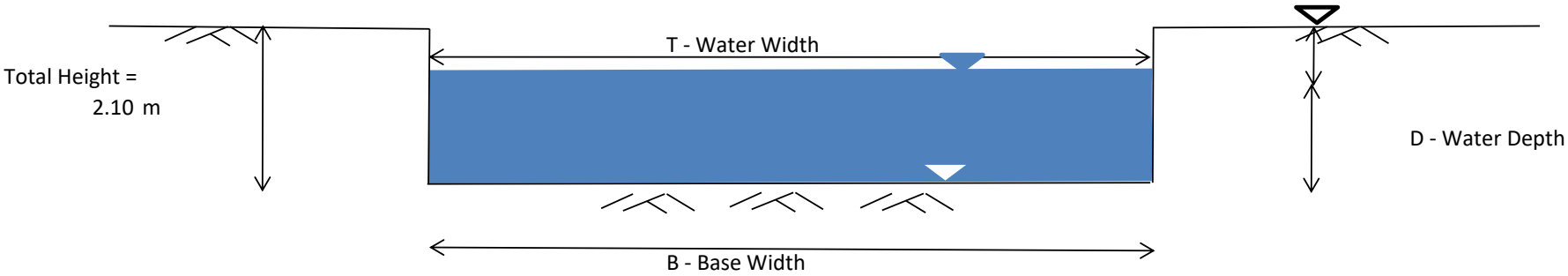
- APPLICATION SITE
- INGRESS / EGRESS
- STRUCTURE
- PARKING SPACE (PC)
- PARKING SPACE (CV)
- LOADING/UNLOADING SPACE (CV)

PROJECT: PROPOSED TEMPORARY LOGISTICS CENTRE, WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) AND CONTAINER VEHICLE PARK WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS	ADDRESS: VARIOUS LOTS IN D.D. 78 AND D.D. 82 AND ADJOINING GOVERNMENT LAND, TA KWU LING, NEW TERRITORIES	SCALE: 1 : 3000 @ A4	TITLE: LAYOUT PLAN
		DRAWN BY: MN / DATE: 20.5.2024	
		REVISED BY / DATE	DWG NO.: PLAN 12 / VER.: 004

NORTH, W, E, S

Appendix C - Assessment of Southern Stream against Site Discharge

Checking of Capacity of Southern Stream



Scenario & Case	Assumed Water Depth (m)	Water Width (m)	Base Width (m)	Area (m^2)	Wetted Perimeter (m)	Hydralic Radius (m)	Manning's Roughness n	Friction Slope S_f (1 in)	Velocity (m/s)	Capacity (m^3/s)
A	D_1	T	B	A_1	P_1	R_1	n	S_f	V_1	Q_1
	1.60	13.00	13	20.80	16.20	1.28	0.035	150	2.7558	57.321

Discharge Rate to existing southern stream		=	5.26	m^3/s	
Utilitization	5.259 / 57.321	=	9.18	%	OK

Appendix IV

Fire Service Installations Proposal

F.S. NOTES:

1. GENERAL

1.1 FIRE SERVICE INSTALLATIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE CODES OF PRACTICE FOR MINIMUM FIRE SERVICE INSTALLATIONS AND EQUIPMENT AND INSPECTION, TESTING AND MAINTENANCE OF INSTALLATIONS AND EQUIPMENT 2022 (COP 2022), FSD CIRCULAR LETTERS AND THE HONG KONG WATERWORKS STANDARD REQUIREMENTS. [SEP 2022]"

1.2 ALL TUBES AND FITTINGS SHALL BE G.M.S. TO BS1387 MEDIUM GRADE WHERE PIPEWORK UP TO ø150mm.

1.3 ALL TUBES AND FITTINGS SHALL BE DUCTILE IRON TO BS EN545 K12 WHERE PIPEWORK ABOVE ø150mm.

1.4 ALL DRAIN PIPES SHALL BE DISCHARGED TO A CONSPICUOUS POSITION WITHOUT THE POSSIBILITY OF BEING SUBMERGED.

1.5 ALL PUDDLE FLANGES SHALL BE MADE OF DUCTILE IRON

1.6 SMOKE EXTRACTION SYSTEM(S) SHALL NOT BE PROVIDED AS THE AGGREGATE AREA OF OPERABLE WINDOW OF STRUCTURE EXCEEDS 6.25% OF THE FLOOR AREA OF THE COMPARTMENT.

1.7 VENTILATION/AIR CONDITIONING SYSTEM NOT TO BE PROVIDED.

2. AUTOMATIC SPRINKLER SYSTEM

2.1 AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH LPC RULES FOR AUTOMATIC SPRINKLER INSTALLATIONS INCORPORATING BS EN 12845: 2015 (INCLUDING TECHNICAL BULLETINS, NOTES, COMMENTAR AND RECOMMENDATIONS) AND FSD CIRCULAR LETTER NO. 5/2020. THE CLASSIFICATION OF THE OCCUPANCIES WILL BE ORDINARY HAZARD GROUP III.

2.2 ONE 135m^3 SPRINKLER WATER TANK WILL BE PROVIDED AS INDICATED ON PLAN. THE TOWN MAIN WATER SUPPLY WILL BE FED FROM SINGLE END.

2.3 TWO SPRINKLER PUMPS (DUTY/STANDBY) AND ONE JOCKEY PUMP SHALL BE PROVIDED IN FS PUMP ROOM LOCATED AT EXTERNAL AREA.

2.4 SPRINKLER CONTROL VALVE SET AND SPRINKLER INLET SHALL BE PROVIDED AS INDICATED ON PLAN.

2.5 A TEST VALVE SHALL BE PROVIDED FOR EACH ZONE OF SPRINKLER PIPE. THIS VALVE SHALL BE AT A CONSPICUOUS POSITION THAT WATER CAN BE DRAINED AWAY EASILY.

2.6 ALL SUBSIDIARY STOP VALVES TO BE ELECTRIC MONITORING TYPE.

2.7 ALL ELECTRIC TYPE VALVES SHOULD GIVE VISUAL SIGNALS TO FIRE SERVICE MAIN SUPERVISORY CONTROL PANEL TO INDICATE THE STATUS (OPEN/CLOSE) OF THE VALVES.

2.8 SECONDARY ELECTRICITY SUPPLY DIRECTLY TEE OFF BEFORE CLP'S INCOMING MAIN SWITCH SHALL BE PROVIDED FOR THE SPRINKLER PUMPS.

2.9 THE SPRINKLER SYSTEM DESIGN IS BASED ON THE FOLLOWINGS:
HAZARD CLASS : ORDINARY HAZARD GROUP III
TYPE OF STORAGE : POST-PALLET (ST2)
STORAGE CATEGORY : CATEGORY I
MAXIMUM STORAGE HIEGHT : 3.5m
SPRINKLER PROTECTION : CEILING PROTECTION ONLY
THE MAXIMUM STORAGE AREAS SHALL BE 50m^2 FOR SINGLE BLOCK
THE MINIMUM CLEARANCE AROUND EACH SINGLE STORAGE CLOCK : 2.4m

3. FIRE DETECTOR SYSTEM

3.1 THE STAND-ALONE FIRE DETECTOR SHALL BE PROVIDED IN ACCORDANCE WITH THE "STAND-ALONE FIRE DETECTOR GENERAL GUIDELINES ON PURCHASE, INSTALLATION & MAINTENANCE [SEP 2021]"

3.2 WHERE TWO OR MORE STAND-ALONE FIRE DETECTORS ARE INSTALLED IN AN ENCLOSED STRUCTURE, ALL DETECTORS SHALL BE INTERCONNECTED (EITHER WIRED OR WIRELESSLY) SUCH THAT WHEN ONE OF THE DETECTORS IS TRIGGERED, ALL CONNECTED DETECTORS SHALL SOUND AN ALARM SIMULTANEOUSLY.

4. EMERGENCY LIGHTING

5.1 EMERGENCY LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH "BS 5266-1 :2016 AND BS EN 1838 :2013", AND THE FSD CIRCULAR LETTER NO. 4/2021, COVERING ALL AREA. EMERGENCY LIGHTINGS SHALL BE BACKED UP BY BUILT-IN BATTERY AND CAPABLE OF MAINTAINING FUNCTION OF NOT LESS THAN 2 HOURS IN CASE OF POWER FAILURE

5. EXIT SIGN

5.1 ALL EXIT SIGNS/DIRECTIONAL EXIT SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266-1 :2016 AND FSD CIRCULAR LETTER NO. 5/2008, FOR THE BUILDING. EXIT SIGNS/DIRECTIONAL EXIT SIGNS SHALL BE BACKED UP BY BUILT-IN BATTERY AND CAPABLE OF MAINTAINING FUNCTION OF NOT LESS THAN 2 HOURS IN CASE OF POWER FAILURE.

6. PORTABLE APPLIANCES

6.1 PORTABLE HAND OPERATED APPLIANCES SHALL BE PROVIDED AS INDICATED ON PLAN.

6.2 A SUITABLE TYPE OF PORTABLE FIRE EXTINGUISHER SHALL BE PROVIDED IN LOCATIONS WHERE EASILY ACCESSIBLE BY PERSON IN CHARGE WHERE THE NO. OF F.E. SHALL BE PROVIDED ACCORDING TO THE FORMULA = [STORAGE AREA] (M^2) X (0.003]

6.3 A 20-35 KG WHEELED TYPE DRY CHEMICAL FIRE EXTINGUISHER IN EVERY 500M^2 ON EVERY FLOOR OF THE PREMISES AND SHALL BE PROVIDED TO ENSURE THAT EVERY PART OF THE PREMISES CAN BE REACHED BY WHEELED TYPE DRY CHEMICAL FIRE EXTINGUISHER FROM A DISTANCE OF NOT MORE THAN 30M

STRUCTURE	USE	COVERED AREA	GROSS FLOOR AREA	BUILDING HEIGHT
B1	OFFICE AND WASHROOM	1591 m^2 (ABOUT)	3182 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
B2	LOGISTICS CENTRE	23,006 m^2 (ABOUT)	46,012 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B3	LOGISTICS CENTRE	22,642 m^2 (ABOUT)	45,284m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B4	WAREHOUSE (EXCL. D.G.G.)	3,840 m^2 (ABOUT)	7,680 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B5	WAREHOUSE (EXCL. D.G.G.)	4,965 m^2 (ABOUT)	9,930 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
B6	WAREHOUSE (EXCL. D.G.G.)	4,277 m^2 (ABOUT)	8,554 m^2 (ABOUT)	15 m (ABOUT)(2-STOREY)
	TOTAL	**60,321 m^2 (ABOUT)**	**120,642 m^2 (ABOUT)**	

GF of Structure B1 Openable Windows Calculation
Area of GF Structure B1 = 1591 sq.m.
Area of High Bay Window (H.B.W.) = 1.3m(H) x 77m = 100.1 sq.m.
Total openable window area = 100.1 sq.m.
= 6.29% of floor area

1F of Structure B1 Openable Windows Calculation
Area of 1F Structure B1 = 1591 sq.m.
Area of High Bay Window (H.B.W.) = 1.3m(H) x 77m = 100.1 sq.m.
Total openable window area = 100.1 sq.m.
= 6.29% of floor area

GF of Structure B2 Openable Windows Calculation
Area of GF Structure B2 = 23006 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 554m = 1440.4 sq.m.
Total openable window area = 1440.4 sq.m.
= 6.26% of floor area

1F of Structure B2 Openable Windows Calculation
Area of 1F Structure B2 = 23006 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 554m = 1440.4 sq.m.
Total openable window area = 1440.4 sq.m.
= 6.26% of floor area

GF of Structure B3 Openable Windows Calculation
Area of GF Structure B3 = 22642 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 546m = 1419.6 sq.m.
Total openable window area = 1419.6 sq.m.
= 6.26% of floor area

1F of Structure B3 Openable Windows Calculation
Area of 1F Structure B3 = 22642 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 546m = 1419.6 sq.m.
Total openable window area = 1419.6 sq.m.
= 6.26% of floor area

GF of Structure B4 Openable Windows Calculation
Area of GF Structure B4 = 3840 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 93m = 241.8 sq.m.
Total openable window area = 241.8 sq.m.
= 6.29% of floor area

1F of Structure B4 Openable Windows Calculation
Area of 1F Structure B4 = 3840 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 93m = 241.8 sq.m.
Total openable window area = 241.8 sq.m.
= 6.29% of floor area

GF of Structure B5 Openable Windows Calculation
Area of GF Structure B5 = 4965 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 120m = 312 sq.m.
Total openable window area = 312 sq.m.
= 6.28% of floor area

1F of Structure B5 Openable Windows Calculation
Area of 1F Structure B5 = 4965 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 120m = 312 sq.m.
Total openable window area = 312 sq.m.
= 6.28% of floor area

GF of Structure B6 Openable Windows Calculation
Area of GF Structure B6 = 4277 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 103m = 267.8 sq.m.
Total openable window area = 267.8 sq.m.
= 6.26% of floor area

1F of Structure B6 Openable Windows Calculation
Area of 1F Structure B6 = 4277 sq.m.
Area of High Bay Window (H.B.W.) = 2.6m(H) x 103m = 267.8 sq.m.
Total openable window area = 267.8 sq.m.
= 6.26% of floor area

LEGEND

- STAND ALONE BATTERY TYPE SMOKE DETECTOR
- 25KG WHEELED TYPE DRY CHEMICAL FIRE EXTINGUISHER
- EMERGENCY LIGHT
- EXIT SIGN
- NON-RETURN VALVE
- SPRINKLER CONTROL VALVE SET
- GATE VALVE
- GATE TYPE (With MONITORING)
- PUMP SET
- Y-TYPE STRAINER
- SPRINKLER INLET
- PRESSURE GAUGE
- SPRINKLER HEAD (ON PLAN)
- 5KG DRY POWDER FIRE EXTINGUISHER
- SUBSIDIARY VALVE / FLOW SWITCH
- 5KG CO2 FIRE EXTINGUISHER

PROJECT : PROPOSED TEMPORARY LOGISTICS CENTRE, WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) AND CONTAINER VEHICLE PARK WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS. VARIOUS LOTS IN D.D. 78 AND D.D.82 AND ADJOINING GOVERNMENT LAND, TA KWU LING, NEW TERRITORIES	DRAWING TITLE : **F.S. Notes, Legend, Fire Service Installation Layout Plan**	ARCHITECT :	CONSULTANT :
	REV / DESCRIPTION / DATE		
FIRE SERVICE CONTRACTOR : **Century Fire Service Engineering Co., Ltd.**		NAME	DATE
	DRAWN BY	C.K.NG	22 Nov 2025
	CHECKED BY		
	APPROVED BY		
DRAWING NO : **FS-01**	REV. **0**		
SCALE : 1 : 1500 (A0)			
SOURCE : B.O.O. Ref. BD F.S.D. Ref. FP			

Appendix V

Accepted Run-in/out Proposal under the Previous Application No. A/NE-TKLN/77

規劃署

沙田、大埔及北區規劃處
香港新界沙田上禾輋路一號
沙田政府合署
十三樓 1301-1314 室

Planning Department

Sha Tin, Tai Po & North
District Planning Office
Rooms 1301-1314, 13/F,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin,
N.T., Hong Kong

來函檔號	Your Reference	DD82 Lot 79 RP & VL
本署檔號	Our Reference	( ) in TPB/A/NE-TKLN/77
電話號碼	Tel. No. :	2158 6220
傳真機號碼	Fax No. :	2691 2806

By Post and Fax [redacted]

26 June 2024

Tai Wah Development Consultants Ltd.

[redacted]

(Attn.: Matthew NG)

Dear Sir/Madam,

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Lin Ma Hang Road, Ta Kwu Ling North
(Compliance with Approval Condition (i) for Planning Application No. A/NE-TKLN/77)

I refer to your submission dated 5.6.2024 for compliance with approval condition (i) in relation to the submission of the design of vehicular run-in/run-out to the site under the captioned planning application.

Chief Highway Engineer/New Territories East, Highways Department (Contact person: Mr. Andriy CHU; Tel.: 2762 4090) has been consulted and considered the approval condition (i) has been complied with. Please proceed to implement the accepted run-in/run-out proposal for compliance with approval condition (j). You are reminded to submit the as-built record and photo, especially during concreting of the works.

Should you have any other queries related to planning matters, please contact Mr. William WONG at 2158 6164.

Yours faithfully,

(Margaret CHAN)
for Director of Planning

Tai Wah Development Consultants Limited

Our Ref.: DD82 Lot 79 RP & VL
Your Ref.: TPB/A/NE-TKLN/77

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By Email

5 June 2024

Dear Sir,

Compliance with Approval Condition (i)

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

(S16 Planning Application No. A/NE-TKLN/77)

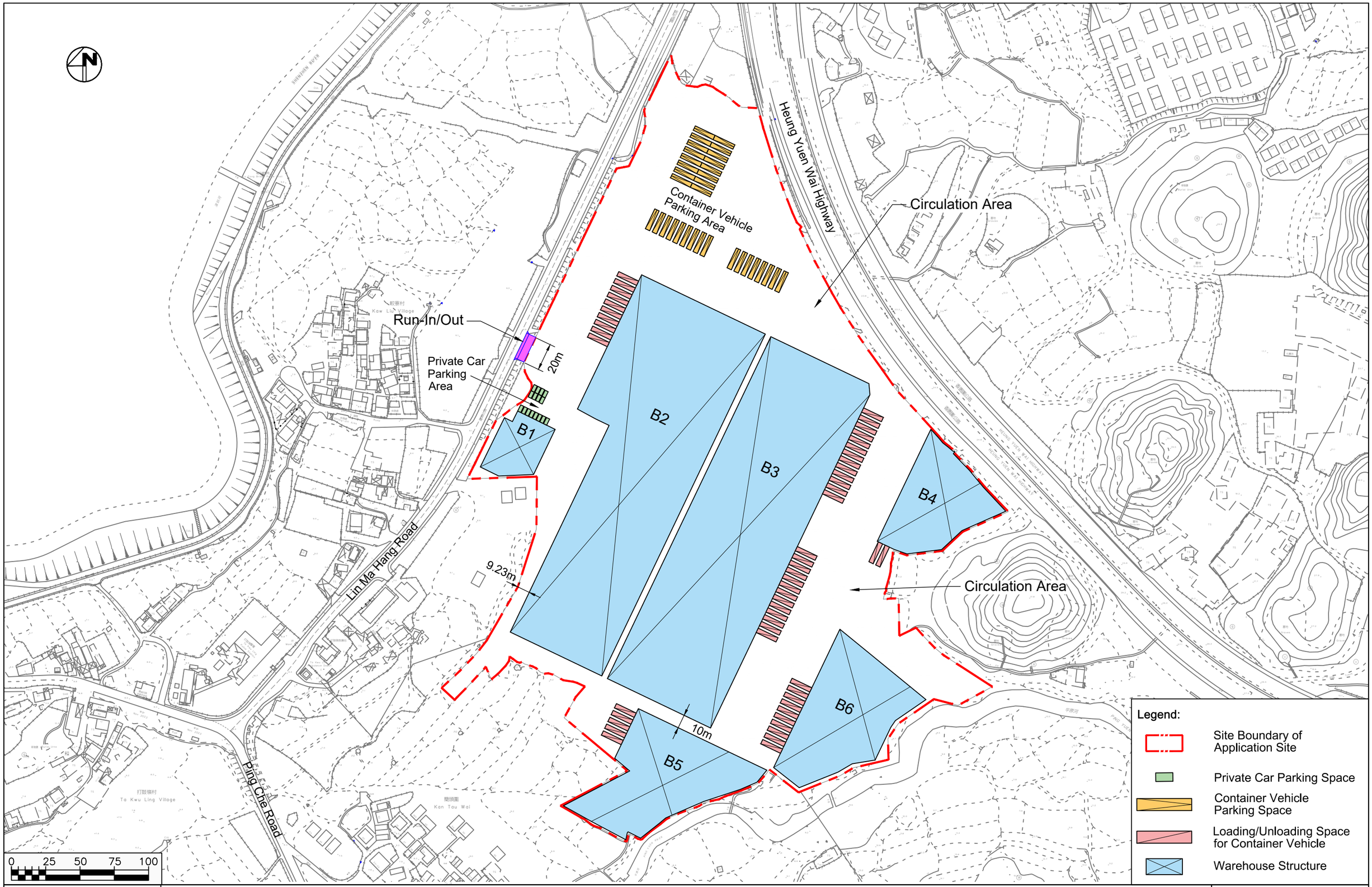
We are writing to submit a run-in/out proposal for compliance with approval condition (i) of the subject application, i.e. *the submission of the design of vehicular run-in/run-out to the site* (**Appendix I**).

Should you require more information regarding the application, please contact the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

Matthew NG
Tai Wah Development Consultants Limited

cc DPO/STN, PlanD (Attn.: Mr. William WONG email: wstwong@pland.gov.hk)
(Attn.: Ms. Katie LEUNG email: kyyleung@pland.gov.hk)



S16 for Proposed Temporary Logistics Centre, Warehouse and Container Vehicle Park at Various Lots in DD78 and DD82, Ta Kwu Ling, NT

Run-In Design - General Layout Plan

Date	Scale
09/05/2024	1:2500

Project No.	82921	Rev.
Dwg No.	82921/TE/101	-

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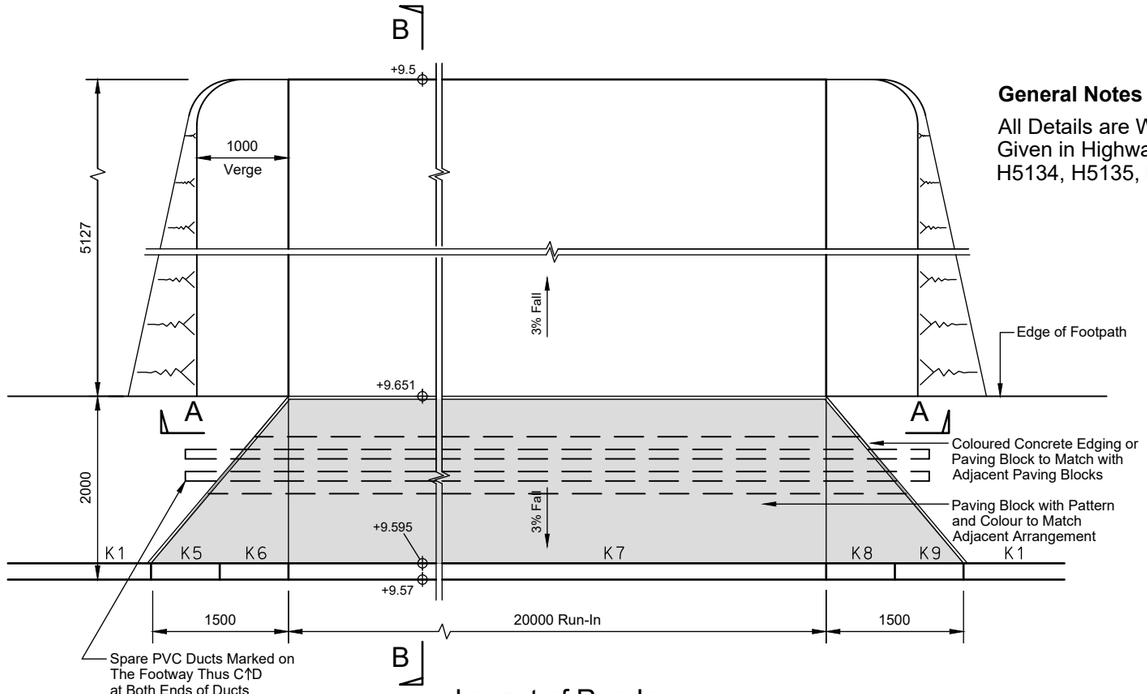
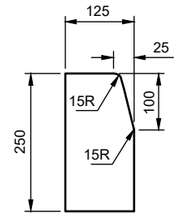


Layout of Run-In

General Notes :

All Details are Worked Out Basing on Information Given in Highway Standard Drawing Nos. H5133, H5134, H5135, H1118 and H1119.

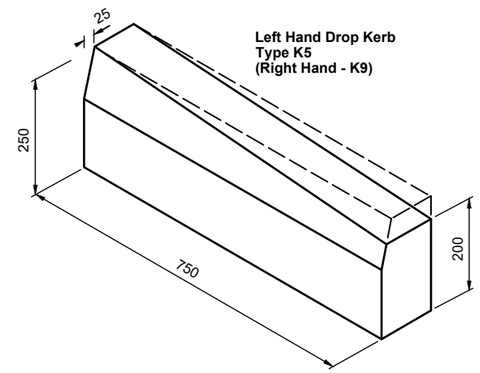


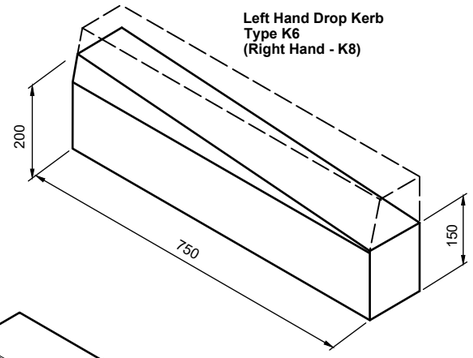
Details of Type K1 Kerb

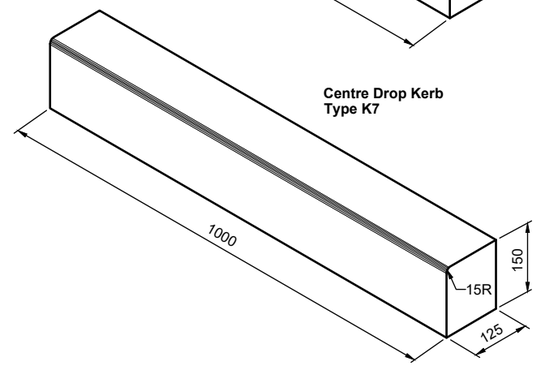
(Length = 1.0m)

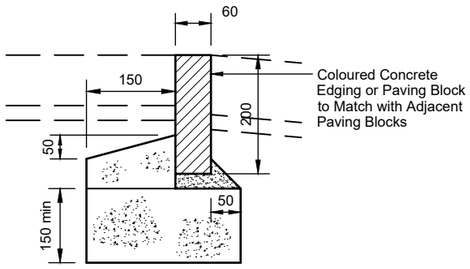
Notes for Concrete Kerb :

1. The Nominal Length of a Kerb Unit Shall be 1000mm and an Edging Unit 750.
2. Concrete Shall be Grade 30/20.
3. Precast Concrete Kerbs Edgings and Quadrants Shall Comply with B.S. 7263 Part 1 Except That The Requirement for Testing of Water Absorption Shall Not be Applied.
4. All Dimensions are In Millimetres.

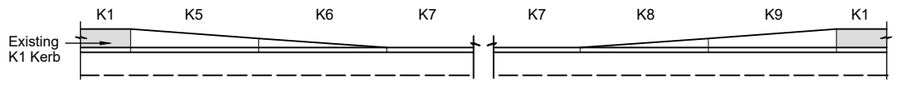




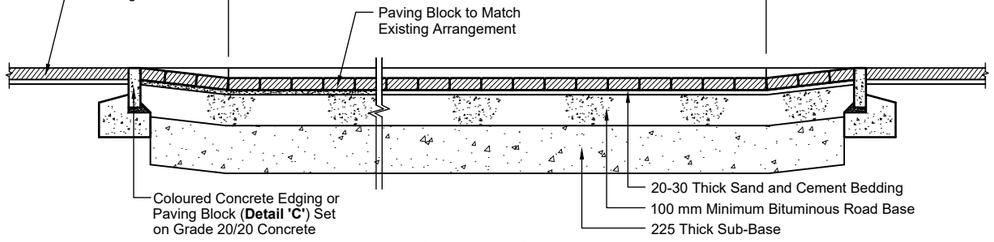




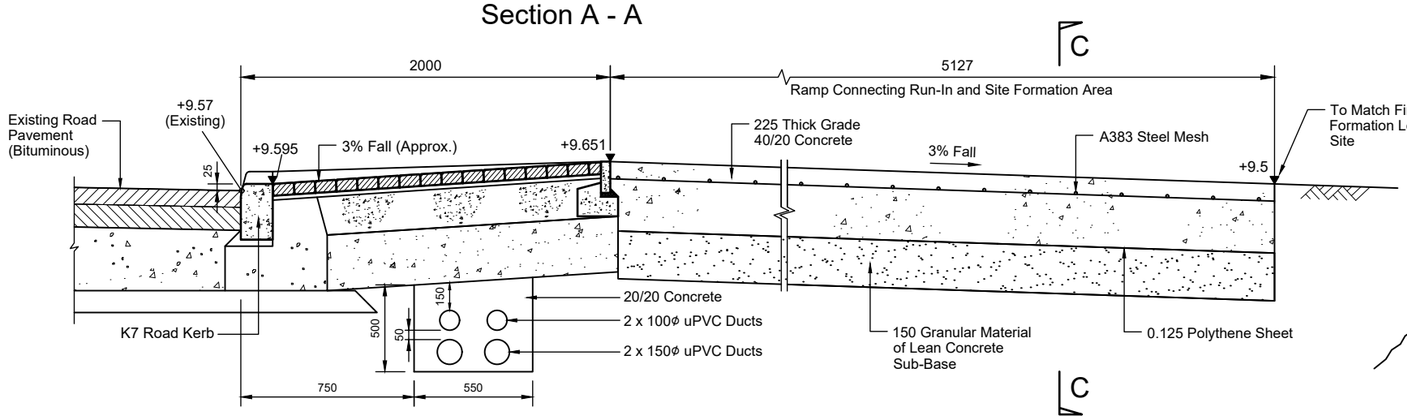
Details 'C'



Typical Kerbing Arrangement at Run-In

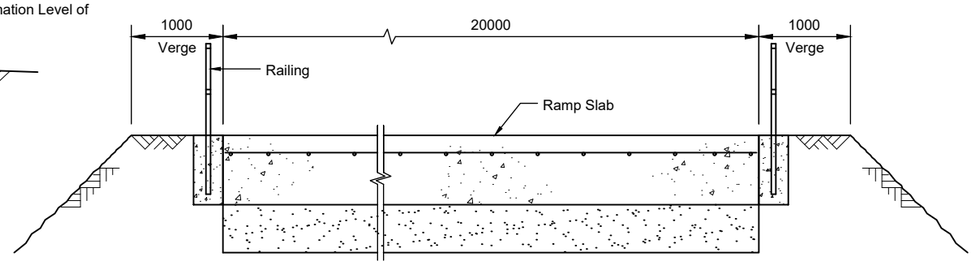


Section A - A



Section B - B

"C↑D" to be Marked on Footpath at Both Ends of Duct Bank



Section C - C

OZZO TECHNOLOGY

Date 05/06/2024

Scale N.T.S.

S16 for Proposed Temporary Logistics Centre, Warehouse and Container Vehicle Park at Various Lots in DD78 and DD82, Ta Kwu Ling, NT

Run-In Design - Typical Details

Project No. 82921

Dwg No. 82921/TE/102

Rev. -

Appendix VI

Accepted Traffic Management Measures under the Previous Application No. A/NE-TKLN/77

規劃署

沙田、大埔及北區規劃處
香港新界沙田上禾輋路一號
沙田政府合署
十三樓 1301-1314 室

Planning Department

Sha Tin, Tai Po & North
District Planning Office
Rooms 1301-1314, 13/F,
Shatin Government Offices,
1 Sheung Wo Che Road, Sha Tin,
N.T., Hong Kong

來函檔號	Your Reference	DD82 Lot 79 RP & VL
本署檔號	Our Reference	( ) in TPB/A/NE-TKLN/77
電話號碼	Tel. No.:	2158 6220
傳真機號碼	Fax No.:	2691 2806

By Post and Fax [redacted]

14 August 2024

Tai Wah Development Consultants Ltd.

[redacted]

(Attn.: Louis Tse)

Dear Sir/Madam,

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Lin Ma Hang Road, Ta Kwu Ling North (Compliance with Approval Condition (k) for Planning Application No. A/NE-TKLN/77)

I refer to your submission dated 18.7.2024 for compliance with approval condition (k) in relation to the submission of a proposal for traffic management measures under the captioned planning application.

Commissioner for Transport (Contact person: Mr. TAM Kam-fai; Tel.: 2399 2405) has been consulted and considered the approval condition (k) has been complied with. Please proceed to implement the accepted proposal for traffic management measures for compliance with approval condition (l).

Should you have any other queries related to planning matters, please contact Mr. Timothy WU of this department at 2158 6031.

Yours faithfully,

(Margaret CHAN)
for Director of Planning

Tai Wah Development Consultants Limited

Our Ref.: DD82 Lot 79 RP & VL
Your Ref.: TPB/A/NE-TKLN/77

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By Email

18 July 2024

Dear Sir,

Compliance with Approval Condition (k)

Proposed Temporary Logistic Centre, Warehouse (Excluding Dangerous Goods Godown) and Container Vehicle Park with Ancillary Facilities for a Period of 3 Years in "Recreation" Zone, Various Lots in D.D. 78 and 82 and Adjoining Government Land, Ta Kwu Ling North, Lin Ma Hang Road, New Territories

(S16 Planning Application No. A/NE-TKLN/77)

We are writing to submit a response-to-comments table and a revised traffic management measures proposal for compliance with approval condition (k) of the subject application, i.e. *the submission of a proposal for traffic management measures* (**Appendices I** and **II**).

Should you require more information regarding the application, please contact the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

Louis TSE
Tai Wah Development Consultants Limited

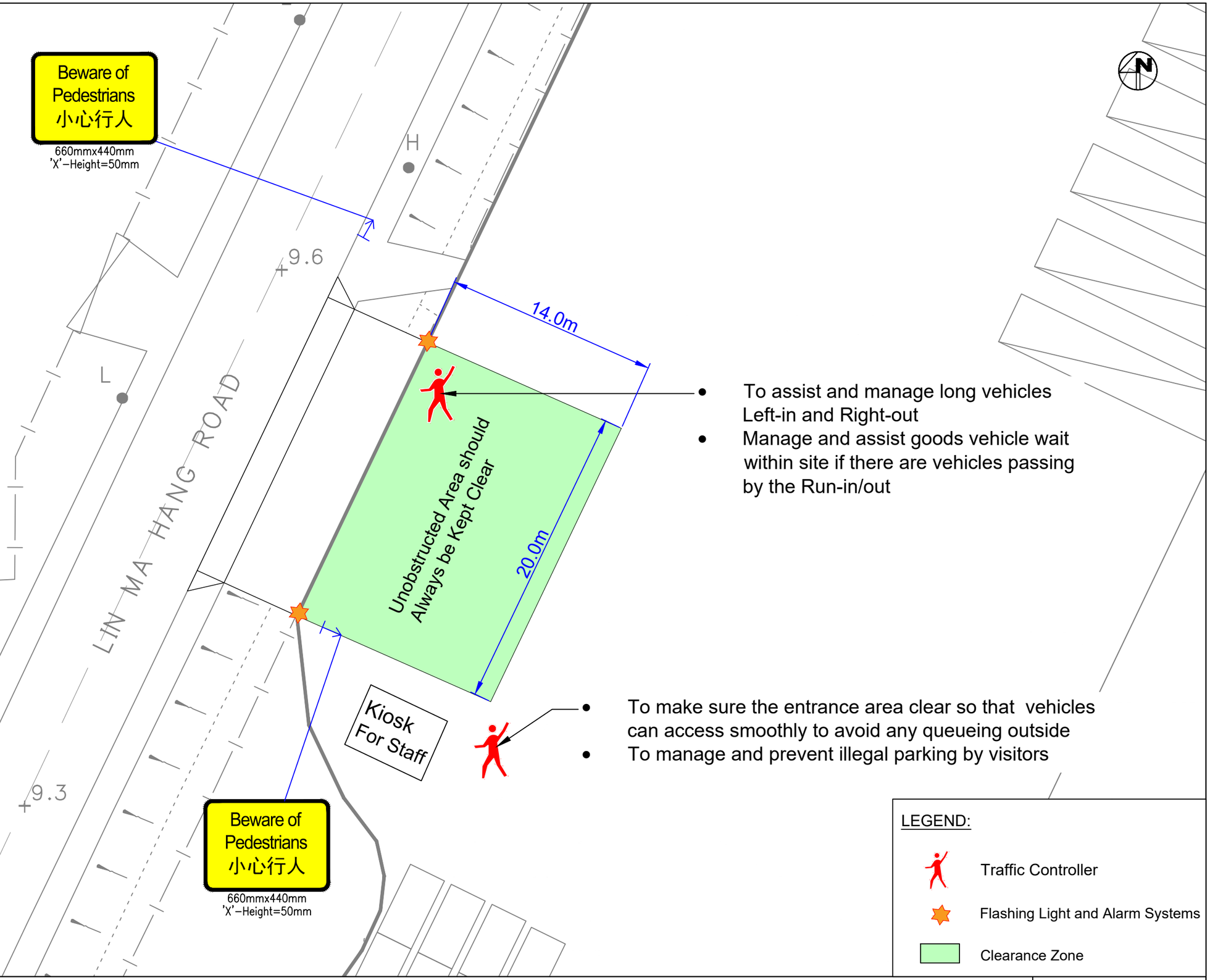
cc DPO/STN, PlanD (Attn.: Mr. William WONG email: wstwong@pland.gov.hk)
(Attn.: Ms. Katie LEUNG email: kyyleung@pland.gov.hk)

Appendix I – Response to comments of the Commissioner for Transport (C for T)

Comments of the C for T		**Responses**
1	The applicant shall supplement with the operation details at the vehicular access points (i.e. entrance / exit points), such as gate, drop barrier etc. and the proposed traffic management measures at the access points; and	The operation details at the vehicular access points (i.e. entrance / exit points) are elaborated as the followings: To avoid queue at the public road, the physical gate and drop barrier would not be proposed nor installed. Instead, a kiosk for staff is proposed at the entrance / exit points with CCTV installed for management purpose. The staff at the entrance / exit points will assist and manage long vehicles left-in and right-out; to guide and assist goods vehicles wait within site if there are vehicles passing by the site vehicular access; to make sure the entrance area clear so that vehicles can access the site smoothly without causing queueing outside the site; to manage and prevent illegal parking by the visitors. Signages of “Beware of Pedestrians” are to be erected to alert the drivers to pay attention for pedestrians’ safety. Flashing light and alarm systems will also be set at the vehicular access points (i.e. entrance / exit points). Whenever vehicles are to be accessed to / exit from the application site, the flashing light and alarm will work immediately to alarm the pedestrians. Adequate lights would be provided within site by adding lights for safety concerns. In addition, a staff would be assigned for communicate the drivers, appointment will be needed for goods vehicles, such that

		the access to the application site can be more ordered, and the blockage at the access road and run-in/our can be avoided.
2	The applicant shall provide a design drawing for the proposed traffic management measures which are to be implemented.	The drawing is supplemented in **Appendix II**.

Appendix II



- To assist and manage long vehicles Left-in and Right-out
- Manage and assist goods vehicle wait within site if there are vehicles passing by the Run-in/out

- To make sure the entrance area clear so that vehicles can access smoothly to avoid any queueing outside
- To manage and prevent illegal parking by visitors

LEGEND:

- Traffic Controller
- Flashing Light and Alarm Systems
- Clearance Zone

OZZO TECHNOLOGY

S16 for Proposed Temporary Logistics Centre, Warehouse and Container Vehicle Park at Various Lots in DD78 and DD82, Ta Kwu Ling, NT

Proposed Management Measures at Entrance / Exit Points

Date	Scale	Project No.	Rev.
18/07/2024	1:250	82921	-
		Dwg No. 82921-0521-MP1	

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