

Our Ref: 031/22/HC/hc
Your Ref:

2024-07-10

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

Dear Sir/ Madam,

**Proposed Temporary Warehouse for Storage of Hydroelectric
Engineering Construction Material for a Period of 3 Years
Lot 644 in D.D. 111, Pat Heung, Yuen Long
Drainage Proposal Submission**

As per request, on behalf of the applicant, we submit herewith the Drainage System Proposal Report, one set with five copies, for your comment and approval.

Our drainage submission has considered the followings: -

1. Presently the storm-water runoff that induced in the proposed development lot is directly discharged into the existing stream course at downstream. Hence, we consider that the changing of land used from paved land to this temporary warehouse site will likely not cause overload to the existing local drainage system.
2. We confirm that our applicant will bear the costs of the construction of all the drainage works which inside the lot or outside the lot boundary. For works to be undertaken outside the lot boundary, our applicant will obtain prior consent and agreement from DLOYL and relevant lot owners.

Thank you for your attention.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'C. P.', written over a horizontal dotted line.

Encl.

Drainage Assessment Report

For

The Workshop Application

At

Lot 644 in D. D. 111

Pat Heung,

Yuen Long, N.T.



Prepared by H. C. Cho (RPECVL)

2024-07-10

Temporary Warehouse for Storage of Hydroelectric Engineering Construction Material

Site Stormwater Drainage Assessment Report for the Proposed Site

1.0 Introduction

It is proposed by the applicant, to change the land use to a temporary warehouse at the proposed lots at a local track branching off from Wang Toi Shan Shan Tsuen Road, Yuen Long, N. T. I have inspected the site and have taken the consideration of drainage and environmental aspects for the proposed development works.

2.0 Basis of Assessment

To assess the technical acceptability of the proposed development located at the site area as indicated in the topographic survey plan attached in appendix I, a number of analyses have been considered and they are presented below.

3.0 The Site

The site area presently is a paved flat fenced area with some location is occupied by some storage materials. The total catchment area of the whole development site is approximate 1340 m². Appendix III refers. In between the proposed lots and the existing stream course is with an existing 300mm U-channels.

4.0 Observation

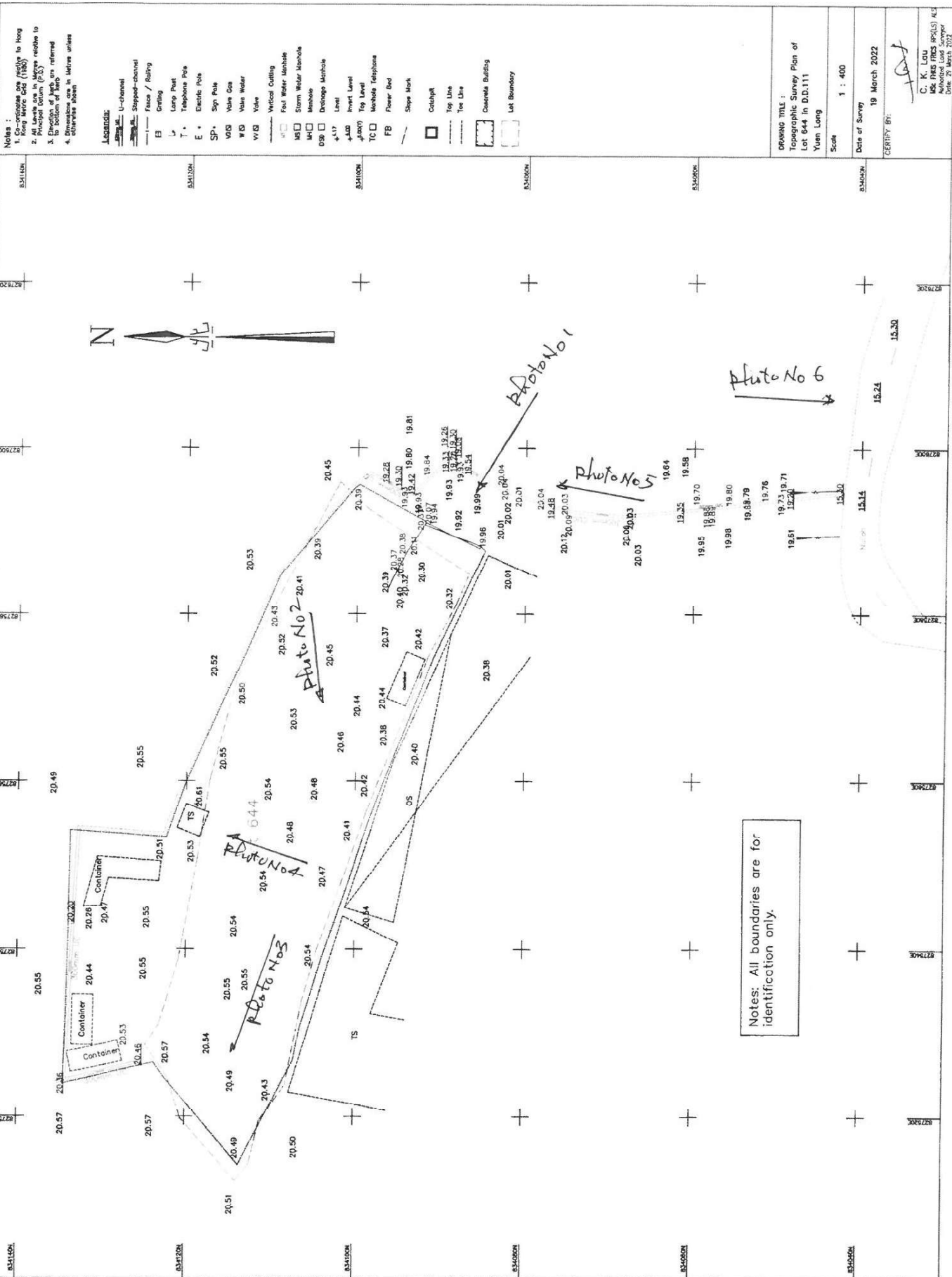
Presently, at south side of the proposed development site, is a fenced-out temporary storage area with shelters. It is with ground level +20.50 mPD to +20.01 mPD. Presently, the surface water of the proposed lot and adjacent lots is discharged via the existing 300mm U-channel at north and east bound to the existing 2.0 meters stream course at further south.

5.0 Consideration and Recommendation

As indicated in the drainage layout plan in appendix III, all the surface water induced in the site area and adjacent areas will discharge into the proposed 225mm U-channel around the perimeter of the proposed site. Then is further discharged to the existing 300mm U-channel at downstream. It then finally discharged to the 2.0 meters stream course at further south bound.

Appendix

I	Topographic Survey and Photo Indication Plan	P. 1
II	Site Record Photos	P. 1-P. 2
III	Proposed Drainage Layout Plan	P. 1
IV	Proposed Site Section Plan	P. 1
V	Proposed Stormwater Drainage Detailed Plan	P. 1
VI	General Notes	P.1
VII	Hydraulic Analysis	P.1-P.2



Notes: All boundaries are for identification only.

**Temporary Warehouse for Storage of Hydroelectric Engineering Construction Material,
Lot 644 in D.D. 111 Pat Heung, Yuen Long (Drainage Proposal)**

Record Photos of Present site condition

Date: 08-05-2022



Photo No. 1 Viewing to the front side the proposed site entrance. It is an existing 300mm U-channel crossing. The site is a paved area around +20.5 mPD. Other four sides outside the site boundary are also in a flat area, similar ground level in comparing to the proposed site.



Photo No. 2 Viewing to the south side, along the boundary is the metal fence. Beyond is sheltered temporary warehouses with ground level at +20.50mPD to +20.01 mPD.

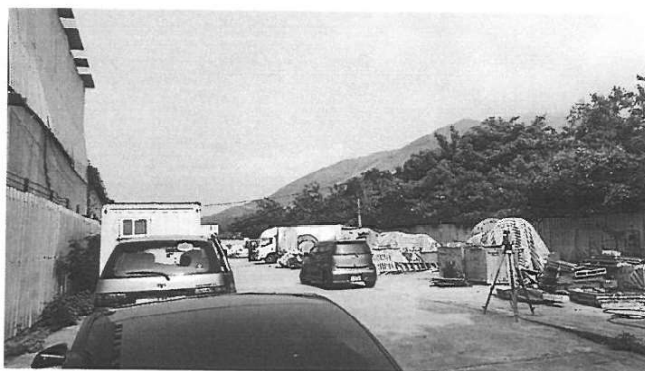


Photo no. 3 Viewing to the west end of the proposed warehouse site is also fenced-out of another warehouses lot..

**Temporary Warehouse for Storage of Hydroelectric Engineering Construction Material,
Lot 644 in D.D. 111 Pat Heung, Yuen Long (Drainage Proposal)**

Record Photos of Present site condition

Date: 08-05-2022



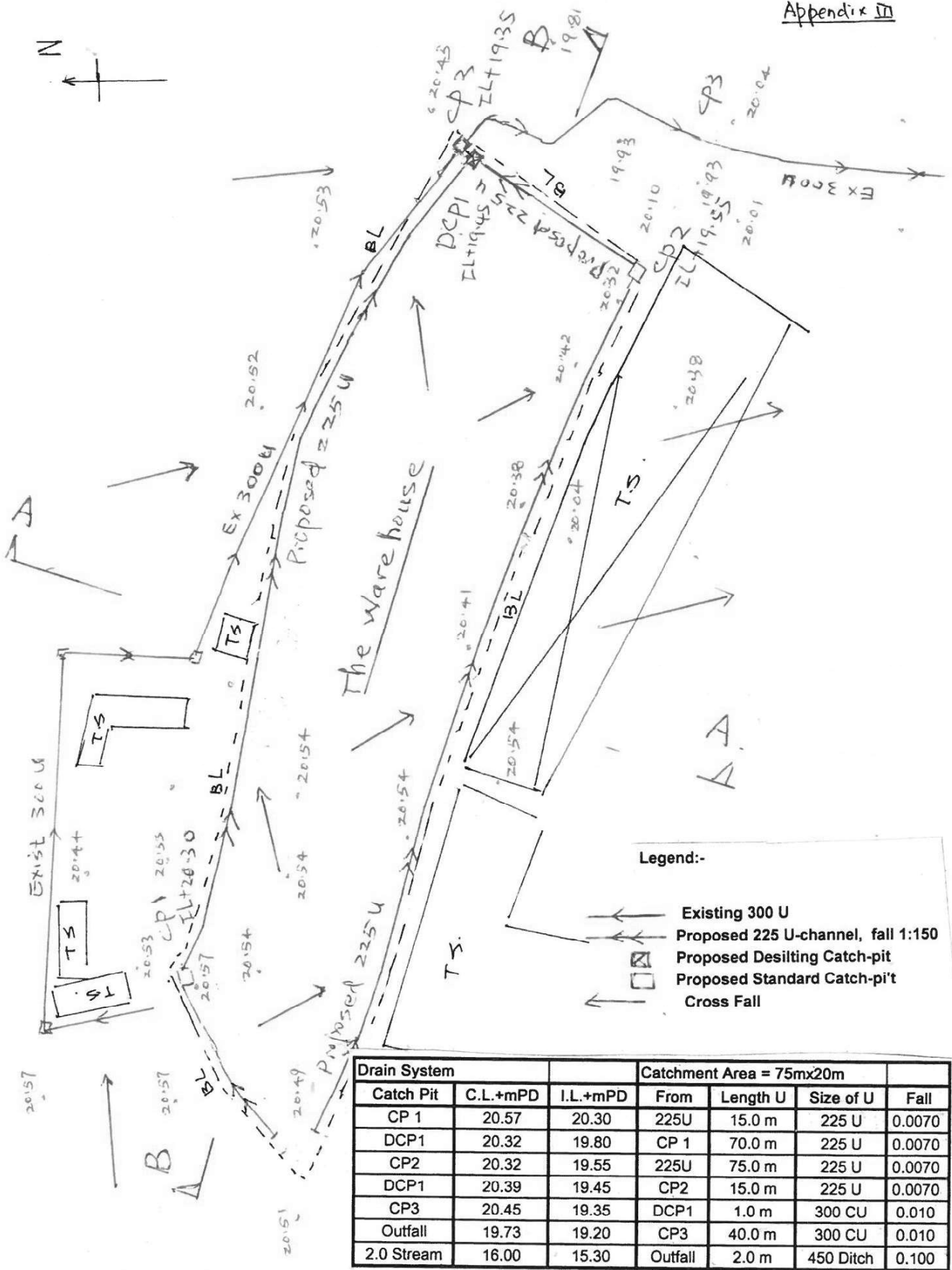
Photo No. 4 At the north side of metal fence of the proposed warehouse site, is overgrown with trees, at ground level +20.55mPD to +20.45 mPD.



Photo No. 5 At the north bound and east bound of the proposed warehouse site is an existing 300mm U-channel running along.



Photo No. 6 The downstream condition of the 2.0 meters stream course at further south end, consists with vegetation at both banks.

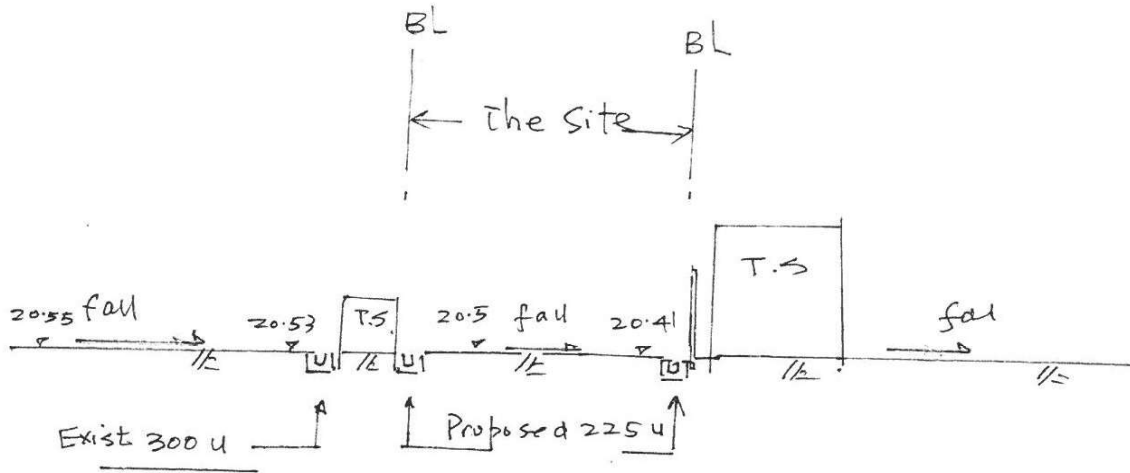


Legend:-

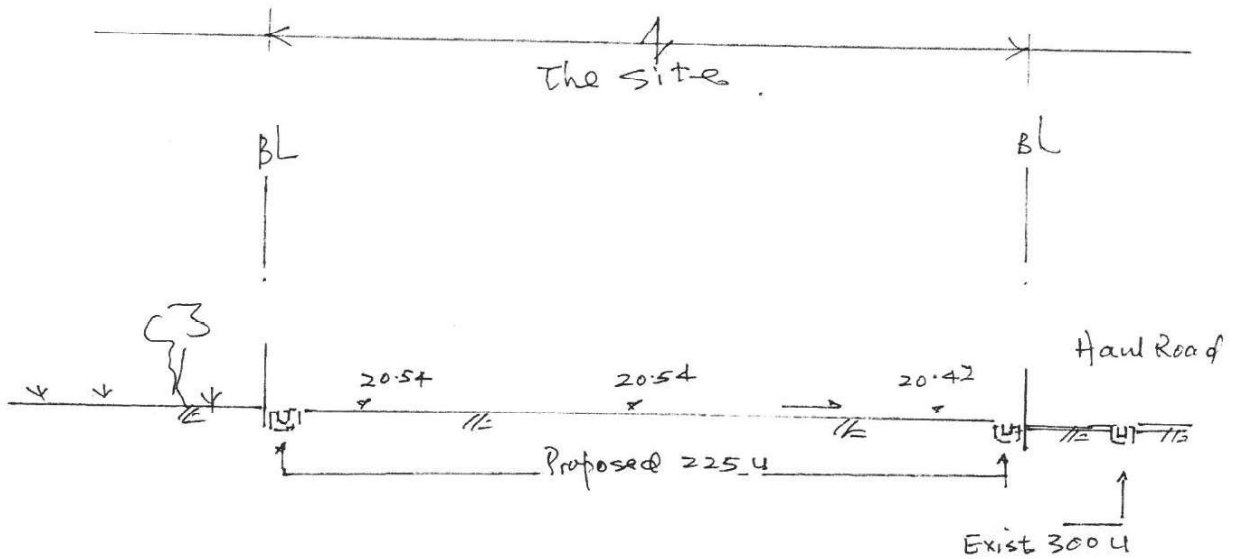
- ← Existing 300 U
- ← Proposed 225 U-channel, fall 1:150
- ☒ Proposed Desilting Catch-pit
- ☐ Proposed Standard Catch-pit
- ← Cross Fall

Drain System			Catchment Area = 75mx20m			
Catch Pit	C.L.+mPD	I.L.+mPD	From	Length U	Size of U	Fall
CP 1	20.57	20.30	225U	15.0 m	225 U	0.0070
DCP1	20.32	19.80	CP 1	70.0 m	225 U	0.0070
CP2	20.32	19.55	225U	75.0 m	225 U	0.0070
DCP1	20.39	19.45	CP2	15.0 m	225 U	0.0070
CP3	20.45	19.35	DCP1	1.0 m	300 CU	0.010
Outfall	19.73	19.20	CP3	40.0 m	300 CU	0.010
2.0 Stream	16.00	15.30	Outfall	2.0 m	450 Ditch	0.100

A Proposed Warehouse at Lot 644 in D.D. 111 Yuen Long	Scale: 1:400	Date: 2024-07-10
Proposed Drainage Layout Plan	Drawn by: Cho	Drawing No. SWDP-01

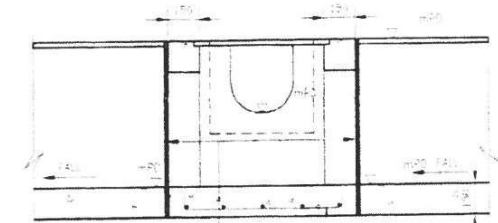
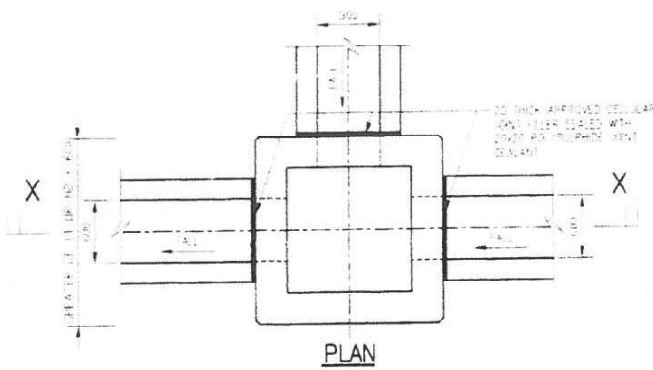


Section A-A

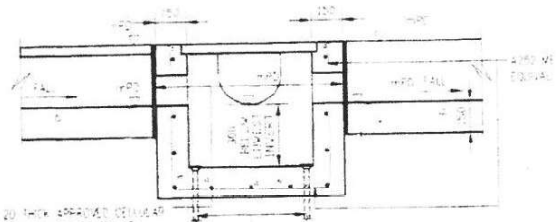
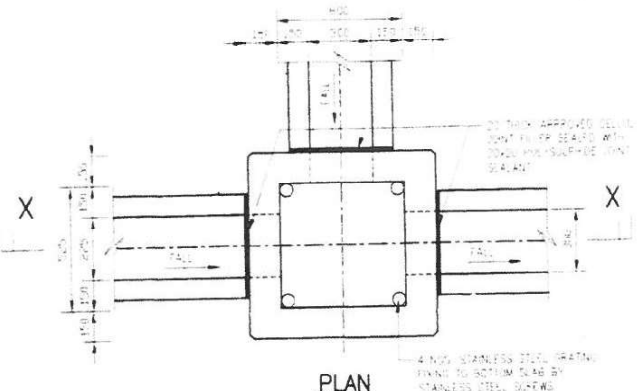


Section B-B

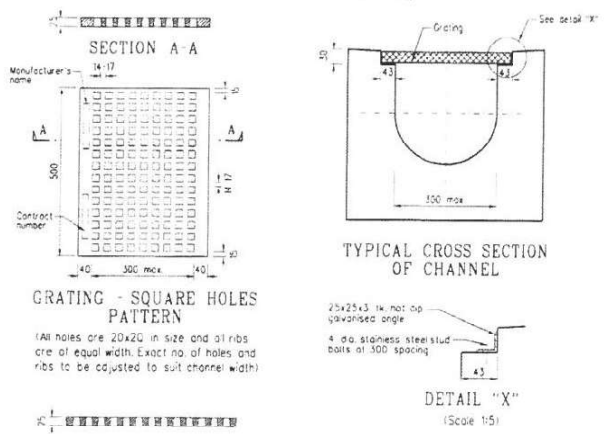
A Proposed Warehouse at Lot 644 in D.D. 111 Yuen Long	Scale: As Shown	Date: 2024-07-10
Proposed Stormwater Drainage Detailed Plan	Drawn by: Cho	Drawing No. SWDP-02



STANDARD DETAIL OF CATCHPIT

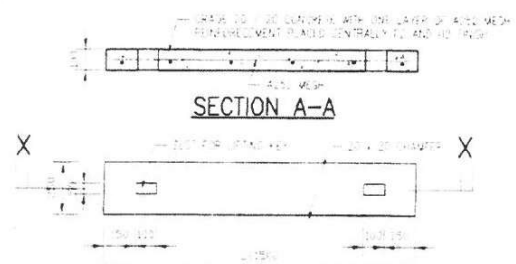


CTACHPIT WITH TRAP DETAILS

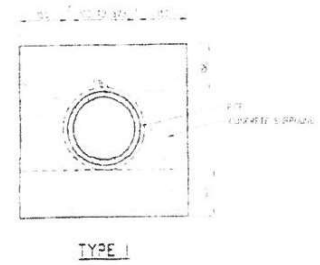


GRATING - SQUARE HOLES PATTERN
(All holes are 20x20 in size and 31 ribs are of equal width. Exact no. of holes and ribs to be adjusted to suit channel width)

U-CHANNEL WITH CAST IRON GRATING
(RIP TO - CP 525)



PRECAST CONCRETE COVER FOR CATCHPIT AND SAND TRAP



BEDDING AND SURROUNDS

- Notes:**
1. All level shown in meter and refer to the principle Datum.
 2. The exact location of Catch Pits should be agreed with the Engineer (RPE) on site.
 3. All concrete used should be D30/20
 4. U-channel details should refer to CEDD Drawing No.C2409H
 5. DCP1 etc details should refer to CEDD Drawing No.24061
 6. CP1 etc details should refer to CEDD Drawing No.24051
 7. U-channel cover should refer to HyD Standard Drawing H 3156A.
 8. Catch pit concrete cover should refer to CEDD Drawing no.C2407B
 9. All Proposed U-channel and Catch pit constructed in Gov. L. should gain consent from DLO

A Proposed Warehouse at Lot 644 in D.D. 111 Yuen Long	Scale: As Shown	Date: 2024-07-10
Proposed Stormwater Drainage Detailed Plan	Drawn by: Cho	Drawing No. SWDP-03

Notes:

1. All level shown in meter and refer to the principal Datum.
2. The exact location of Catch Pits should be agreed with the Engineer (RPE) on site.
3. All concrete used should be D30/20
4. U-channel details should refer to CEDD Drawing No.C2409H
5. CP 1 details should refer to CEDD Drawing No.2406I
6. U-channel cover should refer to HyD Standard Drawing H 3156A.
7. Catch pit concrete cover should refer to CEDD Drawing no.C2407B
8. All Proposed drain pipe, U-channel and Catch pit constructed in Gov. L. should gain consent from DLOYL

Drain System			Catchment Area = 75mx20m			
	C.L.+mPD	I.L.+mPD	From	Length U	Size of U	Fall
CP 1	20.49	20.24	225U	15.0 m	225 U	0.0070
DCP1	20.32	19.74	CP 1	75.0 m	225 U	0.0070
CP2	20.39	19.90	225U	70.0 m	225 U	0.0070
DCP1	20.32	19.80	CP2	15.0 m	225 U	0.0070
CP3	20.04	19.63	DCP1	10.0 m	300 CU	0.007
Outfall	19.73	19.20	CP3	40.0 m	300 CU	0.010
2.0 Stream	16.00	15.30	Outfall	2.0 m	450 Ditch	0.100

Legend:-

-  Existing 300 U
-  Proposed 225 U-channel, fall 1:150
-  Proposed Desilting Catch-pit
-  Proposed Standard Catch-pit
-  Cross Fall

A Proposed Warehouse at Lot No.644 in D.D. 111 Yuen Long	Scale : N T S	Date: 2024-07-10
Stormwater General Notes	Drawn by: Cho	Drawing No. SWDP-04

(A) Analysis of the Proposed Surface Drainage Channels

Appendix VII

- (1) Proposed Surface Channel (U1) for 225 U-channel
- (2) Existing Surface Channel (U2) for 300 U-channel
- FLU- Formation Level (Upstream) FLD- Formation Level (Downstream)
- USIL- Upstream Invert Level DSIL- Downstream Invert Level
- Lu- Channel Length S- Channel Gradient

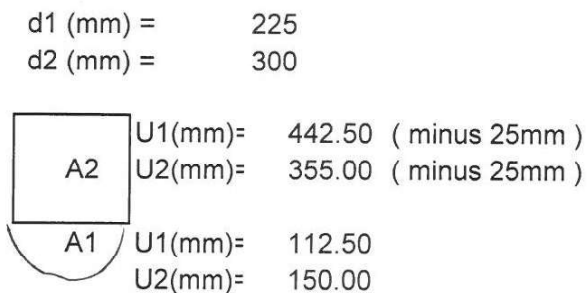
Type	From	To	FLU	USIL	FLD	DSIL	Lu(m)	S	n
U(U1)	CP1	DCP1	20.490	20.240	20.320	19.740	75.00	0.0067	0.014
U(U2)	CP3	Outfall	20.040	19.630	19.730	19.200	40.00	0.0100	0.014

Manning Equation

$$Q = Af \cdot (V = (R^{0.667}) \cdot (s^{0.5}) / n)$$

Channel	Width(mm)	A1(m ²)	A2(m ²)	Af	Pw	R	S	Q	V
U(U1)	225	0.0199	0.0996	0.1194	1.2384	0.0964	0.0067	0.1457	1.22
U(U2)	300	0.0353	0.1065	0.1418	1.1812	0.1201	0.0100	0.2449	1.73

- A1= Area of the circular section (m²)
- A2= Area of the rectangular section (m²)
- Af= (A1+A2) area of Channel (m²)
- Pw= Perimeter of wetted Area (m²)
- R= Hydraulic Radius (m)
- S= Gradien of Channel
- n= Nanning coefficient of Roughness
- Q= Flow Capacity of the Channel (m³/s)
- V= Cross-sectional Average Velocity (m/s)



(3) Runoff Estimation

(i) Time of Concentration

$$T_c = t_o + t_f$$

Inlet time

Brandsby William's Equation

$$t_o = 0.14465 \cdot L \cdot (H^{-0.2}) \cdot (A^{-0.1})$$

where t_o = inlet time(min)

A= Catchment Area (m²)

H= Average slope (m/100m), 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)

Consider Average Gradient (m) per 100 meters

Appendix VII

H11=mPD	20.540	H12=mPD	20.320
H21=mPD	20.040	H22=mPD	19.730

Platform	L(m)	H(m)	A(m ²)	t _o	Lu	V	Q
P(U1)	75.00	0.29	1500.0	6.6726	75.00	1.22	0.1457
P(U2)	40.00	0.77	3000.0	2.7340	40.00	1.73	0.2449

Channel Traveling Time

$$t_f = L_u / 60 * V$$

where L_u = Length of Channel Traveled

V = Cross-section average velocity (m/s)

t_f = Flow time (minutes)

Extreme Mean Rainfall Intensity

$$i = a / (t_d + b)^c$$

I in t years

t	a	b	c
50	687	4.2	0.42

i = extreme man intensity in mm/hr.

t_d = duration in minutes (t_d < 240), and

a, b, c = storm constants given in Table 3 of SWM.

Type	From	To	Lu	V	t _f	t _o	T _c = t _d	i (mm/hr)
U(U1)	CP1	DCP1	60.00	1.22	1.5251	6.6726	8.1977	238.65
U(U2)	CP3	Outfall	80.00	1.73	1.1509	2.7340	3.8849	285.58

(4) Rational Method

$$Q_p = 0.278 * C * i * A$$

where Q_p = Peak runoff in m³/s

C = runoff coefficient (dimensionless)

i = rainfall intensity in mm/hr.

A = catchment area in km²

Value of Runoff Coefficient C for use in the Rationa Method = 0.9

Type	i (mm/hr)		C	A(m ²)	Q _p (m ³)	Q(m ³)	Spare	
U(U1)	238.65	0.278	0.9	1500.0	0.0896	0.1457	0.0562	Q _p < Q, OK
U(U2)	285.58	0.278	0.9	3000.0	0.2144	0.2449	0.0305	Q _p < Q, OK

Our Ref: 036/22/HC/hc

2024-07-12

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

Dear Sir/ Madam,

Proposed Temporary Warehouse for Storage of Hydroelectric
Engineering Construction Material for a Period of 3 Years
Lot 644 in D.D. 111, Pat Heung, Yuen Long
(Application No. A/YL-PH/906)
Reply of Comment(s) from the Director of Fire Services

On behalf of the applicant, we would like reply of FSD comment as below and seeks your further comment or approval.

Item a. Q : Please clarify whether the proposed smoke detectors are stand-alone type.

Our Reply : We will adopted conventional type smoke detector for those warehouse

Item b. Q : Type of fire extinguisher shall be stated on plan.

Our Reply : 5kg CO2 fire extinguisher will be used and Indicated on the plan

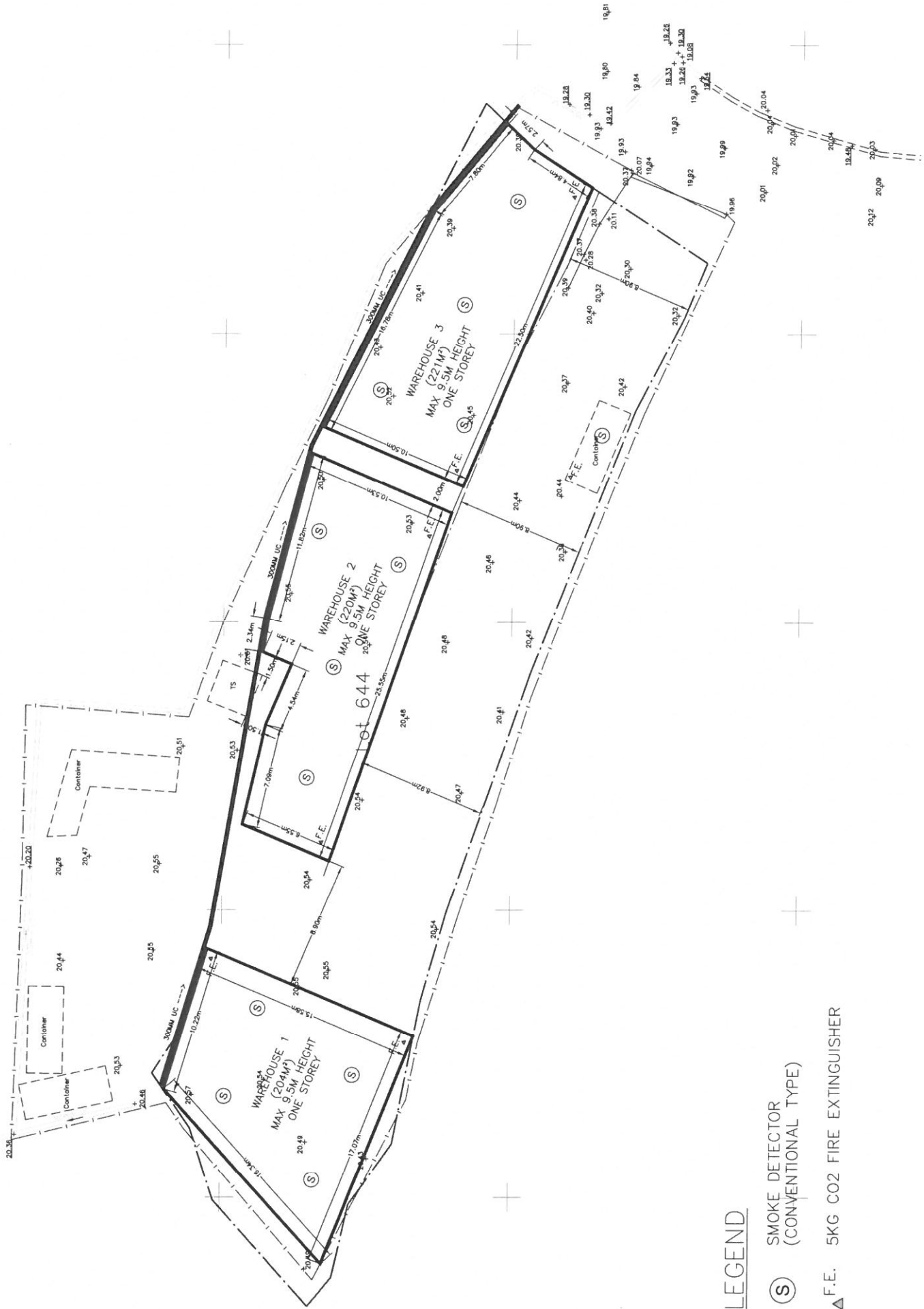
Enclosed please find the attached doc. and layout plan for your further review and information.

Thank you for your attention.

Yours faithfully,



Encl.



(S) SMOKE DETECTOR
(CONVENTIONAL TYPE)

▲ F.E. 5KG CO2 FIRE EXTINGUISHER

LEGEND

82753 82754 82755 82756 82757 82758 82759

NCF PORTABLE FIRE EXTINGUISHER

CO₂ GAS

Capacity: 2kg 5kg

'NCF' brand carbon dioxide (CO₂) fire extinguishers provide trusted fire protection without contamination risk. A powerful concentration of carbon dioxide gas is delivered onto fires involving flammable liquids and electrical hazards. It not only smothers fires quickly and cleanly but also is non-toxic and harmless to delicate mechanism and materials. Therefore, it is ideally suited for use in laboratories, paint spray booths, switch-gear transformers, diesel locomotives, aircraft, ships and for protecting all kinds of process using oils, spirits, solvents, wax and other highly flammable materials.

FEATURES

- Seize and Squeeze operation and controllable discharge
- Fire ratings 30% higher than the normal (at least)
- Non-conductive anti-static horns
- Corrosion-resistant cylinder
- Stainless steel levers, chrome plated valves to gain long service life
- Tested to BSEN3:1996



SPECIFICATION

Model No.	CDE-2	CDE-5
Nominal Capacity (kg)	2.0	5.0
Rating	34B	70B
Discharge Time (sec)	8.0	16.0
Range (M)	4.5	4.5
Working Pressure (MPa)	5.6	5.6
Test Pressure (MPa)	25	25
Overall Height (mm)	450	570
Overall Width (mm)	160	200

亨利公司

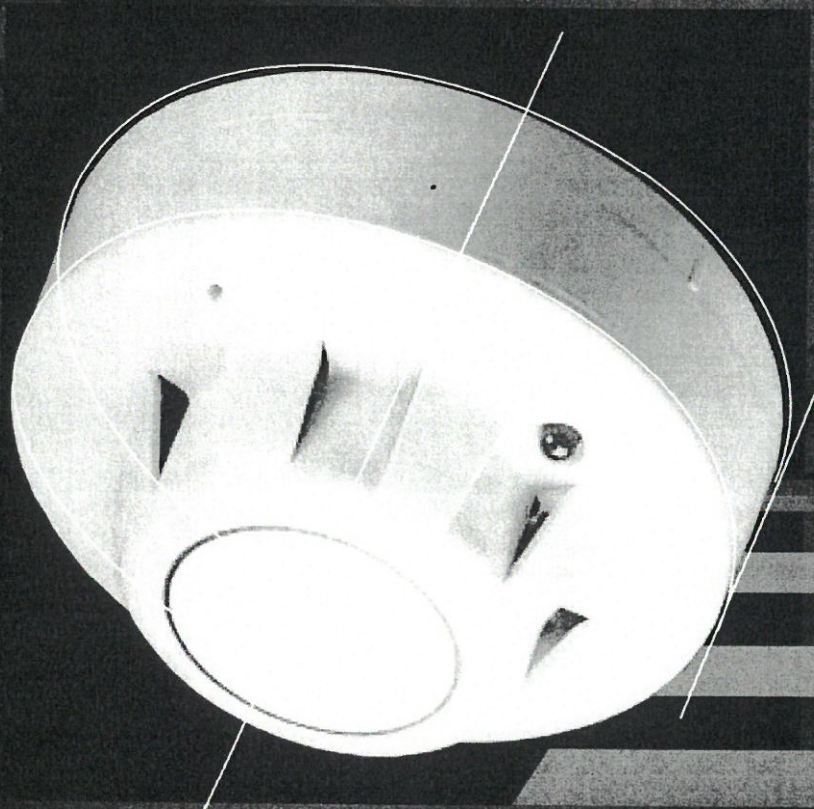
HENRY ENGINEERING & SUPPLIES
 O/B GOOD STRIDE LIMITED
 香港九龍柯士甸街287-289號昌泰商業大廈三樓
 3/F, Cheong Tai Commercial Building,
 No.287-289 Reclamation St., Kowloon, Hong Kong.
 電話: (852) 2332 1309 傳真: (852) 2385 9241
 E-Mail: office@henry.com.hk

We reserve the right to modify any specification without any prior notice for our continuous product development.

Cat. No. 003-01-JFH

series 65

9-33V



Wide voltage conventional fire

- Ionisation smoke detectors
- Optical smoke detectors
- Heat detectors
- Relay bases

apollo
FIRE DETECTORS LIMITED

Continuing our policy of bringing our customers the ultimate effectiveness in fire detection that current technology allows, Series 65 has been developed from the highly successful Series 60 range of conventional detectors.

series

9-33V

Series 65 incorporates well-proven sensing technologies, together with advances in materials and electronics technology, including an IC based on that used in XP95 analogue addressable detectors.

Having a wide operating voltage of 9-33V, the Series 65 detectors can be integrated into security systems, when used with a relay base.

The Series 65 wide voltage range consists of ionisation, integrating ionisation and optical smoke detectors, 4 grades of heat detector and a range of bases. The detectors are identical in appearance to Series 60.

Each type of detector is available in three versions:

- a standard version
- a version with an LED which flashes continuously in quiescent mode
- and one with both a flashing LED and a magnet-operated test switch (reed relay)



wide operating voltage

advanced electronic technology

- ▲ flashing LED option
- ▲ magnetic test switch option
- ▲ can be used on security systems

- ▲ electrically compatible with Series 60

- ▲ mechanically compatible with Series 60

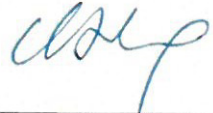
- ▲ proven detection performance

designed to meet approvals worldwide

Range of bases available

Fire Service Assessment Report for a Proposed Temporary Warehouse
for Storage of Hydroelectric Engineering Construction Material for
a Period of 3 Years
Lot 644 in D.D. 111, Pat Heung, Yuen Long

2024-07-12

	Name	Signature
Prepared and Checked by	H C Cho (RPE Civil)	

Version: -	2024-07-12
<p>The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client.</p>	

Fire Service Assessment Report for a Proposed Temporary Warehouse
for Storage of Hydroelectric Engineering Construction Material for
a Period of 3 Years

Lot 644 in D.D. 111, Pat Heung, Yuen Long

The Proposed Temporary Warehouse site for Storage of Hydroelectric Engineering Construction Material area as measured is about 1,340 square meters. It provides two groups of structures. One group consists with three Proposed Temporary Structures for sale of building materials area as measured are: (warehouse 1=204m²), (warehouse 2=220m²) and (warehouse 3=221m²). Another group consist with a 20 feet office container. There is a spacious paved ground with no blockage to any fire service vehicles in approaching to each of the metal covered structures. It also provides a place for loading and unloading at the side of the paved driveway. The operation hours for the temporary warehouse will be between 8:00 a.m. and 6:00 p.m. Mondays to Saturdays, not including Sundays and public holidays. This is buildings with no residents staying in.

The Site can be accessed via a local track branching off from Wang Toi Shan, Shan Tsuen Road. The internal haul road within the site is about 7.5 meters in width.

At any turning point of the haul road, the internal radius is 6.0 meters and external turning radius is 10.0 meters. It is enough for any large vehicles and fire ambulance vehicles in reaching any point of the site.

The driving distance from Pat Heung Fire Service Station to the site is 2.0 km. In case of fire, fire ambulance vehicles could reach the site within 5.0 minutes.

For the temporary metal covered warehouse structures, four smoke detectors and two valid fire extinguishers will be provided for each warehouse. For the container there is one valid fire extinguisher and a smoke detector at ceiling. Location is as indicated in drawing no.01.

Fire Service Assessment Report for a Proposed Temporary Warehouse for Storage of Hydroelectric Engineering Construction Material for a Period of 3 Years Lot 644 in D.D. 111, Pat Heung, Yuen Long

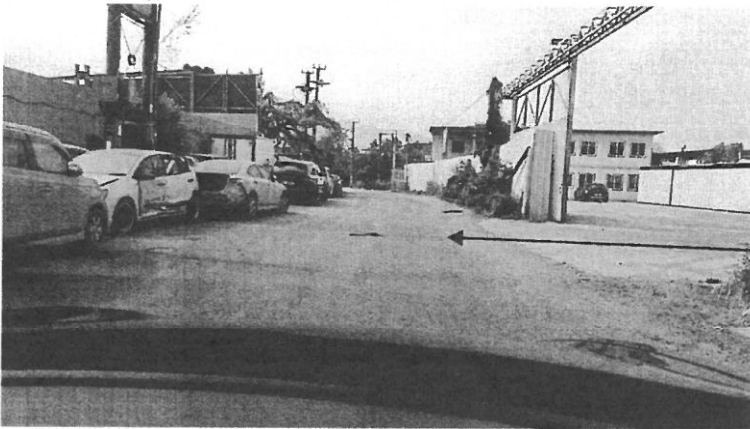
Site Record Photos

10-05-2020



The public road

Photo no.1 The Site can be accessed via a local track branching off from Wang Toi Shan Shan Tsuen Road.



The existing haul road

Photo no. 2 The general condition of the haul road running to the proposed site



Photo no.3 A general view of the site entrance with a 12.0-meter gate opening.

Fire Service Assessment Report for a Proposed Temporary Warehouse for Storage of Hydroelectric Engineering Construction Material for a Period of 3 Years Lot 644 in D.D. 111, Pat Heung, Yuen Long

Site Record Photos

10-05-2020



The adjacent temporary metal structures beyond boundary

Photo no.4 The existing metal structure at south side beyond the site boundary. It is fenced-out with metal sheets.



Photo No. 5 Viewing to the west side of the proposed site area. It is maintained as an open space area.



Photo No. 6 To the north of the proposed site area. It will be covered with metal shelters for warehouse.