

BLOCK PLAN (SCALE 1:1000)

PROJECT:	PROPOSED STRUCTURE DEVELOPMENT ON LOT 1652 RP IN D.D. 121, SHAN HA TSUEN, PING SHAN HEUNG, YUEN LONG, N.T.
DRAWING TITLE:	STORMWATER DRAINAGE PROPOSAL — BLOCK PLAN
DRAWING NO.:	A-01



EXISTING DRAINAGE LAYOUT PLAN (SCALE 1:350)

--- LOT BOUNDARY OF PROPOSED HOUSE

---> EXISTING 225UC

---> EXISTING 300UC

---> EXISTING 400UC

---> EXISTING 600UC

⊗ EXISTING CATCHPIT

▧ EXISTING GULLY

PROJECT:

PROPOSED STRUCTURE DEVELOPMENT ON LOT 1652 RP IN D.D. 121, SHAN HA TSUEN, PING SHAN HEUNG, YUEN LONG, N.T.

DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
- EXISTING DRAINAGE LAYOUT PLAN

DRAWING NO.:

A-02

PHOTO 1



PHOTO 2

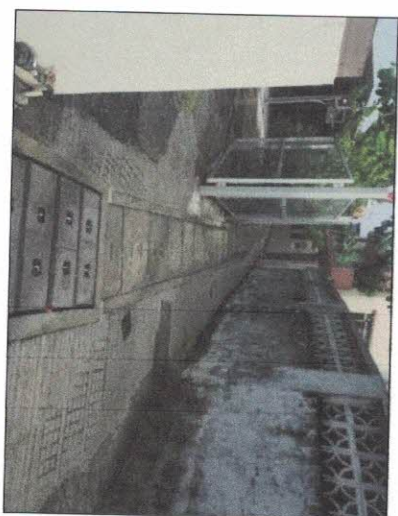


PHOTO 3

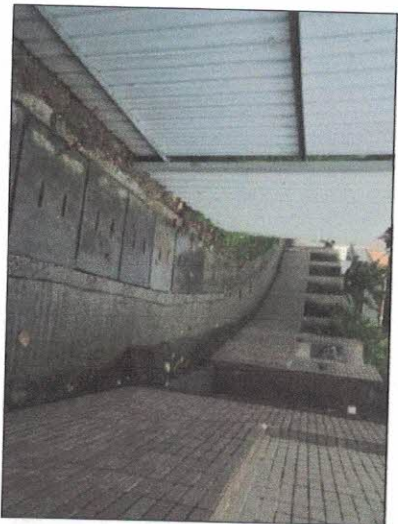


PHOTO 4



PROJECT:

PROPOSED STRUCTURE DEVELOPMENT  
ON LOT 1652 RP IN D.D. 121,  
SHAN HA TSUEN, PING SHAN HEUNG,  
YUEN LONG, N.T.

DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
— PHOTO RECORD OF EXISTING  
DRAINAGE FACILITIES

DRAWING NO.:

A-03

PHOTO 5



PHOTO 6



PHOTO 7



PHOTO 8



PROJECT:

PROPOSED STRUCTURE DEVELOPMENT  
ON LOT 1652 RP IN D.D. 121,  
SHAN HA TSUEN, PING SHAN HEUNG,  
YUEN LONG, N.T.

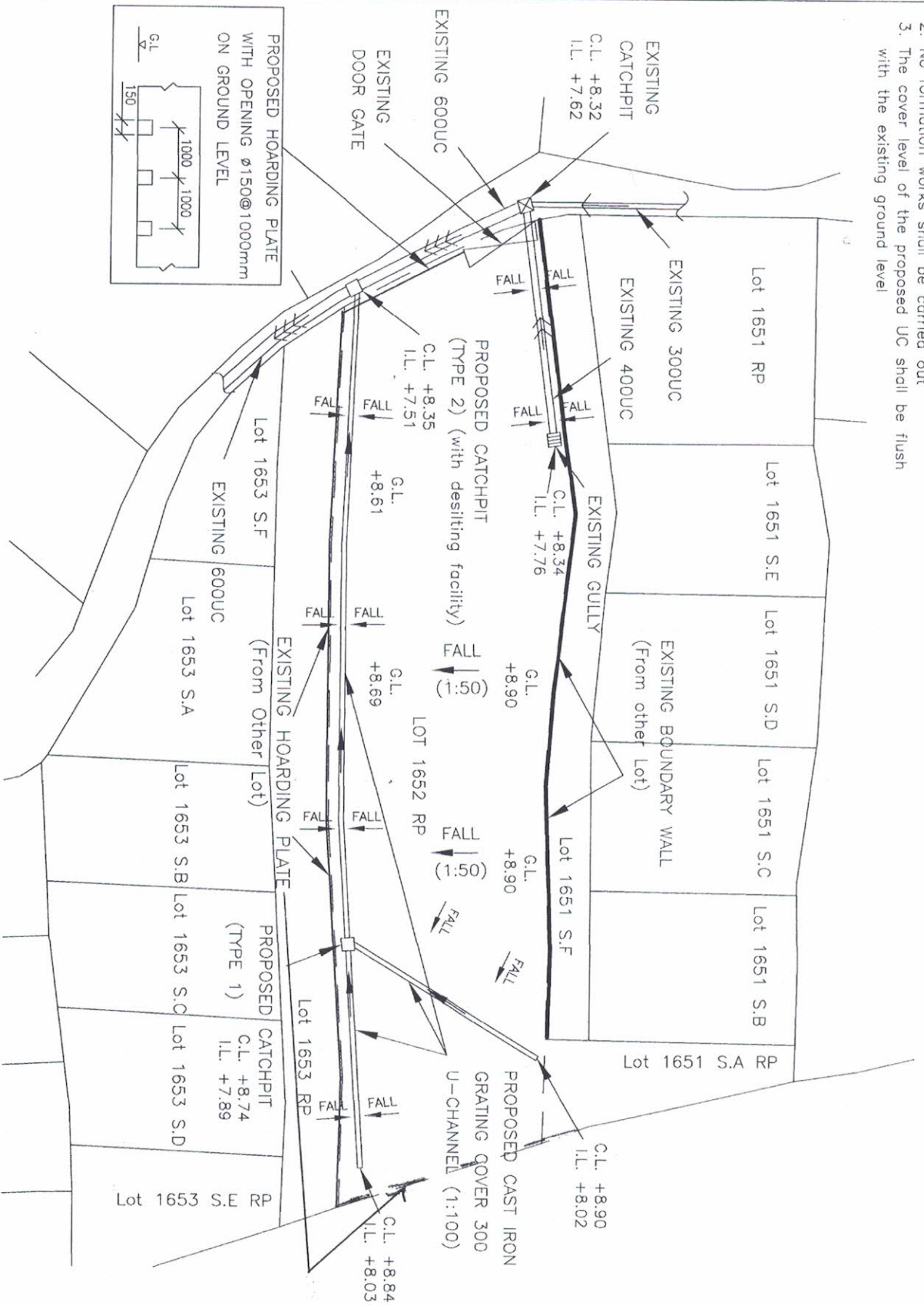
DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
- PHOTO RECORD OF EXISTING  
DRAINAGE FACILITIES

DRAWING NO:

**NOTE**

1. No hoarding/peripheral wall shall be erected
2. No formation works shall be carried out
3. The cover level of the proposed UC shall be flush with the existing ground level



PROPOSED DRAINAGE LAYOUT PLAN (SCALE 1:350)

--- LOT BOUNDARY OF PROPOSED HOUSE

▶ PROPOSED 300UC

▶▶▶ EXISTING 300UC

▶▶▶ EXISTING 400UC

▶▶▶▶ EXISTING 600UC

⊠ EXISTING CATCHPIT

▧ EXISTING GULLY

□ PROPOSED CATCHPIT

**PROJECT:**

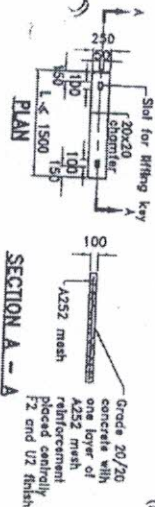
PROPOSED STRUCTURE DEVELOPMENT ON LOT 1652 RP IN D.D. 121, SHAN HA TSUEN, PING SHAN HEUNG, YUEN LONG, N.T.

**DRAWING TITLE:**

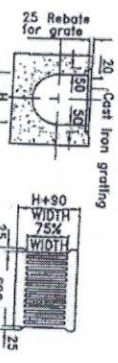
STORMWATER DRAINAGE PROPOSAL - PROPOSED DRAINAGE LAYOUT PLAN

**DRAWING NO.:**

A-05

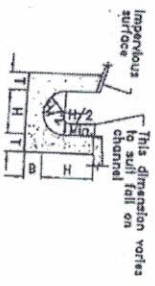


**PRECAST CONCRETE COVER FOR SAND TRAP AND CATCHPIT**  
(REFERENCE : CEDD DWG. NO. C2407B) (N.I.S.)



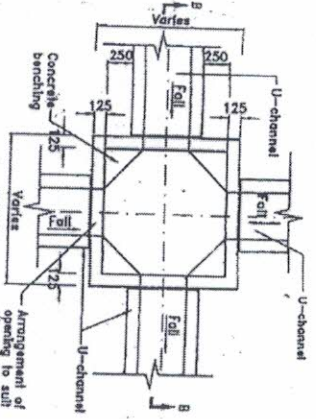
**U-CHANNELS WITH CAST IRON GRATING**  
(REFERENCE : CEDD DWG. NO. C2412B) (N.I.S.)

Note:  
Dimensions are for guidance only.  
contractor may submit equivalent type.

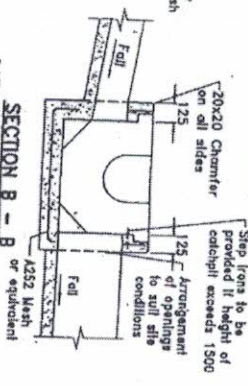


Nominal size	Thickness	Thickness
H	L	B
225	600	150
150	150	150

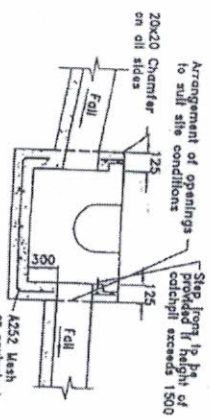
**DETAILS OF U-CHANNEL**  
(REFERENCE : FIG. 8.11 IN GEOTECHNICAL MANUAL FOR SLOPE) (N.I.S.)



**SECTION B - B (WITH SANDTRAP)**  
(N.I.S.)



**SECTION B - B (WITH SANDTRAP)**  
(N.I.S.)



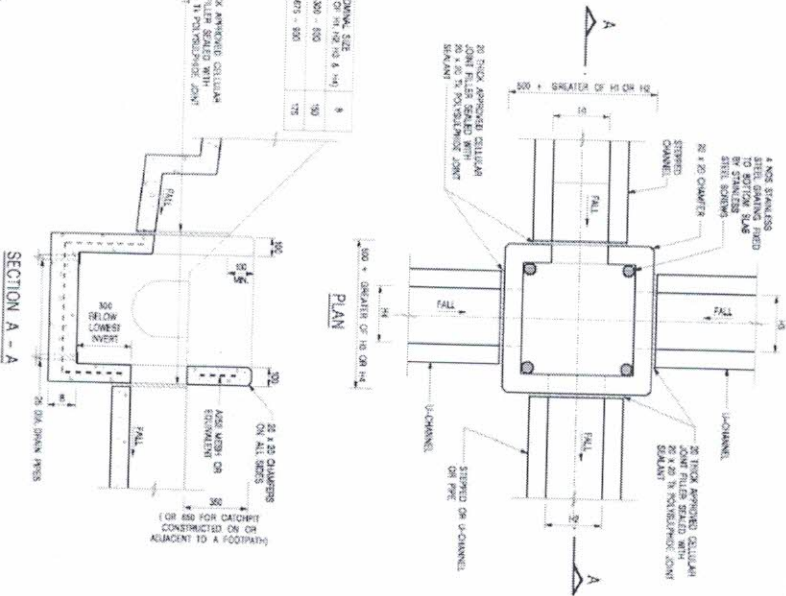
**SECTION B - B (WITH SANDTRAP)**  
(N.I.S.)

CATCHPIT & UC DETAILS

PROJECT:	PROPOSED STRUCTURE DEVELOPMENT ON LOT 1652 RP IN D.D. 121, SHAN HA TSUEN, PING SHAN HEUNG, YUEN LONG, N.T.
DRAWING TITLE:	STORMWATER DRAINAGE PROPOSAL - CATCHPIT & UC DETAILS
DRAWING NO.:	A-06

NOMINAL SIZE	QTY
200 - 100	50
675 - 100	75

20 THICK ANCHORED CAST-IRON JOINT FILLS SEALED WITH POLYURETHANE JOINT SEALANT



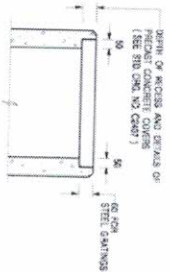
- NOTES
- ALL DIMENSIONS ARE IN MILLIMETRES
  - REFER TO SHEET 2 FOR OTHER NOTES

## CATCHPIT WITH TRAP

(SHEET 1 OF 2)

卓達工程 建築香港

REF.	FORMER SHEET NO. CHECKED	DATE
REVISION	REVISION	SIGNATURE DATE
<b>GEDO</b>		
<b>CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</b>		
SCALE	1/20	DRAWING NO. C2406/1
DATE	JAN 1991	
We Engineer Hong Kong's Development		



## ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CONCRETE SHALL BE GRADE 25/28.
- CONCRETE SURFACE FINISH SHALL BE CLASS 1B OR 1A AS APPROPRIATE.
- FORM DETAILS OF JOINT, REFER TO SHEET NO. C240.
- CONCRETE TO BE COLOURED AS SPECIFIED.
- UNLESS REQUIRED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE DESIGNER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEMS.
- UPON THE REQUEST FROM MAINTENANCE PARTY, TRAP PRES AT CATCHPIT TRAP AND BE USED FOR THE 200mm CATCHPIT LOCATED AT SLOPE TOP.
- 200mm CATCHPIT CONNECTED TO OR INACCESSIBLE TO A TIGHTENED COVER (EITHER CAST-IRON OR CONCRETE COVER) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
- IF INSTRUCTED BY THE ENGINEER, HANGING LIFT TRAP OR 200mm TRAP AND COVER SHOULD BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPIT COVER ON THE JUNCTION BETWEEN THE MAIN DRAIN AND THE BRANCH DRAIN (SEE SHEET NO. C240).
10. MINIMUM INTERNAL CLEARANCE SHOULD BE 100mm FOR CATCHPITS WITH A MAXIMUM DEPTH OF 100mm. UNLESS OTHERWISE SPECIFIED, THE MINIMUM CLEARANCE SHOULD BE 100mm FOR CATCHPITS WITH A MAXIMUM DEPTH OF 100mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'P' ON SHEET NO. C240.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

## CATCHPIT WITH TRAP

(SHEET 2 OF 2)

卓達工程 建築香港

REF.	FORMER SHEET NO. CHECKED	DATE
REVISION	REVISION	SIGNATURE DATE
<b>GEDO</b>		
<b>CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</b>		
SCALE	1/20	DRAWING NO. C2406/2
DATE	JAN 1991	
We Engineer Hong Kong's Development		

PROJECT:

PROPOSED STRUCTURE DEVELOPMENT  
ON LOT 1652 RP IN D.D. 121.

SHAN HA TSUEN, PING SHAN HEUNG,  
YUEN LONG, N.T.

DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
- CONNECTION DETAILS

DRAWING NO:

A-07



PROJECT:

PROPOSED STRUCTURE DEVELOPMENT  
ON LOT 1652 RP IN D.D. 121,  
SHAN HA TSUEN, PING SHAN HEUNG,  
YUEN LONG, N.T.

DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
- CATCHMENT AREA

DRAWING NO:

A-08



**Surface water disposal calculation on proposed 300mm U-Channel**

Proposed U-Channel Size 300 mm  
 Site Area 733.7 m<sup>2</sup>  
 Total Area (Catchment Area) 1064.4 m<sup>2</sup>  
 Maximum Area to be intercepted 1064.4 m<sup>2</sup> (Note: Total area for surface water disposal for U-Channel)  
 by proposed 300mm U-Channel

**Runoff in the proposed 300mm U-Channel**

$$\therefore D = \frac{0.0803 \text{ m}^2}{(4 \times A / \pi)^{1/2}} = (4 \times 0.0803 / 3.14)^{1/2} = 0.3198 \text{ m}$$

**Calculation of runoff coefficient (C) & mean intensity of rainfall (I)**

By "Rational Method"

$$Q_p = 0.278CIA$$

Where  $Q_p$  = Peak runoff in m<sup>3</sup>/s  
 $C$  = runoff coefficient (dimensionless)  
 $I$  = rainfall intensity in mm/hr  
 $A$  = catchment area in km<sup>2</sup>

$$\begin{aligned} \text{Fall (H)} &= 1:100 \\ \text{Velocity (V)} &= \frac{33 \times ((D/4) \times H)^{1/2}}{0.9331 \text{ m/s}} = \frac{33 \times ((0.3198/4) \times 1/100)^{1/2}}{0.9331} \\ \text{Runoff (Q)} &= A \times V = 0.0749 \text{ m}^3/\text{s} = 0.0803 \times 0.9331 \end{aligned}$$

By:

Surface Characteristics Runoff Coefficient, C

Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

Concrete pavement is provided, we take runoff coefficient (C) = 0.875

Rainfall intensity (I) is taken 232 mm/hr (For 5 min. duration 200 years Return Periods)

$$\therefore Q_p = 0.278CIA$$

Where  $C = 0.875$

$$I = 232 \text{ mm/hr}$$

$$A = 0.0010644 \text{ km}^2$$

$$\begin{aligned} &= 0.278 \times 0.875 \times 232 \times 0.0010644 \\ &= 0.06 \text{ m}^3/\text{s} \end{aligned}$$

$\therefore$  Proposed Runoff (Q) 0.0749 m<sup>3</sup>/s is greater than Peak Runoff (Q<sub>p</sub>) 0.06 m<sup>3</sup>/s  
 $\therefore$  OK

**Area of proposed 300mm U-Channel**

$$\begin{aligned} \text{Size} &= 300 \text{ mm} \\ \text{Area (A)} &= (\pi \times (D/4)^2 \times (D \times D/2)) = (3.14 \times (300^2/4)) \times 2 + (300^2/2) \\ &= 80325 \text{ mm}^2 \end{aligned}$$

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DRAWING TITLE:

STORMWATER DRAINAGE PROPOSAL  
 - U-CHANNEL CALCULATION

DRAWING NO:

A-09