

LOCATION MAP

[illegible]

TYPICAL CROSS-SECTIONS

Min. 0.50

0.60

1.20

Carriageway 5.40

1.20

0.55

Min. 0.50

2.70

2.70

5%-8%

5%-8%

0.35

0.35

Gravel Layer = 0.15 compacted (0.20 on special sections)

Backslope
Min. 3 : 2
Max. 3 : 1

- TRAFFIC LEVELS OF MORE THAN 200 VPD MAY JUSTIFY RUNNING SURFACE WIDTH INCREASE TO 6.50 METRES

[illegible]

FIGURE H.2 - CROSS SECTION B (REDUCED CROSS-SECTION)

The diagram illustrates a cross-section of a road structure. At the top, horizontal dimensions are specified: a minimum of 0.50 m on the left, followed by 0.40 m, 1.00 m, a 4.50 m carriageway (divided into two 2.25 m sections), 1.00 m, 0.40 m, and another minimum of 0.50 m on the right. The road profile shows a gravel layer with a 5%-8% slope on both sides of the central section. The gravel layer is 0.15 m thick (0.20 m for special sections). The total height of the structure is 0.305 m. The backslope is specified as a minimum of 3:2 and a maximum of 3:1.

Min. 0.50 0.40 1.00 Carriageway 4.50 1.00 0.40 Min. 0.50

2.25 2.25

5%-8% 5%-8%

0.305 0.305

Gravel Layer - 0.15 compacted (0.20 on special sections)

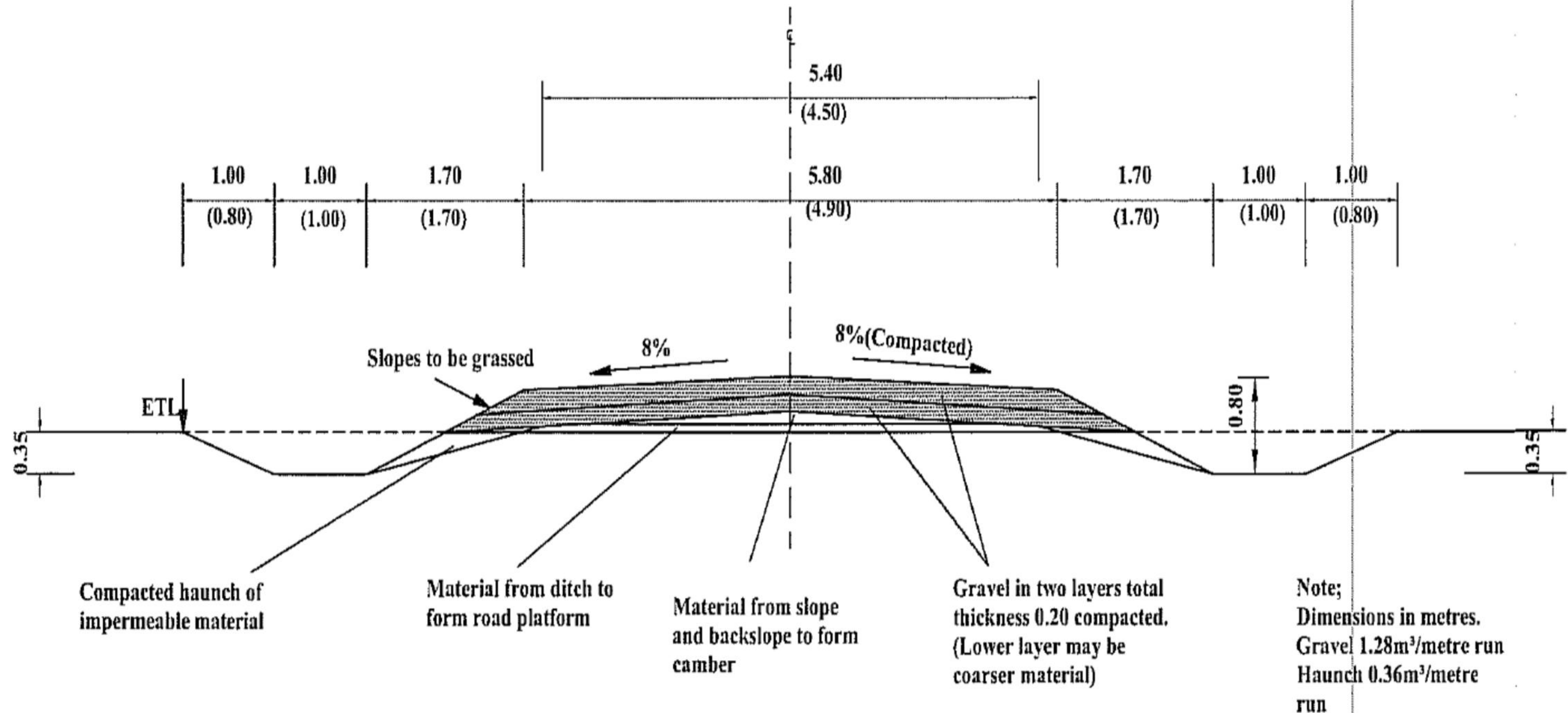
Backslope
Min. 3 : 2
Max. 3 : 1

NOTE: - ALL SPECIFIED DIMENSIONS IN m.

[illegible]

Backslope
Min. 3 : 2
Max. 3 : 1

Cross Section C (Black Cotton Soil)

[illegible]

Cross Section D (Sidelong Ground)

The diagram illustrates a cross-section of a road with a central platform and side slopes. The central platform has a width of 5.40 metres. On either side, there are shoulders with a minimum width of 1.20 metres. Further out, there are additional shoulder widths of 0.60 metres and 0.50 metres. The road surface is composed of gravel, with a thickness of 0.12 metres, or 0.15 metres for special sections. The road platform level is indicated by a dashed line. The existing ground level is shown as a solid line. A vertical dimension of 0.35 metres is shown on the right side, indicating the height of the road platform above the existing ground level. A note specifies that dimensions are in metres and that OGL stands for Original Ground Level.

Min 1.20

5.40

1.20

Min 0.60

Min 0.50

Existing Ground

OGI

0.35

Existing Ground

Gravel thickness 0.12 compacted (0.15 on special sections)

Road platform level

Note;
Dimensions in metres.
OGI: Original Ground Level

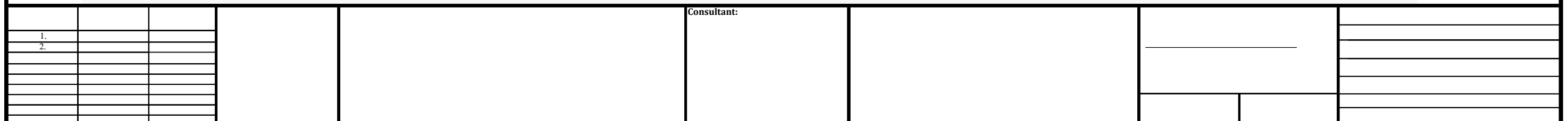
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PIPE CULVERTS

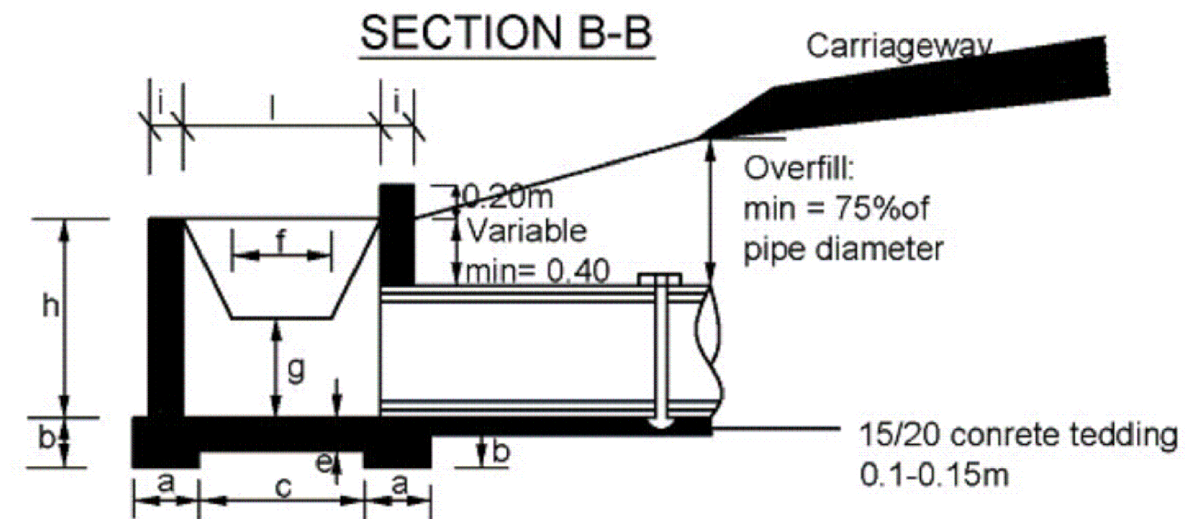
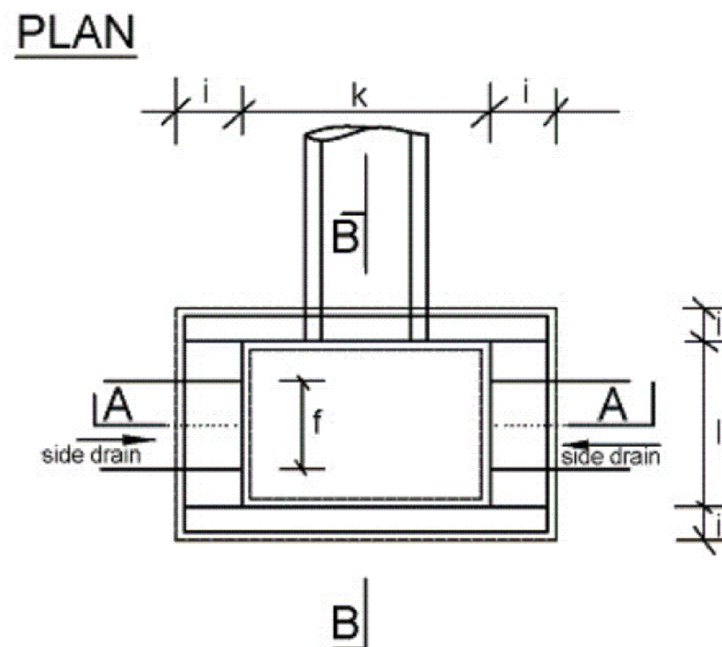
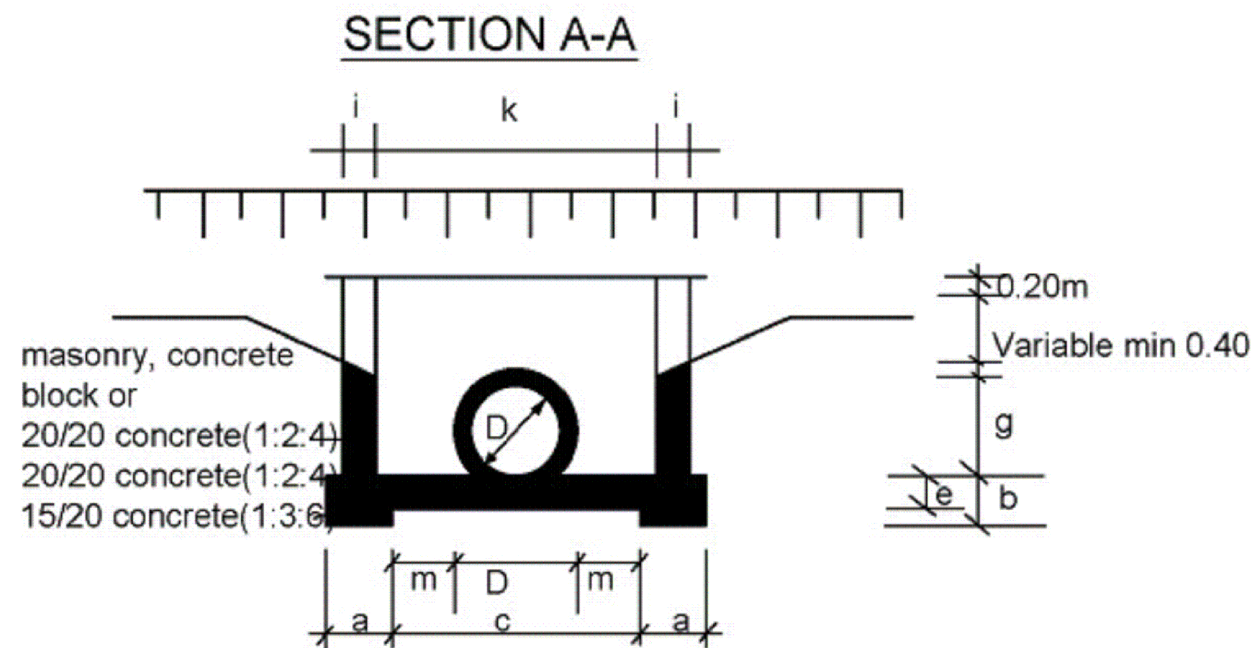
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C8- HEADWALL TYPE 1 (HEAD AND WINGWALLS)

SECTION A-A



C9-HEADWALL TYPE 2(DROP INLET)



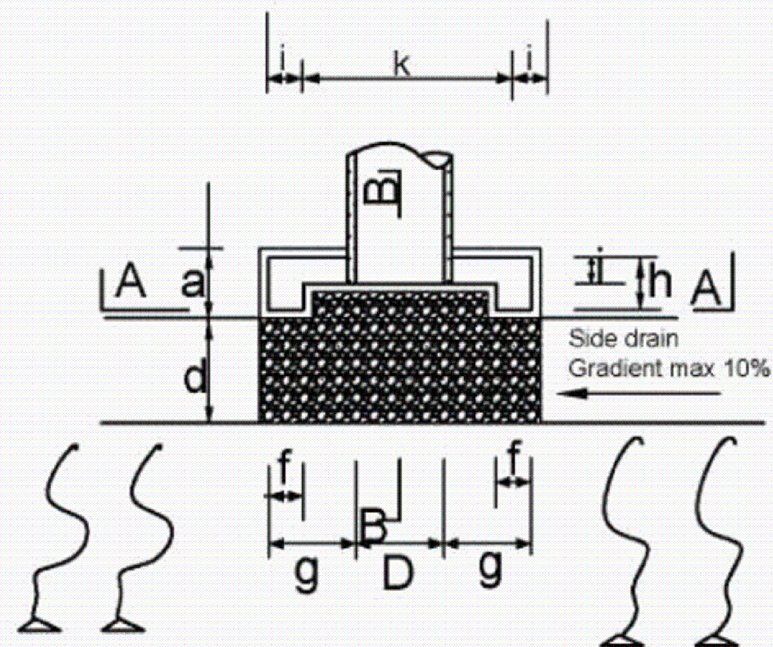
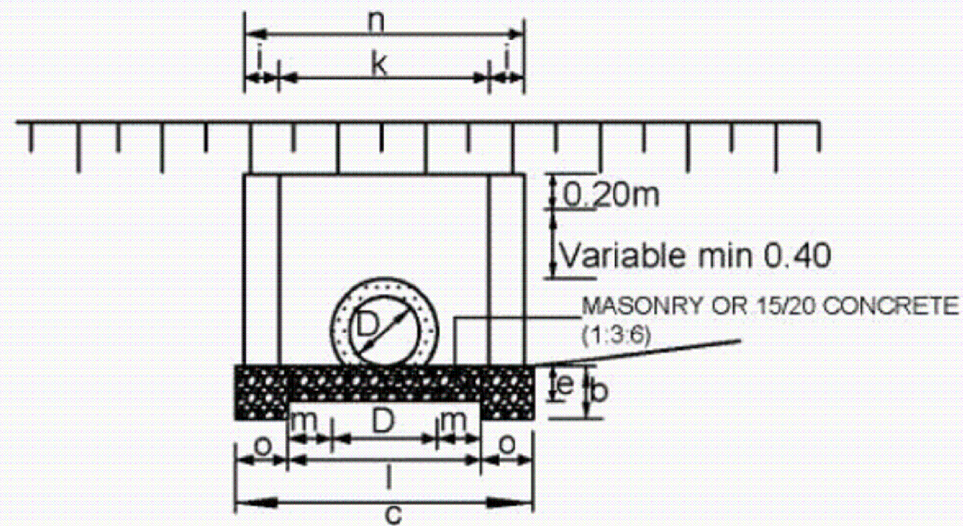
DIMENSIONS AND MATERIAL REQUIREMENTS

PIPE DIAMETER IN (M)			TYPE A CONCRETE BLOCKS			TYPE B (STONE MASONRY)		
			450	600	900	450	600	900
DIMENSION	UNIT							
a	FOUNDATION	m	0.30	0.30	0.30	0.40	0.40	0.40
b	FOUNDATION	m	0.30	0.30	0.30	0.30	0.30	0.30
c	FOUNDATION	m	1.10	1.10	1.40	1.20	1.20	1.50
d	APRON	m	0.90	0.90	0.90	1.00	1.00	1.00
e	APRON	m	0.20	0.20	0.20	0.20	0.20	0.20
f	DROP INLET	m	0.60	0.60	0.60	0.60	0.60	0.60
g	DROP INLET	m	0.30	0.40	0.60	0.30	0.40	0.60
h	DROP INLET	m	0.60	0.80	1.20	0.60	0.80	1.20
i	DROP INLET	m	0.20	0.20	0.20	0.40	0.40	0.40
k	DROP INLET	m	1.20	1.20	1.50	1.20	1.20	1.50
l	DROP INLET	m	1.00	1.00	1.00	1.00	1.00	1.00
m	DROP INLET	m	0.38	0.30	0.30	0.38	0.30	0.30
MATERIAL REQUIREMENT								
FOUNDATION (concrete)		m3	0.47	0.47	0.52	0.72	0.72	0.79
HEAD/WINGWALLS (Concrete/Masonry)		m3	0.6	0.72	1.15	1.27	1.63	2.65
APRON (cocrete)		m3	0.24	0.24	0.30	0.24	0.24	0.30

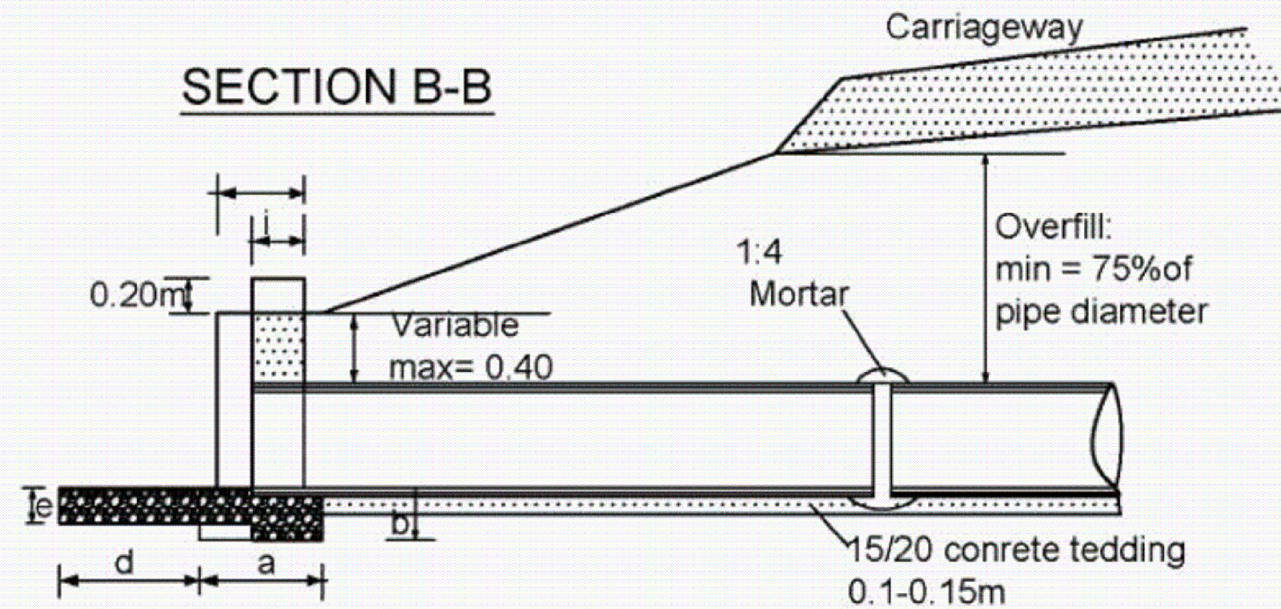
[illegible]

C.10-HEADWALL TYPE 3A (CONCRETE/ BLOCK HEADWALLS)

SECTION A-A



SECTION B-B

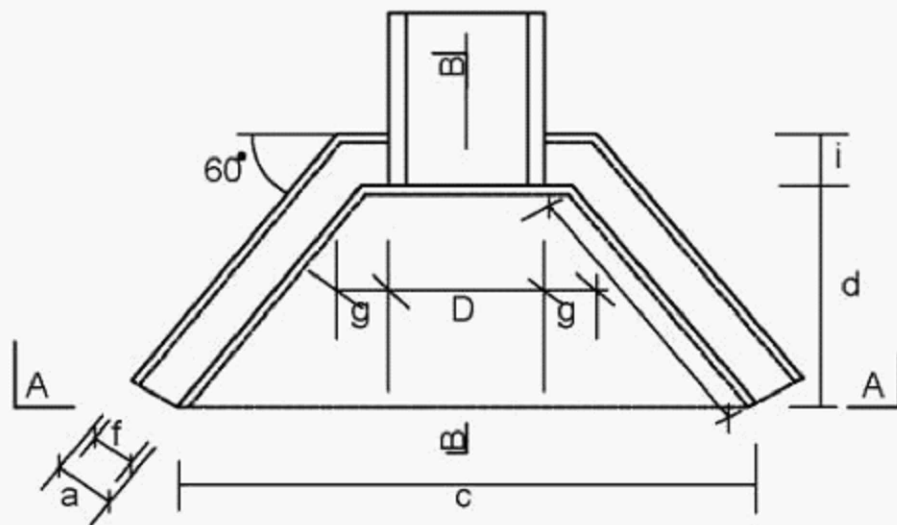
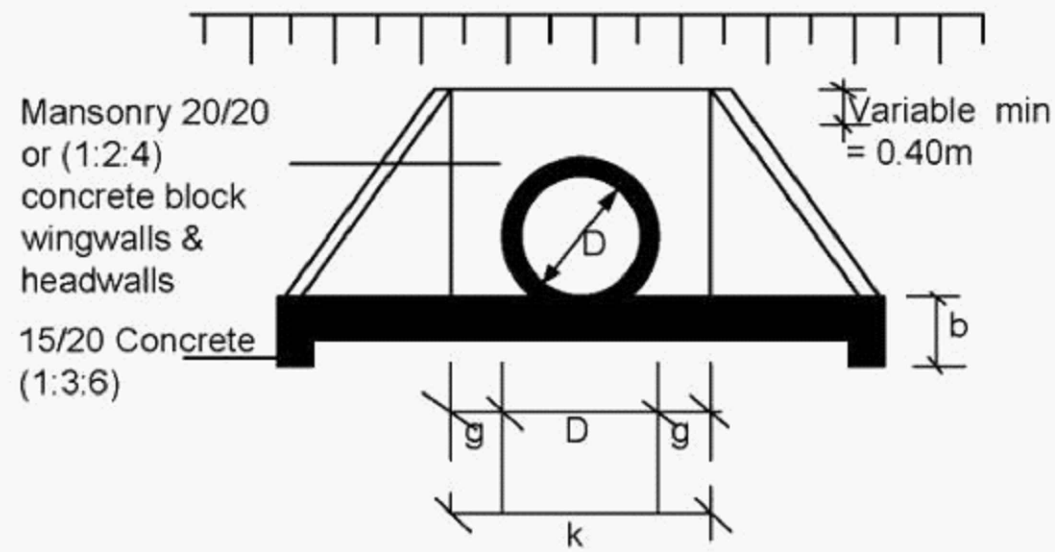


DIMENSIONS AND MATERIAL REQUIREMENTS

PIPE DIAMETER IN (M)	DIMENSION	UNIT	TYPE A and C CONCRETE BLOCKS	
			450	600
a	FOUNDATION	m	0.50	0.50
b	FOUNDATION	m	0.30	0.30
c	FOUNDATION	m	1.55	1.70
d	APRON	m	0.60	0.60
e	APRON	m	0.20	0.20
f	HEADWALL	m	0.20	0.20
g	HEADWALL	m	0.50	0.50
h	HEADWALL	m	0.50	0.50
i	HEADWALL	m	0.50	0.50
k	HEADWALL	m	0.50	0.50
l	FOUNDATION	m	0.50	0.50
m	FOUNDATION	m	0.50	0.50
n	HEADWALL	m	0.50	0.50
o	FOUNDATION	m	0.50	0.50
MATERIAL REQUIREMENT				
FOUNDATION (concrete)			0.23	0.19
HEADWINGWALLS (Concrete/Masonry)			0.34	0.37
APRON (concrete)			0.95	0.99

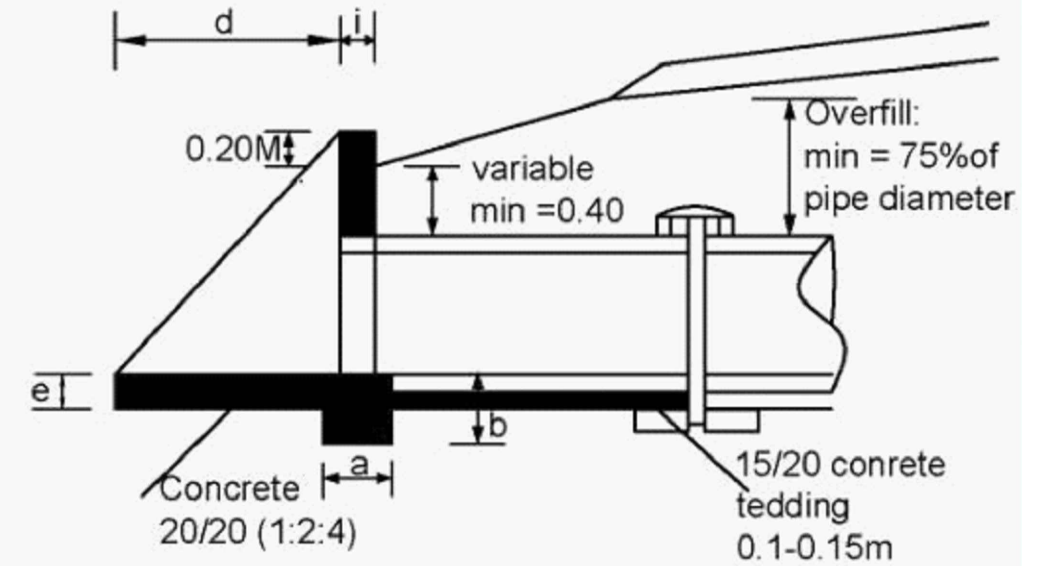
C12- HEADWALL TYPE 4 (FOR ACCESS CULVERTS)

SECTION A-A



CULVERT TYPES	
X-SECTION WIDTH-M	No. of pipes
4.50	6.00
5.50	7.00
6.50	8.00

SECTION B-B



PIPE DIAMETER IN M			TYPE A CONCRETE BLOCKS			TYPE B (STONE MASONRY)		
			450	600	900	450	600	900
DIMENSION	UNIT							
a FOUNDATION	m		0.30	0.30		0.40	0.40	
b FOUNDATION	m		0.30	0.30		0.30	0.30	
c FOUNDATION	m		1.34	1.49		1.34	1.49	
d APRON	m		0.6	0.6		0.60	0.60	
e APRON	m		0.20	0.20		0.20	0.20	
f WALL	m		0.20	0.20		0.40	0.40	
g WALL	m		0.1	0.10		0.10	0.10	
h WALL	m		0.69	0.69		0.69	0.69	
i WALL	m		0.20	0.20		0.40	0.40	
k APRON	m		0.4	0.40		1.05	1.20	
MATERIAL REQUIREMENT								
FOUNDATION (concrete)	m3		0.18	0.2		0.24	0.26	
HEAD/WINGWALLS (Concrete/Masonry)	m3		0.28	0.32		0.53	0.61	
APRON (concrete)	m3		0.12	0.14		0.12	0.14	

[illegible]

[illegible]

PROFILE I
(CONCRETE)



Diameter (D)	450 (mm)	600 (mm)	900 (mm)
a	0.15	0.20	0.20
b	0.10	0.15	0.15
c	0.86	1.12	1.48
d	0.56	0.72	1.08
e	0.14	0.18	0.27
f(min)	0.34	0.45	0.68
g	-	-	-
h	0.24	0.33	0.42
i	-	-	-
Concrete Class 15/20	Volume in (m3/m)		
	0.24	0.24	0.24
Application	-Fair subgrade condition -Overfill > 75% of the pipe diameter -Seasonal water flow only		
Remarks	Material for back/overfill shall be approved by the Engineer		

450 (mm)	600 (mm)	900 (mm)
0.15	0.20	0.20
0.10	0.15	0.15
0.86	1.12	1.48
0.56	0.72	1.08
0.28	0.36	0.54
0.34	0.45	0.68
-	-	-
0.38	0.51	0.69
-	-	-
Volume in (m3/m)		
0.20	0.37	0.56
-Fair to poor subgrade condition -Overfill > 75% of the pipe diameter -Seasonal water flow only		
Material for back/overfill shall be approved by the Engineer		

PROFILE III (CONCRETE)



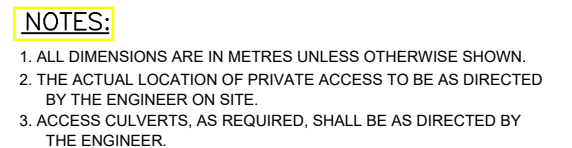
Diameter (D)	450 (mm)	600 (mm)	900 (mm)
a	0.15	0.20	0.20
b	0.10	0.15	0.15
c	0.86	1.12	1.48
d	0.56	0.72	1.08
e	0.42	0.54	0.81
f(min)	0.23	0.3	0.45
g	-	-	-
h	0.52	0.69	0.96
i	-	-	-
Concrete Class 15/20	Volume in (m ³ /m)		
	0.26	0.47	0.71
Application	-Fair subgrade condition -Overfill > 75% of the pipe diameter -Seasonal water flow only		
Remarks	Material for back/overfill shall be approved by the Engineer		

450 (mm)	600 (mm)	900 (mm)
0.15	0.20	0.20
0.10	0.15	0.15
0.86	1.12	1.48
0.56	0.72	1.08
0.46	0.52	0.78
0.15	0.15	0.15
0.15	0.15	0.15
0.81	1.02	1.38
0.28	0.35	0.45
Volume in (m ³ /m)		
0.37	0.61	0.92
-Fair to poor subgrade condition -Overfill > 75% of the pipe diameter -Seasonal water flow only		
Material for back/overfill shall be approved by the Engineer		

[illegible]

STANDARD DRAWINGS

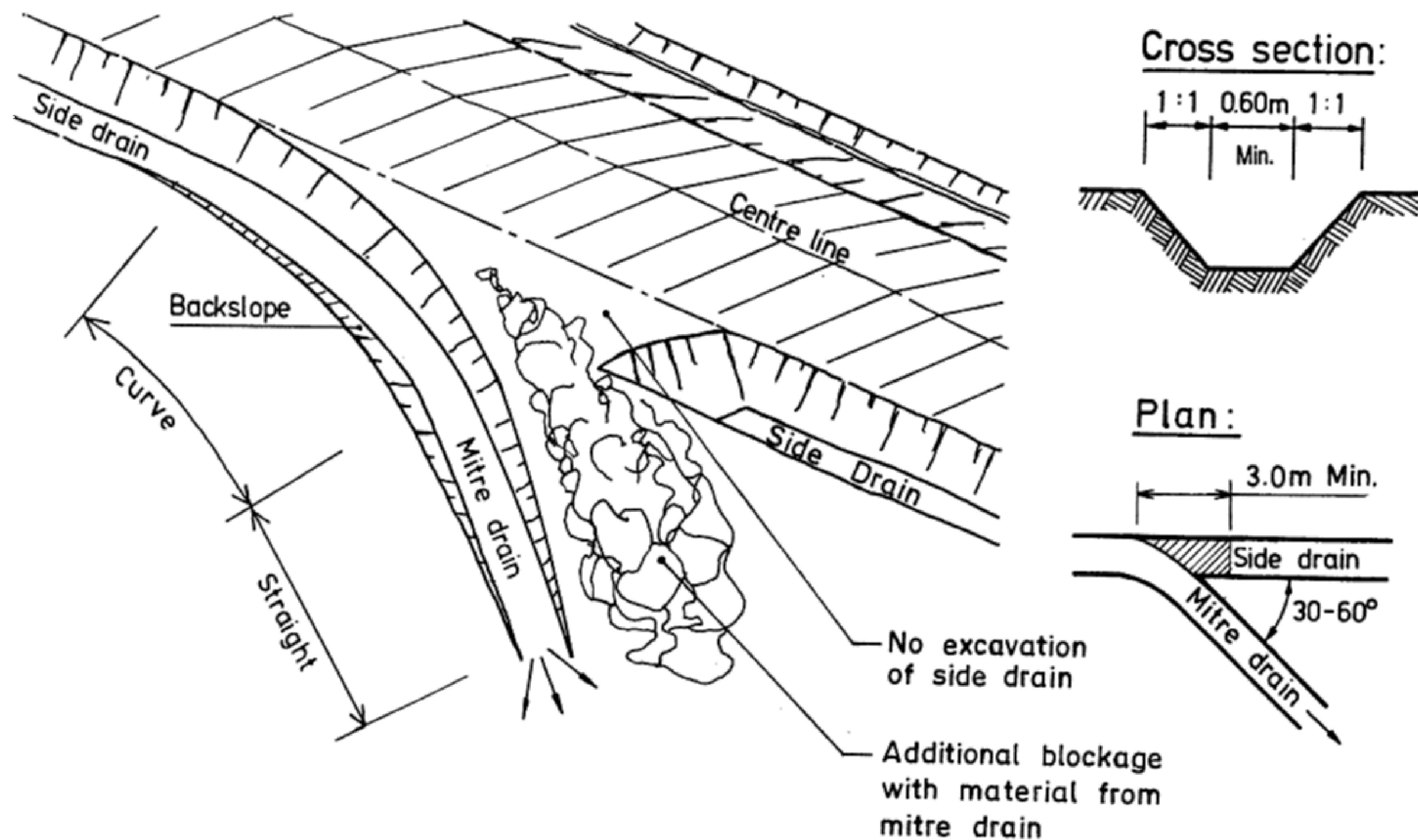
[illegible]

[illegible]

GENERAL DRAINAGE

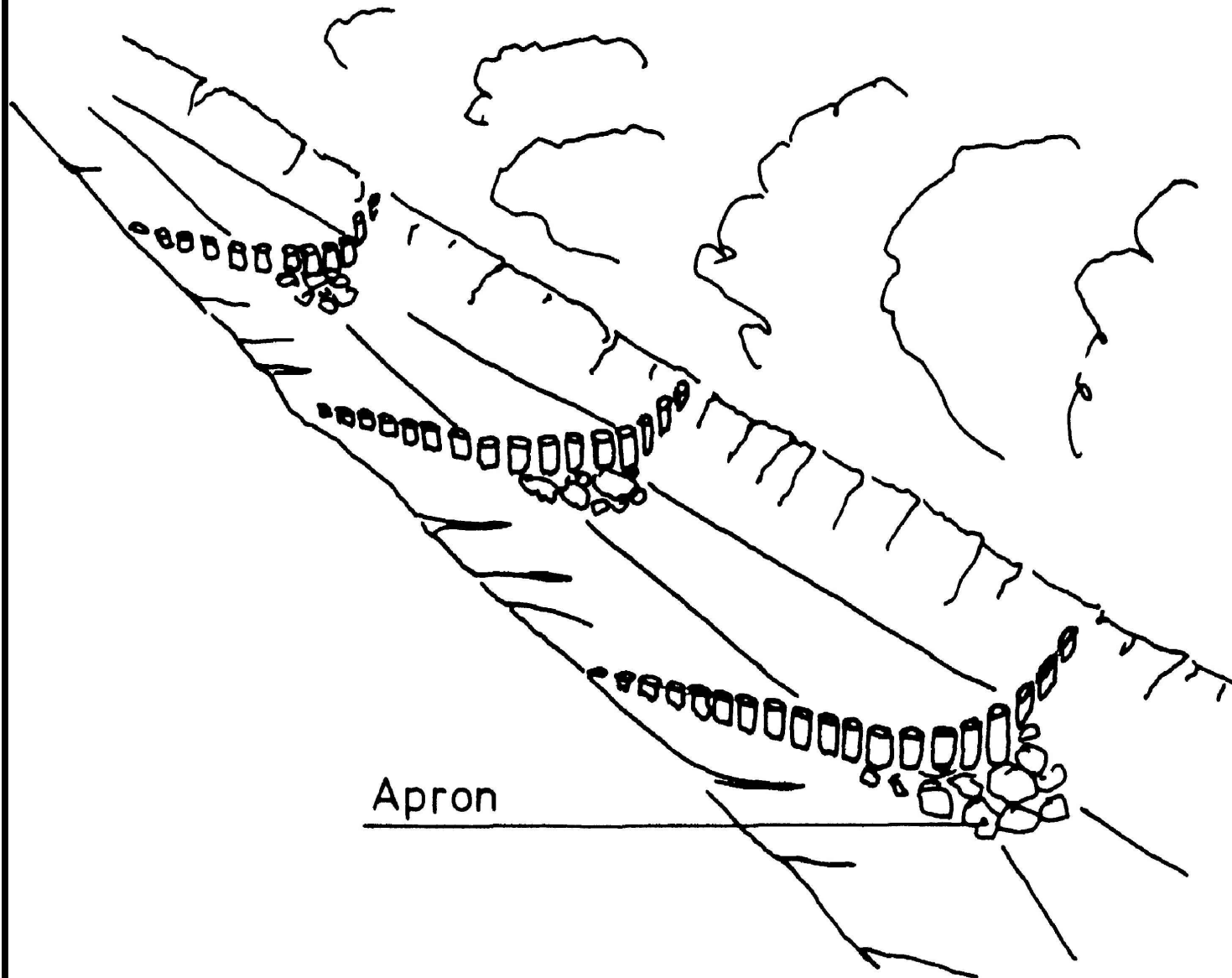
[illegible]

MITRE DRAIN

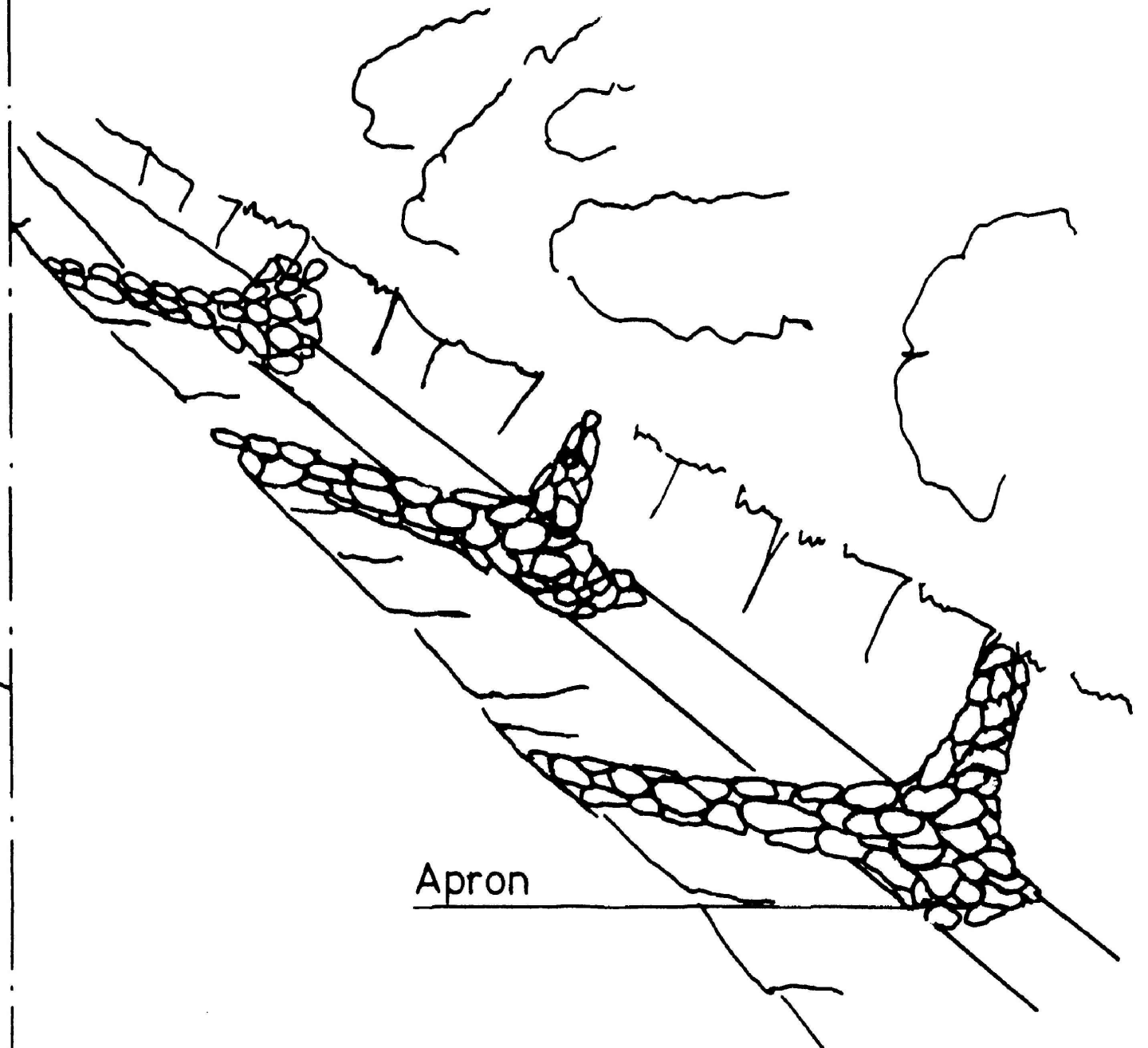
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SCOUR CHECKS

Scour checks made of wooden stakes:

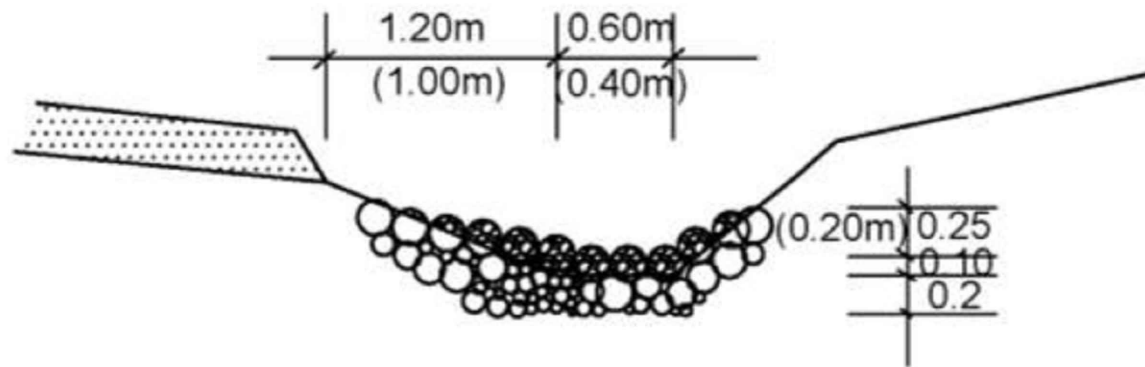


Scour checks made of stones:

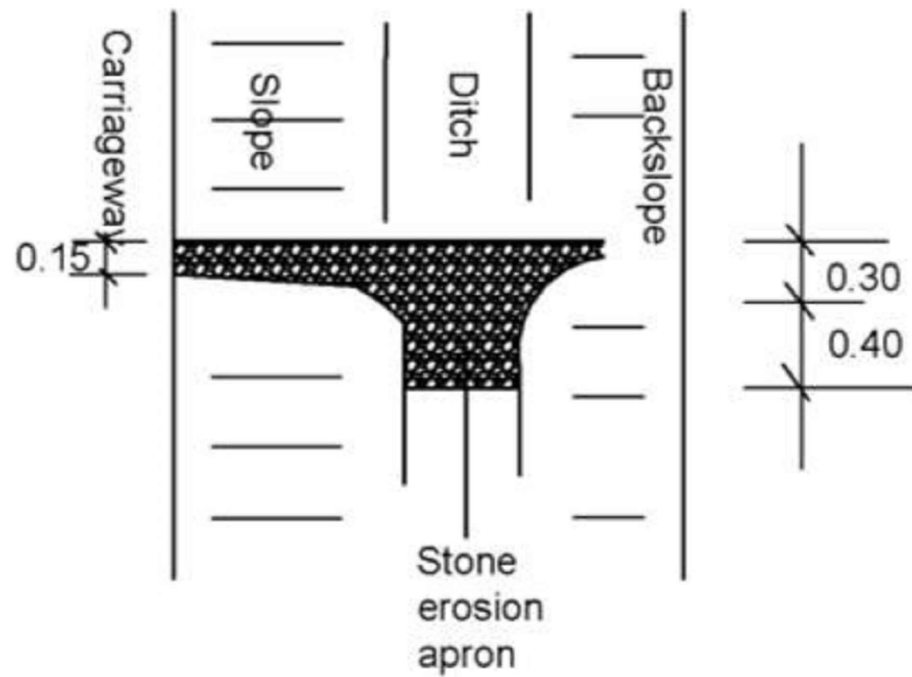
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Scour checks made of stones

Cross section



Ground plan



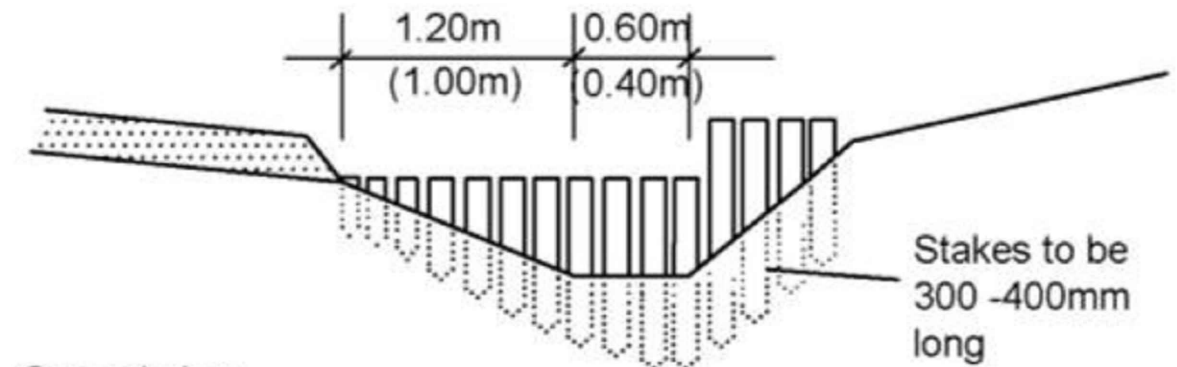
NOTE

¹Dimensions in metres

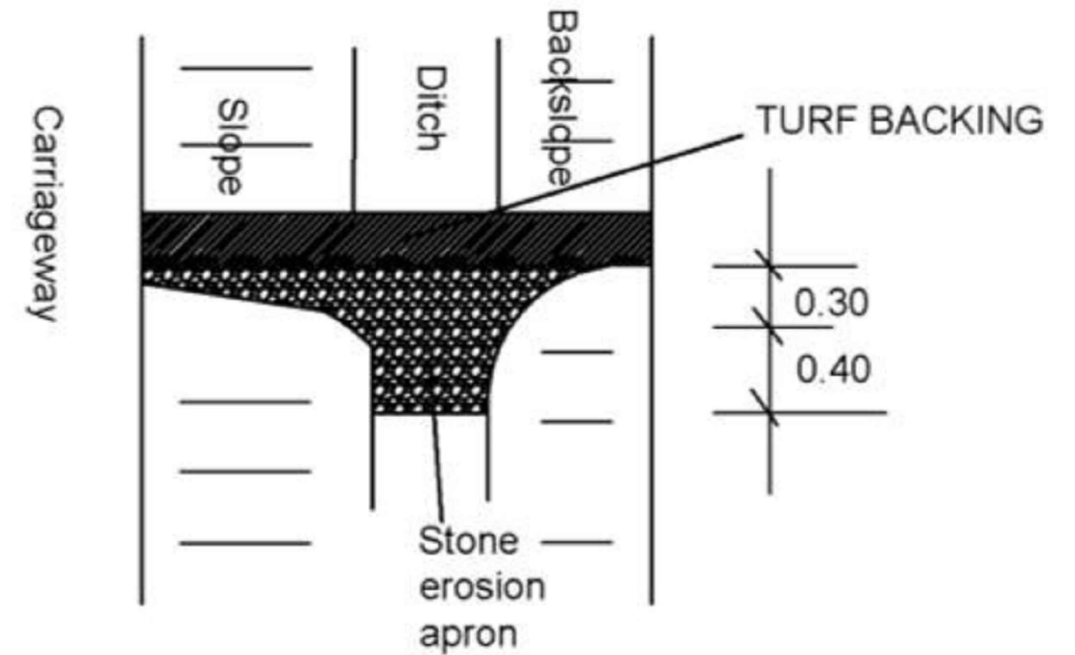
STONE WEIGHT: MIN 10KG
STAKE DIAMETER: MIN. 0.10m

Scour checks made of wooden stakes

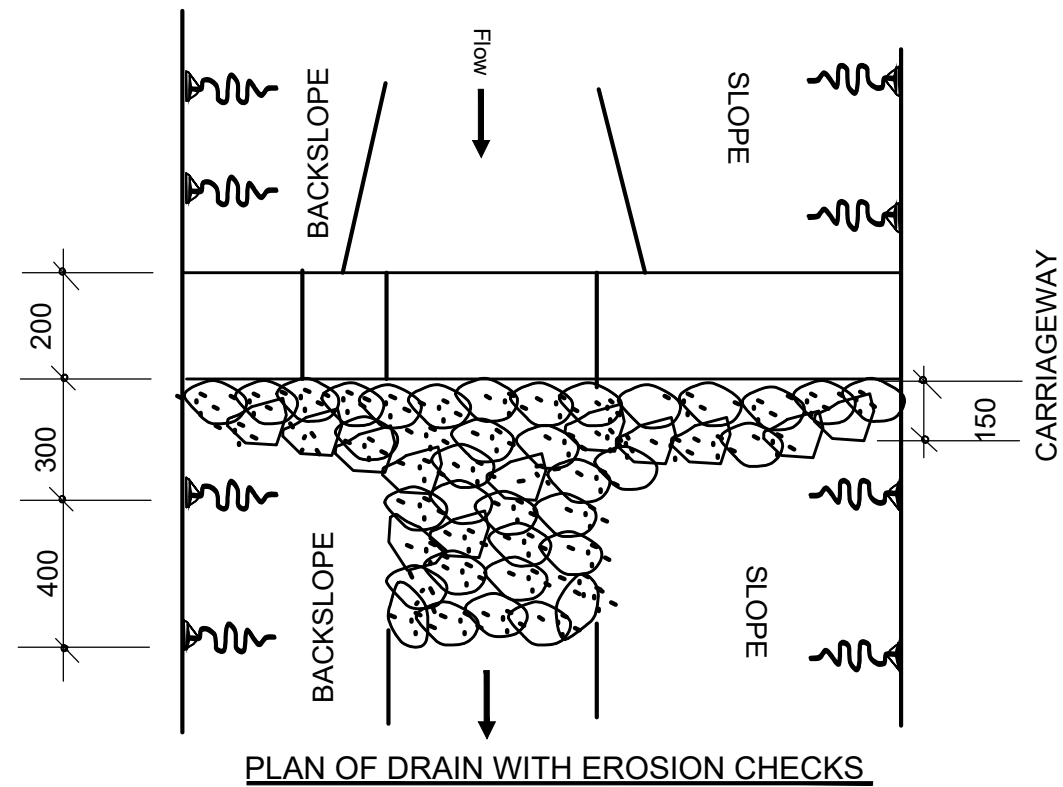
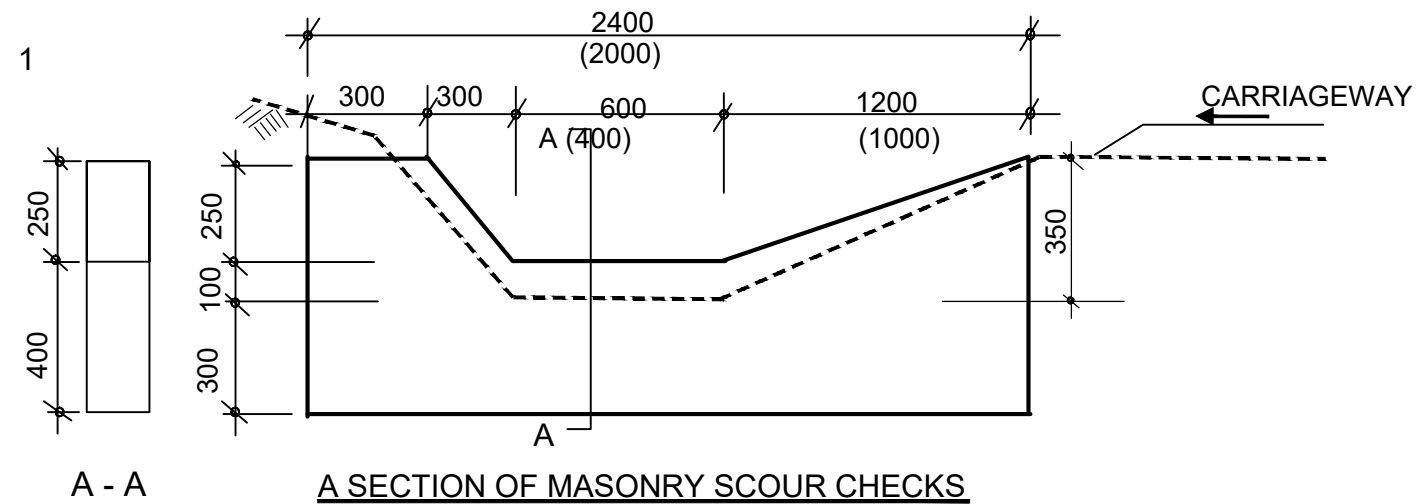
Cross section



Ground plan

[illegible]

- MASONRY SCOUR CHECKS



QUANTITIES TABLE

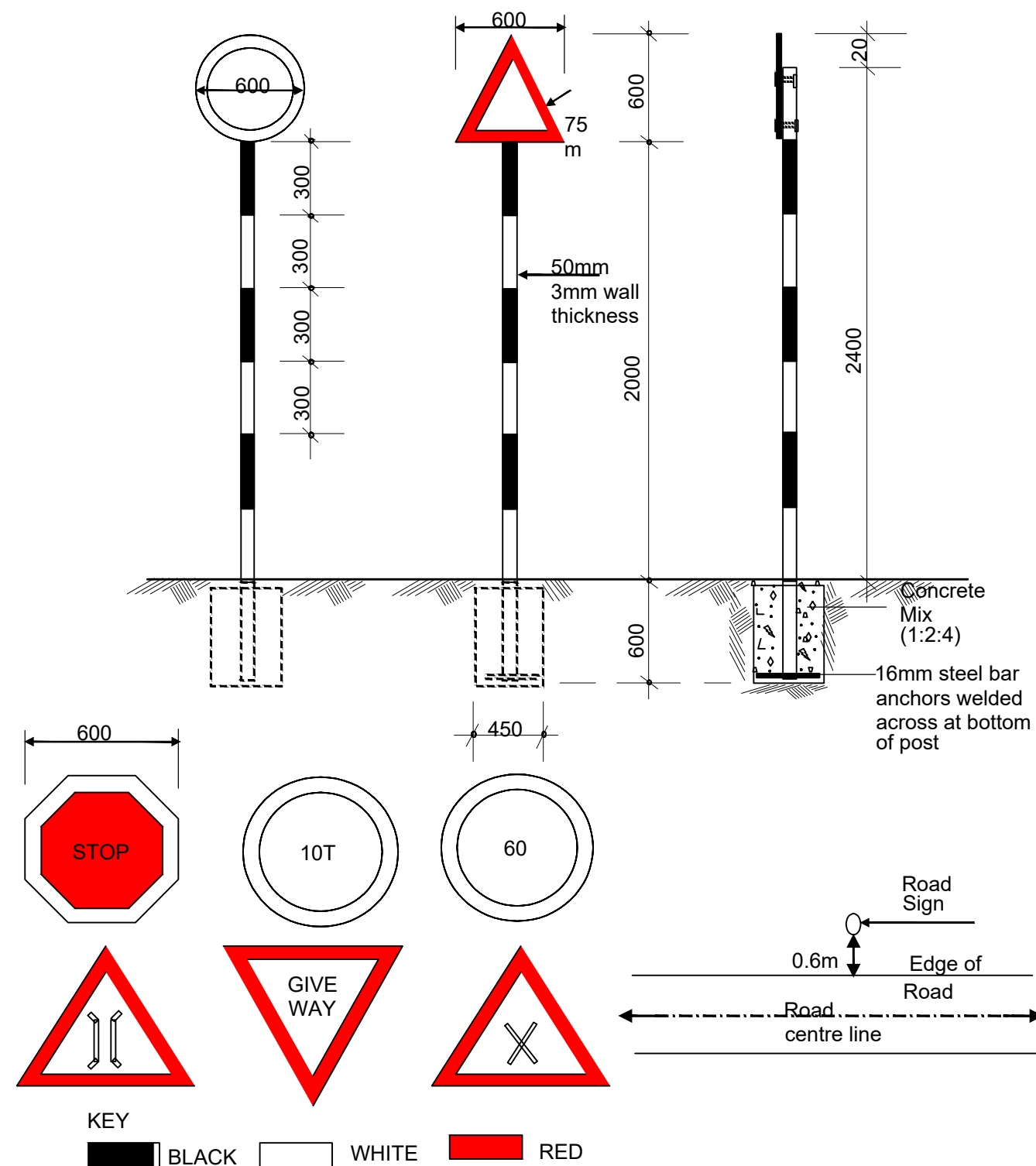
Cross-Section	Sizes in mm			Excav. (m3)	Stone masonry (m3)	Apron stone pitching (m3)
	Length	Width	Depth			
A	2400	200	550	0.22	0.25	0.18
B	2000	200	500	0.18	0.2	0.14

[illegible]

TRAFFIC SIGNS

[illegible]

TRAFFIC SIGNS



1. The type of sign required and their location shall be as shown on the improvement plan and as directed by the Engineer
2. Sign plate to be 2 mm thick mild steel plate
3. Sign post to be 50 mm internal diameter steel pipe with wall thickness of 3 mm.
4. Sign plate to fixed to steel tube by 4 Nos M10 bolts and 2 Nos 50 mm f fixing clamps/brackets.
5. Sign paints shall be reflective.
6. The sign plate and post shall be treated by applying two coats of lead red oxide paint before applying priming and two finish coats of approved paints . Paints used shall have a hard, durable and glossy finish.

TEMPORARY SIGNS



“Men Working”



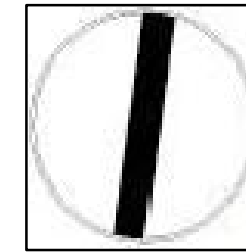
“Road narrows on Right Ahead”(sign may be reversed)



“Turn Left” (direction of arrow may be reversed)



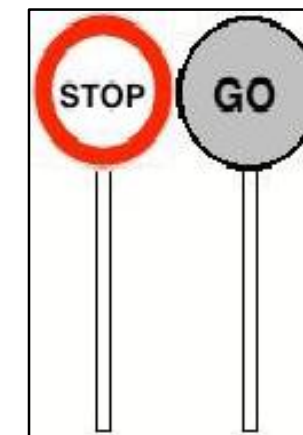
“Keep Left” (direction of Arrow may be reversed)



“Road Clear”



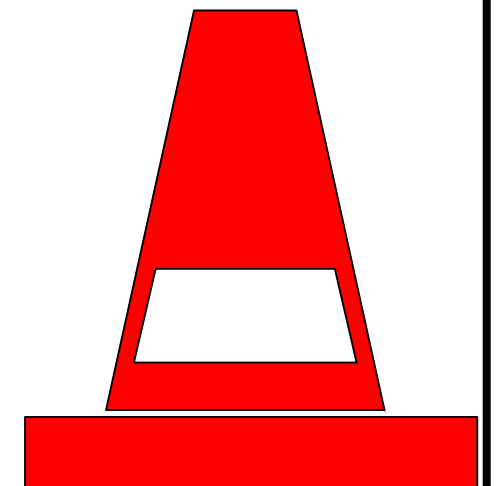
“Speed Limit”



Reversible stop/go signs



“No Overtaking”



Traffic cones

[illegible]

PUBLICITY SIGNBOARD

[illegible]

[illegible]