

JOB GUIDE FOR SMALL CONTRACTORS INVOLVED IN THE CONSTRUCTION OF INSTITUTIONAL LATRINES



824-4698-19301

Contents

Introduction :	ii
1. General:	1
2 The importance of a latrine:	2
2.1 Primary Schools:	3
2.2 The District:	4
2.3 Health Centres:	5
3 Planning the latrine:	7
3.1 Number of stances:	7
3.2 Site selection:	9
4 Pit dimensions:	11
5 Pit construction:	13
6 The foundation:	15
6.1 Brick work for the foundation:	17
7 Walls for the superstructure:	19
8 Ventilation and lighting:	21
9 The roof:	22
10 The apron:	23
11 The storm water catchment drain:	24
12 Hand washing facility:	25
13 Annex 1:	28

INTRODUCTION

This job guide has been prepared to help the small contractors in the construction of institutional latrines. It is hoped that it will also prove useful to mobilisers and teachers involved in the day-to-day supervision of the construction work as well as community leaders at subcounty level.

This job guide will help the small contractors construct institutional latrines that are technically sound and which conform to the RUWASA standards. It should be noted that only if these guidelines have been followed during the construction would payments be effected.

N.B. In case of difficulties contact the area Health Inspector or Health Assistant for guidance.

1. GENERAL

The objective of the institutional sanitation programme is to assist primary schools and health units to construct hygienic latrines.

These latrines will also help to reinforce the hygiene and sanitation messages being taught in schools and health units, reduce the spread of diseases and serve as models for the people to copy in their communities.

It is the joint responsibility of the District and the institution to construct latrines.

2. THE IMPORTANCE OF A LATRINE

The importance of latrines is to stop the spread of germs and parasites, which are carried in faeces and urine. Through the use of latrines, faeces and urine are kept away from food and water.

Indicators of a good latrine:

- Well-sited and properly built.
 - Properly used by all the people (including children).
 - Used with accompanying good health practices such as hand washing.
 - Kept clean and in a good state of repair.
 - Provided with hole-covers to prevent entrance (when not in use) and breeding of flies.
 - Smoked regularly to destroy flies.
-



2.1 Primary Schools

Should contract a private small contractors in the construction of institutional latrines.

RESPONSIBILITIES OF THE SCHOOLS:

- Digging the pit(s).
- Providing all locally obtainable material such as bricks, poles, sand, etc.
- Providing labour to assist the mason during the construction.
- Providing door frames and shutters.
- Providing a hand-washing facility.

2.2 The District

RESPONSIBILITIES:

- Providing reinforced slabs.
- Providing cement for the construction of the foundations at the pit latrine.
- Providing technical supervision (by county staff).
- Paying the small contractors for labour.
- Assisting where essential in the transportation of locally obtainable.
- Training school teachers in the promotion of hygiene education.

2.3 Health Centres

The construction of latrines at the Health Centres will be contracted to small contractors.

The construction will involve;

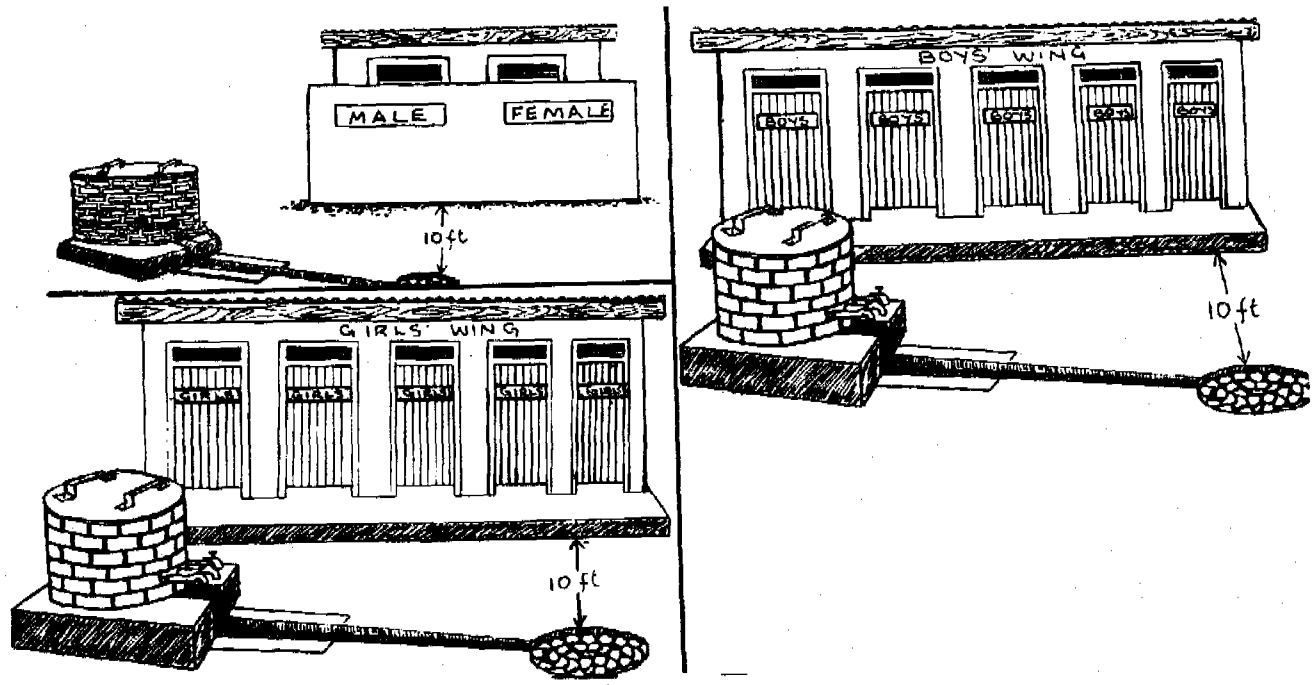
- Digging of the pit,
- Building the foundation,
- Laying slabs,
- Construction of walls and roof,
- Plastering,
- Installing door frames and shutters,
- Painting and
- Construction of a hand washing facility.

3. PLANNING THE LATRINE

3.1 Number of stances

The guidelines from the Ministry of Health stipulate for provision of one stance for every 25 pupils up to 100, then one for every 40 pupils there after.

Advocacy should also be made for separate the different sexes for both pupils and teachers - (but stance computations follow the same rule).



3.2 Site Selection

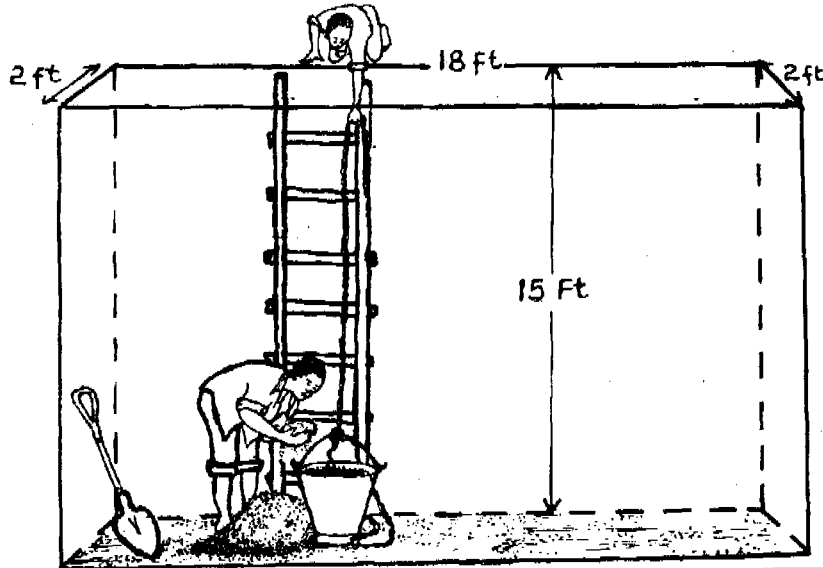
The latrine should be:

- On hard ground where a pit of 15-30 feet deep (4.5–9 m) can be dug without reaching rock/water.
- 100 feet (30 m) away from any water source to avoid contaminating the water.
- 30 feet (10 m) or more from any habitable room (stores, office, kitchen).
- On hard soils that are not likely to collapse during the digging of the pit.

The latrine should not be:

- In one place for more than 10 years.
- In a swampy area it causes water stagnation which makes the latrine collapse.
- Alongside, across and within 10 ft (3 m) from the old pits.

- Near big trees because the roots weaken the foundation walls of the pits.
- On a sloping ground because heavy rainfall from the slope stagnates along the walls of the latrine - thereby weakening the soil, foundation concrete and walls.

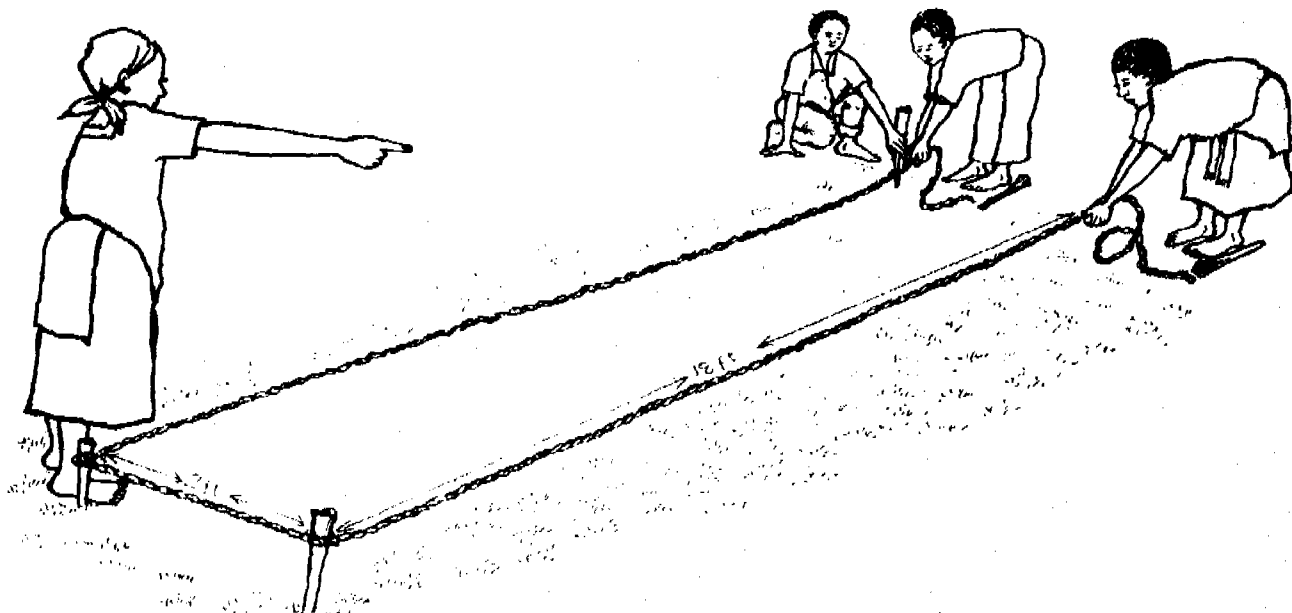


4. PIT DIMENSIONS

It is important that the pit is dug to exact measurements in order for the slab to fit on top of it. If the pit is too wide, the slab may fall in, and this is very dangerous. (In such eventualities, a Health Inspector and/or Civil Engineer may be called to assist in building a stance in situ to avoid abandoning the pit.

- a). The widths of all pits should be 2 feet maximum .
- b). The lengths will vary according to the number of stances, that is:
 - Two stances 6 feet.
 - Three stances 10 feet.
 - Four stances 14 feet.
 - Five stances 18 feet.

-
- c). The depths should be at least a minimum of 15 feet (4.5 m) deep.



Dimensions for a pit latrine with 5 stances.

5. PIT CONSTRUCTION

It would be advisable to dig pits of not more than 18 ft long. Also advocate for the width of the pit to be 1½ ft so that in case of errors it can be increased to 2 ft.

Before digging, do the following:

- Clear the place of bush, grass and stones.
- Use tape measures, ropes and squares or 3:4:5 rule to mark out a rectangle depending on the number of stances. Place wooden pegs at each corner of the rectangle.
- Tie a string tightly around the pegs to mark out the edges of the pit. (Make sure the diagonals are equal to ensure right angles).
- Start digging straight down inside the line of the string. Ensure sharp corners (right angles) using the square ensure that the sides are straight and using a plumb bob ensure that the edges are straight too.

-
- Heap the earth from the pit about 6 feet away from the pit on the uphill side (to avoid the earth falling back into the pit). This is done to protect the pit from storm water during the rainy season. If done otherwise the earth forms an embankment which retains storm water that eventually softens the sides of the pit.



6. THE FOUNDATION

If there is any sign of soil instability, abandon the pit, back-fill the pit, and look for another site.

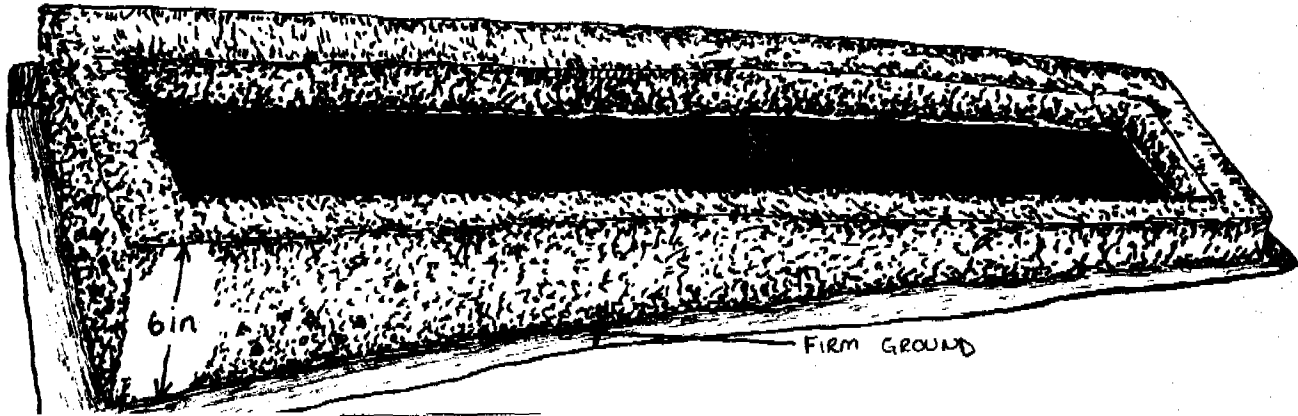
The foundation must be built on a very firm ground. This is ensured by first removing all the loose top soil. The foundation should be 1½ feet deep and 2 feet wide (dug all around the pit measured from pit edges). Only if the firm layer is within that reach. Otherwise you could even go to far deeper depths or use steps to achieve the required soil stability.

The foundation should be wider than the width of the pit.

The ratio of materials for the concrete should be 1:3:6 rule for the bottom layers, which is 4 inches thick. Clean swamp sand and aggregate should be used. The materials should be properly mixed in bits then spread on the excavated ground.

Leave the concrete to cure for a minimum of three days. The concrete base should extend beyond the brick wall.

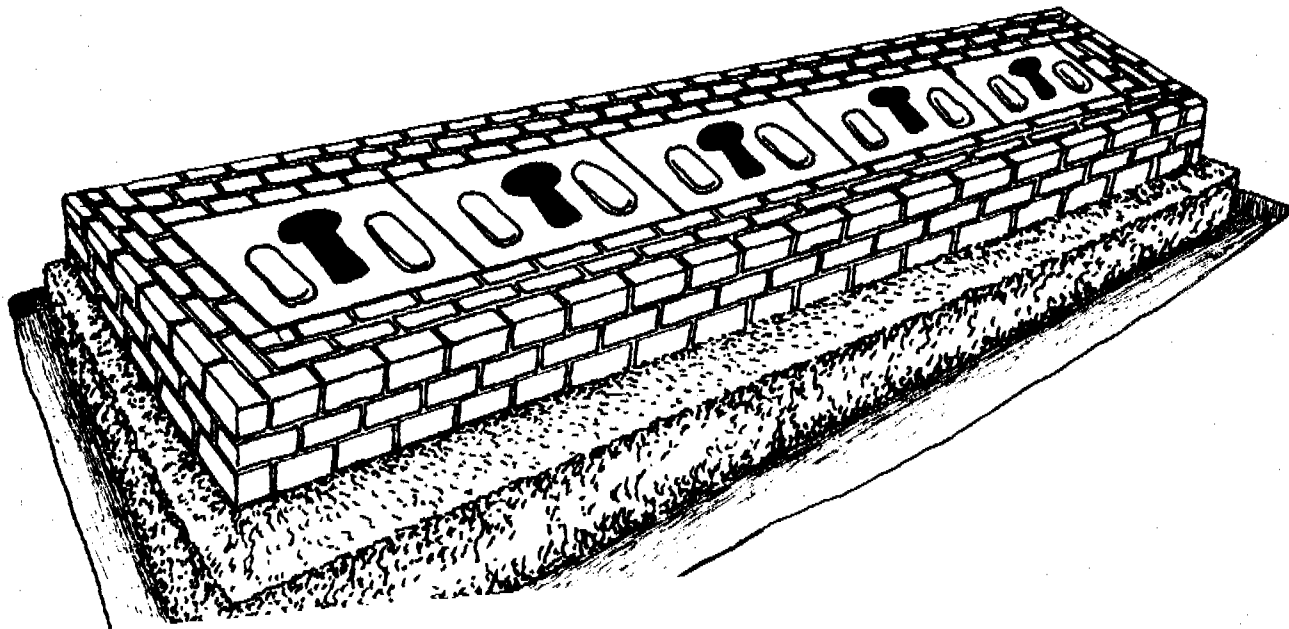
The Public Health (Building) Rules, 1964 reduced it to 1:4:8 but perhaps where the soil is somehow unstable it could be reinforced with 5/8" or 3/4" iron bars and the thickness increased to 6" thickness.



6.1. BRICK WORK FOR THE FOUNDATION

- A minimum of 4 days is required with watering for setting. The bricks must be good and strong.
- English bondage.
- The first course should be laid on headers
- The wall should have a minimum thickness of 9"
- Cement mortar should be 1:6 (i.e. 1 bag of cement to 6 wheelbarrows of sand).
- The foundation should rise 6" higher than the surrounding ground.
- Leave the foundation to cure for a minimum of three days.

An A.P.C (ant-proof course) layer of 1:2 cement mortar of 1" thickness should be spread on top of the brickwork. Lay the slabs on top of the A.P.C layer. There must be

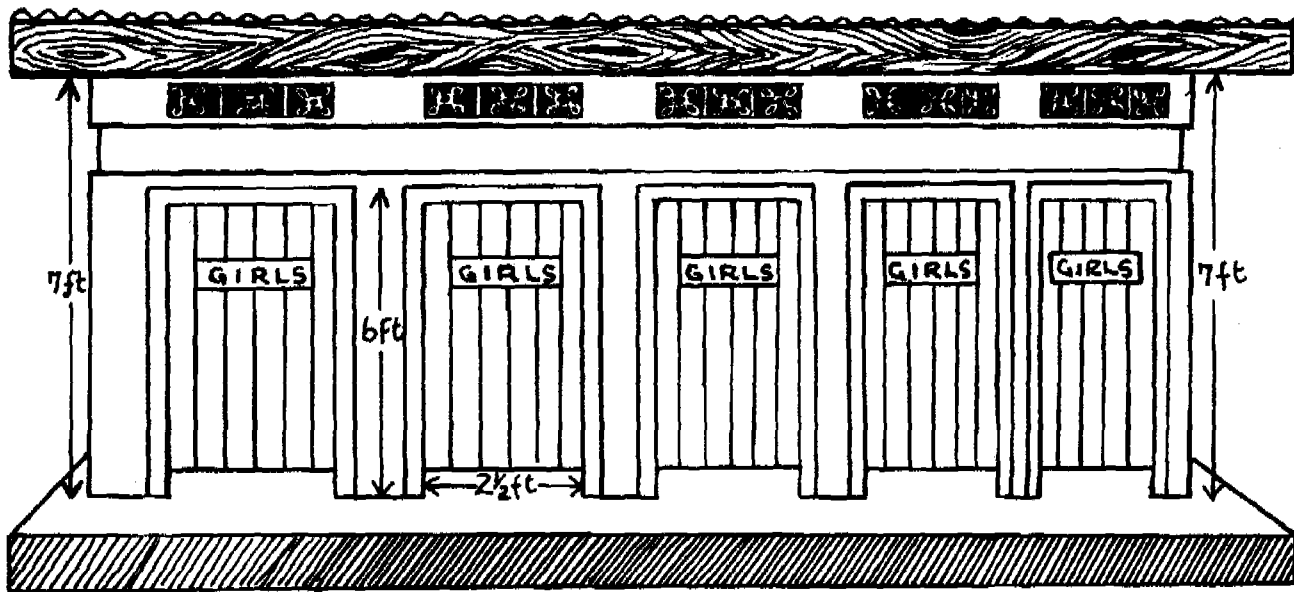


7. WALLS FOR THE SUPERSTRUCTURE

at least 1 foot (30cm) of overlap of slabs on each side of the foundation wall.

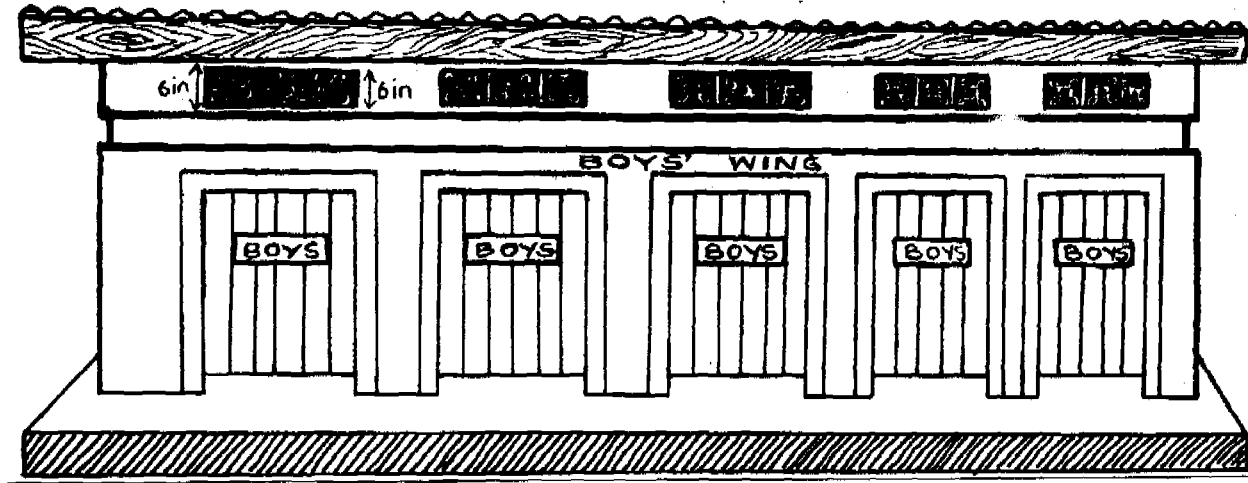
The bricks should be placed along the edge line of the slabs. The walls should be at least 7 feet (2.1) high from the slab level, well bonded and plastered. The shutters should be 2½ feet x 6 feet (75cm x 180cm) and well fixed.

(7 ft (210cm) high on the higher side and 6 ft 6" (195 cm) on the lower end for lean-to-roofs) - but leaning at the back.



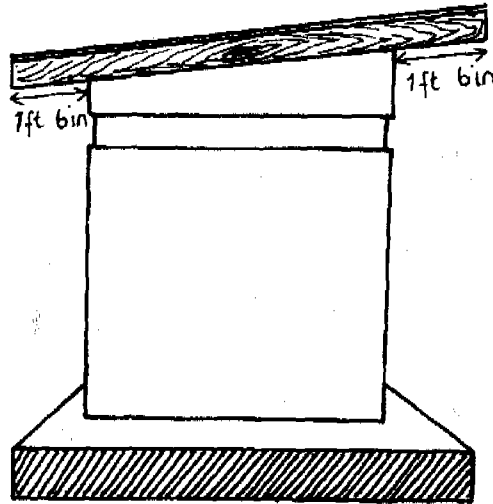
8. VENTILATION AND LIGHTING

Ventilation should be provided by leaving a 6" (15 cm) opening space (mabove the ring beam for permanent structures) on top of the walls all around: fitted with wire-gauge netting for temporary structures.



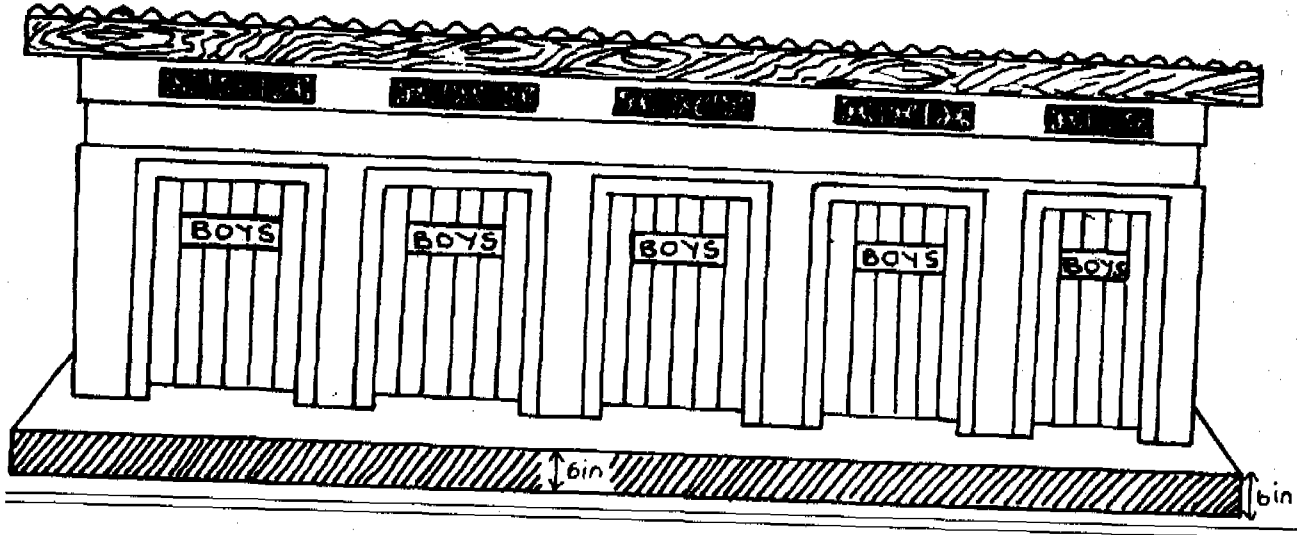
9. THE ROOF

The roof must be made durable and weather proof by using materials like iron sheets, reeds or papyrus grass, tiles, grass, etc. with an over-hang of at least 1'-6" (45 cm).



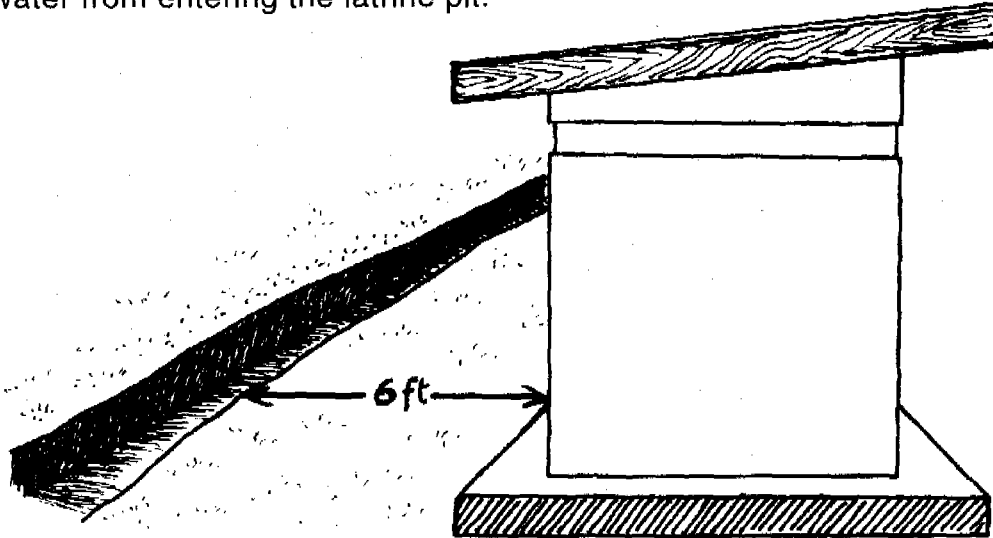
10. THE APRON

The apron should be built 6" above the surrounding ground and all around the latrine superstructure.



11. THE STORM WATER CATCHMENT DRAIN

It should be dug 6 feet (1.8m) away from (uphill side) the pit latrine to drain away storm water from entering the latrine pit.



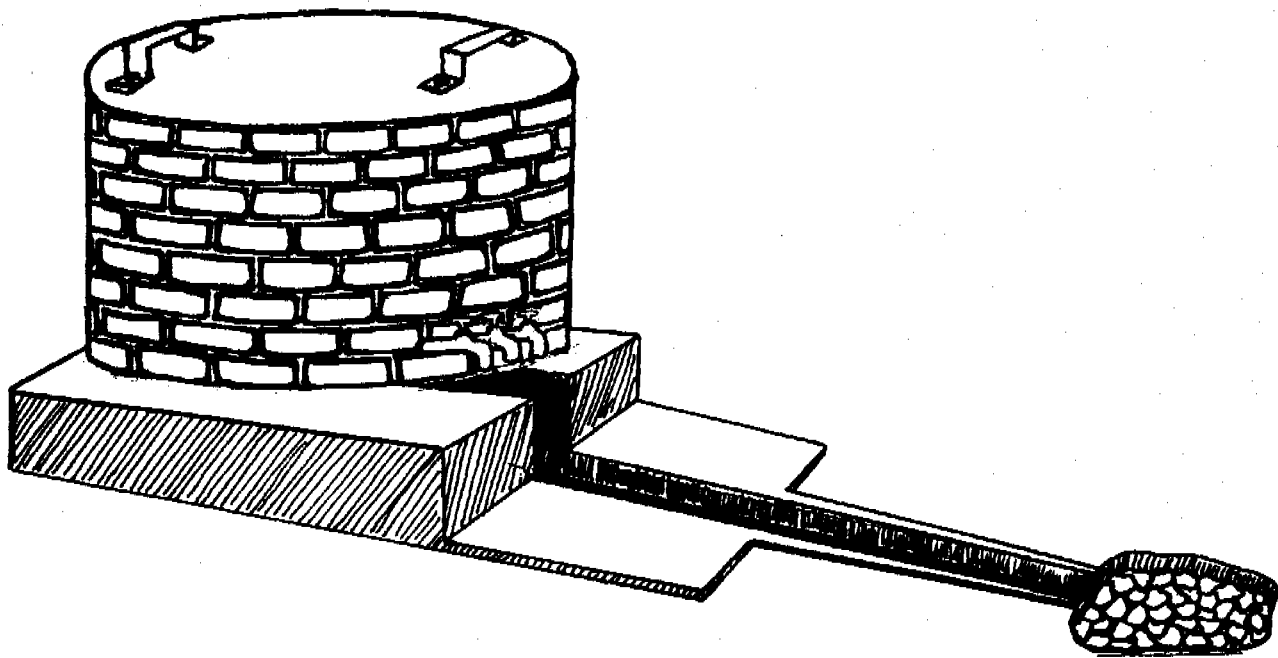
12. HAND WASHING FACILITY

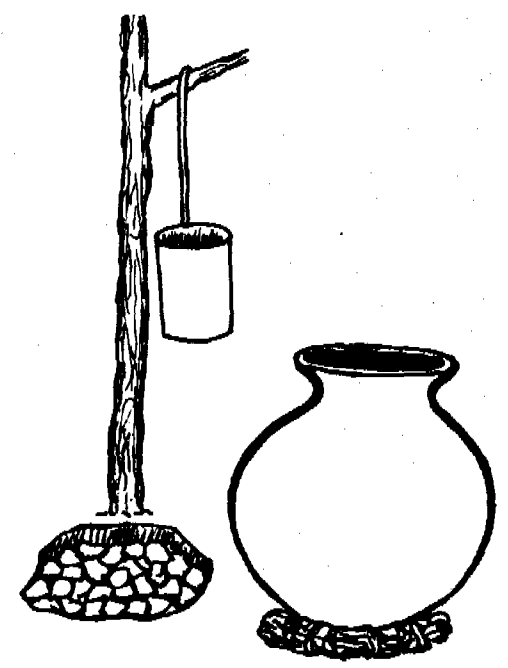
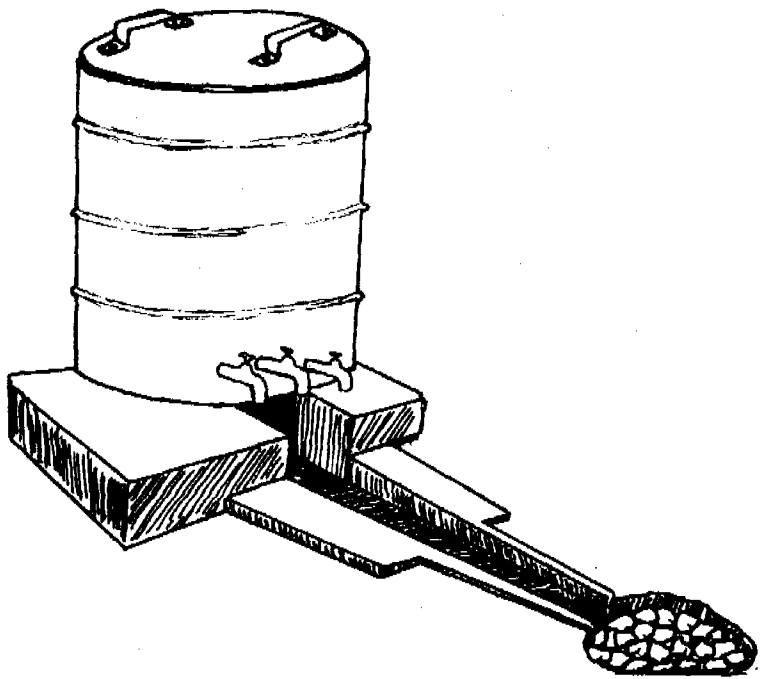
A hand washing facility should be provided near the latrine for each completed latrine.

It can be any of the following:

- A drum fitted with a tap and constructed on a concrete platform.
- A small tank constructed with bricks and fitted with a tap.
- A big pot / jars filled regularly with water (and or sometimes collecting rainwater from the roof of the latrine.

N.B: Only if these guidelines have been carefully observed will the latrine be deemed completed and final payment made. The latrine will be subject to inspection and a certificate of completion will be issued, by Health Inspector in Charge County.





ANNEX 1:

AGREEMENT BETWEEN DISTRICT AND MASONS TO BUILD INSTITUTIONAL LATRINES

District: Subcounty:

Name of Institution:

No. of stances to build:

Name of Supervisor (HI/CDA I/c County):

Amount of money agreed on for construction work:

I the undersigned do hereby undertake to carry out the following construction works on the aforesaid institutional latrine as will be directed:

- Build foundation
- Superstructure
- Roofing

Plastering
Fixing door frames/shutters
Construction of hand washing facility

I will ensure good quality work to the satisfaction of the County Officer (HI/CDA).

I further promise to finish the work withinfrom the date of signing this Agreement.

.....
Mason

.....
for District

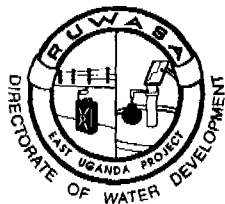
Witnessed by: 1.

Head of Institution

2.

Chairman PTA / Management
Committee

Date:



ASSISTED BY DANIDA

May, 1998
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THE REPUBLIC OF UGANDA