

40th ICHPB  
Workshop IVB: Low-Cost  
Infrastructure

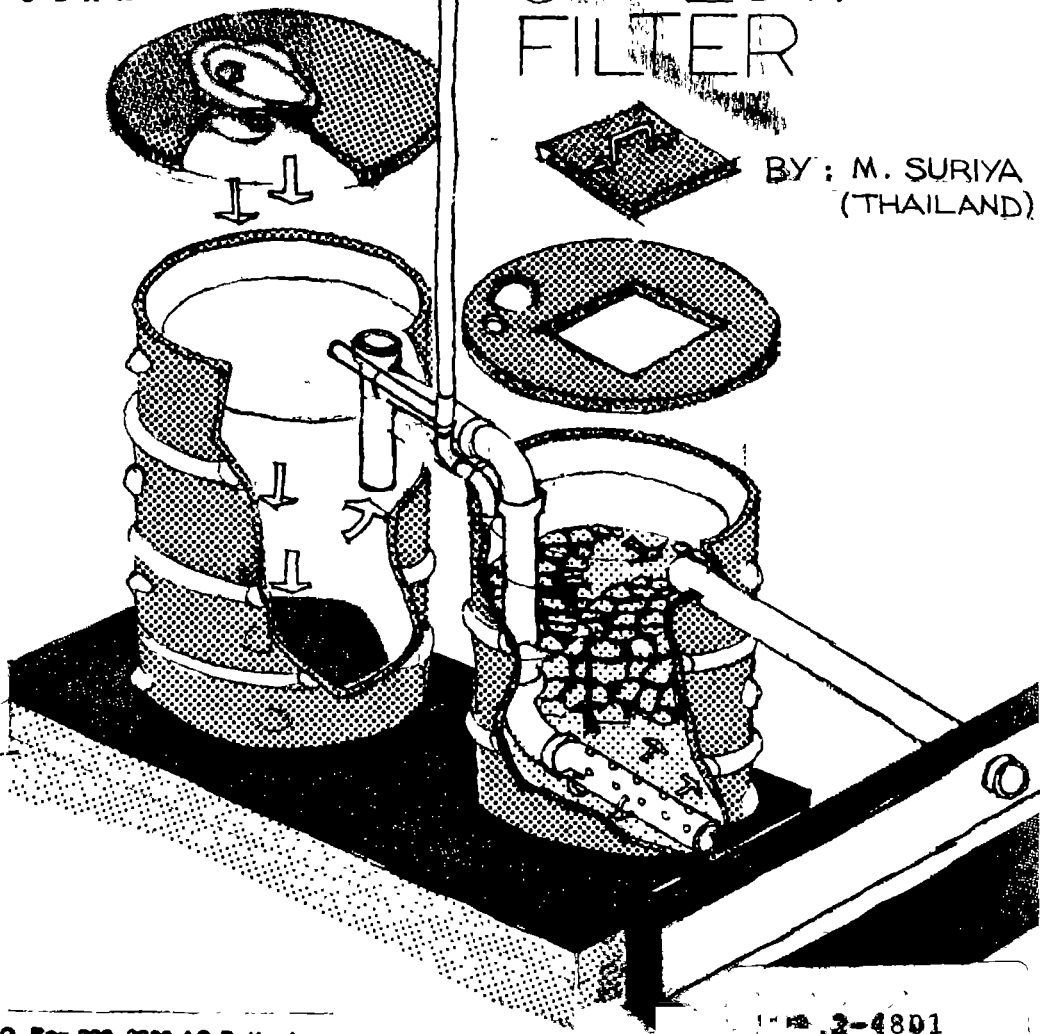
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# MANUAL for construction & maintenance of UPFLOW FILTER

BY: M. SURIYA  
(THAILAND)



400  
3232 BENA



LIBRARY, INTERNATIONAL REFERENCE  
CENTRE FOR COMMUNITY WATER SUPPLY  
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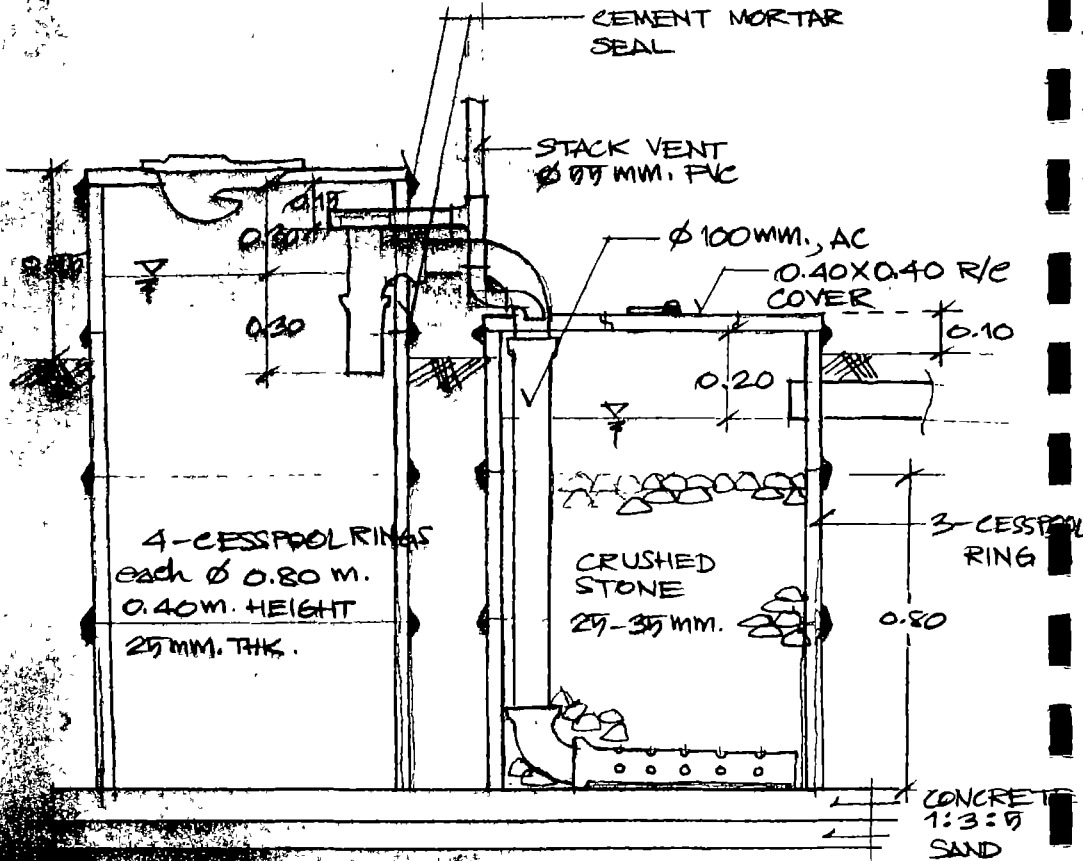
P.O. Box 90190 2309 AD The Hague

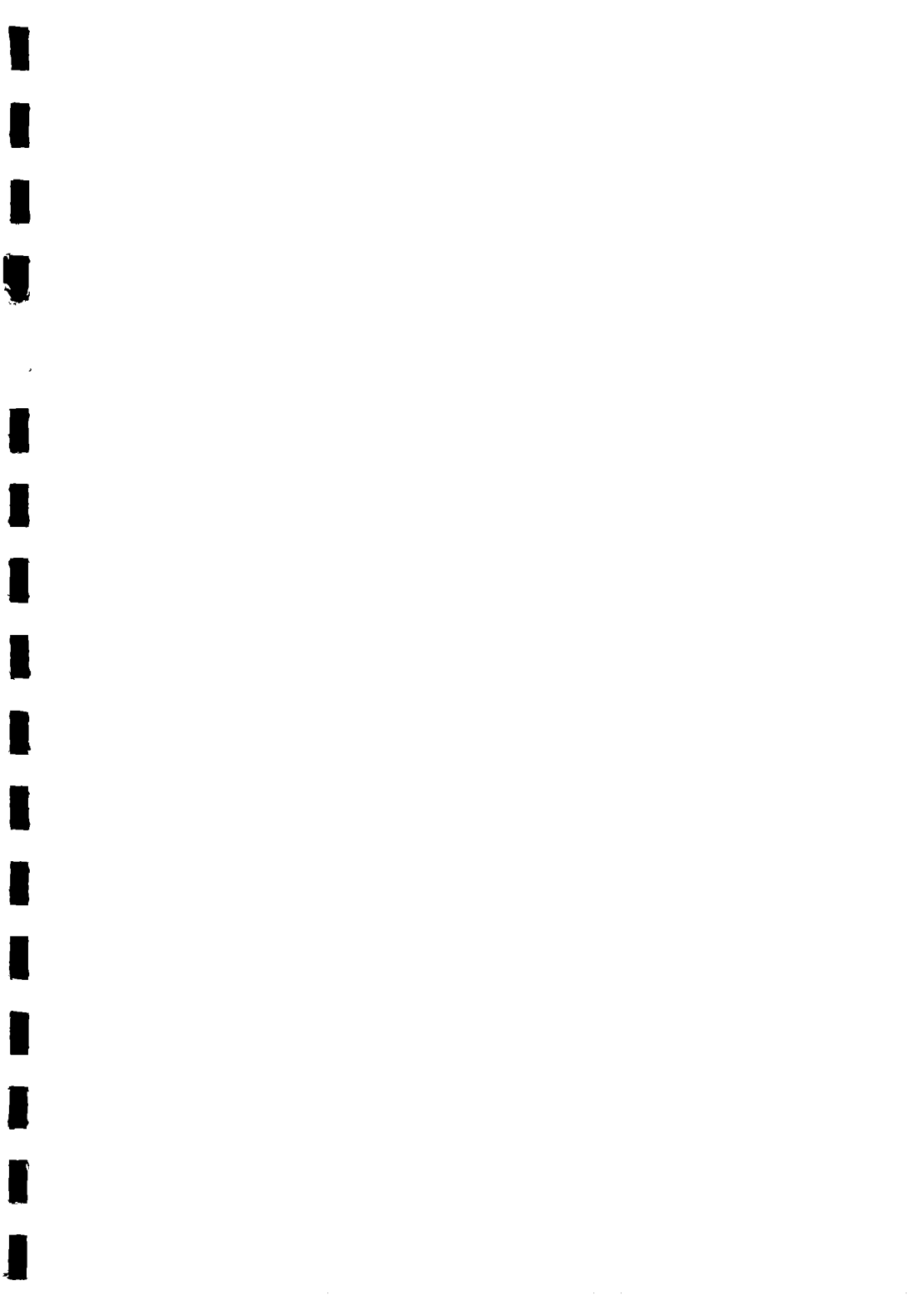
Tel. (070) 814911 ext. 141/142

RN: *isn 4801*

LO: *323.2 82MA*

# PART 1 CONSTRUCTION

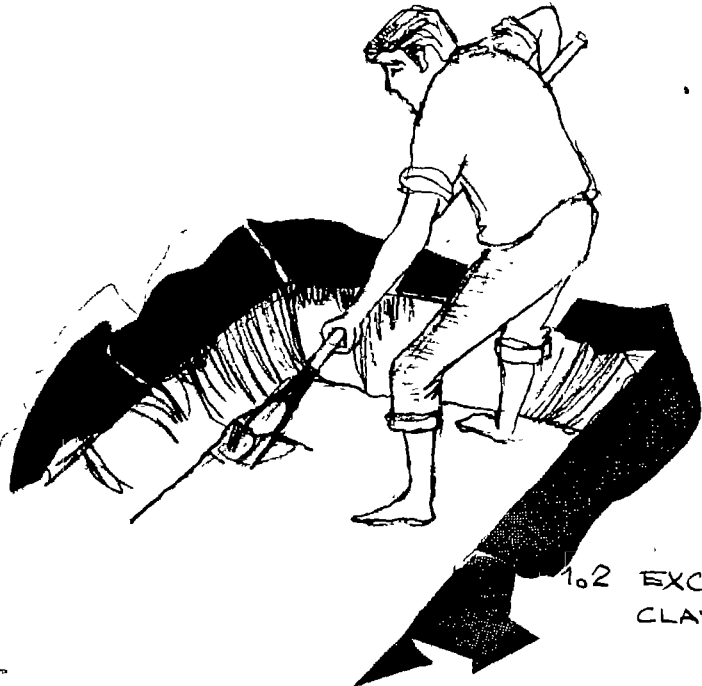




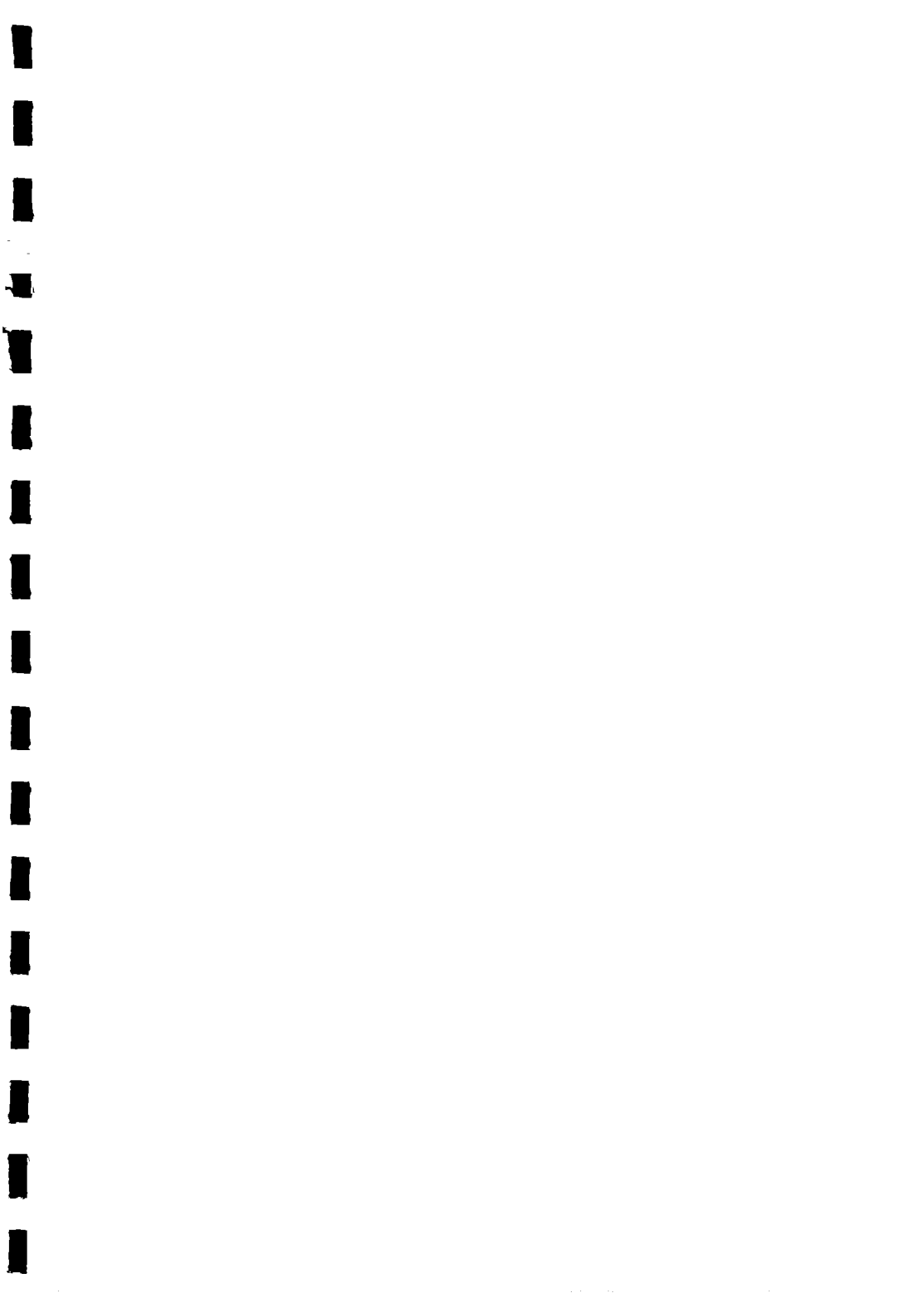
1. DITCH EXCAVATION



1.1 REMOVE TOP SOIL

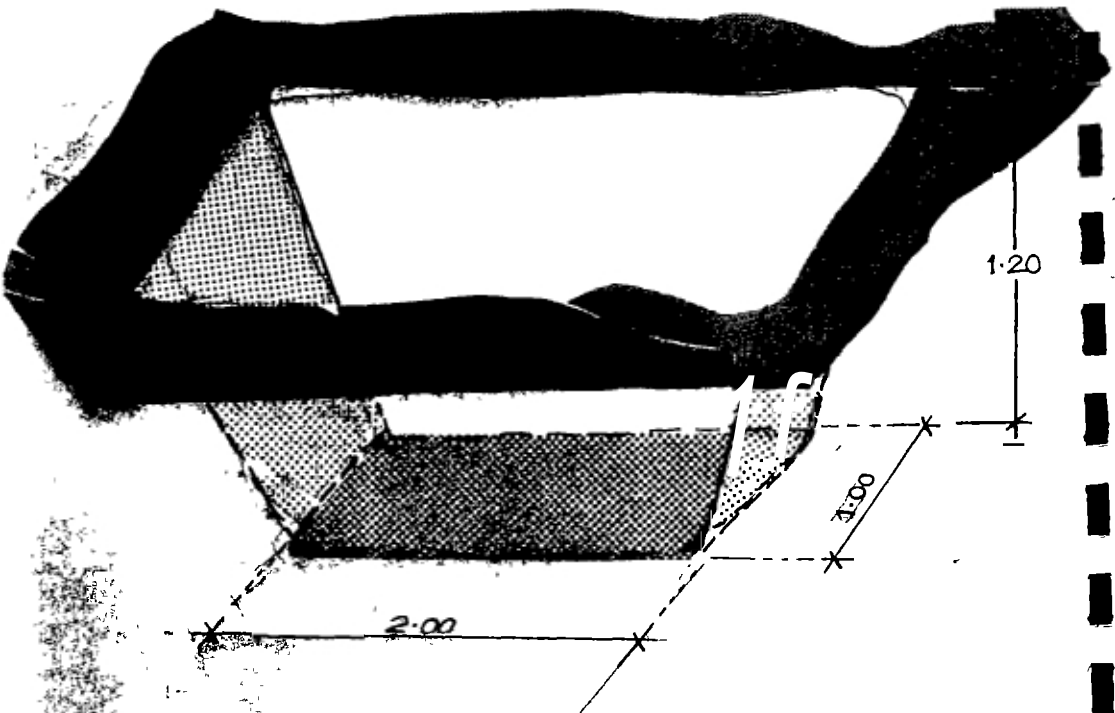


1.2 EXCAVATE CLAY LAYER

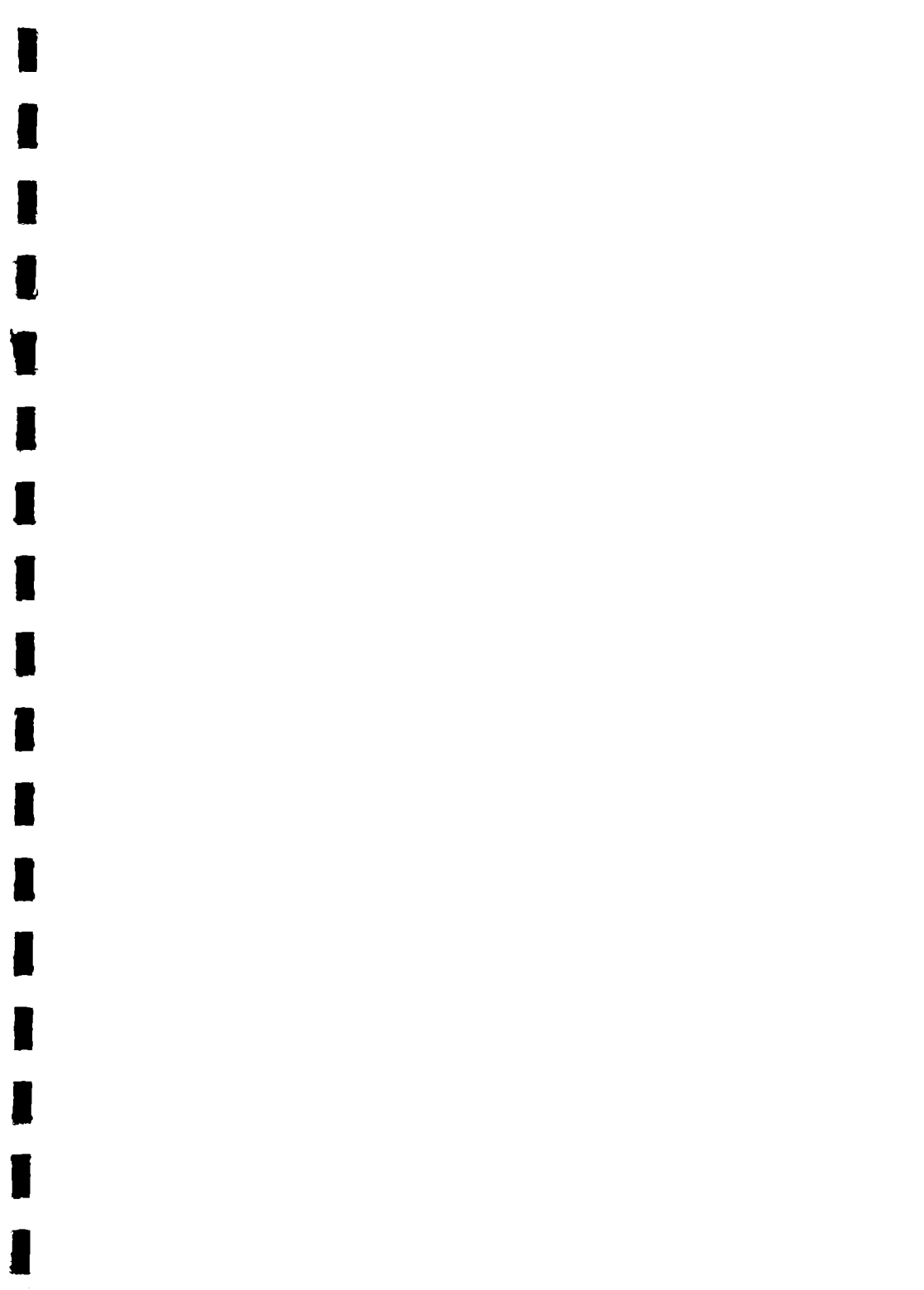


### 1.3 SIZE OF DITCH (BASE DIMENSIONS)

WIDTH : 1.00 m.  
LENGTH : 2.00 m  
DEPTH : 1.20 m.







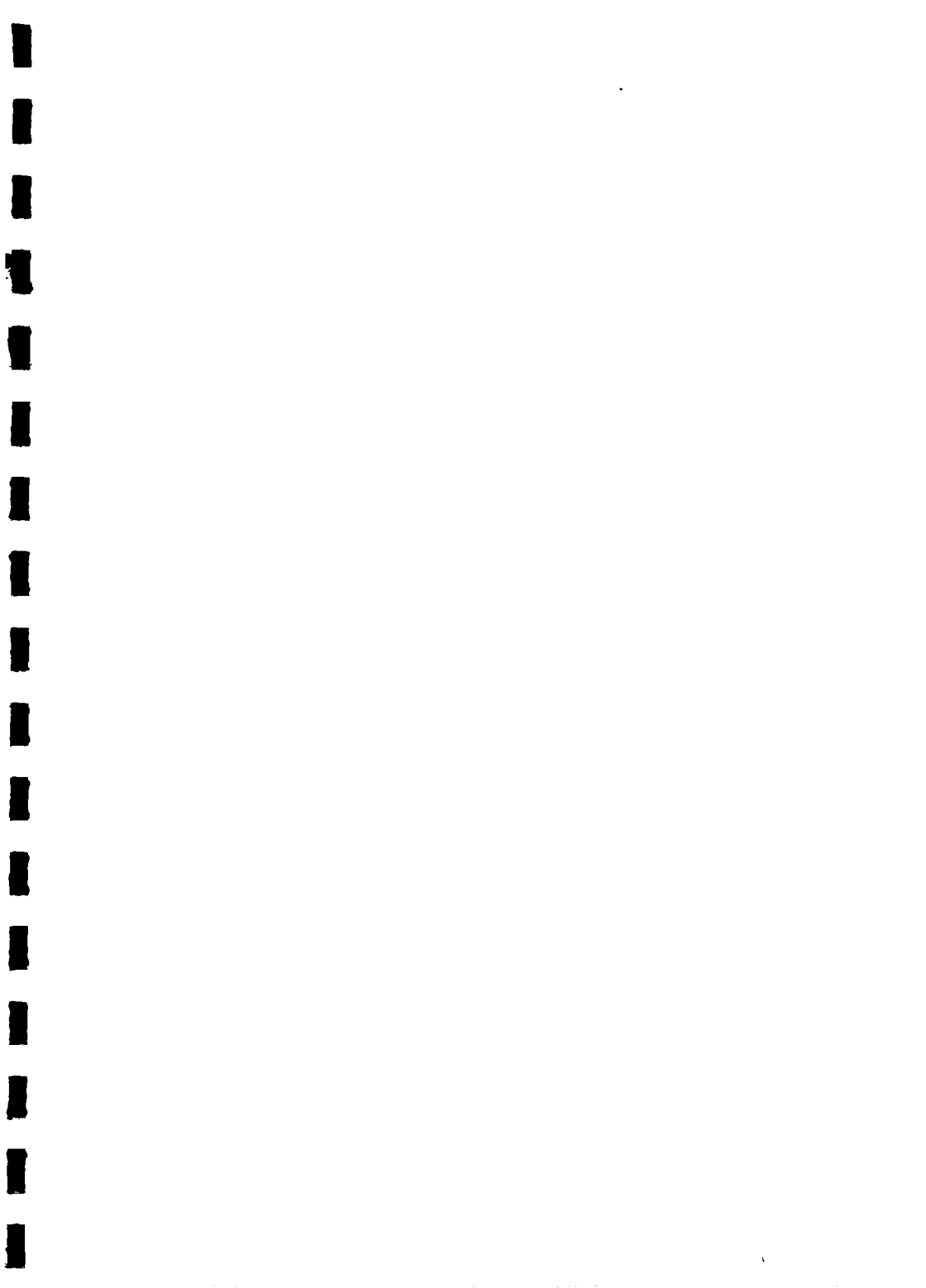
2. BASEMENT

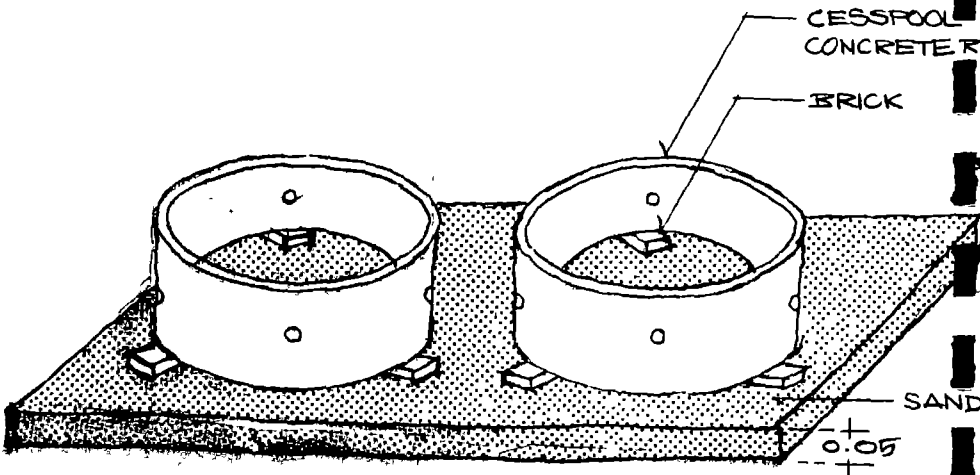


2.1 COMPACT  
BASE OF DITCH

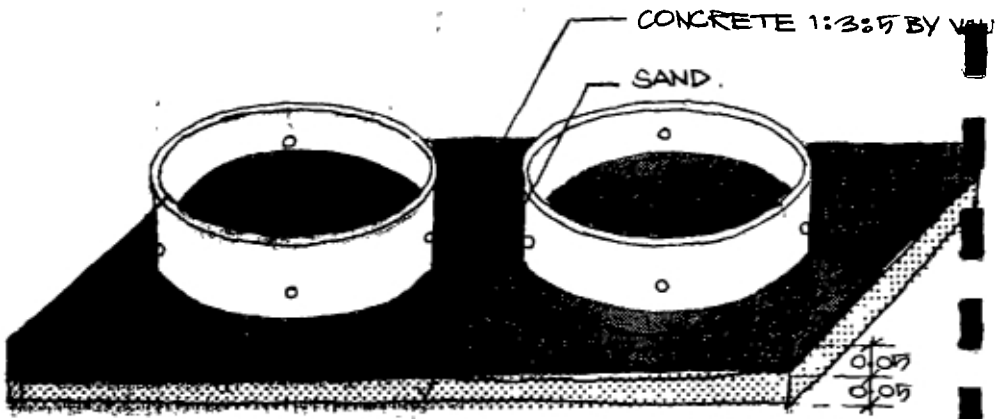


2.2 SAND LAYER  
0.05 M. THK.

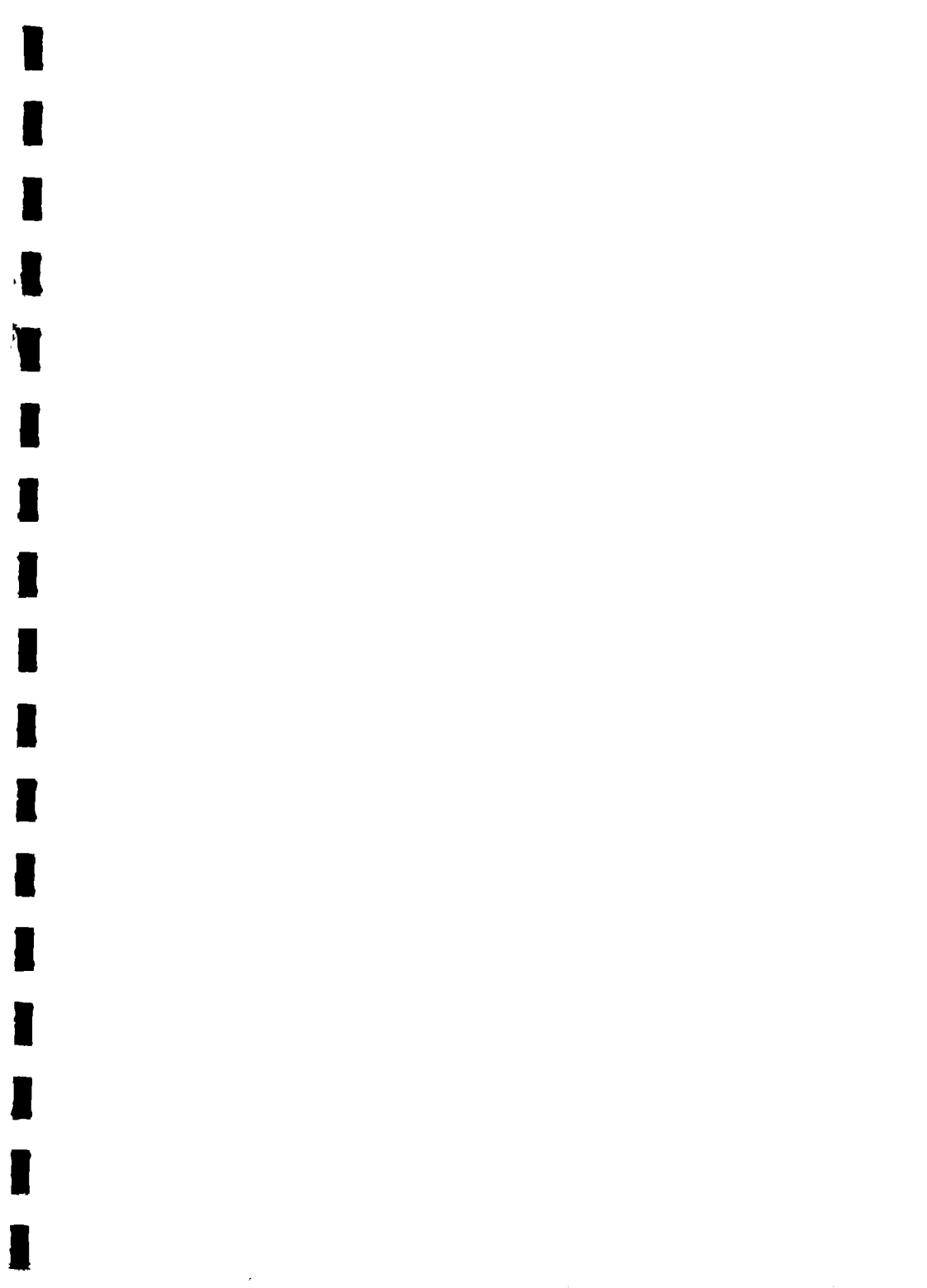


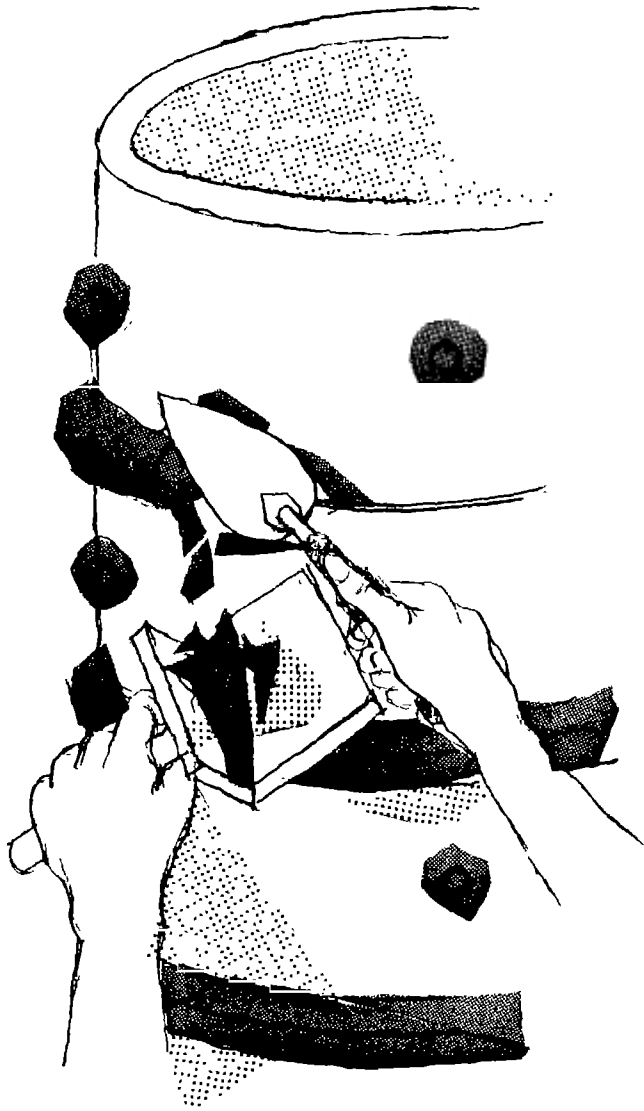


2.3 INSTALL THE FIRST RING  
BY SUPPORTING OF BRICK



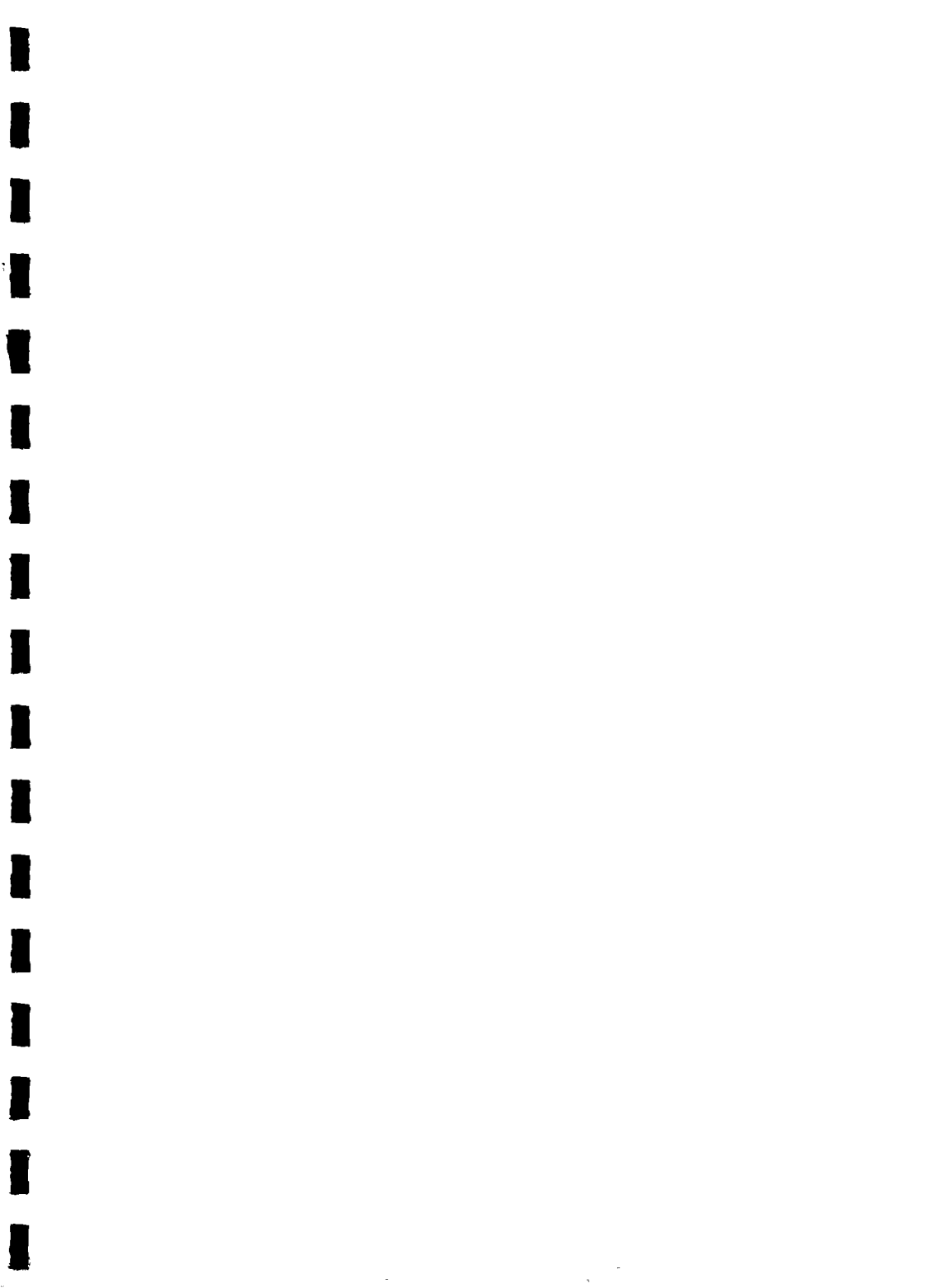
2.4 CONCRETE BASEMENT





3.-INSTALLATION OF THE RINGS TO FORM  
THE SEPTIC & FILTER TANKS

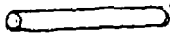
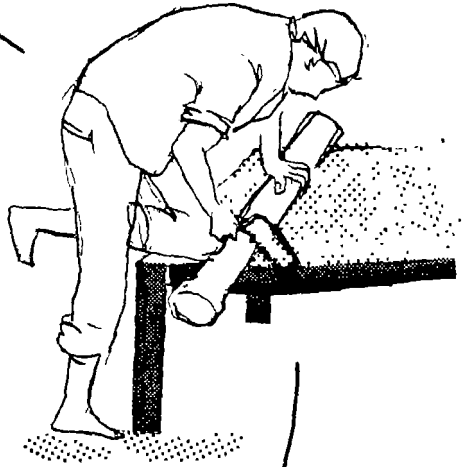
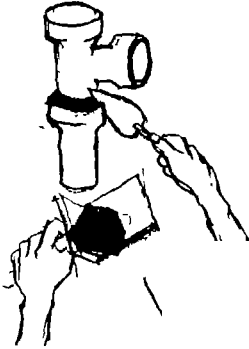
-SEAL THE CONNECTING RINGS AND THE HOLE  
WITH CEMENT MORTAR



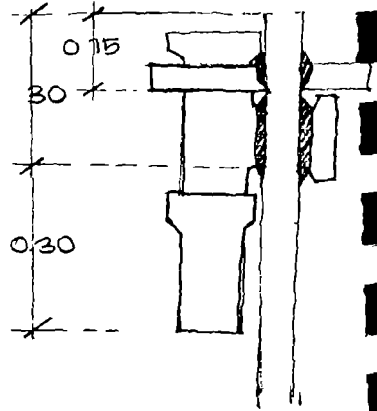
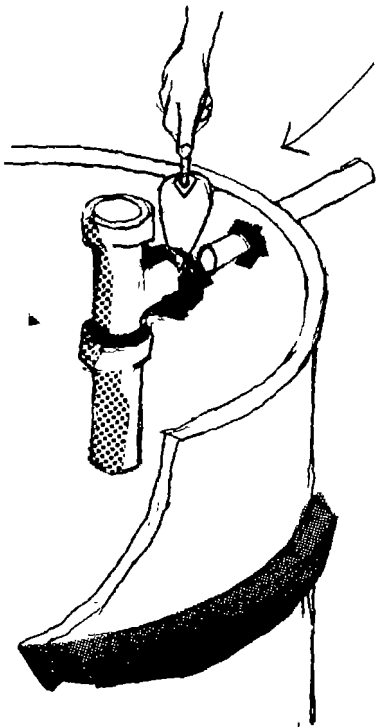
# 4. PIPING IN SEPTIC COMPARTMENT



FEED PIPE USE AC.  
Ø 100 MM.



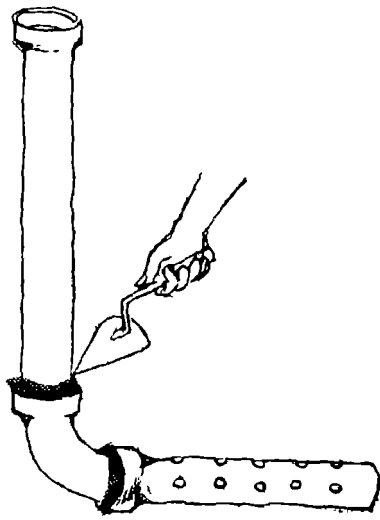
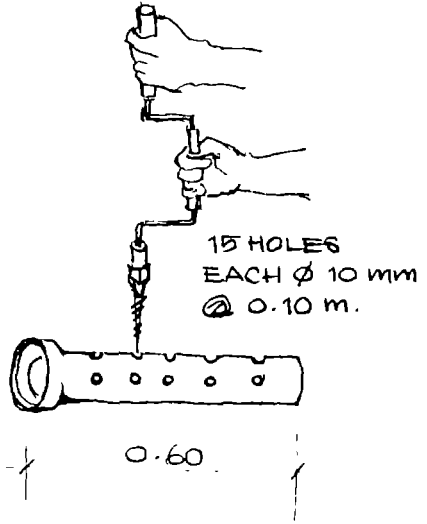
VENT PIPE  
USE F.V.C. Ø 75 MM.





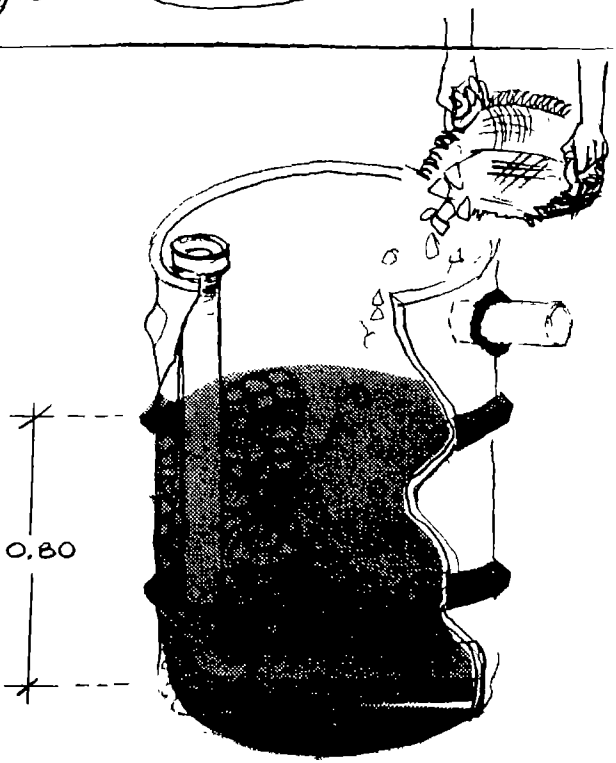
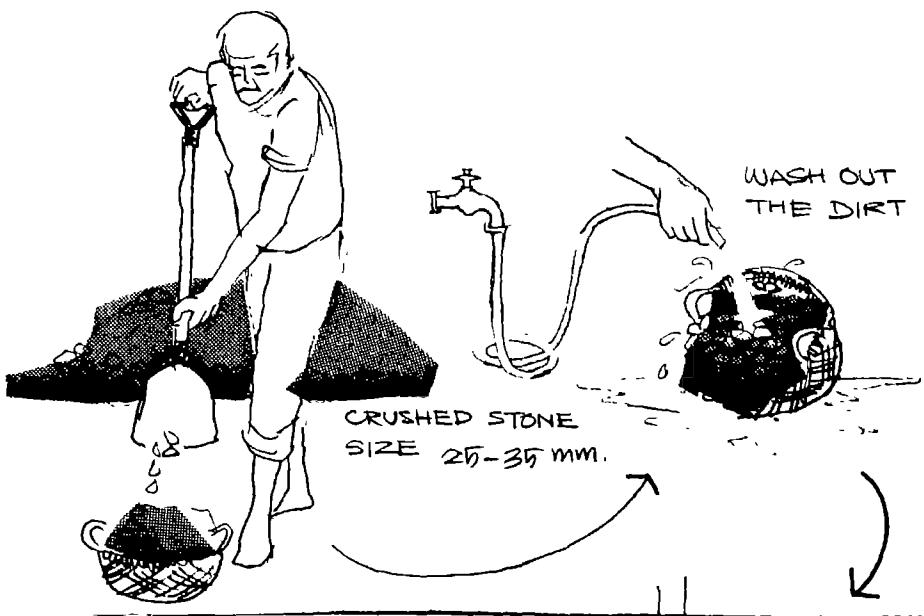
5. PIPING IN FILTER COMPARTMENT

1.00



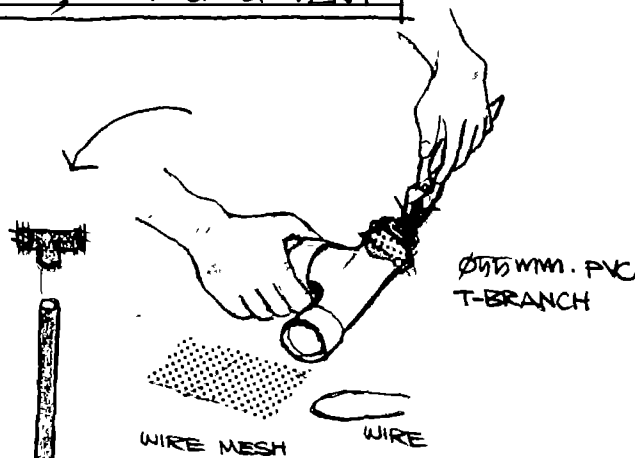


6. FILL THE FILTER WITH  
CRUSHED STONE

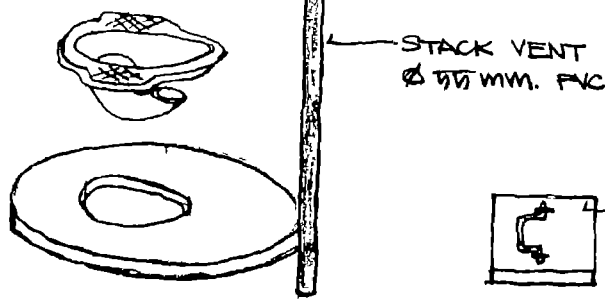




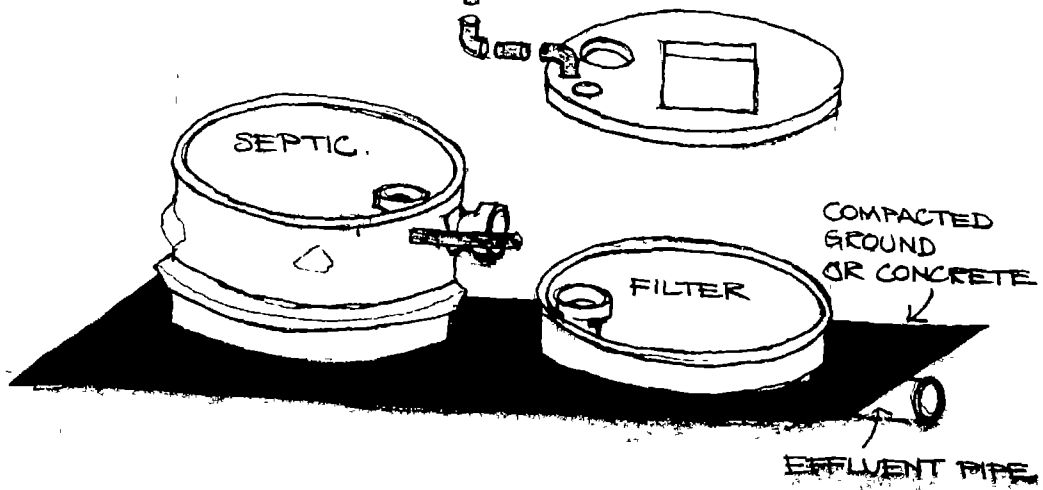
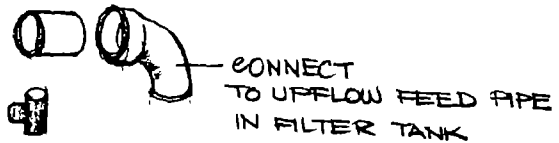
7. COVER, PIPING & VENT



Ø 75 MM. PVC  
T-BRANCH



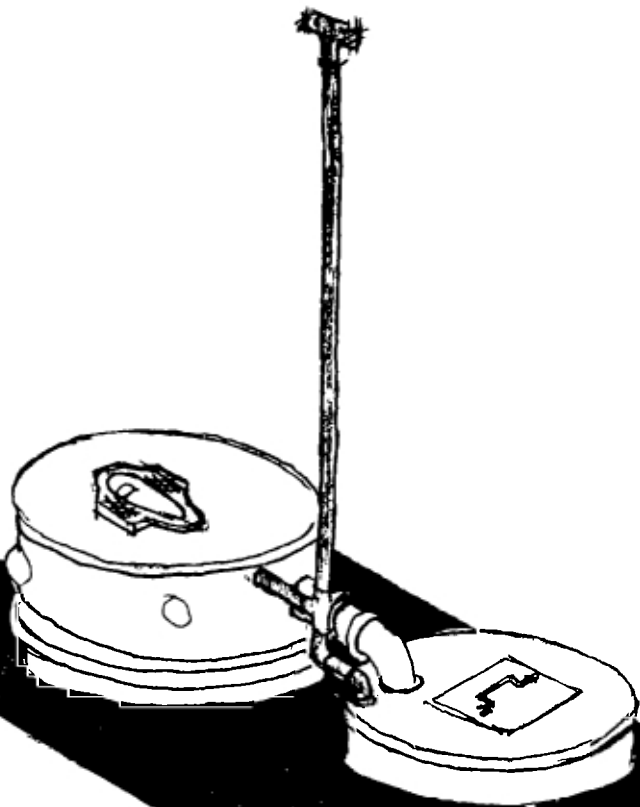
0.40X0.40  
RC. COVER  
WITH HANDLE



EFFLUENT PIPE



8. CONNECT THE EFFLUENT PIPE  
WITH OPEN DRAIN







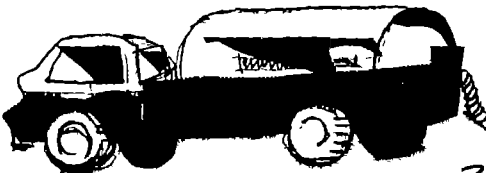
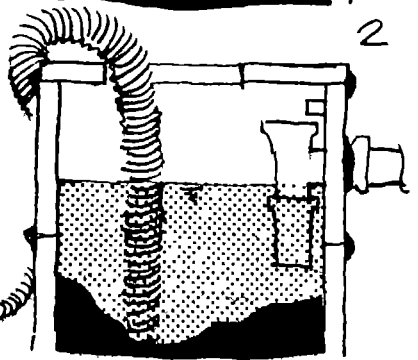
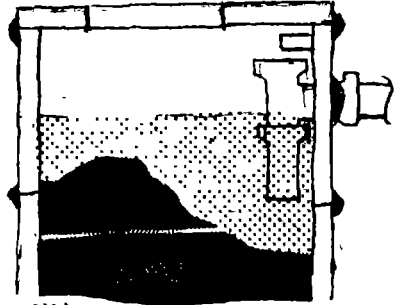
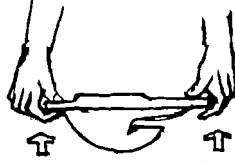
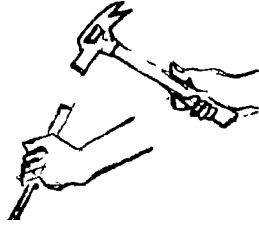
# PART 2

# MAINTENANCE

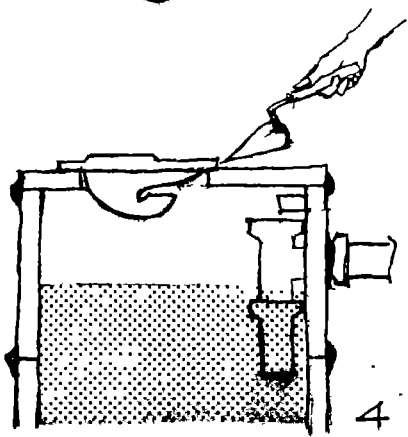


DESLUDGING.

UPFLOW FILTER SHOULD BE  
DESLUDGED YEARLY



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# FILTER CLEANING

- WHEN CLOGGING.
- AFTER DESLUDGING

