

GROUNDWATER CONSERVATION AT COASTAL AREA

BY

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MANAGEMENT RESORT AND LEISURE

GROUNDWATER CONSERVATION AT COASTAL AREA

1. USAGE WATER POTENCY

**A. WELL DEEPNESS ACCORDING
TO INTERFACE CONDITION**

**B. PUMP DEBIT DO NOT EXCEED
MAXIMUM**

2. GROUNDWATER INJECTION IN ROCK MATERIAL

3. DIFFUSION WELL

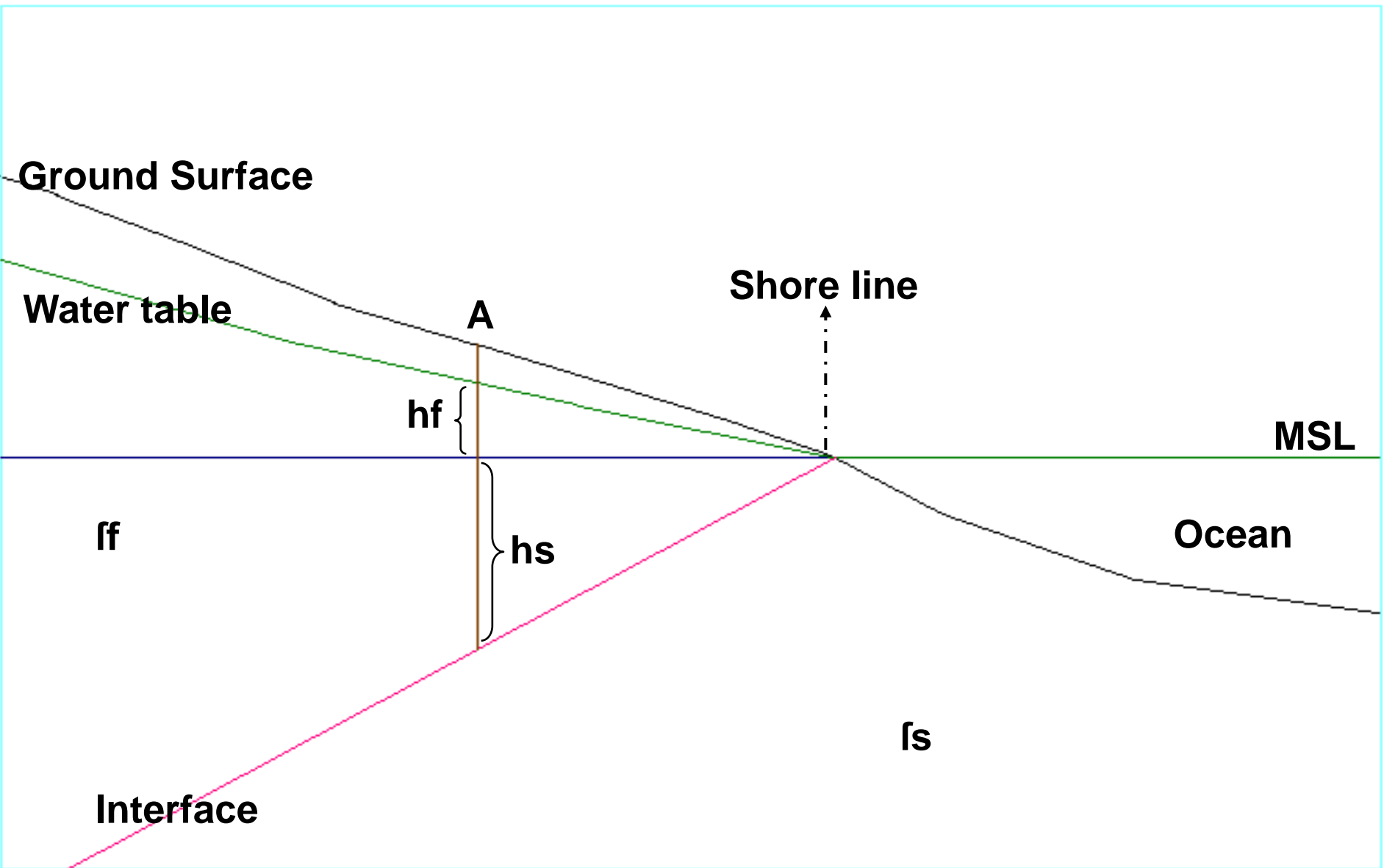
4. MAKING RIVER DAM

5. LIQUID CEMENT INJECTION

6. MANGROVE CONSERVATION

7. RECYCLE WATER WASTE

**WELL DEEPNESS ACCORDING
TO INTERFACE CONDITION**



Ground Surface

Water table

A

Shore line

hf

MSL

ff

hs

Ocean

fs

Interface

**PUMP DEBIT DO NOT
EXCEED MAXIMUM**

Pump

Ground surface

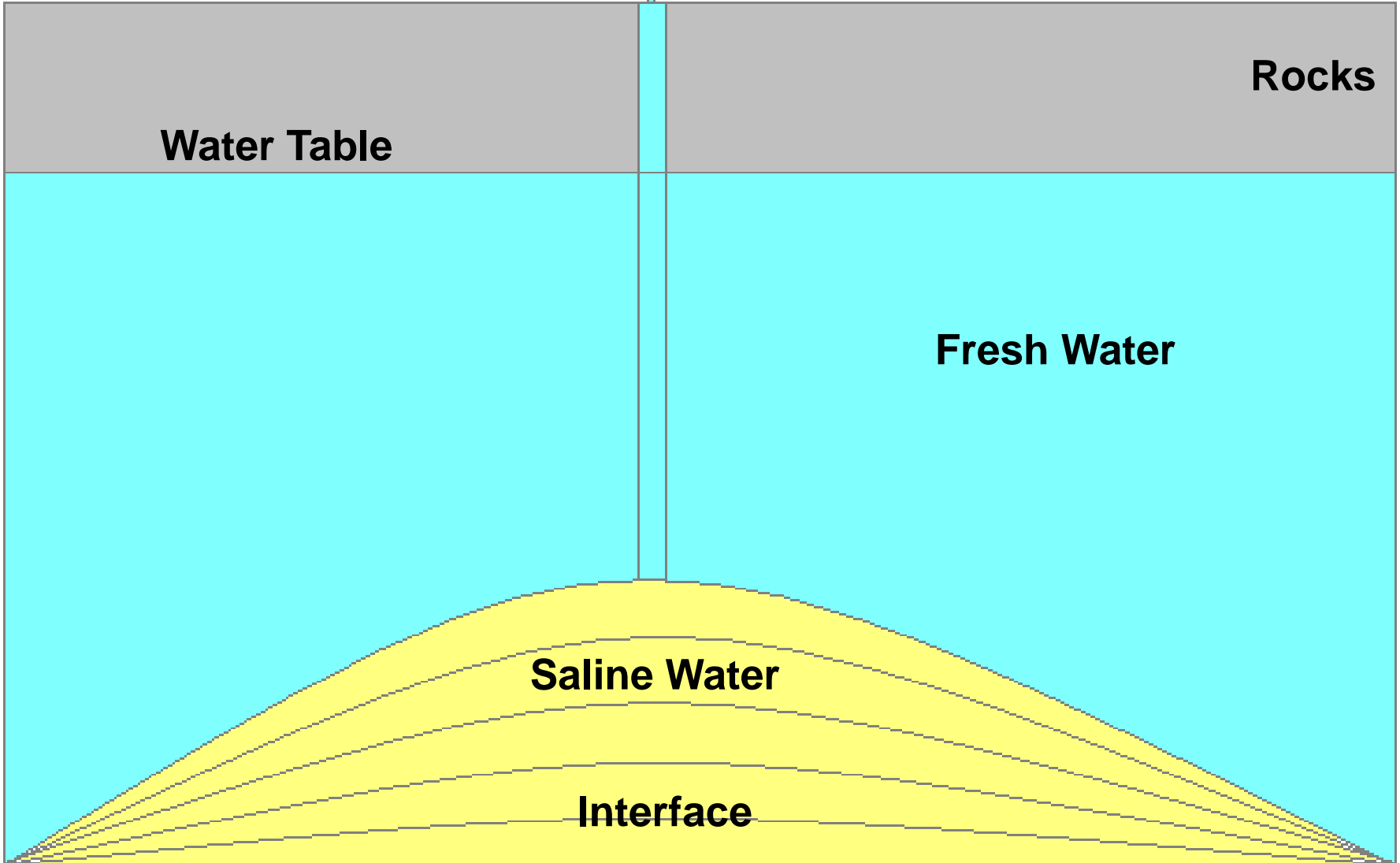
Rocks

Water Table

Fresh Water

Saline Water

Interface



GROUNDWATER INJECTION IN ROCK MATERIAL

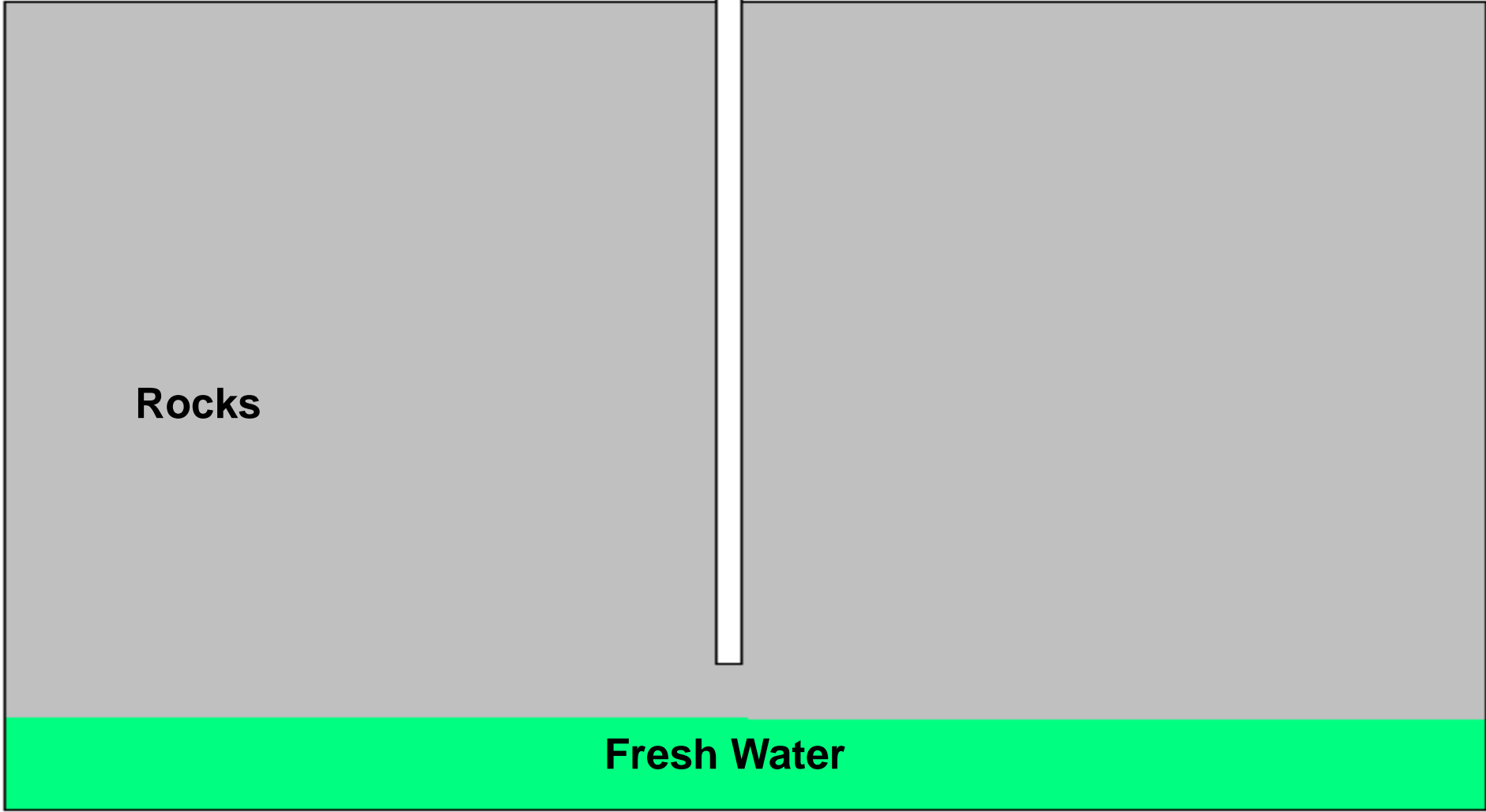
Fresh Water



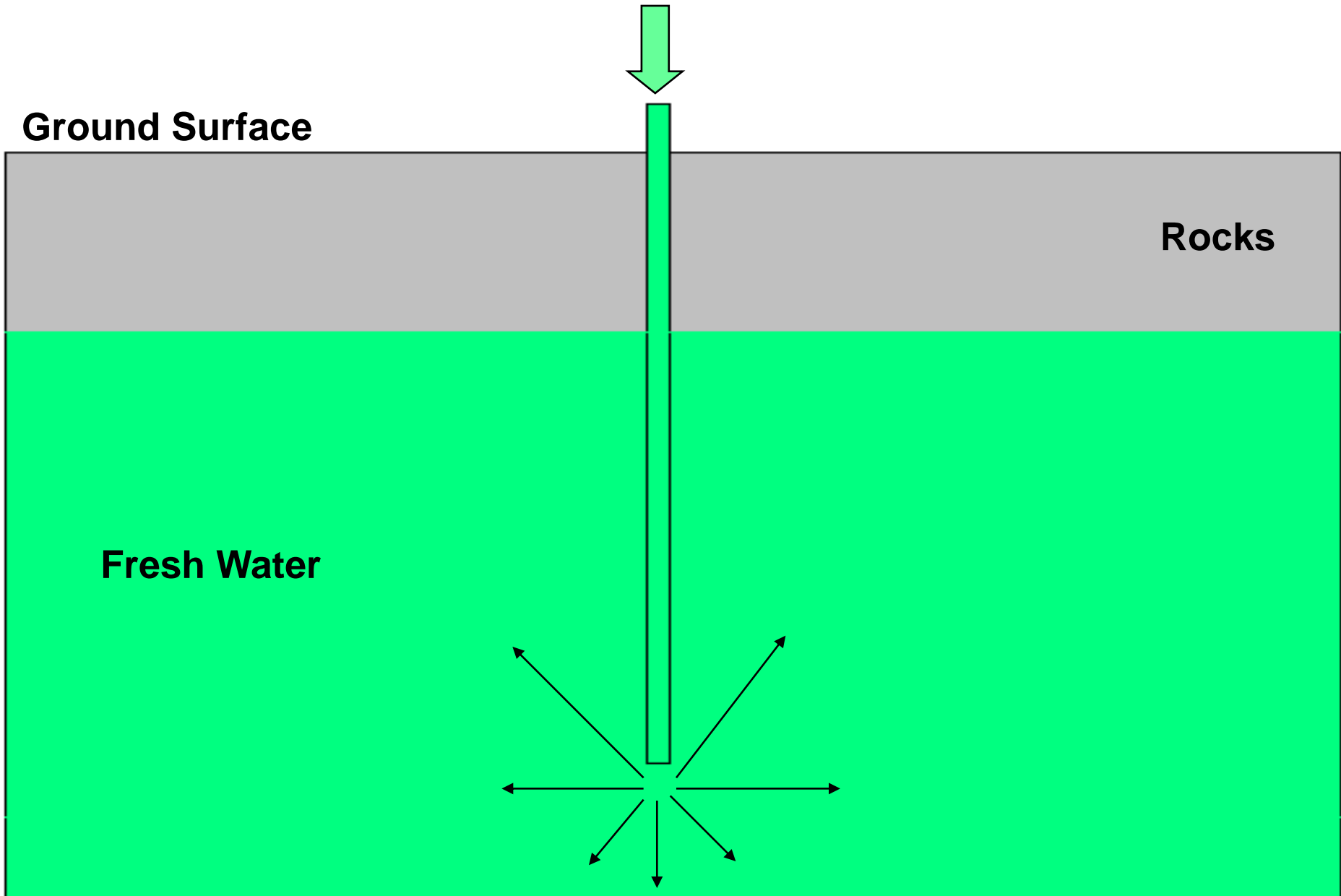
Ground Surface

Rocks

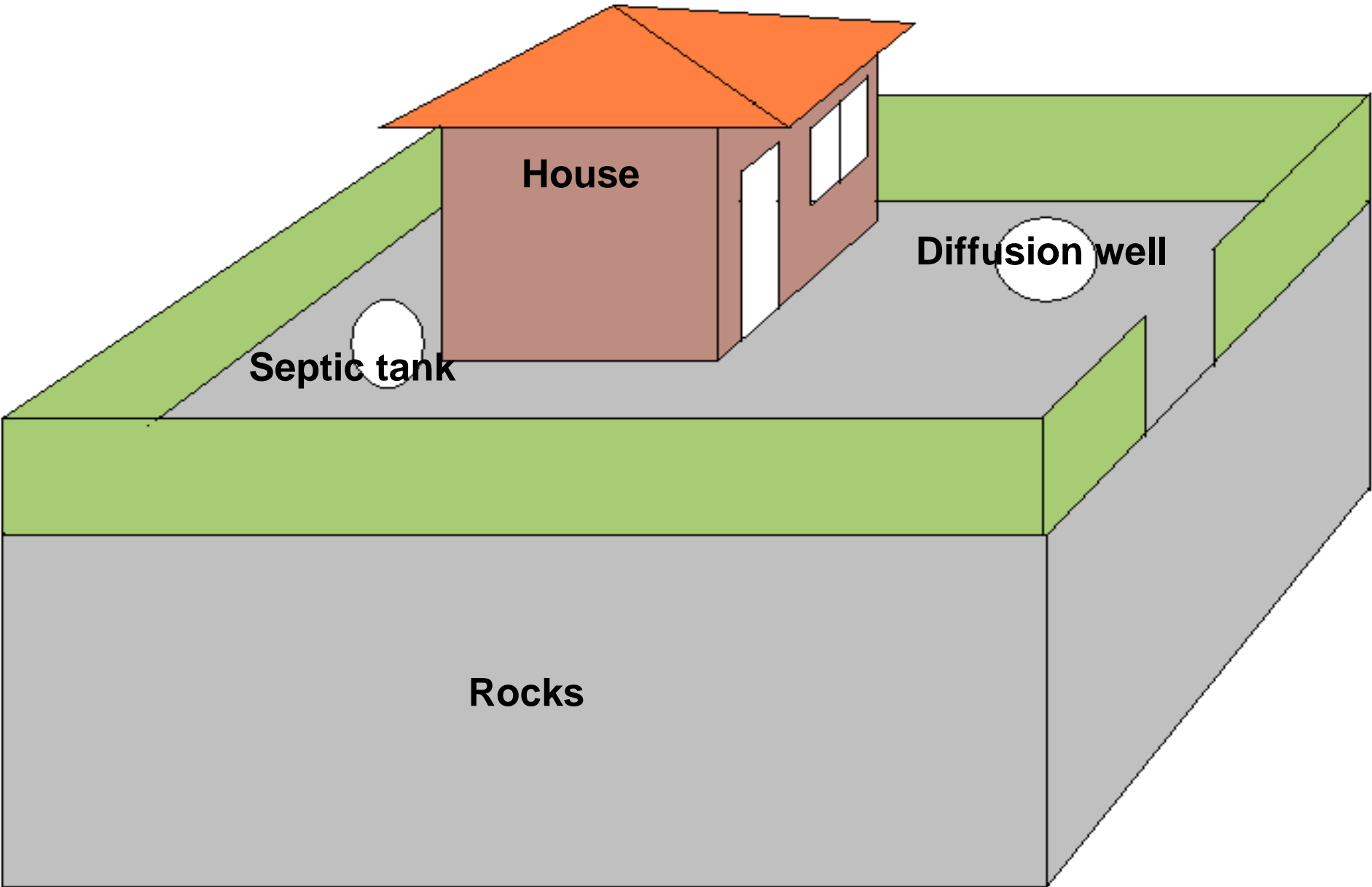
Fresh Water



Fresh Water Injection



DIFFUSION WELL



House

Septic tank

Diffusion well

Rocks

EXAMPLE

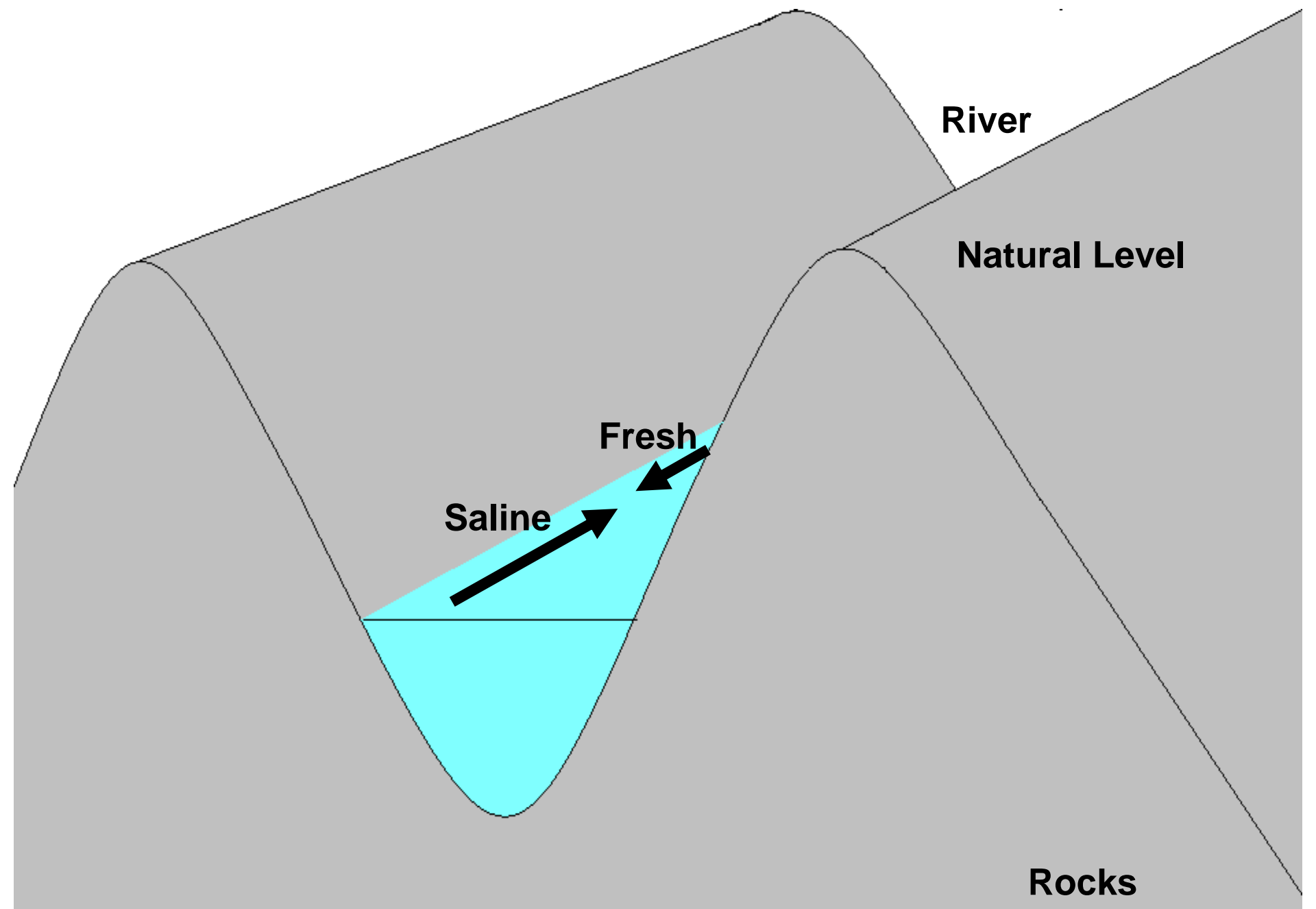
TOTAL AREA = 500 M²

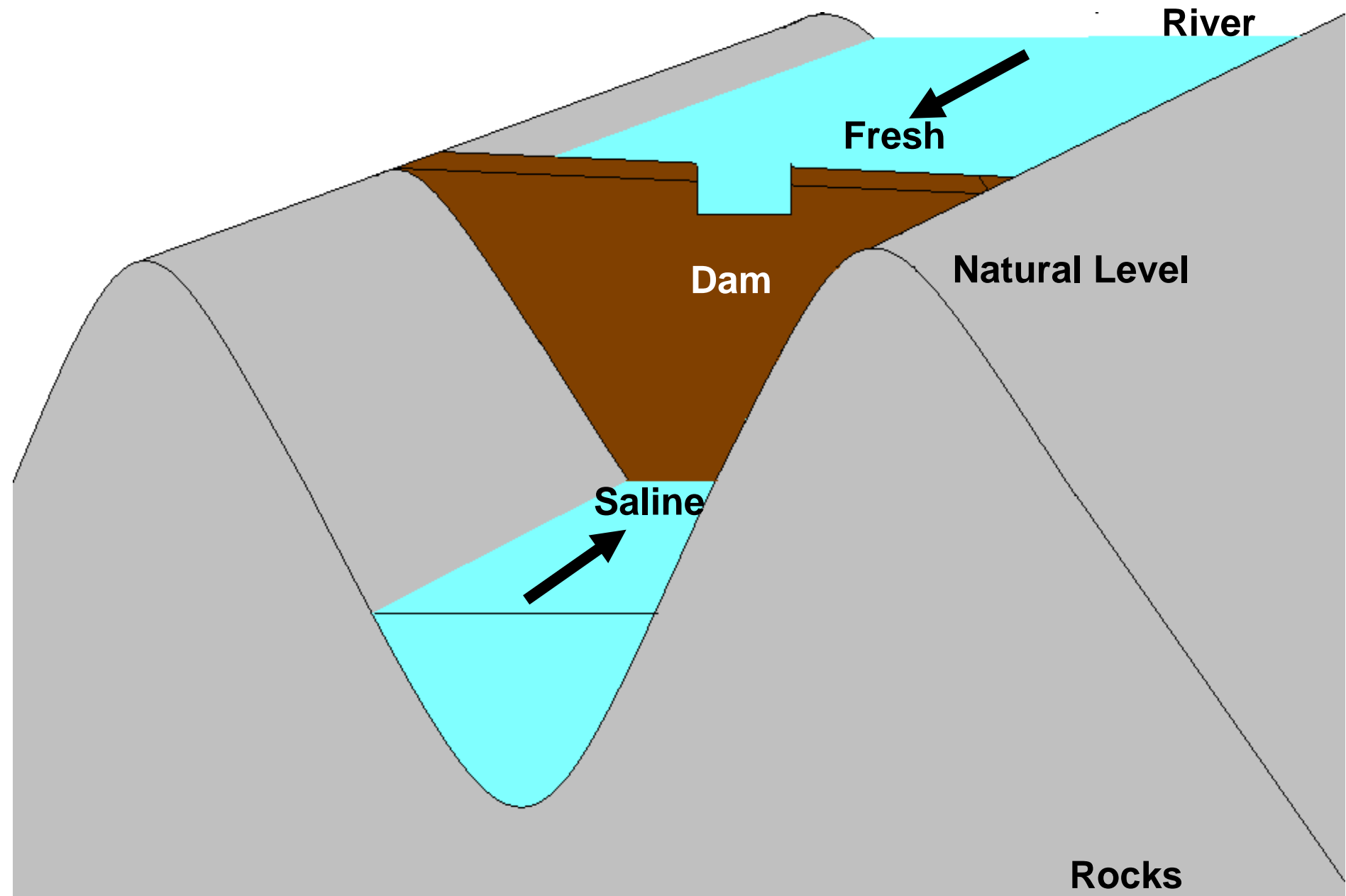
RAIN INTENSITY = 50 MM/HOUR

QUESTION:

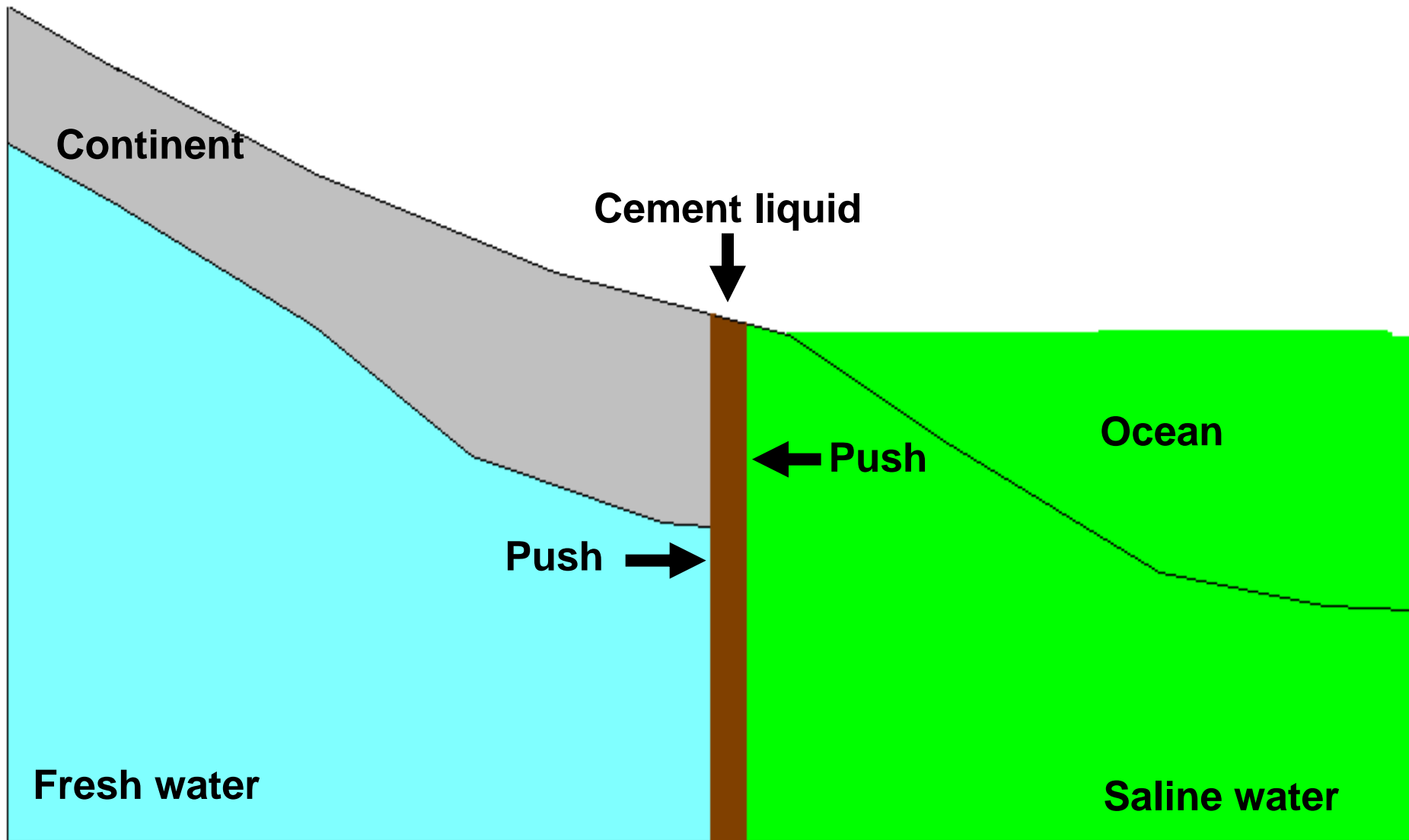
**HOW MANY MINIMUM SIZE OF
DIFFUSION WELL?**

MAKING RIVER DAM

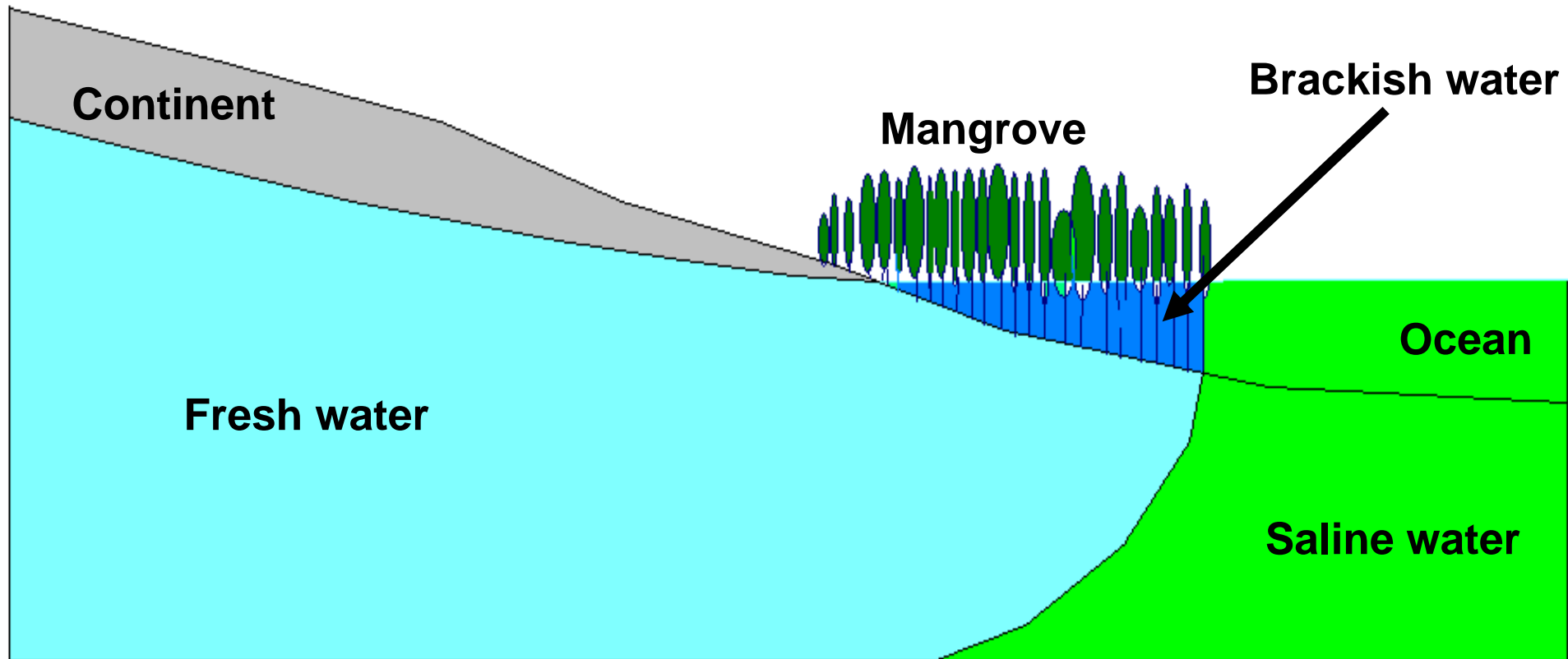




LIQUID CEMENT INJECTION

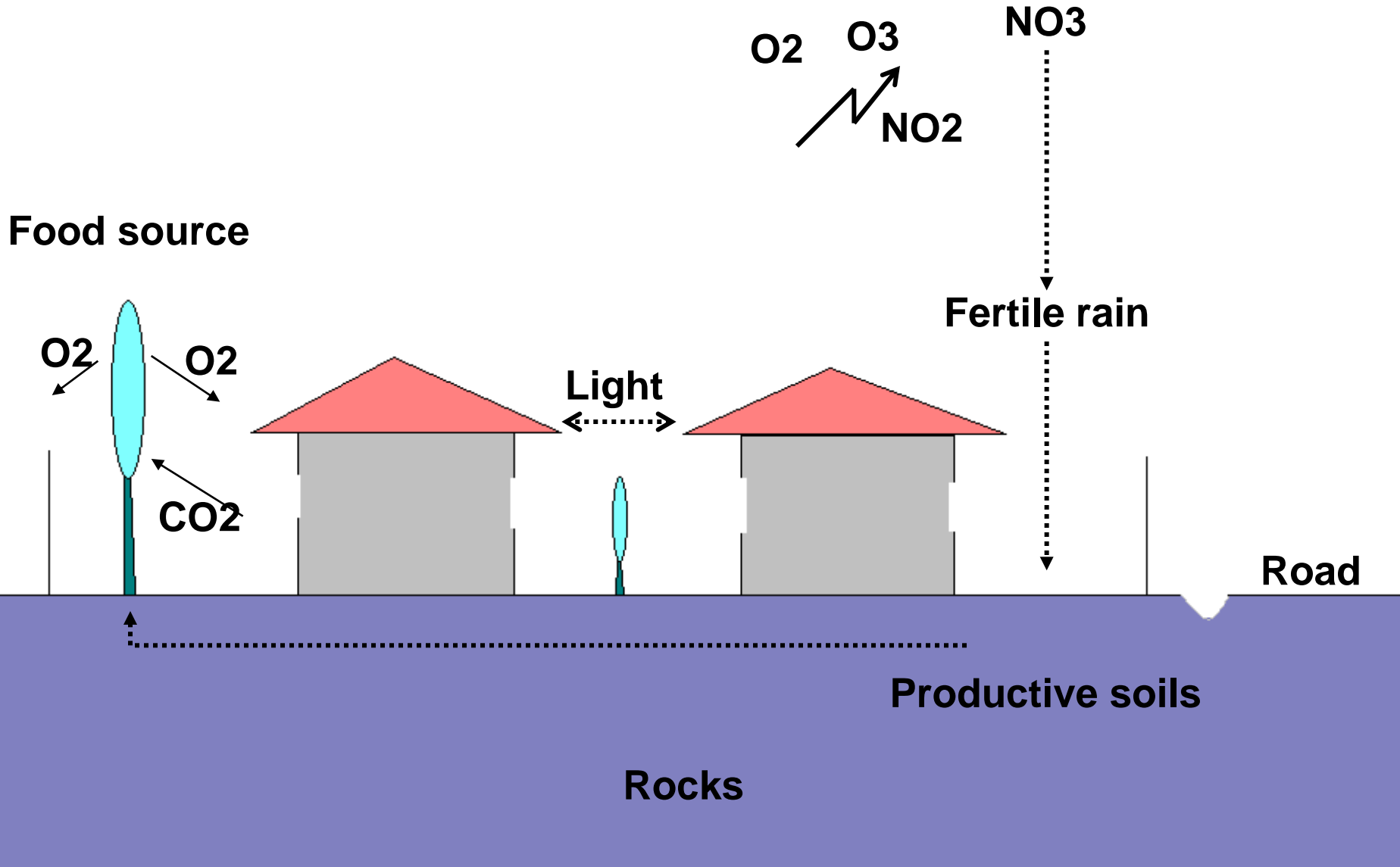


MANGROVE CONSERVATION



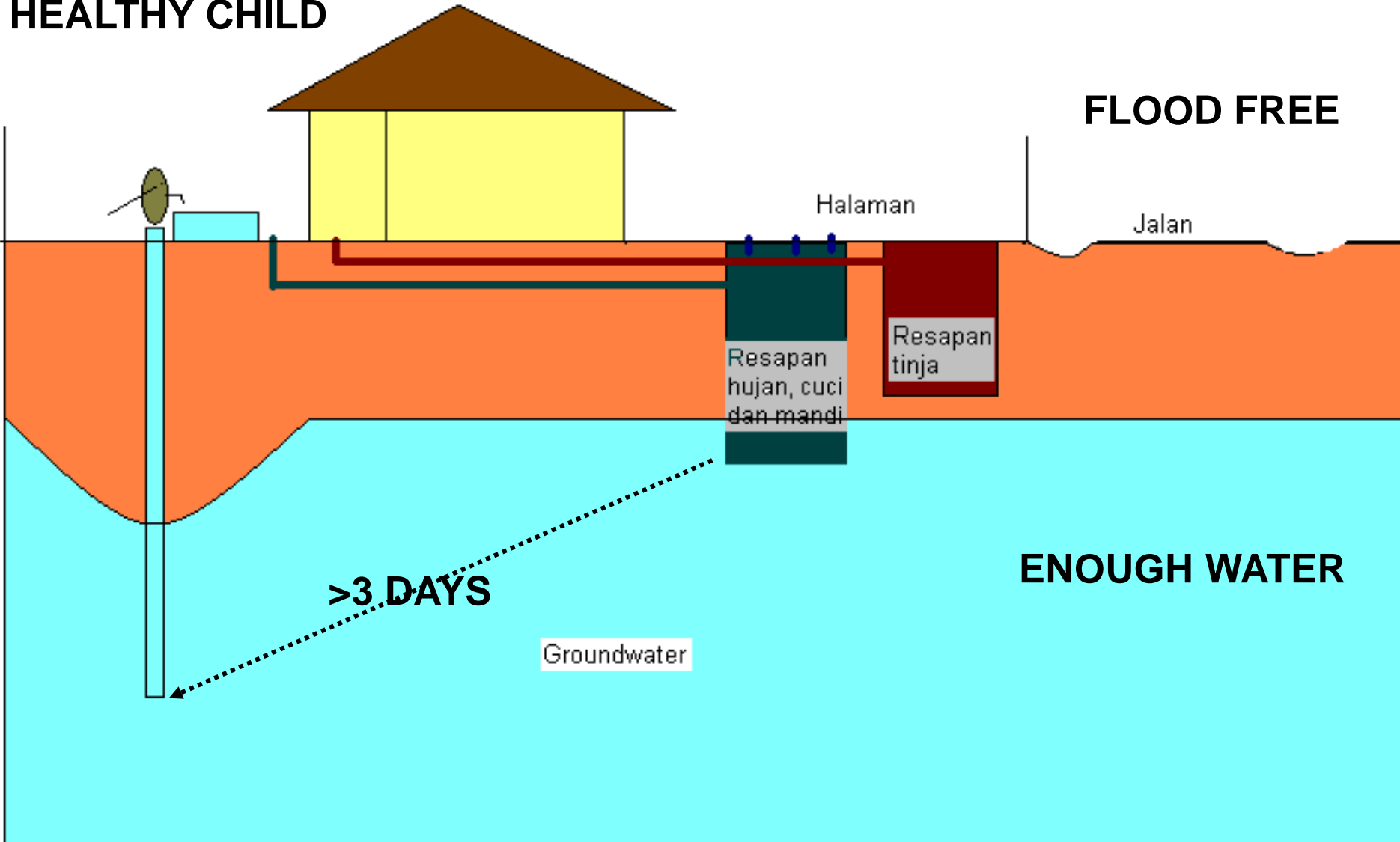
RECYCLE WATER WASTE

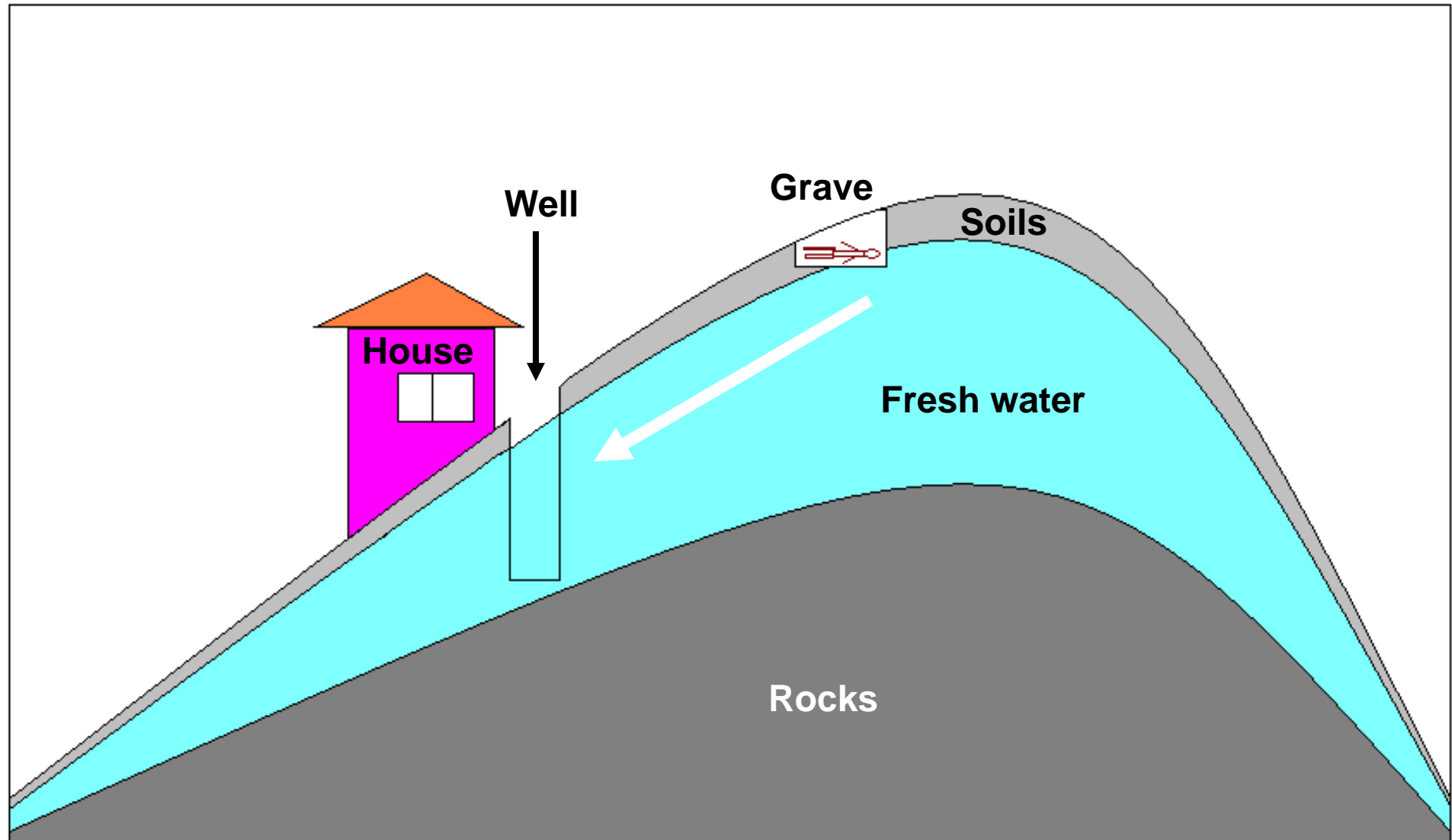
LIGHT AND OXYGEN DEMAND

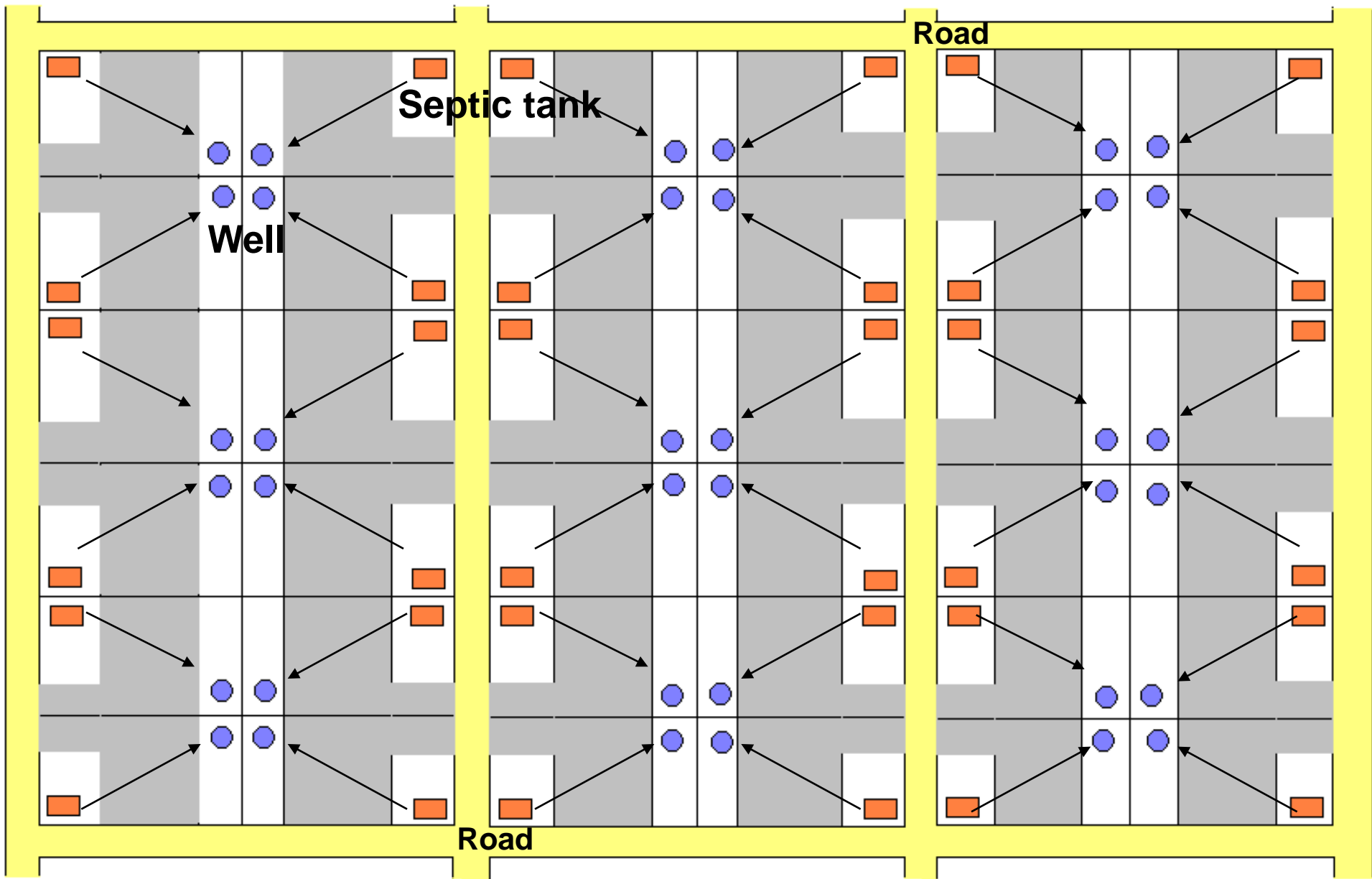


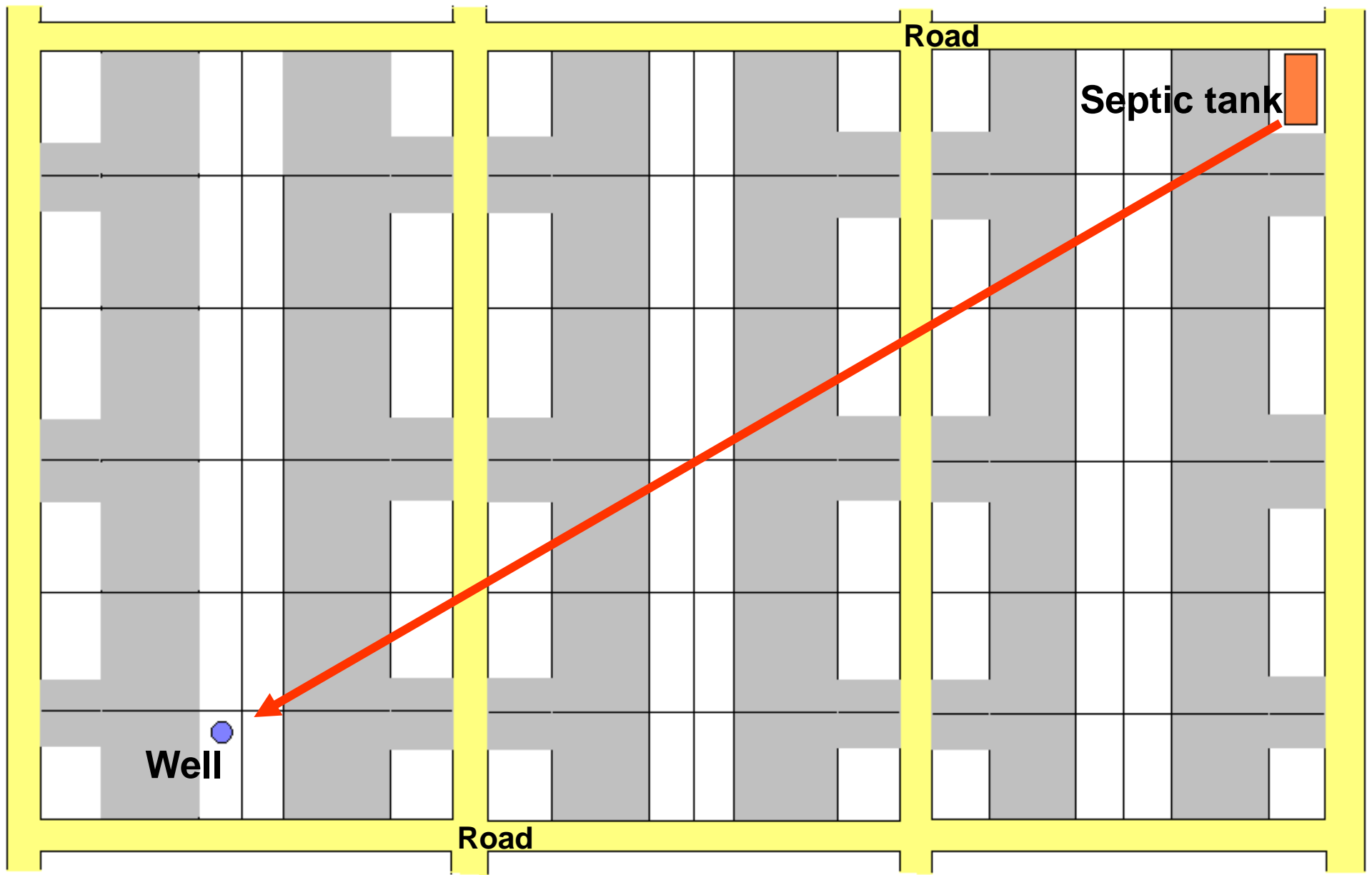
RECYCLE WATER WASTE

HEALTHY CHILD







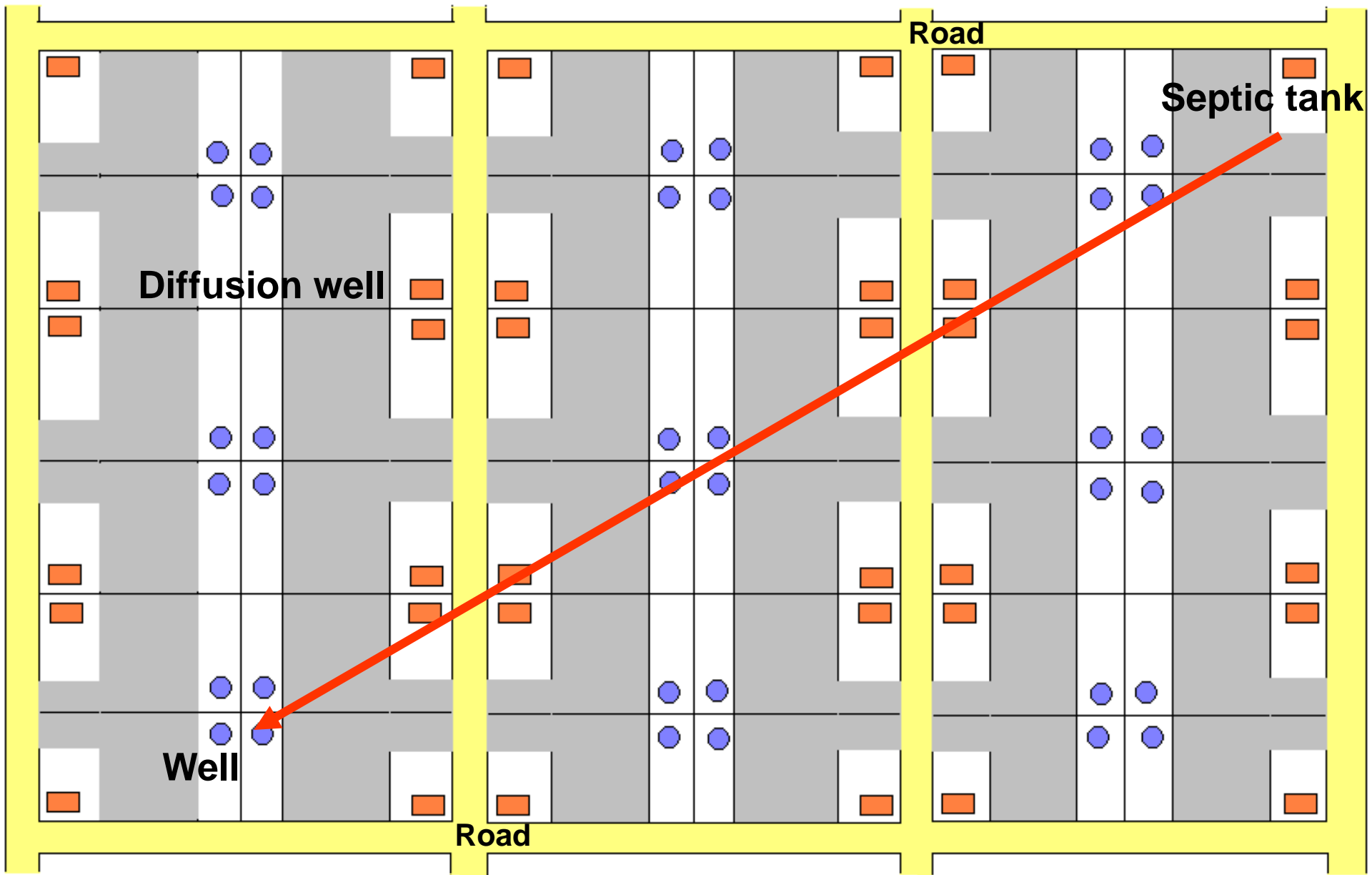


Road

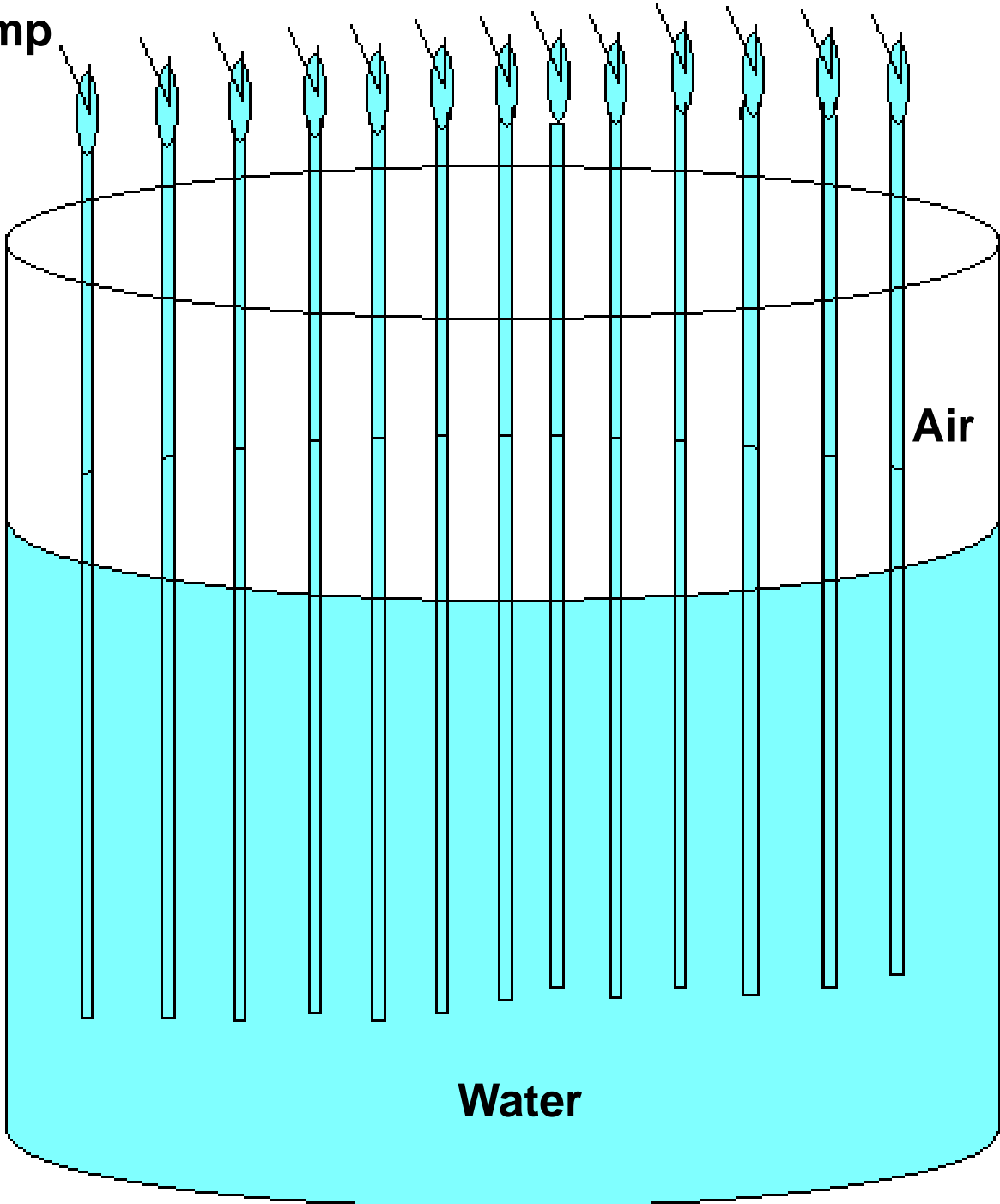
Septic tank

Well

Road



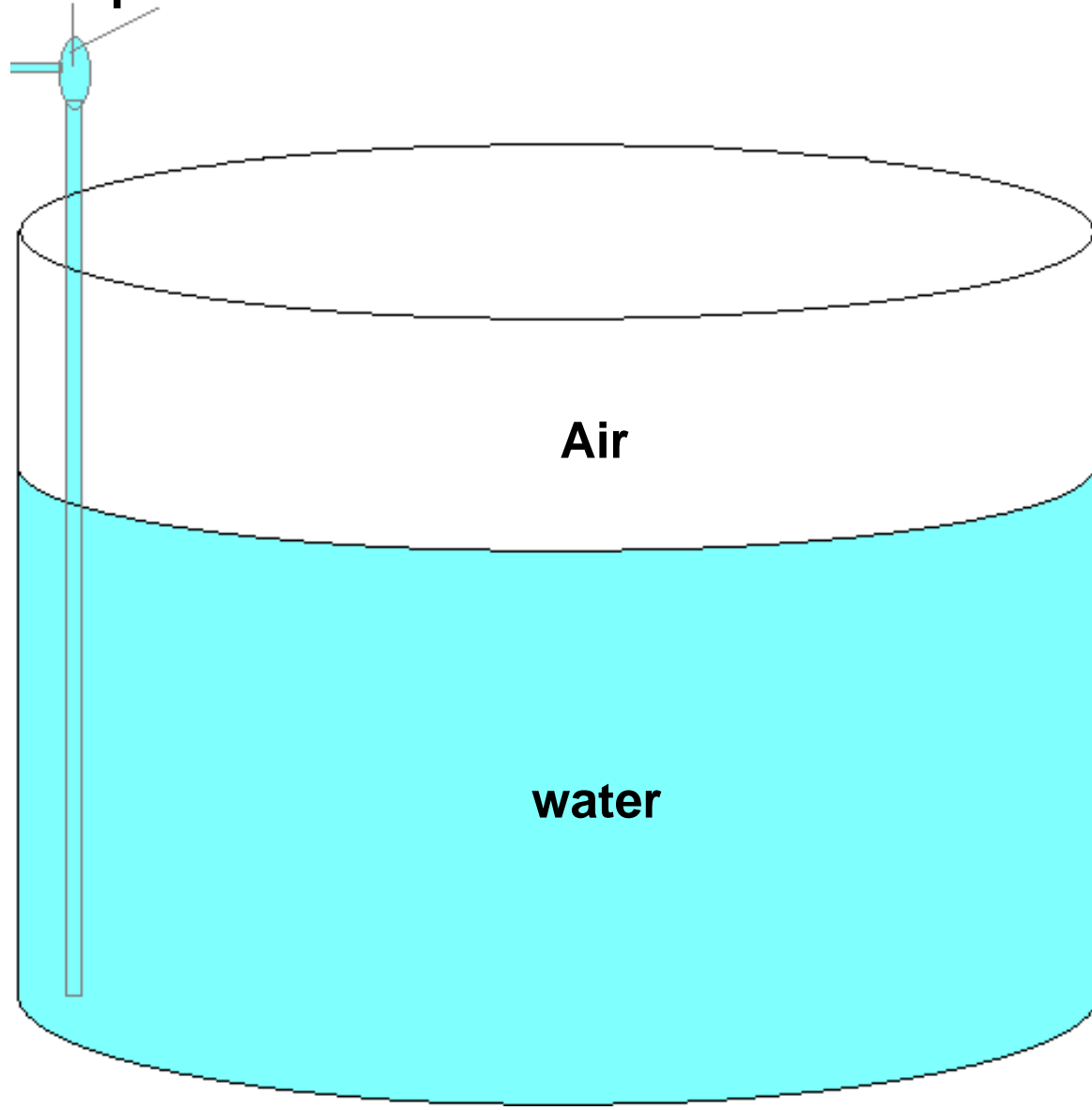
Pump



Air

Water

Pump



Air

water

EXAMPLE

MAKING WELL = Rp. 2.000.000 PER UNIT

ALL AREA = 36 x 2.000.000 = Rp. 72.000.000

MAKING JET PUMP = Rp. 50.000.000

MAKING SEPTIC TANK = Rp. 1.000.000 PER UNIT

ALL AREA = 36 x 1.000.000 = Rp. 36.000.000

COLLECTIVE SEPTIC TANK = Rp. 15.000.000

THANK'S



A LEADING AND OUT STANDING UNIVERSITY

***all desain and picture in power point
created by darsiharjo***