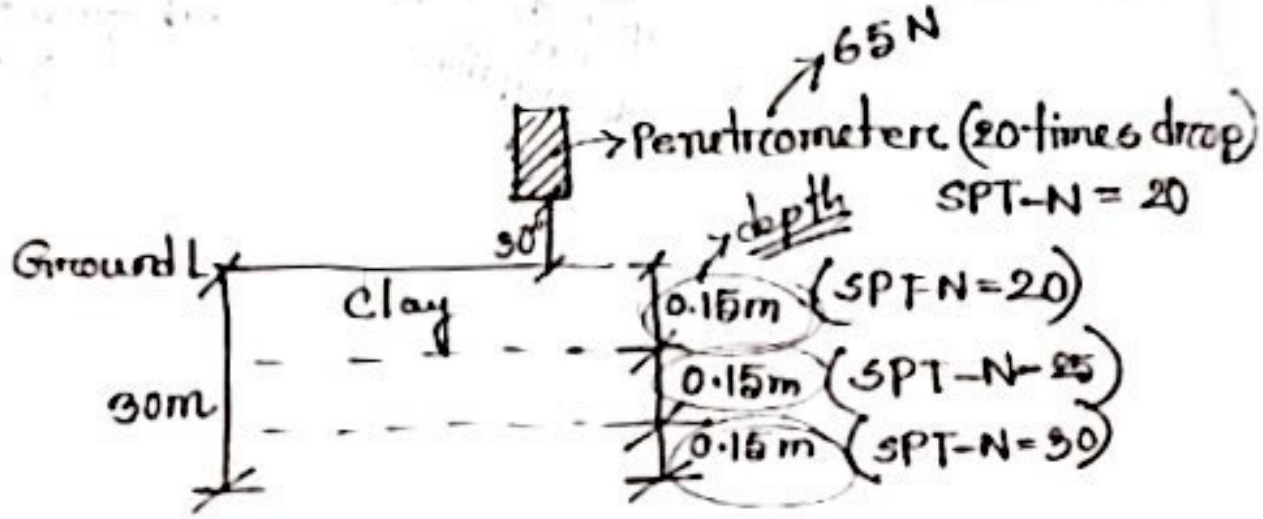
12.12.24

Borelog → what
↳ why important

* UCS test
shear test
flexural shear test

Penetrometer → SPT test (mostly in BD)
↳ Procedure :

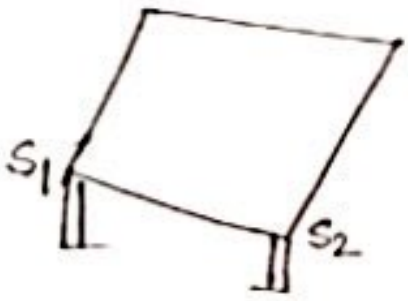


Foundation layer on (SPT-N = 50) max

Disturbed sample → test pits

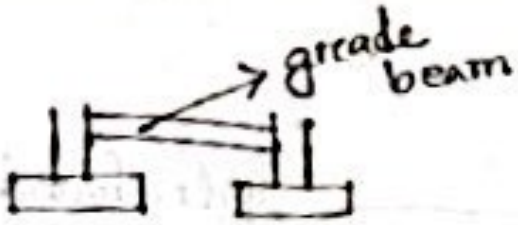
Undisturbe sample → Probing

-ve settlement tendency → settlement

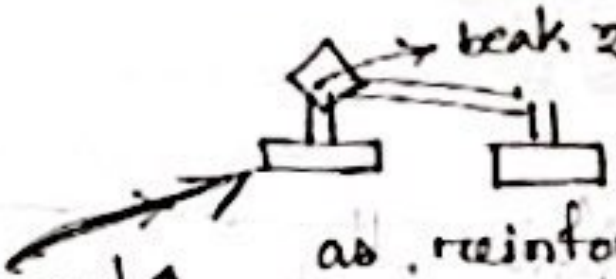


$S_2 > S_1$ → differential settlement

Scanned with CamScanner



moment ↑ reinforcement ↑

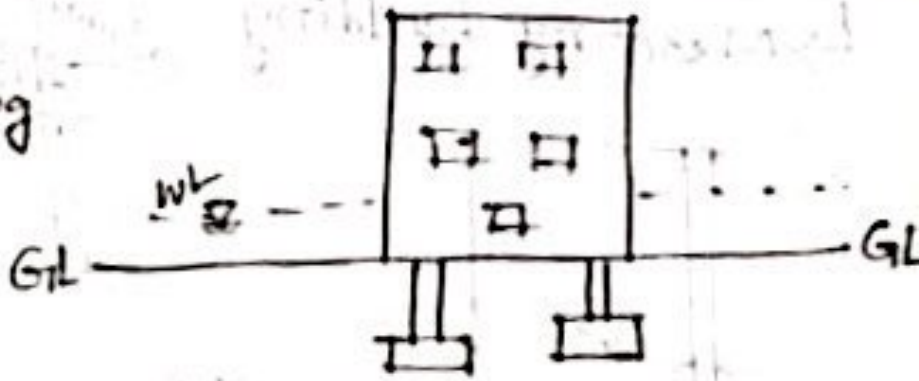


as reinforcement building করার আগে set হয়েছিল, but এখন আর build করা যাবে না so no scope for reinforcement

Soil-faillure is shear-faillure

Ultimate bearing capacity

Allowable bearing Capacity



Buyoyaney ↑ foundation Capacity ↑



Overturning

fore BD,

Ground level = water level

Shallow-foundation ~~er~~ footing

shallow foundation

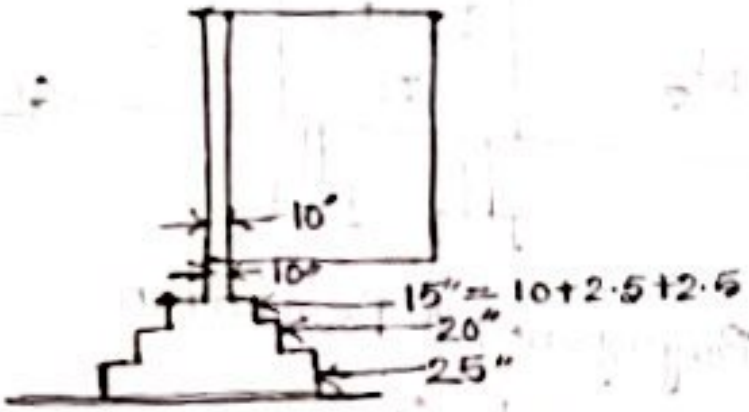
pile foundation

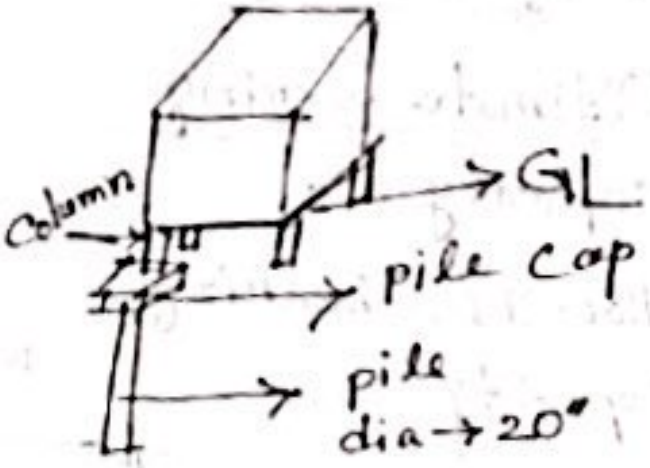
Site A
soil strn ↑
depth

Site B
soil strn ↓
pile refer depth

Wall footing

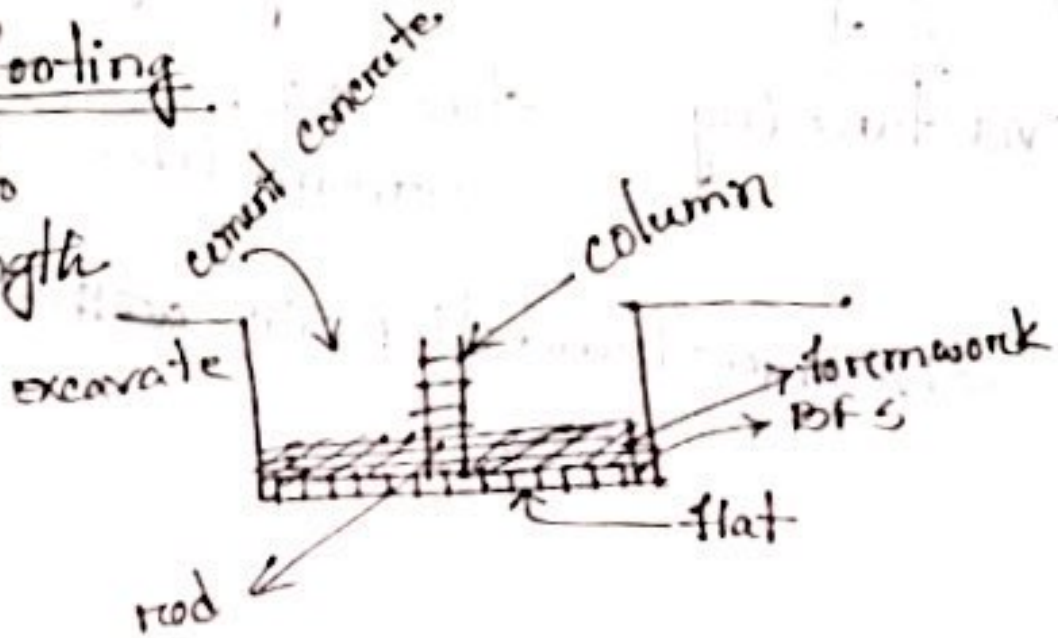
↳ Masonry building





Column footing

20 days to gain strength



Scanned with CamScanner

Why curing:

Hydration reaction → that produce → micro-crack যাতে না হয় তাই water দেয়।

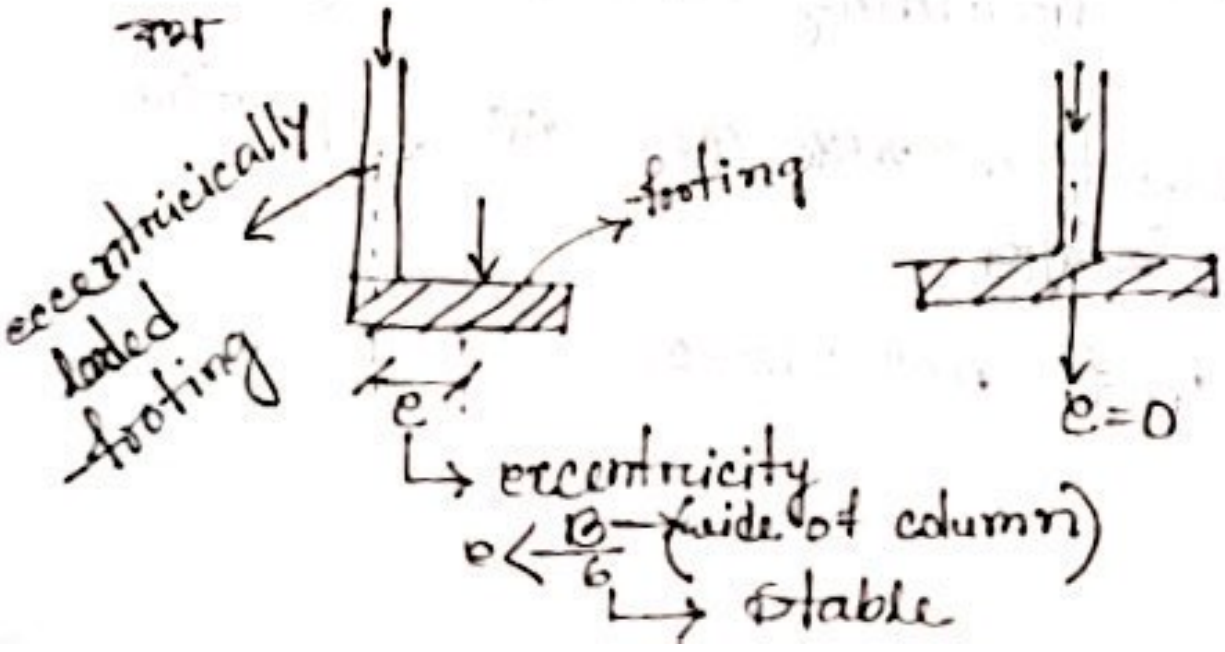
concrete cool থাকে

rod মাটির থেকে উপরে রাখা হয় যেন মাটির moisture rod এ না লাগে rust create হয়, Rust হলে rod এর strength, dia কমবে

formwork → barrier to the concrete mixture so that it couldn't spread. (7-10 days to form)

Ex.

যে column টানাইতে আমরা frame use করা হয়, wood তাড়াতাড়ি নষ্ট হয়ে যায়, stability কম

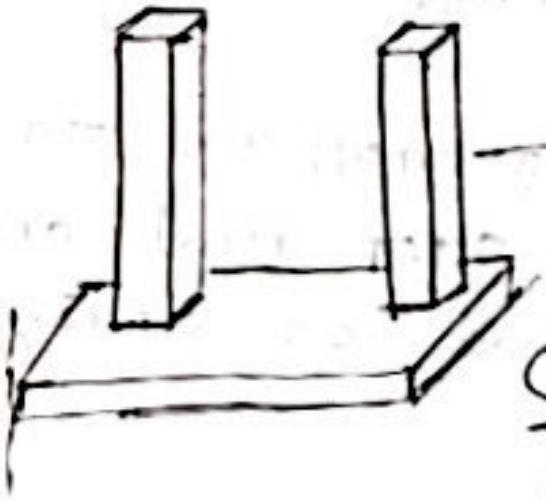


↳ eccentricity

$e < \frac{D}{6}$ (side of column)

↳ Stable

if e > B/6 → will create moment ↶
নিচে থেকে পড়বে
overturning হবে



→ combined footing

{ Curing এর উদ্দেশ্য
↳ concrete bleeding.

Imp
RAFT: When soil is weak, low bearing capacity যতগুলো column আছে সবগুলোকে এক foundation এর মধ্যে রাখতে হবে।

Sheet pile: Preventing lateral sliding of soil

Segregation থেকে কিভাবে বাঁচব Compaction এর সাথে

ref: ACI 318-08