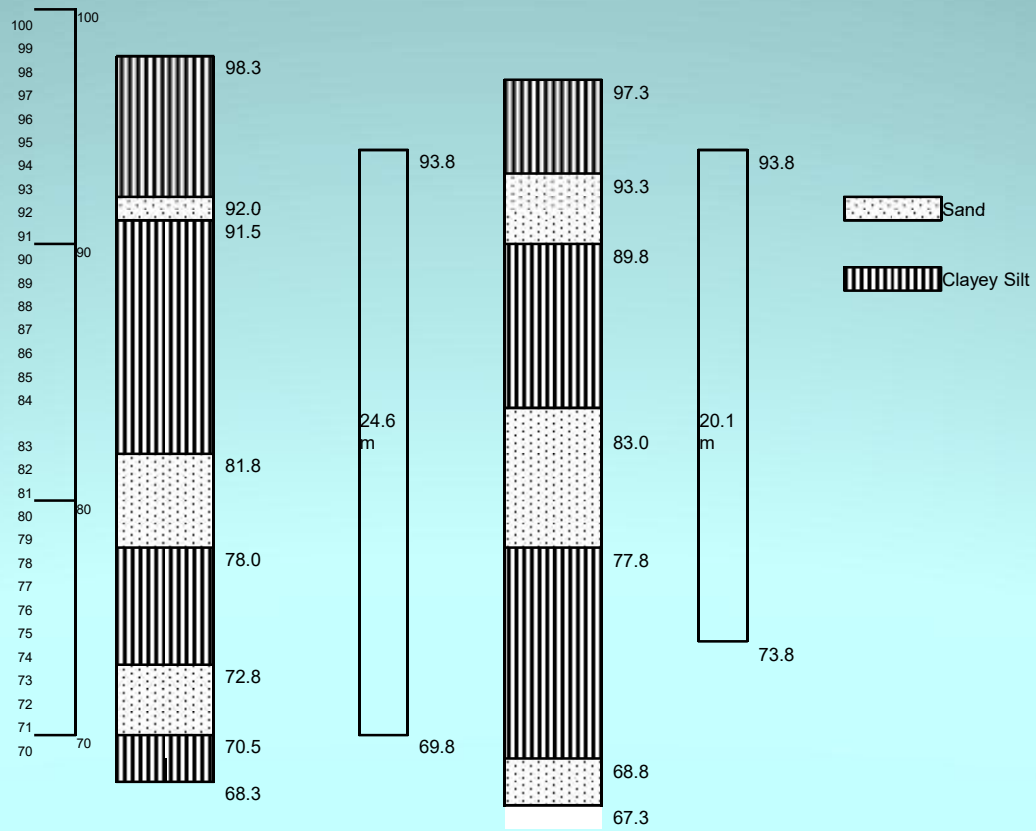


Bore Pile : Equipments, Procedure, Quality control

JUDI BRIDGE

BH2 (left bank)

BH1 (Right bank)



Load Bearing Capacity of Piles

- $Q_f = Q_{\text{shaft}} + Q_{\text{base}}$

- $Q_a = (Q_{\text{shaft}} + Q_{\text{base}})/\text{FOS}$



- In clays and cohesive soil:

$$Q_f = (\alpha C_u)A_s + (N_c)C_u A_b$$

C_u = unconfined compressive strength = $6 \times N$

N = standard penetration test no.

α = adhesion factor = 0.3 to 0.5

N_c = bearing capacity factor

FOS = 2.5

Load Bearing Capacity of Piles

- In sand and granular soil
- $Q_f = (k p'_{ave})A_s + (Nq) p'A_b$
- p' = effective overburden pressure
- FOS = 2.5
- $k = 0.5$
- N_c, N_q are bearing capacity factors

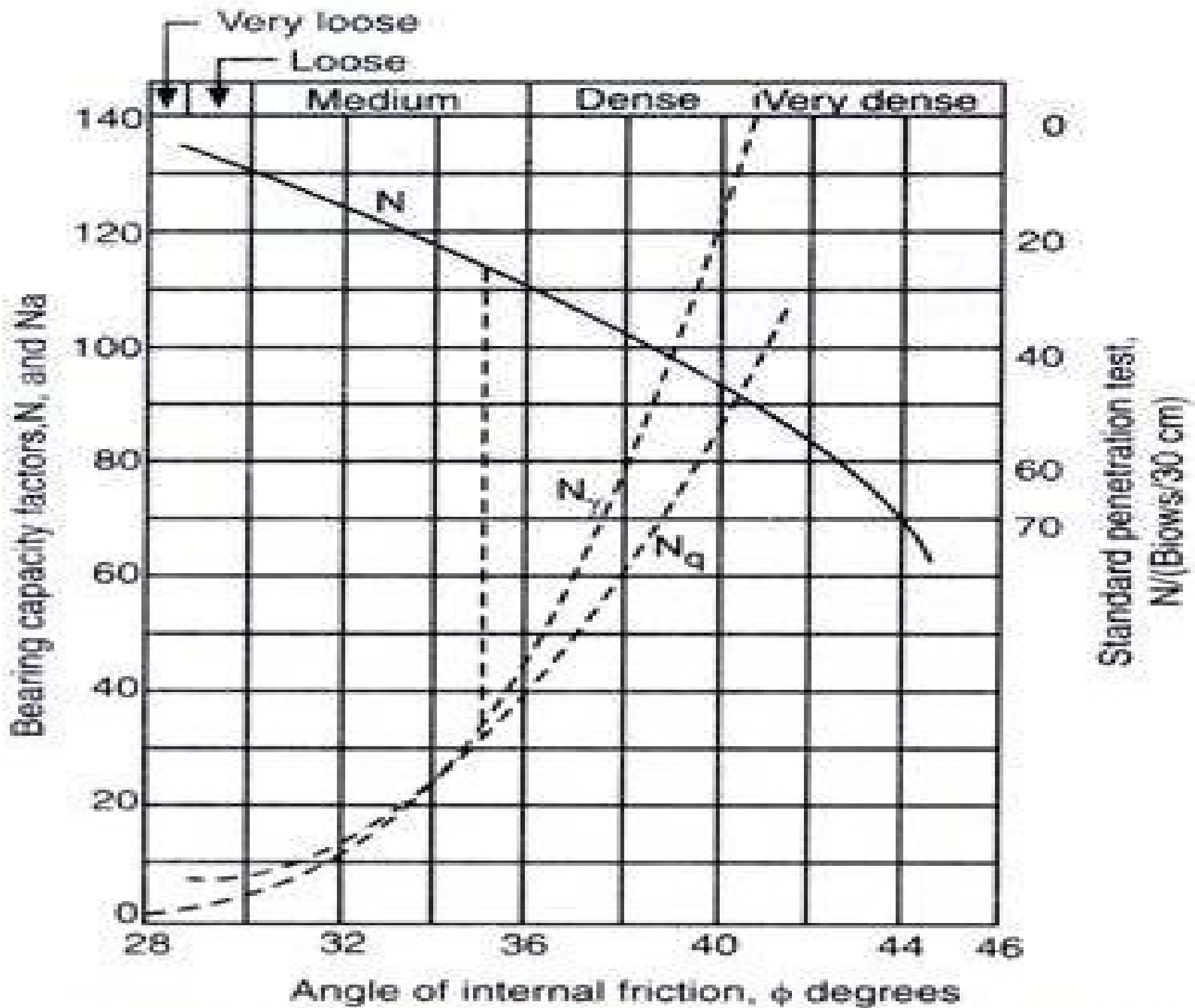
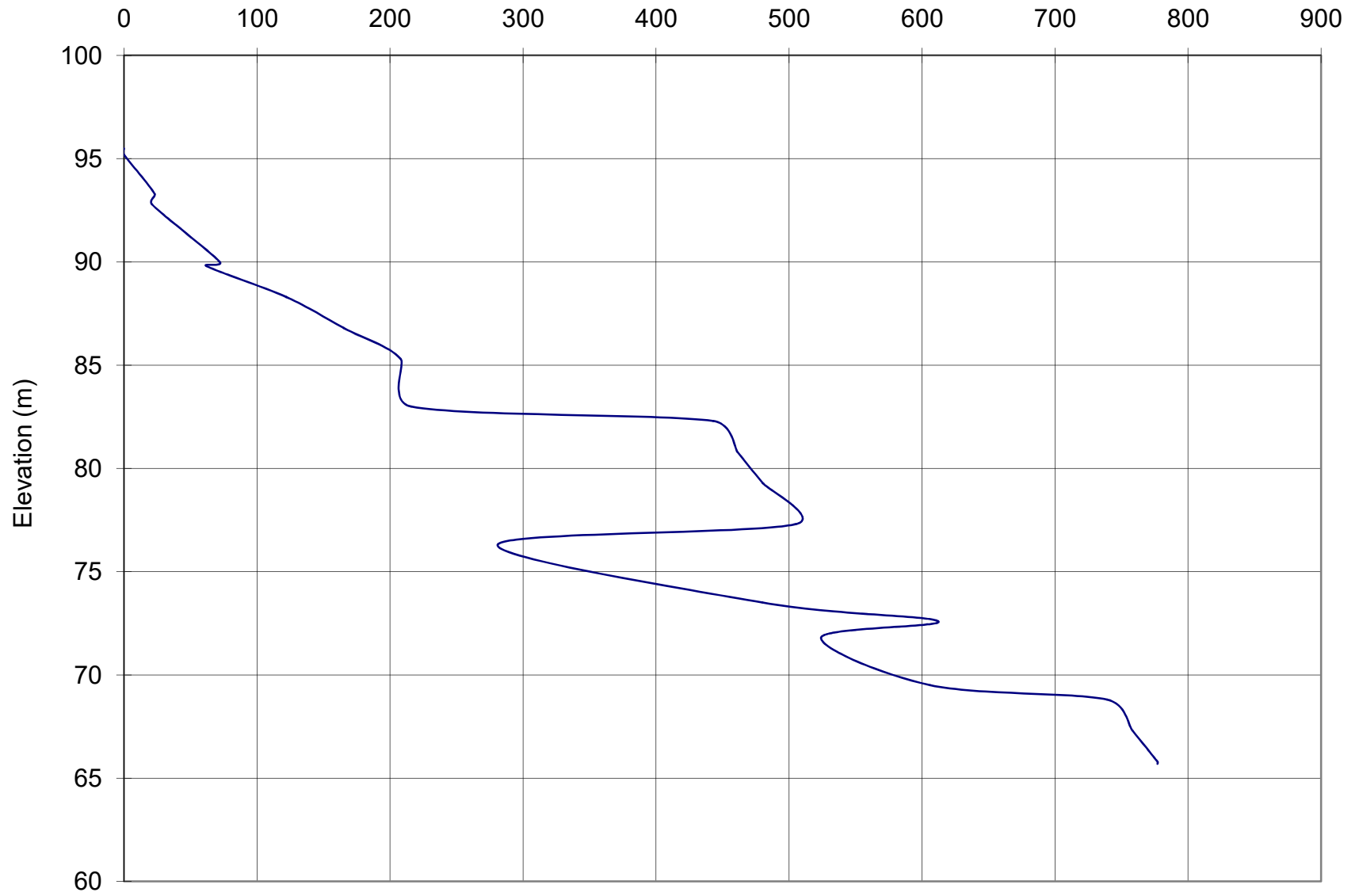


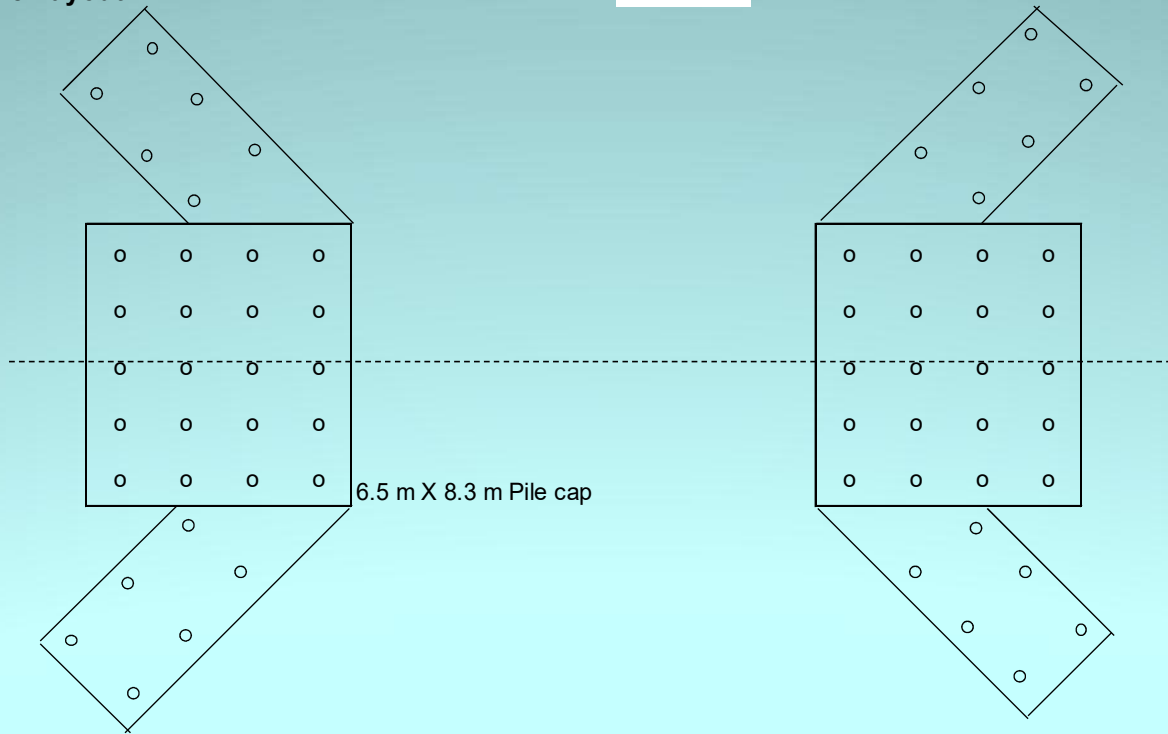
FIG. 9.13 Bearing capacity of footing based on N-value

Pile Capacity (600 dia) JUDI (BH1)

Pile Capacity (kN)



Pile Layout:



6.5 m X 8.3 m Pile cap

Spacing 1.8 m c/c

Edge to Pile Center = 0.55 m

Load bearing capacity of piles

- For Driven Piles
- $Q_a = 166.7WH / (S + C)$
 - W-wt of hammer
 - H-drop height
 - S-av penetration per blow
 - C-constant depends on hammer type

Piling Machines

Pile Driving Machines: Conventional and obsolete

Pile Boring Machines :
Auger drilling
Bucket drilling
Percussion (Chisel) by wash boring













Piling Site



cmec-hb.en.alibaba.com



Chisel





Auger





Casing



Drill Pipes



Tremie Pipes



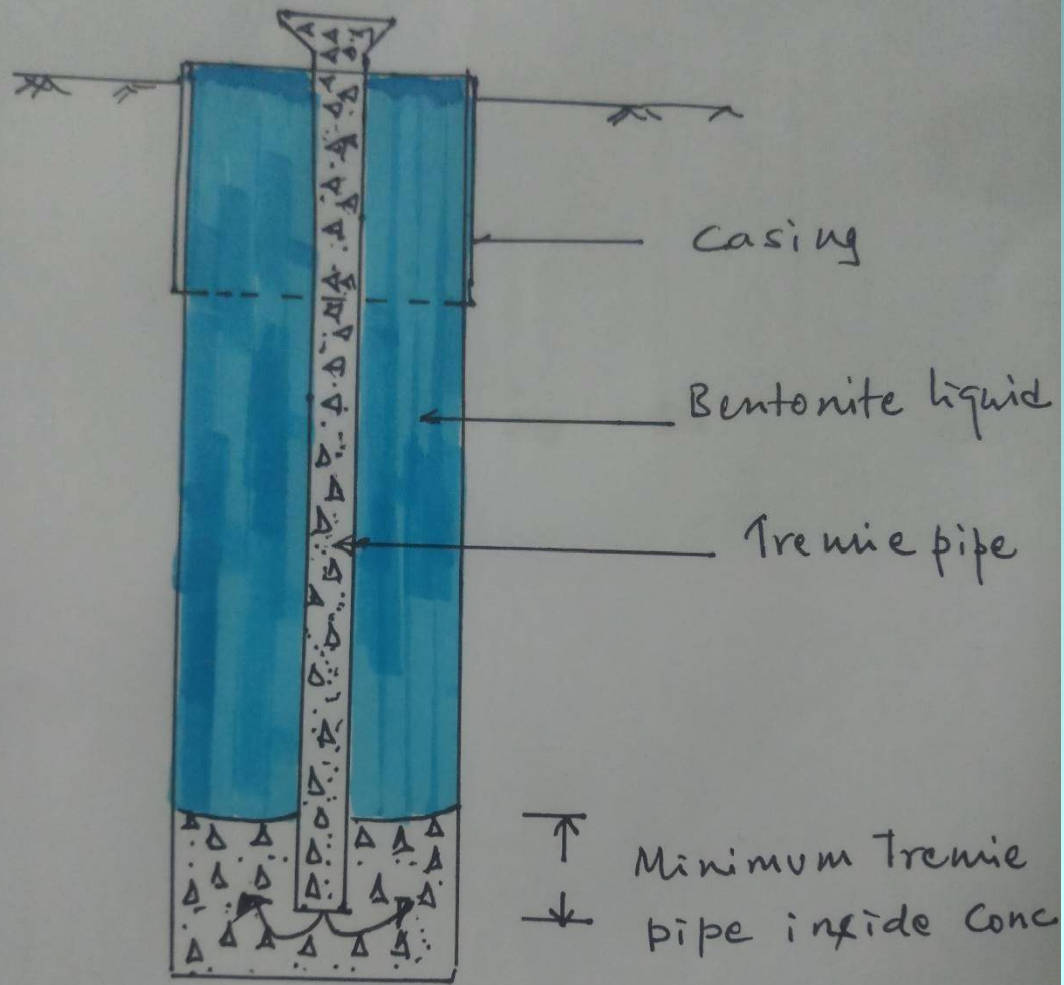
Hopper



Mud Pump



Bentonite Tank
(collection+supply)



Tremie pipe must be

Always

inserted in concrete

