

Cavity Probing & Grouting to locate and treat voids

Probe holes on a grid locate voids and weak zones, which are then filled with cement-based grout.

CAN BE CONSIDERED WHERE

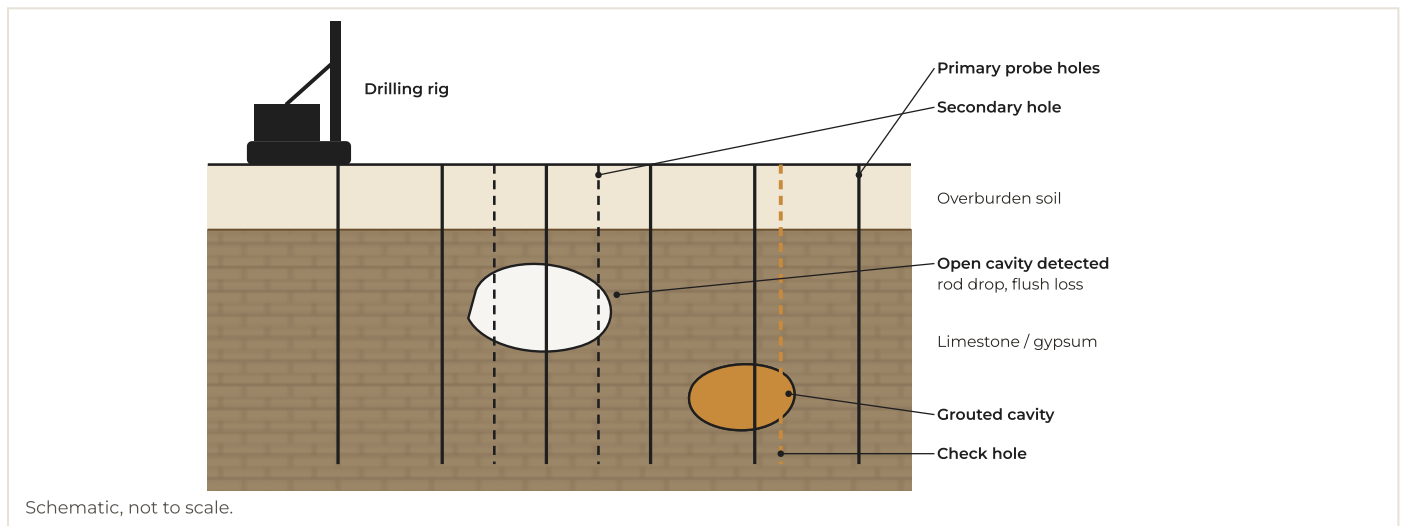
- Karstic limestone or gypsum-bearing ground where solution cavities are suspected.
- Sites with a history of sinkholes or ground loss.
- Beneath foundations, tanks, roads and pipelines.
- Voids or loosened ground beneath existing slabs.

LIMITATIONS

- Probing tests the ground only at drilled points, so the grid spacing sets the risk of missing a cavity.
- Open cavities connected to large voids can take large volumes of grout; staged grouting or stiffer grout may be needed.
- Grout must be prevented from travelling into services or neighbouring land.

HOW IT WORKS

Probe holes are drilled on a grid with rotary-percussive equipment. Drilling parameters (rate of penetration, flush loss, sudden rod drops) are recorded to identify voids and soft zones.



DESIGN INPUTS

- Geology and site investigation, including any geophysical survey.
- Foundation layout and loads.
- Probing grid spacing and depth.
- Grout mix design, with sulfate-resisting cement where gypsum is present.
- Grouting pressures, volumes and refusal criteria.

EXECUTION CONTROLS

- Drilling parameters logged for every hole.
- Grout volume and pressure per stage.
- Refusal criteria checked at every hole.
- Hole location and depth records.
- Monitoring for grout escape.

VERIFICATION AND ACCEPTANCE

Design intent: What is required

Treatment zone and acceptance criteria agreed with the consultant.

Production control: What was done

Drilling logs, grout takes and pressures for each hole.

Acceptance: What was proven

Check holes after grouting, grout strength tests and comparison of grout takes.

DELIVERABLES

Method statement and risk assessment · Probing grid drawings · Drilling logs · Grouting records · Check hole results · Void and treatment plans