

Ground Vibration Monitoring during dynamic works

Seismographs at nearby structures record the vibration caused by compaction, piling or other dynamic works against agreed limits.

TYPICALLY USED FOR

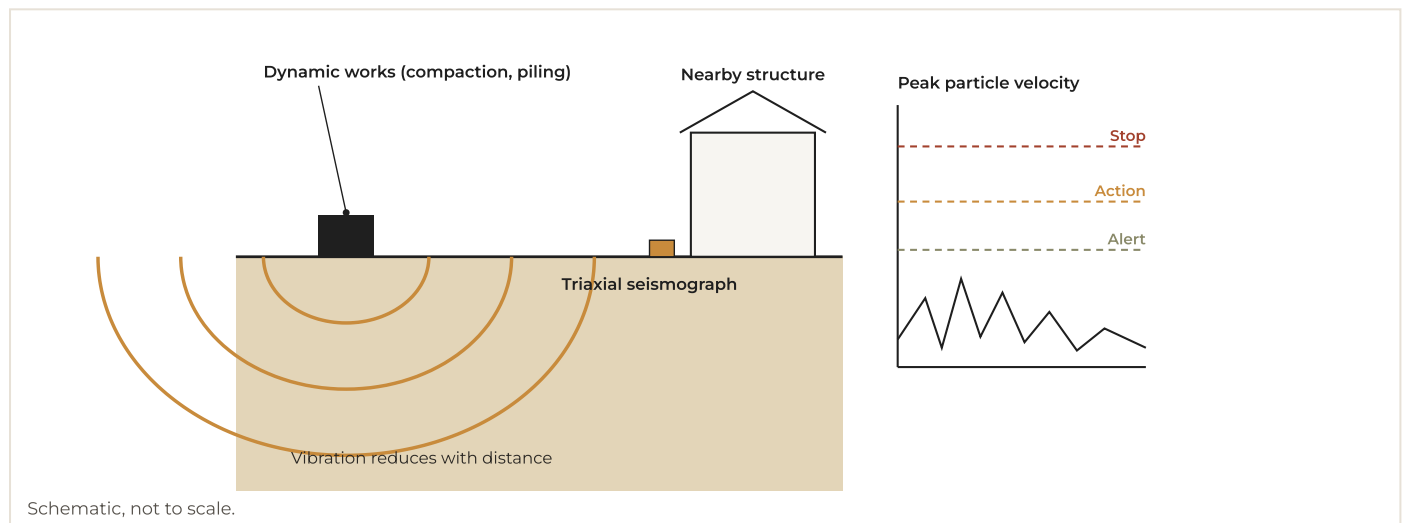
- Dynamic Compaction, Rapid Impact Compaction and impact rolling near structures.
- Vibro compaction, vibro replacement and driven piling.
- Sensitive buildings, retaining walls, pipelines and services.
- Establishing safe working distances in a trial.

LIMITATIONS

- Limits depend on the structure type and condition and the vibration frequency.
- Readings are point measurements; enough monitors must be placed where the risk is highest.
- Background vibration from traffic and plant must be distinguished.

HOW THE TEST WORKS

A pre-condition survey records the state of nearby structures. Triaxial seismographs are fixed to the ground or structure at the agreed locations and set to record peak particle velocity and frequency in three directions.



TEST PLANNING INPUTS

- Structures, services and slopes within the zone of influence.
- Vibration limits and alert, action and stop levels.
- Work method, energy and distance.
- Monitoring locations and recording settings.
- Reporting frequency and response actions.

TEST EXECUTION CONTROLS

- Monitors fixed, levelled and recording at the agreed settings.
- Readings reviewed against trigger levels during each shift.
- Exceedances reported and the agreed response action taken.
- Instrument battery, memory and calibration checked.

INTERPRETATION AND REPORTING

Test plan: What is specified

Vibration limits and trigger levels agreed with the consultant.

Test record: What was measured

Continuous records of peak particle velocity and frequency at each monitor.

Interpretation: What it shows

Monitoring reports with exceedances and actions, and a post-condition survey where required.

DELIVERABLES

Monitoring plan · Pre-condition survey · Calibration certificates · Vibration records · Daily or weekly monitoring reports · Attenuation analysis