

## Instrumentation

**Pile load tests** require displacement sensors for monitoring vertical and horizontal displacements at the pile head, a load cell for monitoring the induced load, and telltales or extensometers to monitor compression and settlements. Strain gauges and sister bars can be embedded in the pile to monitor distribution of load along the length of the pile.

**Anchor & tieback pull-out tests** require a load cell to monitor the pulling force and displacement sensors to monitor displacements at the anchor head and the reaction block.

## Automation of Measurements

GEO-Instruments supplies and configures sensors, loggers, and communications as needed for the tests, and then automates processing, data visualization, and distribution of measurements to on-site engineers.

## Advantages of Automation

**Safety:** All instruments are read remotely, allowing field engineers to keep a safe distance at all times.

**Reliability:** Measurements are recorded electronically, eliminating reading and transcription errors. Redundant sensors can be added easily, if required.

**Quick Access to Data:** On site access to data is available within seconds; remote access to data with additional processing and plots is available within minutes.

## Additional Services

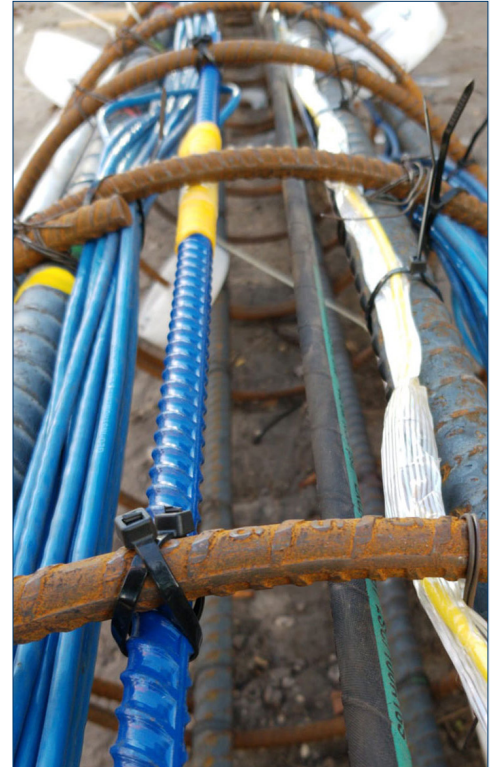
**Custom Solutions:** GEO can configure special systems as needed.

**Superior Support:** GEO can provide training and installation assistance.

**Calibrations:** GEO can calibrate load cells and other test equipment.



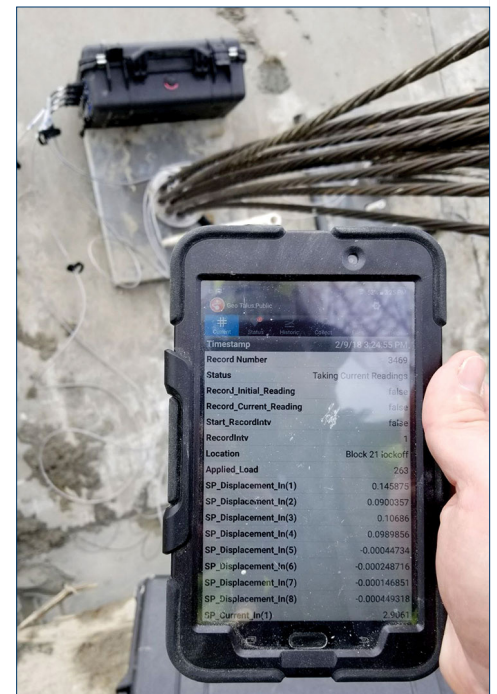
These displacement sensors will be read remotely by the portable logger, so engineers can stay at a safe distance throughout the test.



The sister bar strain gauges installed in this reinforcing cage are connected to a portable, battery-powered logger.



GEO's modular logger systems can be expanded to accommodate any requirement.



Real-time readings can be displayed on smart phones & tablets.