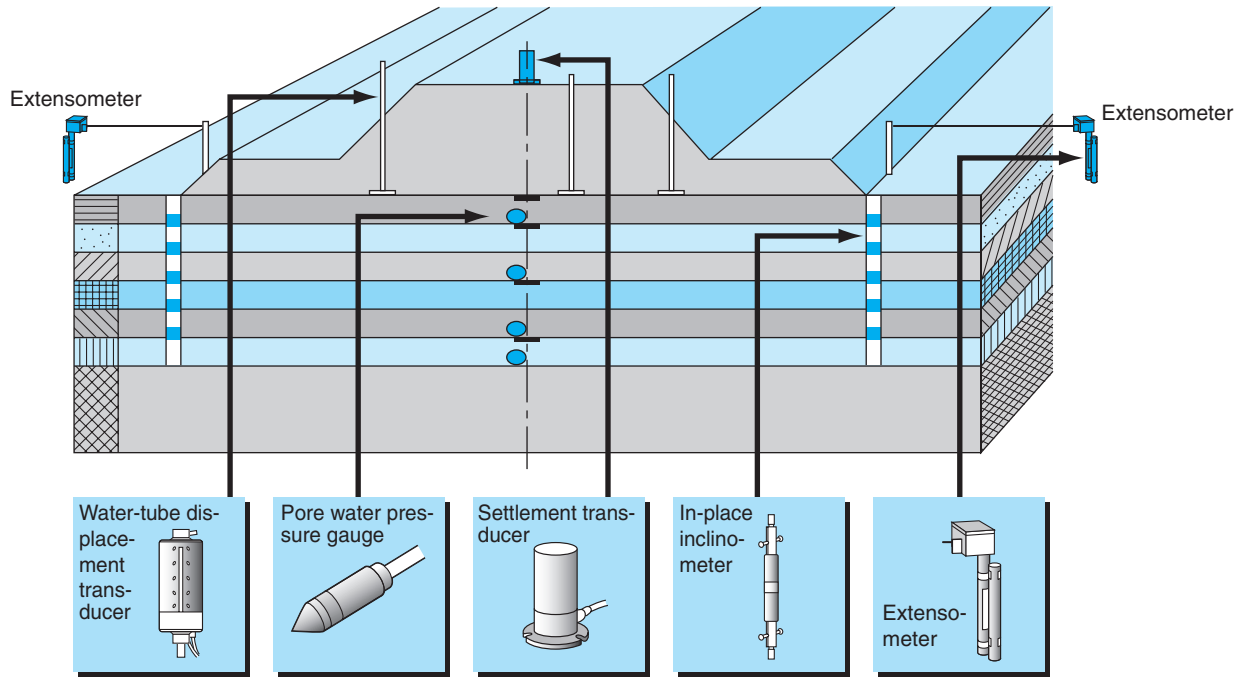


# 6 Fill Measurement

For filling work on soft ground, the following conditions must be monitored:

- (1) Conditions of ongoing work and the status of process management by performing measurement control operations
- (2) Safety factor or margin of a fill, (3) Critical load and deflection, (4) Amount of subsidence and heaving

With a computer, a data logger and measuring instruments linked in an online measurement network, conditions of ground subsidence, horizontal displacement, earth pressure in subterranean ground and pore water pressure are monitored so that appropriate action can be taken if any abnormal condition is detected.



## A list of Measuring Instruments

Measurement items	Instruments	Type	Description
Vertical displacement of ground surface	Water-tube displacement transducer	KWL-E	Measures the amount of settlement at the bottom of fill
Horizontal displacement of ground surface	Extensometer	KLG-A, KLG-B NKLG-A, NKLG-B	Measures the amount of horizontal movement.
Vertical displacement of underground	Multi-layer settlement meter	KLA-A, NKLA-A, KLC-A	
Horizontal displacement of underground	In-place inclinometer	KB-JE, KB-KE, KB-JF KB-KF, NKB-LD, NKB-MD	
Pore pressure	Pore pressure gauge	KPB-PA, KPD-PA	
Soil pressure	Soil pressure gauge	KDA-PA, KDC-PA, KDE-PA, KDL-PA	
Water level	Water level meter	KW-C	Particularly when driving a sand compaction pile.
Strain of reinforcing materials	Strain gauge	YFLA	

## Measuring System Block Diagram

