GENERAL

The Thammasat Administration Building project site is located on Tha Prachan Campus, Bangkok nearby the Chao Phraya River. The site is surrounded by a historical building and other existing structures. The construction of this building commenced about one year after completion of library building with three basements being separated by an existing building. Bored piles with pile tip in dense sand layer are used for supporting the building. A diaphragm wall of 0.8m in thickness was designed for excavation 9.7m deep with two levels of temporary bracing. The diaphragm wall toe was embedded down to 28.0m to achieve the overall stability of the excavation on the river bank. Various types of instrumentation were installed in the wall and existing buildings to observe the ground movements and response of the buildings during excavation.

WORK UNDERTAKEN

BORED PILES:
- Dia. 0.8mx48.0m 17 nos.
- Dia. 1.0mx48.0m 33 nos.
- Dia. 1.2mx48.0m 5 nos.
- Dia. 1.5mx48.0m 23 nos.

DIAPHRAGM WALL:
7,742sq.m. (0.8m Thick)

EARTH WORK:
59,592cu.m.

TEMPORARY BRACING:
586.50 tons

INSTRUMENTATION:
- 6 Inclinometer Tubes,
- 10 Tiltmeters,
- 5 Vertical Beam Sensors,
- VWSGs in one Panel,
- 4 Earth Pressure Gauges,
- 20 Surface and Deep Settlement Plates.
Excavation completed to the final depth.

Pre-loading the struts.

Earth pressure gauges for checking the strut force.

Pile load test results.

Preparation for base slab casting.

Layout of instrumentation and the project site.

References: