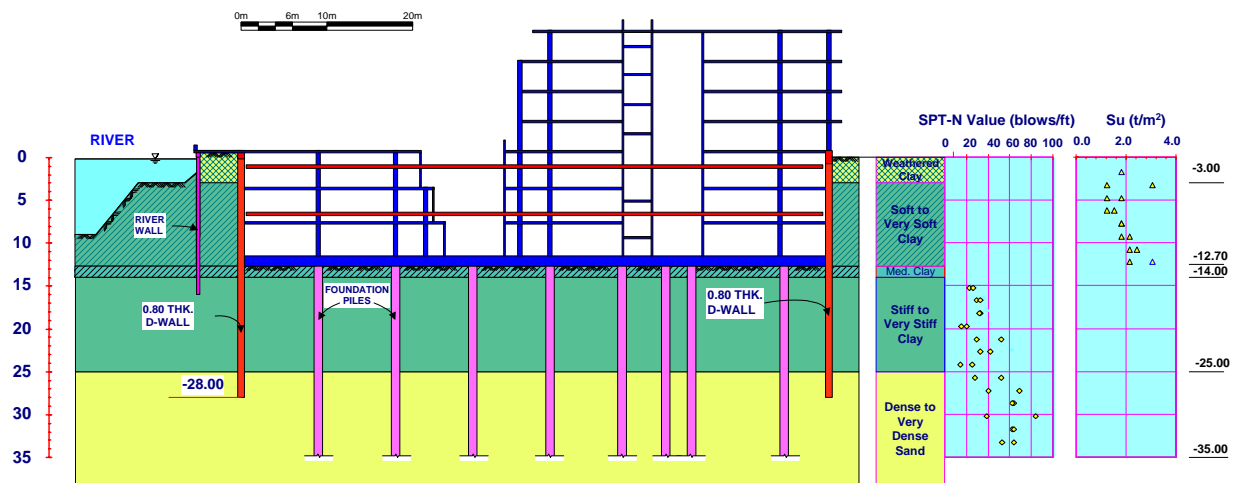


THE THAMMASAT LIBRARY BUILDING

Bored Piles, Diaphragm Wall and Substructure Works

Technical Reference No. 01/99



Basement section and soil profile.

GENERAL

The Thammasat Library 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. 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 12.7m 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 | 32 nos. |
| | Dia. 1.0mx48.0m | 18 nos. |
| | Dia. 1.2mx48.0m | 31 nos. |
| | Dia. 1.5mx48.0m | 6 nos. |
| DIAPHRAGM WALL: | 7,672sq.m. (0.8m Thick) | |
| EARTH WORK: | 59,592cu.m. | |
| TEMPORARY BRACING: | 524 tons | |
| INSTRUMENTATION: | 8 Inclinator Tubes, 10 Tiltmeters, 5 Vertical Beam Sensors, 10 Surface and Deep Settlement Plates. | |



Diaphragm wall panel excavation.

| | |
|-------------------------|---|
| TYPE OF WORK: | Foundation Piles, Diaphragm Wall and Excavation |
| OWNER: | The Thammasat University |
| MAIN CONTRACTOR: | Ch. Karnchang Public Co., Ltd. |
| DESIGNER: | SJD-3D Co., Ltd. |
| PERIOD: | 1995 |



D01/99

THE THAMMASAT LIBRARY BUILDING

Bored Piles, Diaphragm Wall and Substructure Works

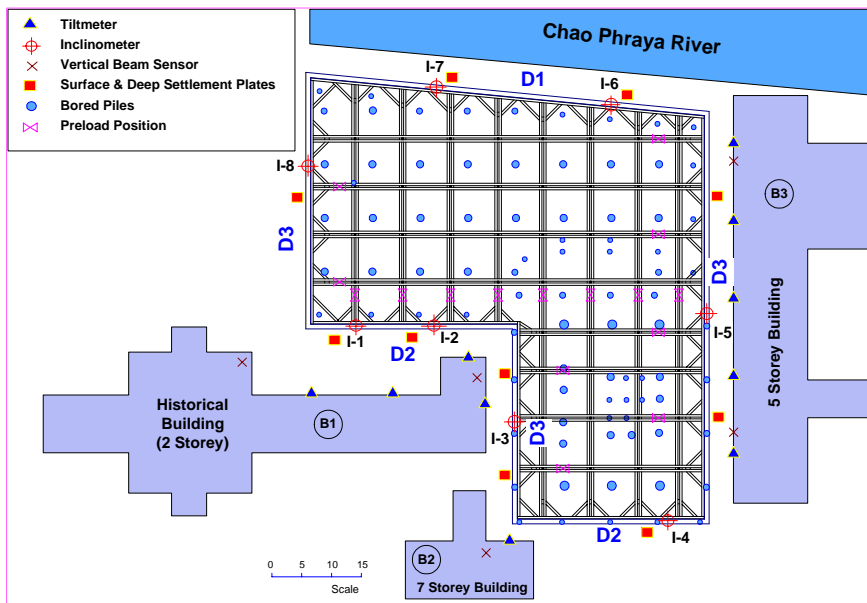
Technical Reference No. 01/99



D-Wall work in progress.



Temporary bracing for excavation and basement construction.



Layout of the project.



Excavation work in progress.



The Library Building.

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References:

- Thasnanipan, N., Maung A. W., Tanseng, P. and Wei, S. H. (1998), "Performance of a Braced Excavation in Bangkok Clay, Diaphragm Wall Subject to Unbalanced Loading Conditions", 13th Southeast Asian Geotechnical Conference, 16-20 November, 1998, Taipei, Taiwan, ROC. Pp 655-660.
- Teparaksa, W., Thasnanipan, N. and Tanseng, P. (1999), "Analysis of Lateral Wall Movement for Deep Braced Excavation in Bangkok Subsoils", Civil and Environmental Engineering Conference – New Frontiers & Challenges, AIT, Bangkok, November 8-12, 1999.

