The Rajavej Hospital is located on Phayathai Road, Rajatheewi, Bangkok. It has five basement levels constructed with top-down method for car parking and rooms for utilities. Foundation bored piles of 0.8m, 1.2m and 1.5m in diameter founded in sand layer at depths of 58m, support the building. A 1.0m thick cast in-situ diaphragm wall (toe depth 21.0m below ground level) was used for basement excavation and construction. The maximum excavation depth was about 14.5m. 80 steel stanchions pre-founded in bored piles were used for supporting the basement slabs and parts of superstructure during simultaneous construction of basements and the super structure. Two basement slabs, B1 and B3 with openings were used as lateral supports for the diaphragm wall to allow excavation to the required depths.

**WORK UNDERTAKEN**

- **BORED PILES:**
  - Dia. 1.0mx58.0m 5 nos.
  - Dia. 1.2mx58.0m 114 nos.
  - Dia. 1.5mx58.0m 56 nos.

- **STEEL STANCHIONS:**
  - 414x405-498x432mm 80 nos.

- **DIAPHRAGM WALL:**
  - 6,058 sq.m. (1.0m Thick)

- **INSTRUMENTATION:**
  - 7 Inclinometer Tubes in the wall.

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**TYPE OF WORK:** Foundation Piles and Diaphragm Wall  
**OWNER:** Rajavej Hospital Co., Ltd.  
**SUPERSTRUCTURE CONTRACTOR:** SAE Thailand Co., Ltd.  
**DESIGNER:** P & CYGNA Consultants Co., Ltd.  
**PERIOD:** 1994-1995
21m-long reinforcement cage with box-outs for basement slab connections.

Excavation at final depth of 14.5m below ground level.

Excavation below the basement slab.

Installing a 18.0m-long steel stanchion in the borehole.

References: