THE BMA UNDERGROUND CAR PARK
Lan Khon Muang

Object
Underground car park with disable access, natural light and ventilation for the Bangkok Metropolitan Authority. Large open space and garden on the roof top.

Project Description
Cantilever diaphragm wall with buttress for earth retaining structure.
2 level basements for car parking.
Roof top garden and an underpass access to the City Hall.

Type of Work
Foundation Piling, Diaphragm Walling, Deep Excavation, Civil Construction.

Owner
The Bangkok Metropolitan Authority.

Designer
The Bangkok Metropolitan Authority.

Project Schedule
2000-2003

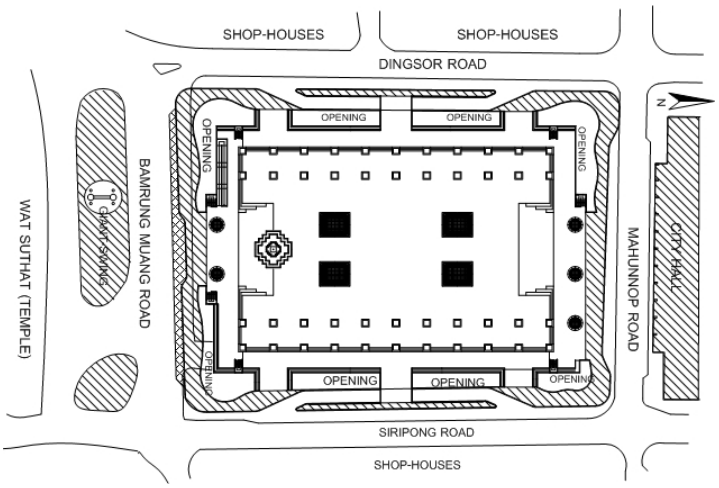
Construction Method
- Braced Excavation with diaphragm Wall using observational method.
- 2 level Cross-lot strutting and geotechnical instrumentation.

Construction Details

Foundation bored pile:	728 (ϕ0.6mx22m)
Diaphragm Wall:	5,304sq.m. (0.6m thick, 16.0m deep)
Basement floor area:	18,552sq.m.
Landscaping:	10,936sq.m.

Subsoil Conditions

Soft clay:	0.0-9.0m
Medium clay:	9.0-12.0m
Stiff clay:	12.0-26.0m
Dense sand:	26.0m-



Site Plan.


Excavation in progress.


Completed Car Park.

REFERENCES:

- Thasnanipan, N., Aye, Z. Z. and Submaneewong, C. (2003), "Performance of Buttress-Support Thin Diaphragm Wall for Underground Car Park in Bangkok". 12th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, Singapore, August 4-8, 2003, Pp. 841-844.

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