GENERAL

The Phuket Fantasea Theatre is located on Kamala beach, Phuket island, south of Thailand. It has basements up to 12.4m deep, to accommodate lifting facilities for the theatre stages and podiums. 1.0m thick diaphragm walls with toe depths 18.0m to 21.0m were used for excavation and basement construction with top-down method. Foundation barrettes of 1.0x2.7m founded in weathered granite at depths of 21.0m, support the building. The maximum excavation depth was about 17.0m. Barrettes were designed as a column and cast up to ground level to support the roof structure and reinforced concrete beams of the ground floor slab during basement excavation. A combination of the reinforced concrete beams and steel deck were constructed first to laterally support to the diaphragm wall and excavation for basement construction then followed.

During excavation for basement construction, xx pumping wells were used to lower the ground water level.

A total of 151 anchor piles with toe depths up to 29.0m were installed for basement slabs to resist the uplift pressure caused by high groundwater level.

WORK UNDERTAKEN

<table>
<thead>
<tr>
<th>TYPE OF WORK:</th>
<th>Barrettes and Diaphragm Walls</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNER:</td>
<td>Phuket Fantasea Co., Ltd.</td>
</tr>
<tr>
<td>SUPERSTRUCTURE</td>
<td></td>
</tr>
<tr>
<td>CONTRACTOR:</td>
<td>Rungsaeng Jaree Co., Ltd.</td>
</tr>
<tr>
<td>DESIGNER:</td>
<td>Consultants One Hundred and Ten Co., Ltd.</td>
</tr>
<tr>
<td>PERIOD:</td>
<td>1997</td>
</tr>
</tbody>
</table>

INSTRUMENTATION: 3 Inclinometer Tubes in the wall.

Sectional view.
PHUKET FANTASEA THEATRE
Barrettes and Diaphragm Walls

Subsoil conditions.

Clamshell grab for diaphragm wall and barrette work.

Casting a diaphragm wall panel.

Anchor piles installation in progress (by other).

Excavation for a barrette.

Basement excavation in progress, using Top-Down Method.

Layout of diaphragm walls and barrettes.

References: