

PROJECT MANAGEMENT

Project Management

International

Geotechnical Investigation for the Construction of a Warehouse and Pioneer Jetty

Client: Olokola Free Trade Zone
Location: OKFTZ, Ondo-Ogun, Nigeria
Period: October 2008

Background

The Olokola Free Trade Zone (OKFTZ) Enterprise is a public-private partnership between Ogun and Ondo States in southwest Nigeria and the FTZ development company, IPEM.

OKFTZ is a 20,000 Ha industrial enclave designed to facilitate the establishment of export oriented industries, and to expand the economic base of the region.

To initiate the site establishment required to facilitate the development of the zone, OKFTZ had a requirement for a pioneer jetty to serve as an offloading point into the zone, and a warehouse to serve as a temporary storage facility for clients.

Project Management International (PMI) was contracted to perform geotechnical investigations at the proposed locations for the jetty and the warehouse.

Scope of Works

The scope of works comprised the following:

- Execution of 2 Cone Penetration Tests (CPTs) to refusal at the proposed jetty site
- Execution of 3 CPTs to refusal at the proposed warehouse site
- Execution of 1 borehole to a depth of 13.5m at the jetty site.



Execution of Works

Site Description

The geotechnical investigation was carried out at the proposed jetty and warehouse sites.

The location for the jetty is in Igogu Village, Igbokoda, Ondo State. The site is situated along the river bank. The area is defined by thick forest flanking a low lying area consisting of the river course, palm oil trees, and coconut palms.

The site for the warehouse is located at Araromi Village, Ondo State. The site is situated in bushy terrain with low lying Topography.

Both sites were accessed from the river by boat.

Equipment Used

The following were used for the investigations:

- 2.5 ton CPT equipment

- Cable percussion type drilling rig

Mobilization

Mobilization of the CPT equipment to the proposed sites was done by means of a speed boat, and mobilization of the drill rig was done by barge.

Cone Penetration Tests

A total of 5 tests were carried-out to refusal at the two proposed sites.

The penetrometer was secured at the test locations by attachment to four anchors driven into the ground. The cone was then advanced into the ground at a constant velocity, with the pressure being recorded at 25cm intervals.

The driving of the cone and the measurement of the pressures continued until the refusal point, when anchor uplift became apparent.

Borehole

The borehole was drilled to a depth of 13.5m using a cable type percussion drilling rig. Samples for laboratory analysis were taken at zones of change in soil stratigraphy.

Conclusion

The scope of works was executed successfully. The results of the site investigation served as the basis for the design of the jetty and the warehouse.