

In this Issue:

A FIRST IN MALAYSIA

30m DEEP EXCAVATION BY SOIL NAILED SYSTEM
- Solaris Dutamas

INNOVATIVE & COST SAVING DESIGN

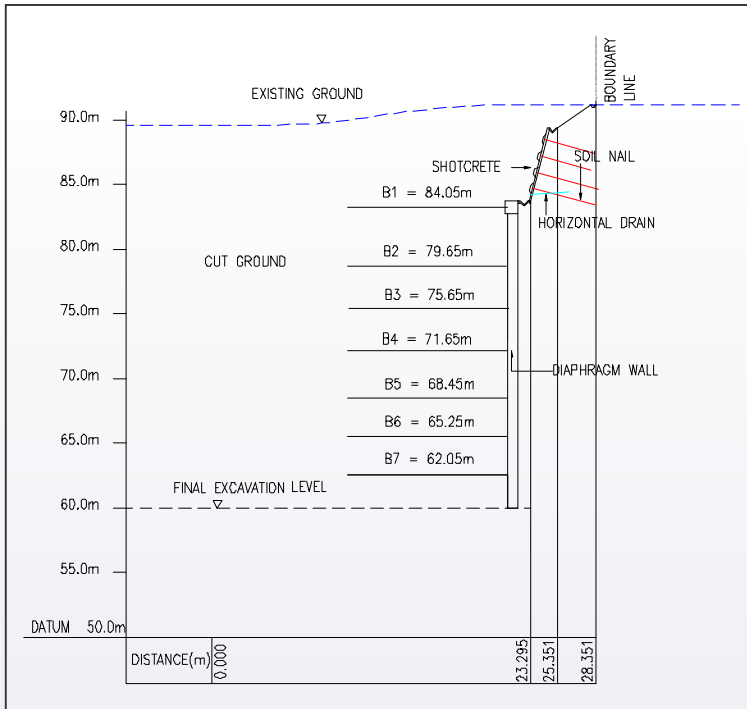
- Mixed Development at Mont' Kiara

JACK-IN PILE IN MALAYSIA



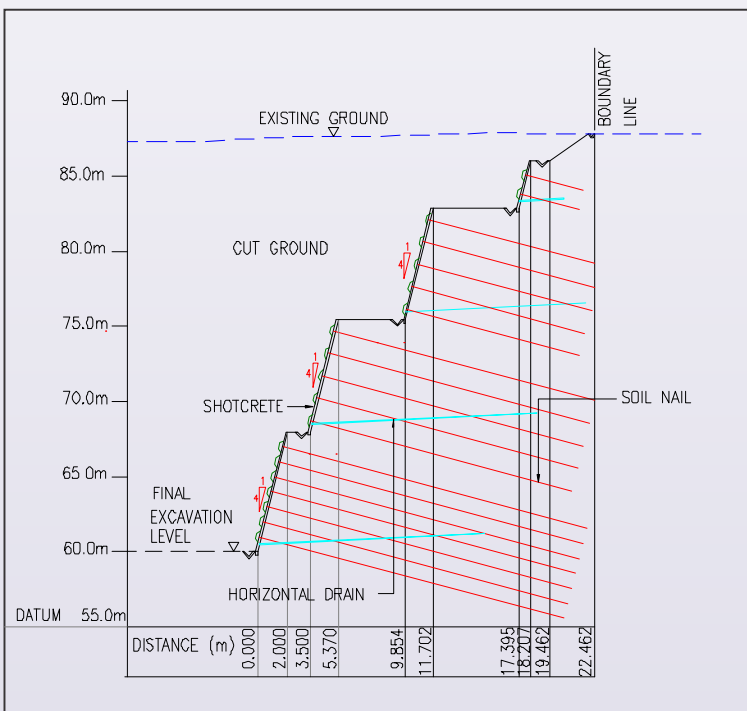
COMPARISON OF DESIGN

Retaining System Design Options



Original Proposal (by Architect)

- Diaphragm wall with building slab to resist large lateral forces.
- High building construction cost, slower and more difficult to construct.



Adopted Alternative Design (by G&P)

Soil nailed system with horizontal drains & shotcrete facing adopted on cut slope with 4V: 1H gradient.

- Requires some minor modifications to the basement layout.
- Requires proper planning of construction sequence and foundation system to support the superstructure.

Advantages of Soil Nailed System

Includes:

- Requires less working space (i.e, diaphragm wall would require area for large machineries, storage for bentonite and recycling of bentonite fluid.)

- Relatively cleaner site due to less disposal of drilled/excavated materials.
- Straightforward construction as it does not involve other trades. (Original proposal follows top-down construction would involve concreting and structural works, installation and prestressing of temporary ground anchors, etc.)
- Adopted alternative design contributes in providing significant **time and cost savings of approximately RM 5 million.**

THE CHALLENGES

Controlling Ground Movement

Preventing ground movement completely in deep excavation may be unrealistic as some minor ground displacement is expected and is controlled. Hence, designs are made to control the movement to prevent structural distress to adjacent structures.

The photo on the right was taken during soil nailed construction where the existing buildings in close proximity (less than 5m) to the soil nailed slope can be observed.

This has brought considerable attention to limit the ground movement above the soil nailed slopes to avoid any potential structural damage to the existing buildings.

Analyses of the serviceability limit states were analysed and checked with finite element method through the commercial software, PLAXIS.

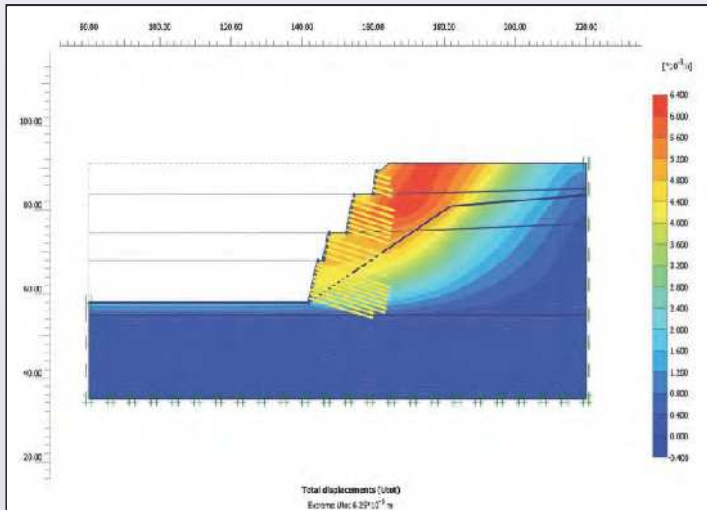
Inclinometers were installed on the top berm and the results from continuous monitoring for 17 months were compared with the predicted ground movement calculated from PLAXIS.



Visual assessment confirms that no significant distresses were caused to adjacent structures

Comparing the two, the actual ground movements were lower than the predicted values since moderately conservative parameters were used in the design. Nonetheless, the general trend of measured ground movements agrees well with the predicted curve.

The soil nailed slope is not expected to cause significant distress to the adjacent structures even with the upper bound ground movement prediction. Assessment carried out subsequently on the adjacent structures further verified the design assumptions.



Conclusion

This deep basement of up to 30m deep within close proximity to existing sensitive structures have been successfully designed and constructed using soil nailed system as an alternative to conventional retaining wall system.

The soil nailed system offers a viable and practical alternative solution to this project which made savings in cost and time possible, amounting to approximately RM 5 million in addition to having a more robust system and ease of construction. It is envisaged that more projects using the same system will be adopted in the future.

JACK-IN PILE IN MALAYSIA

Jack-in piles have been adopted in Malaysia since early 1990s. Currently, 600mm diameter spun piles with working load up to 3000kN have been adopted for high-rise developments up to 45-storeys.

PROS: (vs. bored piles)

- Low noise and vibration
- Faster foundation construction
- Better quality control
- Less pile damage and cleaner sites

CONS: (vs. bored piles)

- Strong and flat piling platform required
- Larger working area required
- Maximum pile size is limited
- Unable to penetrate intermittent hard layers/boulders



List of Recent High Rise Projects Using Jack-In Pile System



10 @Mont Kiara, 2 blocks of 45-storey condominium towers using jack-in spun piles with sizes ranging from Ø400mm to Ø600mm.



11 Mont' Kiara, 3 blocks condominium towers up to 43-storey high using jack-in spun piles with sizes ranging from Ø450mm to Ø600mm.



Mont' Kiara Banyan, 1 blocks of 32-storey condominium towers using jack-in spun piles with sizes ranging from Ø300mm to Ø450mm.



Mont' Kiara Aman, 2 blocks of 32-storey condominium towers using jack-in spun piles with sizes ranging from Ø350mm to Ø500mm.

G&P 13th ANNIVERSARY DINNER

70's NIGHT @ CROWNE PLAZA, KL

A WORD FROM OUR CEO

Ir. Dr. Gue See Sew:

Very good evening to all of you and welcome to our 13th Anniversary dinner of G&P. Special thanks to the family members of our Directors and staff for gracing this Annual Dinner.

We are now 13 years old and we rank No. 5 in the country in term of number of staff. All these achievements are the result of your commitment, dedication, hard work and loyalty to maintain our four core values – Structured QC, Structured R&D, Structured Training and Structured Sharing.

These core values make G&P different from other consultancy firms and have attracted many foreign companies wanting to cooperate with us. Recently, Samsung, through SGS has engaged us for a small project. More cooperations are expected.

We are still growing as you can see in the number of staff in the chart (shown at back). Today, we have 245 staff.

Dear Colleagues, to further strengthen our one-stop engineering consultancy services, we will introduce a new award with the aim to further improve the environment of innovation in G&P. It is called IDEAS. We want ideas from you including crazy ones. It could be anything and not necessarily related to our services. The R&D committee will screen the submissions monthly.

The IDEAS could then be developed into R&D projects for implementation. Let me give you some examples of IDEAS. For example, the improvement of Starbucks cup to prevent spillage. You can now brisk walk and drink. Another innovation for example, is the table that allows space below the table for storage. I am now looking for an expandable table. A table for five persons could be expanded to 10 when needed.

G&P Geotechnics has taken the lead and introduced three prizes for the best ideas to be awarded at our annual dinner beginning 2013. The Platinum IDEA is RM2,000. This is to encourage each staff to submit an IDEA per month.

I strongly will believe that this improvement of the R&D culture certainly made G&P scaling greater heights. With that note, I wish you have an enjoyable evening with the programme arranged for you by our hard working committee chaired by Ms. Lim Ting Ting. Let us thank the committee for their hard work.

THANK YOU!



G&P IDOL 2012

G&P Idol creates a platform for talented staff to show their potential in music, dancing, drama, etc.

Stunning performances presented by the staff brought a joyful and entertaining night to the audiences.



ENERGIZER NIGHT RACE 2012

Energizer Night Race 2012 was a charity run where RM10 will be donated to Kiwanis Malaysia for every successful registration.

There were 78 G&P's staff and their friends & families participated in this event.



LIST OF SOME RECENT PROJECTS

PROJECT TITLE	CLIENT
PROPOSED 39 STORIES SERVICE APARTMENT OF VIVO CITY, BANDAR PUTERI, SELANGOR	IOI Properties Berhad
SUMMARY OF PRACTICE & REQUIREMENT FOR CONTRACTOR TO TENDER FOR GEOTECHNICAL WORKS IN MALAYSIA	SGS Korea
CONSULTATION ON SILTATION AT SHIPYARD AND SETTLEMENT OF WAREHOUSE AT ZHOUSHAN ISLAND, CHINA	CNMy Construction (Shanghai) Ltd.
ALAM DAMAI HILL SITE RESIDENTIAL DEVELOPMENT (47 ACRES)	Guocoland (Malaysia) Berhad
PROPOSED '1 – COMMERCIAL SOUTH' ONE-STOP BUSINESS HUB @ PUTERI HARBOUR ON LOT CS1, JOHOR (12 ACRES)	Sunrise Incubation Sdn Bhd
SEISMIC HAZARD ASSESSMENT FOR 'PROPOSED PETRONAS REGASIFICATION TERMINAL AND LNG JETTY AT POIC PHASE 3B, LAHAD DATU, SABAH	POIC Sabah Sdn Bhd
GEOTECHNICAL FEASIBILITY STUDY FOR THE 'PROPOSED PARCEL 1, D'ESTUARY@PUTERI AT PUTERI HARBOUR, JOHOR' (241 ACRES)	UEM Land Berhad

PROJECTS HIGHLIGHTS

Klang Valley Mass Rapid Transit (MRT) - Sungai Buloh to Kajang Line

Project Introduction:

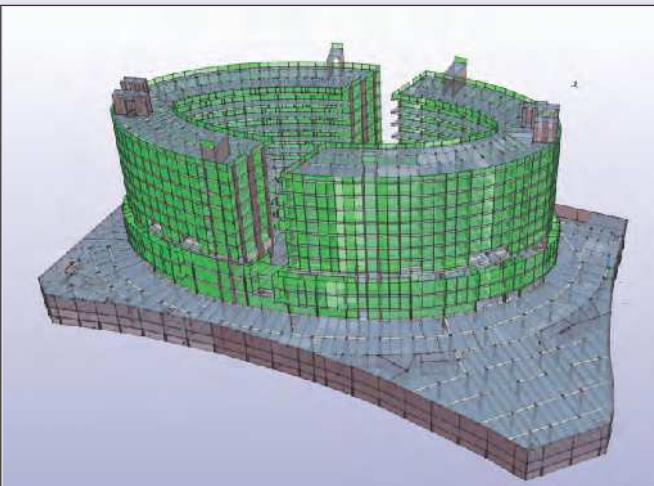
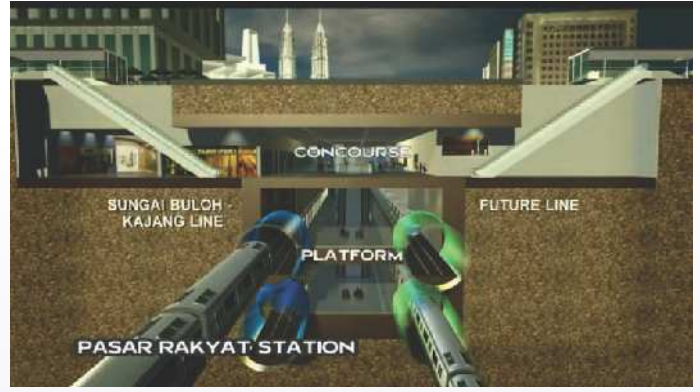
- Stretches 51km and has 31 stations
- Targeted to carry 400,000 commuters daily
- Works have begun in July 2011 and is expected to be completed by 2017

Scope of Works for G&P:

- Underground structures temporary works (about 3.3km long from Bukit Bintang to Maluri)
- Elevated structures foundation (about 5.5km long from Maluri to Phoenix Plaza)

Client : Mott Mcdonald (M) Sdn Bhd

Project Delivery Partner: MMC Gamuda KVMRT (PDP)
Sdn Bhd



Gamuda Biz Suites - Kota Kemuning, Shah Alam

Project Introduction:

- 64,000m² 10-storey reinforced concrete building
- 2 levels of basement car park, 3 levels of retail space and 7 levels of office space
- Proposed development to be built on existing foundation where possible
- The building is due for completion in 2014
- First and only integrated small office business suites complex complete with Retail and F&B in the area

Scope of Works for G&P:

- Full Civil & Structural, Geotechnical, Mechanical & Electrical engineering services

Client : Setara Hati Sdn Bhd (fully owned subsidiary of Gamuda Bhd)

CORPORATE PROFILE

G&P Professionals Group consists of the following specialist engineering consulting firms that provide a wide range of quality engineering services:

- G&P Geotechnics Sdn Bhd
- G&P Structures Sdn Bhd
- G&P Infra Sdn Bhd
- G&P Maritime Sdn Bhd
- G&P Claims & Contracts Sdn Bhd
- G&P Project Management Sdn Bhd
- G&P Water Sdn Bhd
- G&P R International (Cambodia) Co., Ltd.
- G&P Highways & Transportation Sdn Bhd
- G&P Dams & Water Services Sdn Bhd
- G&P Professionals (Sarawak) Sdn Bhd
- NGI - G&P Sdn Bhd
- ZED - G&P Sdn Bhd
- G&P Water (Singapore) Pte. Ltd.
- G&P - AA International Consultant Joint Stock Company, Vietnam
- G&P Professional (Sabah) Sdn Bhd
- G&P R&D Sdn Bhd
- G&P M&E Sdn Bhd
- G&P Special Structures Sdn Bhd

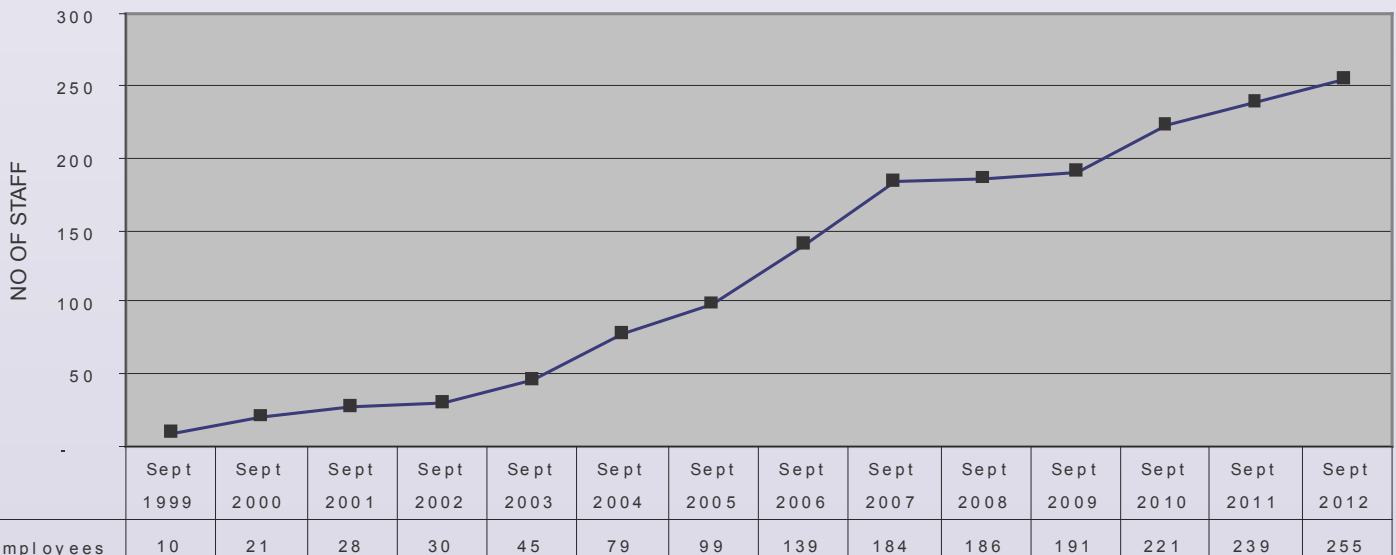
The Group has a fast expanding pool of highly qualified and experienced Geotechnical, Civil & Structural, Mechanical & Electrical, Infrastructure, Maritime, Water, Highways, Railways & Transportation and Dams Engineers, Engineering Geologists and technical support staff.

The Group has several associated organisations overseas where value added is further enhanced. The project activities are handled by the specialist within the Group that explores innovative and economical solutions tailored to the needs of the projects. Our research and development culture has ensured that our services are always at the forefront of world trends.

Associated Organisations



G&P PROFESSIONALS GROUP OF COMPANIES Staff Strength From September 1999 to September 2012



G&P Professionals Sdn Bhd

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