

Nehemiah *in Action*

The official newsletter of Nehemiah

June 2009

| From the Desk of Dr. Nehemiah Lee |

“Nehemiah in Action” Newsletter: Another Form of Wastage?



Communication is at the heart of every business success.

It is said that it is not possible to have human relations without communication. However, good and effective communication is required not only for good human relations but also for good and successful business.

Realizing the importance of communication, as a company, we have made an important resolution at the beginning of this year to further enhance our communication channel with our valuable clients. This newsletter published biannually will help to constantly update you on the latest development of the company and the industry as a whole.

But, does our effort in enhancing our communication channel end here with this newsletter? Of course not! As George Bernard Shaw said, “The greatest problem in communication is the illusion that it has been accomplished.”

We believe that communication can only take place when one party takes the initiative to communicate, and the other party makes the effort to respond.

Hence, as the Managing Director of Nehemiah Reinforced Soil Sdn. Bhd., I always welcome you to contact me at any time whenever you need my assistance. You can email me at nehelee@nehemiah.com.my.

Otherwise, you can either contact my

Senior General Manager, Ir Tan Chong Cheng

(mobile: **012 218 6693** email: tancc@nehemiah.com.my) or

General Manager, Jason Khor

(mobile: **012 288 0918** email: jasonklc@nehemiah.com.my).

Ir. Dr. Nehemiah Lee

Managing Director

| 15th Anniversary |



FIFTEEN GOOD YEARS

On the evening of November 7 last year, Nehemiah Reinforced Soil Sdn. Bhd. celebrated its 15th Anniversary at One World Hotel, Bandar Utama, where its managing director, Dr. Nehemiah Lee attributed the success of the company to the goodness of God.

Except for the first year, every other year was profitable, he told an audience of 600 invited guests, to whom he also expressed his heartfelt appreciation for their strong and unwavering support over the years. "Without you, we would not be where we are today," he said.

Although 2009 could be a tough and challenging year for the economy of the country, Dr. Lee said he hoped that the company would begin to venture overseas into countries like Australia, India, Hong Kong, Sri Lanka and Vietnam.

Dr. Lee also took the opportunity to respond to one question that was asked – "When is the company going public listing?" Apparently, guests had heard it over the radio that Nehemiah Reinforced Soil was planning to go for public listing. In response, Dr. Nehemiah Lee immediately qualified the statement by emphasizing that public listing would be done "when the time is right."

The dinner was followed by Nehemiah's first international technical conference held the next morning. It was attended by Nehemiah's partners from various countries. Various issues were discussed during the conference followed by country reports.

In a more recent development, the company was also awarded the BrandLaureate – SMEs Chapter Award 2008 by the Asia Pacific Brands Foundation during an awards presentation held at Shangri-La Hotel this evening. Dr. Lee said this was the best gift for the company's 15th Anniversary. "It is also a timely recognition of our employee's hard work living up to the brand aspirations of Nehemiah Reinforced Soil," he said.

Two of the company's brand promises include Proven Technology and Cost Effectiveness. "With our cost effective and proven technology using modular hexagonal shaped concrete panels, a highway ramp can be constructed in less than half of the time required to build the same ramp using the conventional reinforced concrete wall or viaduct," he said. "The cost savings without compromising on safety of the completed reinforced soil structures is achieved through R&D which brings about innovation in design and construction."

The company, which has patents for the Nehemiah Wall in several countries including Malaysia, Korea, India and Australia, has seen an organic growth of 25% growth in the past five years. While the construction industry is expected to soften in the next two years, Nehemiah is confident that it will be able to weather the storms, while focusing on its overseas market using a Malaysian technology.



PROJECT UPDATE

1. Duta-Ulu Klang Expressway (DUKE)

Client: Lembaga Lebuhraya Malaysia (LLM)
Concession: Konsortium Lebuhraya Utara -Timur (KL) Sdn Bhd (KESTURI)
Consultant: Zaidun Leeng Sdn Bhd & Maunsell (M) Sdn Bhd
Completion : Feb 2009



Overview

Duta-Ulu Klang Expressway (DUKE) is an 18km expressway provides the "missing link" connecting Jalan Duta Interchange of New Klang Valley Expressway, Karak Expressway and the Taman Hillview Interchange on the Middle Ring Road (MRR2) in Ulu Klang. Nehemiah wall was extensively used to construct the embankment walls and the abutments to support the bridge. A total of about 40,000.00m² of Neheimah wall was erected in this project. The maximum height of the wall was 16.6m.



2. KL- Putrajaya Expressway

Overview

The Kuala Lumpur – Putrajaya Expressway, or now known as Maju Expressway (MEX), links Kuala Lumpur City Centre with the Federal Administrative centre of Putrajaya. The total length of the expressway is about 26km. It will eventually be linked to the Multimedia Super Corridor (MSC) of Cyberjaya and the Kuala Lumpur International Airport (KLIA) in Sepang, Selangor.

Client: Lembaga Lebuhraya Malaysia (LLM)
Concession: Konsortium Lapangan Terjaya Sdn Bhd
Consultant: HSS Integrated
Completion : 2008



This expressway also provides regional connectivity between the Middle Ring Road 1 at Jalan Tun Razak as well as the Middle Ring Road 2 via the Shah Alam Expressway. The regional connectivity is also intended to relieve traffic congestion and act as traffic dispersal for the commercial centre of Kuala Lumpur.

There are 5 interchanges:

- (i) Kg. Pandan Roundabout Interchange
- (ii) Salak South Interchange
- (iii) Kuchai Lama Interchang
- (iv) Bukit Jalil Interchange
- (v) Putrajaya Utama Interchange

Nehemiah invovled in 4 packages out of total 6 packages. A total of about 20,000 m² of Nehemiah wall was erected in this project with a maximum wall height of 18.0m.



NEHEMIAH IN THE NEWS

How did Nehemiah Reinforced Soil begin?

The company was incorporated in 1993 and was co-founded by my late partner, Eugene Oh, and I. Eugene was also a civil engineer and we worked on the Nehemiah Wall design together. When we felt we had something viable, we incorporated the company, printed our first brochures and went door to door. Today, we have also launched two smaller products, the GreenMur reinforced slope geotextile system, and the segmental wall reinforced soil system that's suitable for lower walls where aesthetics are important.

- *Manager@Work (The Edge)*

It's all about space creation and slope protection

Nehemiah Reinforced Soil Sdn Bhd (Nehemiah), a specialist subcontractor involved in infrastructure development, has made a breakthrough in space creation and slope protection via its homegrown Nehemiah Wall technology.

"We are in the business of space creation," enthuses Dr Nehemiah Lee, the patent holder of Nehemiah Wall and Managing Director of Nehemiah, which recently celebrated its 15th anniversary.

- *(Malaysian Business, Jan 1, 2009)*

Environmental Preservation with Reinforced Soil Technology

As global warning becomes a serious concern, many are starting to realise the consequences of overdevelopment. Only a few months ago, development on slopes became such a hot topic that it lead to the launch of a public forum on the issue.

Very recently, disaster struck again when a number of people were killed in a landslide.

Is it inevitable that we have to pay the price of development on hill slopes with innocent human lives? Can technology minimize or even prevent the occurrence of such tragedies in the future? Can this technology also be used to minimise pollution and

protect the environment? Jurutera seeks the answers to these questions from Engr. Dr Nehemiah Lee Chee Hai, MIEM, P.Eng. Managing Director of Nehemiah Reinforced Soil Sdn Bhd.

- *(JURUTERA, Jan issue, 2009)*

KUALA LUMPUR, Nov 6

Home-grown company, Nehemiah Reinforced Soil Sdn Bhd is aiming for a listing on Bursa Securities in the next few years.

"We plan to raise capital through the capital market when time permits. At the moment, every market seems volatile," its managing director, Dr Ir Nehemiah Lee told Bernama recently. - *Bernama*

KUALA LUMPUR, Nov 7

Nehemiah Reinforced Soil Sdn Bhd aims to raise revenue contribution from overseas operations to 30 percent over the next three years from about 10 percent currently based on its expansion plan.

Chief executive officer Dr Nehemiah Lee said it was time for the company to focus its resources on expanding into overseas markets such as Australia, India, Hong Kong, Vietnam, Sri Lanka, Bangladesh, Kazakhstan and Pakistan. - *mySinChev.com*

KUALA LUMPUR, Dec 9, 2008

Most landslides are preventable and Malaysia already has the expertise to drastically reduce the frequency of such incidences, says Dr Nehemiah Lee, a geotechnical engineer and authority on reinforced soil techniques.

Geotechnical engineering is a branch of engineering specialising in assessing the stability and strength of soil and rock materials, as well as groundwater conditions. - *The Sun*

Overcoming Construction Challenges of Time Constraint

- A Case Study of Project Kuantan Interchange

By Joel Lim, project manager, Nehemiah Reinforced Soil Sdn Bhd

Project Kuantan Interchange

Consultant:
Mohd Asbi & Associates Sdn Bhd
Main Contractor:
MTD Construction Sdn Bhd.
Date started: 26 March 2007
Date completed: 16 May 2007
Total erected wall area:
about 4500m².

Introduction

Kuantan Interchange project is a part of the Lebuhraya Pantai Timur 2 (LPT 2) near Kuantan, Pahang. Following an embankment failure in the interchange heading towards Gambang town in 2007, the client, MTD Bhd chose Nehemiah wall system to reconstruct the said trumpet interchange.

Nehemiah wall was designed based on BS 8006: 1995, and the maximum height of the wall was 13m. The layout of the wall, similar to a curve ramp up, with a length of 233m on each side and the maximum tendon length was 9m. The foundation of the wall was piled with reinforced concrete slab. The single biggest challenge for this project was to reconstruct the whole embankment in four months in order to reduce the traffic disruption due to road closure.

Construction Sequence

While site casting was done for the required panels, the earthwork contractor also started the excavation work simultaneously. We decided to start our work from Ch 233 downwards to Ch 0. Eight excavators with twelve dumptrucks were mobilized to site to cut the platform.

They were divided into two groups. Each fleet of machineries would cut, transport and trim both sides of the embankment simultaneously. After three weeks, two sets of piling machines started the piling work. Each piling frame would pile from centre of ramp towards the side. When all the pile points were completed for a ten meter stretch, the Reinforced Concrete (RC) slab contractor began slab casting progressively.

By March 26, when our project was about to begin, we had already mobilized a crane, a backhoe and six workers to the site. To shorten project turnover time, while the panel installation work started from the platform next to RC slab using crane, the backfilling job was done simultaneously on the RC slab.

The first stage of work was to transfer the panels from stockpile to the platform on both sides of the RC slab using dump trucks and backhoe. Then the crane hoisted and installed the panels onto the RC slab following the wall alignment on each side of the wall before continuing with the other.

After one hour, the backfilling contractor started his work on one side of the platform. About twelve panels were installed daily for the first layer of panels, as adjustment had to be made between the uneven surfaces of the slabs and panels.

Excavation work was in progress to prepare the platform



“Nehemiah wall...shortened the construction period by offering speedier and tidier means of constructing a retaining wall that has successfully helped the client to complete the entire works in 52 days.”

Backfill material was subsequently transported using dipper lorries, and directly discharged onto the platform before being spread using backpushers. During the initial stage, about 25 loads of backfill material was needed to fill the entire 30m length of platform and two units of backpusher were at site to expedite the leveling of backfill material. The roller compactor was always on stand by to compact the platform.

Two hours later, all the workers started fixing the reinforcement bars. Another two hours later, one more layer of backfilling work was carried out to cover the tendon bars before installing the second layer of panels. All the above work, which was carried out by several contractors, had to be well-coordinated to avoid minimum disturbance and one party had to immediately start work when the other party had substantially completed their part.



Panel installation and backfilling work is implemented simultaneously

Work progressed, and the construction of Nehemiah wall was carried out, after more completed RC platform were handed over to us. Whenever the crane was occupied with installation, the backhoe was used to shift the required material for installation, particularly panels from casting yard to the platform on both sides of the wall to complement the work. The well-planned and well-maintained access road that facilitates the material delivery to the working platform was vital to ensure continuous supply of material.

The output of crane installation ranges from about 12 panels during the initial stage to a peak of 38 panels a day. This could not be achieved without the capacity and efficiency from the backfilling contractor who had to ensure the consistency of backfill material supply from 25 loads to 100 loads per day.

Apart from that, daily site meeting was also held daily to discuss the coordination of work to avoid obstruction to each other's work. The number of workers was also increased to ten, to accommodate the volume of work and they also worked for extended hours until 10pm on most occasions to catch up with the progress. When the top panels were installed, the wall was handed by section to other contractors to commence their work.

The speed of Nehemiah wall construction is faster than the conventional reinforced concrete wall. This is because all of the components are prefabricated and it is considered finished surface when they are installed. It is definitely faster than the time taken to tie reinforcement and fix the formwork for the concreting of the reinforced concrete (RC) wall. In addition, backfill materials could be spread immediately after the panel installation as no curing time is needed compared to the RC wall. Therefore, Nehemiah wall is very suitable for fast track projects like the above. It shortened the construction period by offering speedier and tidier means of constructing a retaining wall that has successfully helped the client to complete the entire works in 52 days.



The completed Nehemiah wall at Kuantan Interchange

| 15th Anniversary |



BrandLaureate Award

On January 9, Nehemiah Reinforced Soil Sdn Bhd was awarded the BrandLaureate – SMEs Chapter Award 2008 by the Asia Pacific Brands Foundation during an awards presentation held at Shangri-La Hotel.

Its managing director, Dr. Nehemiah Lee, who received the award on the behalf of the company, said it was timely that the company received the BrandLaureate on its 15th Anniversary. "It is the best gift for a new year. It is also a timely recognition of our employee's hard work living up to the brand aspirations of Nehemiah Reinforced Soil," he said.

Two of the company's brand promises include Proven Technology and Cost Effectiveness. "With our cost effective and proven technology using modular hexagonal shaped concrete panels, a highway ramp can be constructed in less than half of the time required to build the same ramp using the conventional reinforced concrete wall or viaduct," he said.

"The cost savings without compromising on safety of the completed reinforced soil structures is achieved through R&D which brings about innovation in design and construction."



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