

WEBINAR TALK ON INNOVATIVE COST EFFECTIVE LONG SPAN BRIDGE DESIGN AND TECHNOLOGY

29 SEPTEMBER 2022 | 3.30 PM-5.30 PM

BEM Approved CDP: 2 Hours Ref. No.: IEM22/HQ/333/T(w)

Synopsis

Nehemiah Towoong Bridgetech Sdn Bhd in collaboration with Institute Engineers of Malaysia is honored to present a webinar on "Innovative cost effective long span bridge design and technology". Designing and constructing an ideal bridge structure that is cost effective, meets functional needs and comply to various codes of practice demands expertise, knowledge, skills and innovation in various aspects of engineering. This webinar provides a holistic overview of the latest innovation in cost effective long span bridge technology that encompass a wide spectrum of topics. It provides insights on some very interesting topics such as dynamic analysis of girder for high speed train, cutting edge beam design concepts and considerations for an expressway, construction, applications and advantages of long span BH girder. These pertinent subjects are very relevant to the rapidly evolving bridge construction industry. This webinar will also feature an expert in the field of bridge engineering from South Korea, who will be sharing her expertise and forte. This webinar endeavors to disseminate knowledge and experience as well as create a platform to foster the transfer of know-how and stimulate interaction within the bridge engineering fraternity through the Q&A session.

In this session, the webinar would be split into three sessions. The topic would be discussed and shared is as follows:

Session 1: "Dynamic Analysis of BH girder for High Speed Train"

By **Dr. Yoon HyeJin**

Senior Researcher

Korea Institute of Civil Engineering and Building Technology, South Korea

This presentation introduces the dynamic responses of railway bridges. Railway bridges can cause dynamic problems because they suffer repetitive load due to the running train. In order to ensure the dynamic stability, railway bridges must thus satisfy thorough vibration limits as well as vertical deflection limits. This presentation introduce the Korean railway design code and moving load analysis and its result in consideration of BH girder

Session 2: "Design of Long Span Girder for Setiawangsa Pantai Expressway"

By **Ir. Anbarasan G. Iruan**

Associate Director in Bridge Structures

MMSB Consult Sdn Bhd

Nehemiah BH girder was first introduced in Setiawangsa Pantai Expressway project. BH girder is in fact a combination of Bulb T section with Half Slab. The length of the span with BH girder ranges from 55 to 65m and beam length ranging from 53 to 60m. Being a new section to be introduced in Malaysian Highways, the BH girder section was reviewed by individual consultants of the project and received LLM approval.

The BH girder has been used in Section 1 and Section 3 of the project. The use of BH girder mainly dictated by site constraints such as the presence of SMART Water Tunnel on Section 3 alignment, TNB 132kV HDD power cable and difficulty to have piers in front of other properties.

The BH girder offered a good alternative to overcome the site constraints by stretching the conventional beam slab spans from maximum 40m to 65m. This presentation will cover various aspects of design, compliance to codes of practice and other considerations when designing long span bridge for SPE etc.

Session 3: "Construction, Applications and Advantages of BH Girder"

By **Ir. Tan Cheng Chong**

Executive Director

Nehemiah Towoong Bridgetech Sdn Bhd

BH girder, an innovative long span prestressed precast concrete bridge girder is set to revolutionize the construction of highways, bridges and river crossings. Nehemiah Towoong Bridgetech Sdn Bhd who owns the patent rights for BH girder was recently awarded by the Malaysia Book of Records for the supply of the longest T-shaped prestressed concrete beam in Malaysia, at a length of 63.11 metres. Using the BH girder enables bridge piers and portals to be spaced further apart as compared to using the conventional beams of 40 metres. Hence, intermediate piers and portals can be omitted, translating to significant construction time and cost savings of up to 30%. The BH girder is also ideal for river crossings. By applying the BH girder for a single span river crossing, a mid-river pier can be eliminated thereby saving construction time and cost besides maintaining the river discharge capacity.

The BH girder's rising popularity and increasing use is attributed to its many advantages such as cost effectiveness, speed of construction, durability and other socio-economic benefits such as minimizing traffic flow disruption in urban areas. This technology, which originates from South Korea has been generating much interest in the bridge construction industry not just in Malaysia but also around the region.

Speaker's Biodata

Dr Hyejin Yoon graduated with a Bachelor and Masters degree in Structural Engineering from Sungkyunkwan University of South Korea in 2001 and 2003 respectively. She is currently attached with Korea Institute of Civil Engineering and Building Technology as a Senior Researcher. Her forte and passion is related to research and development in the structural engineering field. She also holds a Ph.D on Structural Engineering from Seoul National university of South Korea.

Since 2003, Dr Hyejin Yoon has been conducting research on concrete structural engineering at the Korea Institute of Construction Technology, the only national research institute in the construction sector in Korea.

She has conducted various research related to design/performance evaluation/development of construction technology for major members of bridges (floor plate, girder, pylon, bearing, expansion joint etc), concrete wind tower, LNG storage tank etc. She is also the author of Korea's Bridge Design Standards



Dr Hyejin Yoon

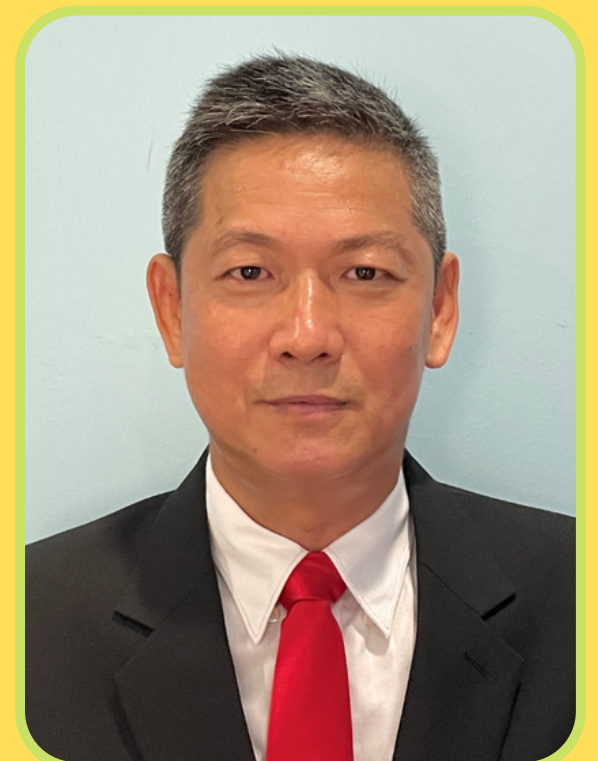


Ir. Anbarasan G. Irusan

Ir. Anbarasan is a Professional Engineer with Practising Certificate (P. Eng), Member of Board of Engineers Malaysia (BEM) and Corporate Member of Institution of Engineers Malaysia (IEM). He is currently holding a position of Associate Director in Bridge structures in MMSB Consult. He graduated with B. Eng (Hons) Civil Engineering from Universiti Teknologi Malaysia, in the year 2000. He joined MMSB Consult the same year upon graduation as a Bridge Engineer. He has over 21 years of experience in bridge engineering. He has involved in the analysis, design, design optimisation, value engineering, independent checking and project management for various types of bridges from inception level to completion.

Ir. Tan is the Group Executive Director of Nehemiah group of companies, a specialist contractor with diversified business interests such as reinforced soil retaining wall, prestressing, long span girder and geosynthetics. His roles and responsibilities encompass the overall management of the company which has presence in countries such as Malaysia, Singapore, Brunei, India, Bangladesh and Sri Lanka. He is a Corporate member of the Institution of Engineers, Malaysia (MIEM) and is also registered as a Professional Engineer with the Board of Engineers, Malaysia (BEM).

Ir. Tan graduated from the National University of Singapore in 1992. With 30 years of vast experience in the construction industry, he has developed his core expertise in the field of reinforced soil wall and precast structures. In 2017, the Nehemiah group of companies diversified into the field of super long span bridge girders called the BH girder, by forming a new company called Nehemiah Towoong Bridgetech Sdn Bhd. Ir Tan was tasked to lead and head this new start up as its Executive Director. Nehemiah Towoong Bridgetech Sdn Bhd has designed and supplied more than 400 long span BH Girders since its inception.



Ir. Tan Cheng Chong

Registration fee

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