

Ecobuild SEA 2018 Seminar



Date: 29th March 2018 (Thursday)

Time: 12.10 p.m. - 1.10 p.m.

Title: Steel Construction of Golden Bridge
in Sarawak and SPICE Convention

Venue: Room 2 KL Convention Centre

Speaker Profile

Chew Kai Seng is a Structural Engineer working with Sediabena Sdn. Bhd. He obtained his Master's degree in Structural Engineering and Bachelor of Commerce (Accounting major) from the University of Melbourne. He is currently pursuing his PhD at University Sains Malaysia (USM) with a focus on folded plate structures. With several years of experience working in the steel construction industry, he has been involved in most of industry's life cycle which include technical design, contracting, procurement, fabrication, project management, erection planning and value engineering. He is currently a Graduate Member of the Board of Engineers Malaysia (BEM) and an Associate Member with the Certified Practising Accountant (CPA) Australia. He has currently made 2 publications with the recent being featured in Footbridge Berlin 2017.

Synopsis

This presentation highlights the design and construction challenges faced during the planning and execution phase of the Golden Bridge (which is now named the Darul Hana Bridge) with a focus on the primary steelwork and cable installation. With a total length of 300m and a maximum clear span of 120m, this unique cable-stayed pedestrian footbridge features two inclined towers and an S-shaped walkway which are made using steel. The Golden Bridge highlights the collaborative effort among the state government, architect, engineers and builders to create an iconic landmark in the city of Kuching. The design of this iconic bridge incorporates various key aesthetic features that are local and unique to the city of Kuching. These features add to the complexity of the bridge in terms of design and construction which brings about various challenges that had to be overcome. Some of the challenges faced are mitigation of the dynamic response of the bridge under pedestrian induced vibrations, site constraints, working over a river, access for workers, cable tensioning and the required precision of steel fabrication. The construction of the Golden Bridge made use of an efficient project execution plan that minimizes construction risks of working on the Sarawak River. The entire construction sequence was analysed to ensure the integrity of the execution plan and to identify potential critical members that require temporary reinforcements during installation. From the initial conceptual design, the Golden Bridge has evolved to what it is today which is evidence of a successful collaborative work among various disciplines.