

SECOND PENANG BRIDGE PROJECT

INTRODUCTION

Jambatan Kedua Sdn Bhd (JKSB), a wholly-owned company of the Minister of Finance, Incorporated (MoF Inc.) was appointed as the concessionaire for the Second Penang Bridge Project in August 2008.

JKSB is responsible for the construction, management, operation and maintenance of the bridge.

The Second Penang Bridge which connects Batu Kawan on the mainland and Batu Maung on the island, when completed, by November 2013 will be the longest in South-East Asia with the total length over water of 16.9km. The total estimated construction cost is RM 4.5 billion.

The bridge will improve trade efficiency and enhance logistics system by providing better connectivity and accessibility to the Penang International Airport, boosting economic growth in Penang.

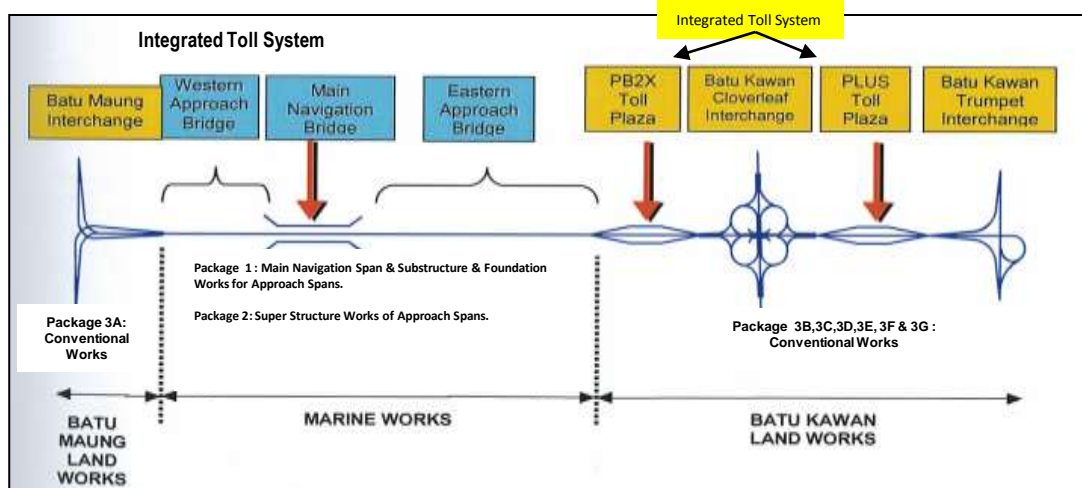
PROJECT PARTICULARS

PKG	PROJECT DESCRIPTION	CONTRACTOR	PROJECT COST (RM MIL.)
1	Main Navigation Span And Substructure And Foundation Works For Approach Spans	CHEC Construction (M) Sdn Bhd	2,200
2	Superstructure Works of Approach Spans	UEM Builders Bhd	1,550
3A	Batu Maung Interchange	Cergas Murni Sdn Bhd	152.7
3B	Batu Kawan Expressways	IJM Construction Sdn Bhd	349.9
3C	Batu Kawan Trumpet Interchange	HRA Teguh Sdn Bhd	67.3
3D	Toll Plaza, Administration Building And Related Works	S.U Citra Bina Sdn Bhd	79.8
3E	Toll Collection System	TERAS Teknologi Sdn Bhd	14.97
3F	Traffic Control And Surveillance System	Itramas Technology Sdn Bhd	19.8
3G	Electrical Installations	TN Synergy Sdn Bhd	13.38
Total			4.5 billion

INFORMATIONS

• Length of Bridge	16.4km
• Length of Expressway	7.1km
• Lane Configuration	Dual 2 traffic lanes and 1 motorcycle lane each direction.
• Construction method: Approach Spans	Pre-cast Prestressed Segmental Box Girder P0 to P24 = 24 span x 55m = 1,320m. P27 to P292 = 265 span x 55m = 14,575m.
Main Span	Cast in-situ Cable-Stayed Bridge P24 to P27 = 117.5m + 240m + 117.5m = 475m.
• Navigational Channel	Width Clearance :150m Height Clearance : 30m
• Other Spans	Height Clearance : 6m

OVERALL LAYOUT



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MASTER IMPLEMENTATION PROGRAMME – REVISION 02

Description	Contract Period			2008	2009	2010	2011	2012	2013
	Mth	Start	Finish						
Overall Construction Period:	60	8-Nov-08	8 Nov-13	[Gantt bar]					
Pkg 1 - Main Navigation Span & Substructure & Foundation Works for Approach Spans	57	8-Nov-08	24-Jul-13	[Gantt bar]					
Pkg 2 - Superstructure Works of Approach Spans	52	8-Jun-09	8-Sep-13	[Gantt bar]					
Pkg 3A - Batu Maung Interchange	31	19-May-10	31-Mar-12	[Gantt bar]					
Pkg 3B - Batu Kawan Expressways	39	28-Jun-10	28-Sep-13	[Gantt bar]					
Pkg 3C - Batu Kawan Trumpet Interchange	35	19-May-10	30-Apr-13	[Gantt bar]					
Pkg 3D - Toll Plaza, Administration Building and Related Works	20	15-Nov-11	15-Jul-13	[Gantt bar]					
Pkg 3E - Toll Collection System	18	1-Jun-12	31-Aug-13	[Gantt bar]					
Pkg 3F - Traffic Control and Surveillance System	17	26-Jun-12	25-Jul-13	[Gantt bar]					
Pkg 3G - Electrical Installations	44 wks	26-Sep-12	30-Jul-13	[Gantt bar]					

PROJECT ALIGNMENT



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PROJECT ALIGNMENT – BATU KAWAN EXPRESSWAY & TRUMPET INTERCHANGE



PROJECT ALIGNMENT – BATU MAUNG INTERCHANGE



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SIGNIFICANT PROJECT MILESTONES

- The bridge is set to be the longest in South East Asia with the total length over water of 16.9km.
- The bridge will be the longest bridge in the world that incorporates the High Damping Rubber Bearing (HDRB) which provides an effective seismic isolation system.
- The first bridge in Malaysia utilizing the seismic expansion joint system which allows for movement from earthquake activity with fixed and movable options.
- The Cable Stayed Bridge bored pile design of 2.3m diameter is among the deepest in the world at a depth of 130m.
- The Statnamic Load Test carried out for the bored pile was among the largest in the world at 54 MN.
- The Toll Plaza building is designed to achieve Platinum rating criteria of 87% Green Building Index (GBI) which will be the first in Penang.
- The building also incorporate 80% IBS components that minimize environmental disturbance while maintaining high quality and aesthetical aspect as well as adopting fast construction concept.
- The land expressway is designed based on 100% earthwork compaction with removal of surcharge requirements to achieve 100% primary consolidation and 50mm settlement in 20 years, providing minimal maintenance of the highway.

SIGNIFICANT ACHIEVEMENTS FOR YEAR 2011

- The construction of the Second Penang Bridge has achieved 70% at the end of 2011, with 3.5% or 1.5 months ahead of schedule.
- Total 552 number (96%) of piers for the Approach Span has been completed and the remaining 26 piers are targeted to be completed by February 2012.
- The production of the Segmental Box Girder has achieved a total of 3,280 numbers (40%) whereby 2,310 numbers (29%) have been erected.
- Issuance of ex-gratia payment amounting to RM 6.685 million to 3,011 fishermen, cockles breeders and aqua breeders on 24 October 2011 as part of the settlement to their claim of being affected by the construction of the Second Penang Bridge.

TARGET ACHIEVEMENTS FOR YEAR 2012

- Structural completion of Batu Maung Interchange and access for the finishing work for the cable-stayed bridge as well as partial access from Batu Kawan up to Pier 179 (6.2 km).
- Completion of the Pylons for the cable-stayed bridge.
- Remaining works packages for Traffic Control & Surveillance System, Toll Collection System & M&E Works for P3A & P3C is expected to be tendered between February 2012 and April 2012.
- Completion of embankment fill works for Package 3B and 3C excluding surcharge.
- To encourage the transfer of technology, JKSB has planned for the involvement of 100 students from the local higher learning institution to participate in the industrial training programme in the year 2012.
- Based on the current performance, JKSB targets to achieve 90% progress by end of 2012 and expects the bridge can be opened to public by November 2013.

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ARTIST IMPRESSION

