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# Hakkou Bridge

A beautiful white bridge crossing the famous Uji River

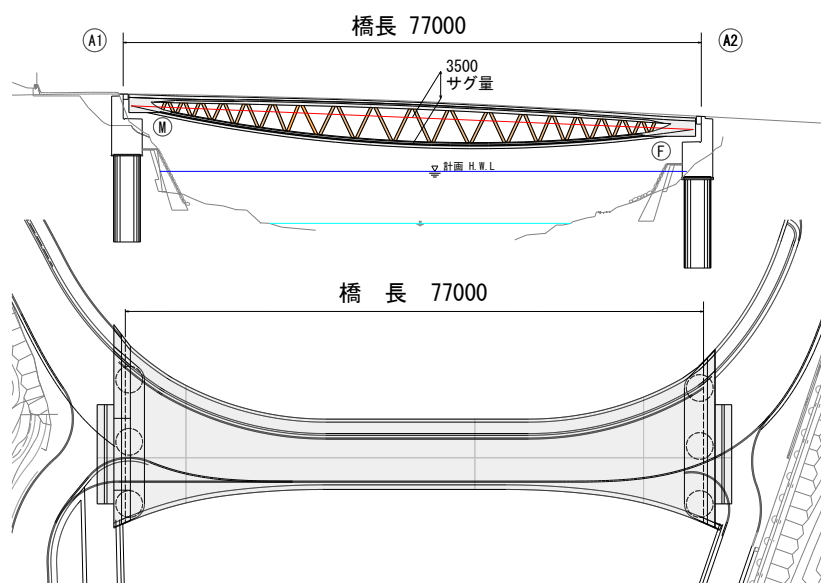


Client	: Japan Ministry of Land and Transportation
Project Site	: Uji City, Kyoto
Completion Year	: 2016
Bridge Length	: 77m
Bridge Type	: Self Anchored PC Suspended Deck Bridge (PC integrated truss bridge constructed with suspended superstructure method)
Width	: 9.23m
Amount of Sag	: 3.5m
Construction Method	: Suspended Superstructure Method
Design Load	: A-type live load
References	: Bridge and Foundation Engineering March 2017 Issue and Journal of Prestressed Concrete No.1 2018

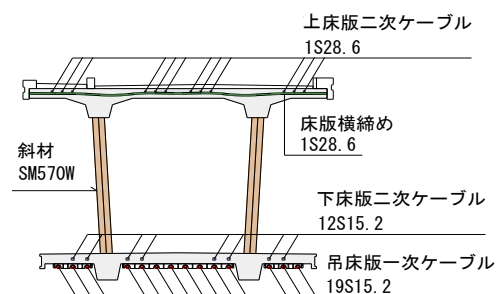
This elegant bridge was built directly below the Amagase Dam on the Uji River in Kyoto. A bridge length of 70m or more is required to cross the river and piers cannot be installed due to the dam location above. Furthermore, due to the nearby mountains nearby the riverbanks, use of heavy machineries and equipment is not viable. Consequently, a suspended deck erection method that can be executed with a smaller equipment was adopted. Although it has a suspended deck structure with a large sag at the time of construction, the vertical alignment required to connect the bridge to the main road was fulfilled by installing a stiffening girder. The truss structure is composed of weather resistant square steel pipes attached on the gap between the suspended deck slab and the stiffening girder. The temporary anchor base of the suspended deck was disconnected after the stiffening girder is completed, allowing the bridge structure itself to be self-anchored and stabilized. Precast segments were used for the suspended deck and the stiffening girders, reducing on-site workload. Since the shape of the suspended structure changes gradually as the structure constantly sustain the load, this bridge was also constructed by fixing each member while anticipating the final form of the bridge.

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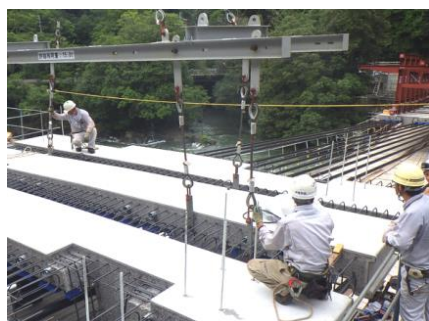
General View



Cross Section



Preliminary Cable Installation



Lower Slab Installation



Inner Scaffolding Assembly



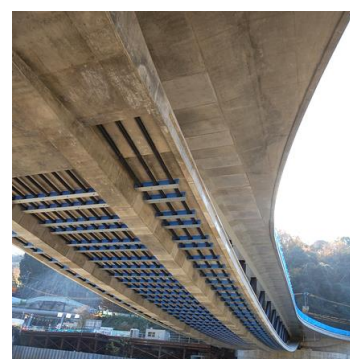
Upper Slab Installation



Innert View of The Girder and The Squared Steel Pipe Providing Diagonal Support



Side View of The Bridge



Bottom View Depicting the Cable and The Saddle