

Lok Ma Chau Loop ST01 Viaducts

CLIENT: China Road and Bridge Corporation

LOCATION: Hong Kong

YEAR OF COMPLETION: 2024

This project is part of the new development of Lok Ma Chau Loop and aims at providing engineering infrastructure works supporting the development of the new HK-Shenzhen Innovation and Technology Park. This project features a prestressed concrete box girder viaduct ST01 to be constructed over the busy existing road.

We were appointed by the main contractor as their designer to provide permanent works design, erection engineering and temporary works design for Bridge ST01.

The solution adopted in our design uses Design for Manufacturing and Assembly (DfMA) concepts, with full-span pre-assembled deck units erected over the existing roads by Self Propelled Modular Transporters (SPMT), such that each span can be completed within a single night shift. This considerably reduced traffic disruption and substantially improved the overall deck construction programme.

We also provided the BIM services for the construction stage, including spatial validation and clash detection.

KEY FACTS:

- Detailed bridge design
- DfMA with full-span pre-assembly
- SPMT to erect full-span deck
- BIM and digital methods

