

UTRACON STRUCTURAL SYSTEMS PTE LTD

UPGRADING OF BRADDELL INTERCHANGE – LTA CONTRACT ER 141

THE STRUCTURE

The project involved the construction of a new dual carriageway at the Braddell Interchange. The single cell precast box girder measures 10.8m at its flange, and typically has a depth of 2.1m. The webs are post-tensioned with internal tendon units 06-7s and 06-12s, while the external continuity tendons are of 06-19s.

CONSTRUCTION METHOD

As construction work of the new bridge is to take place over existing roads, the Contractor has opted to construct the bridge via precast segmental balance cantilever method, with road closures at night to facilitate the transportation and installation of precast segments.

Precast segments are delivered to the launching site by trailer after road closure. Prior to launching, epoxy glue will be applied on the match-cast surface of the precast segment. The segments, which typically weigh approximately 50 ton, will then be hoisted into position by either a 500 ton capacity mobile crane, or by a mechanical winch mounted on USS's lifter frame.

When the precast segment is aligned both horizontally and longitudinally, it will be stressed against previously installed segment using 36mm dia. prestressing bars.

Owner	:	Land Transport Authority
Main Contractor	:	Sato Kogyo (Singapore) Pte Ltd
Construction Period	:	April 2006 – February 2008



Once the prestressing bars are fully stressed, the crane / winch will be disengaged from the precast segment, and the stressing of permanent internal tendons will then be carried out.

UTRACON'S INVOLVEMENT

Our scope of works involved the following :

- Installation of precast segments by lifter and crane.
- Temporary stressing (using Dywidag prestressing bars) and epoxy gluing of precast segments.
- Post-tensioning works (internal and external tendons) for precast segments and in-situ T- Girders.

