

CHECKED INTEGRITY OF PAMBAN BRIDGE, RAMESHWARAM, TAMILNADU.

TRANZ RAIL SOLUTIONS



CASE REFERENCE: 383/CS/2019-2020/PAMBAN-BRIDGE

BRIEF:

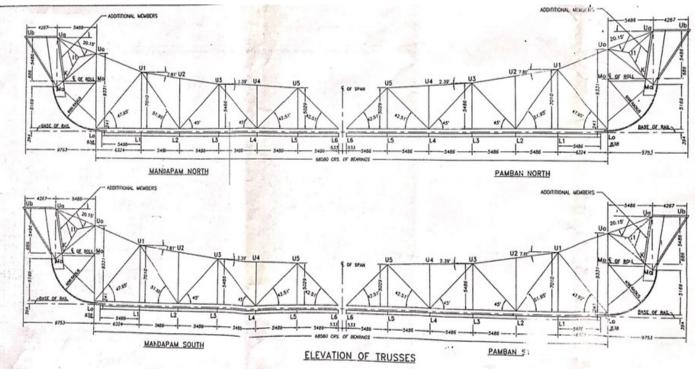
The Pamban Bridge is 2057m long consisting of 145 clear span of 12.20m and one rolling lift clear span of 65.23m. The lift span is named after the German Engineer Scherzer who designed and executed the bascule Rameshwaram islands. Opened on 24th February 1914, the Pamban Bridge was India's first sea bridge, and was the longest sea bridge in India until the opening of the Bandra - Worli Sea Link in 2010.

The location of the bridge exposes it to a highly corrosive environment. The corrosive environment induces sectional losses in the bridge members thus necessitating continuous monitoring and maintenance. Genstru Consultants Pvt. Ltd. (Genstru) were approached by M/s Tranz Rail Solutions to provide consultancy services for inspection of the main span of the bridge (Scherzer Span) with the objective of investigating the probable loss of useful section of bridge members that has been covered by paint.

Duration: March, 2019 – July, 2019 **Contractor/ Client:** Tranz Rail Solutions **Location:** Rameshwaram, Tamilnadu, India.

Role of Genstru: Structural Consultant to Tranz Rail Solutions





Pamban Bridge - Scherzer Span, Rameswaram, Tamilnadu

Main Deliverables:

- a) Reviewing the details/ data received from the client for the structure.
- b) Checked the structural sufficiency by visual inspection and by flying the UAV over the bridge.
- c) To take material samples from members, connection plates, rivets and bolts (i.e. maximum 10 random samples) to check structural evaluation.
- d) Conducted Non Destructive Testing (NDT) as Corrosion Resistant test, Poisson's Ratio test, Yield Strength, Ultimate Tensile Strength, Young's Modulus and some chemical testing (Carbon, Sulphur, Phosphorus, Niobium, Vanadium, Boron, Titanium etc.) on structural component of the bridge.
- e) To note any damages, condition of welding, sharp internal corners, loose fixing etc.
- f) Provided detailed report on structural sufficiency including suggestion on possible retrofitting measures to make the structure energy efficient.