

Title: Assessment of structural adequacy of RDSO's standard plate girder of 12.2m constructed Bridge No. 248 and recommendations for retrofitting of superstructure of bridges (if any), ECR Mahendrughat (SSP 431)

Duration: July 2025 to October 2025

Deliverables:

Assessment of bridge performance under existing operational loads and proposed 25-ton axle loads.

Significant Achievements:

- Successfully conducted comprehensive field instrumentation and load testing, enabling accurate measurement of strain, deflection, and acceleration responses under operational train loads
- Developed and validated numerical model incorporating track-bridge interaction and wheel-rail contact effects, with good agreement between measured and predicted structural responses
- Demonstrated the structural adequacy of Bridge No. BR248 for proposed 25-ton axle loads, with predicted deflections remaining within permissible limits

Team:

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