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भारतसरकार(GOVERNMENT OF INDIA)
रेलमंत्रालय(MINISTRY OF RAILWAYS)
रेलवेबोर्ड(RAILWAY BOARD)

No. 2020/17/CE-III/BR/Girder Inspection (E-3322338) New Delhi

Dated 31.07.2025

The General Managers
All Indian Railways

GM/ Const. /NFR,
Maligaon.

Sub: - Procedure of Proof Checking of Design of Bridges

Issue of proof checking of design in connection with sub-structure & foundation and certain non standard composite girders which are unavoidable due to site constraints and other limitations has been under discussion for some time. RDSO had been asked to prepare detailed guidelines on the subject. However, in order to give interim relief, following procedure may be followed by Zonal railways:-

1. **Proof Checking Consultant (PC)** should be an experienced practicing consultant (Individual/ organization) appointed **independently and simultaneously** with **Detail Design Consultant (DDC)**.
2. PC should declare **conflict of interest**, if any, prior to accepting the assignment for proof checking. In case a conflict of interest arises during the assignment, it shall be declared by the PC immediately.
3. PC shall also examine the geotechnical investigation report, hydrological study report, model study report (if any) and convey inadequacy w.r.t standard practices or inconsistency, if any, in writing.
4. The **Design Basis Note (DBN) containing Design Input Parameters (DIP) and specific clauses of relevant standards** as submitted by DDC, should be scrutinized in detail by PC and should be approved by client before starting the Design. Revisions in DBN may be required during the process of Design and final version is approved with the approval of Design.
5. The client will forward the **results of analysis** carried out by DDC along with proposed **tentative sections**. Design document and details of software input file **shall not** be shared by DDC/Client at this stage.
6. Based on DBN & analysis given by DDC, the PC shall carry out **independent analysis** and convey their approval to client. If there is a difference in both the analyses between the DDC and the PC, then a meeting shall be arranged by the client to resolve the issues. PC shall submit all the independent calculations of analysis and design to the client for record.
7. Any **up-dation of DBN**, if required during the above process shall be done and new version shall be issued.

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8. Based on the **agreed results of analysis**, design drawings shall be prepared by DDC and submitted to PC through client.
9. The PC shall see that the member sizes of bridge components and their connections designed by DDC are safe and have **adequate margin/ utilization ratio** for the **long term durability and sustainability** with respect to DBN Approved. The margin /utilization ratio to be kept, shall be specified in DBN.
10. PC shall scrutinize the **Method Statements of execution** given by DDC for ensuring compliance to specified/ standard specifications/ codes and requirements of **quality control** as specified in DBN.
11. PC shall ensure that the Design Drawings developed by DDC have relevant **notes & reference to specific method statements**. The detailing of every connection & joint shall be specifically checked with respect to Design document. The same shall be scrutinized by PC and **before conveying their approval** to the client.
12. The PC shall also ensure the consistency of dimensions of various details in plans, elevations, cross sections etc. in different sheets/ drawings. The scrutiny shall supported by the set of drawings, over which the markings are made by PC.
13. PC shall see that the **consultant certificate** in the required format (**Annexure-A**) has been submitted by DDC along with complete set of design document. PC shall also submit their "**Consultant's Certificate**" (**Annexure -'B'**) to client.
14. PC need to keep in mind the irregularities that might be prevalent in field. Adequate safeguards should be taken at the stage of design including the launching scheme, if applicable. Various 'Dos' & 'Don'ts' shall be specified in the drawing itself.

This is issued with the approval of competent Authority.


(Sudhir Singh)

Executive Director, Civil Engg./B&S
Railway Board

Copy to:- (i) DG/IRICEN, Pune for information
(ii) PED/Infra-2, RDSO for information & n/a.
(iii) CMD/RITES, IRCON & RVNL for information

Annexure - A

CERTIFICATE BY DETAIL DESIGN CONSULTANT (DDC)

(Ref, Rly Bd. L No. 2020/17/CE-III/BR/Girder Inspection (E-3322338) , dated 31.07.2025)

1. It is to certify that I/we have analyzed & designed the bridge components involved in the drawings and examined the adequacy of the sections and/or reinforcement steel as provided with respect to approved Design Basis Note (Version –xx).
2. The design report, containing Design Documents & method statements for execution, has been submitted to client vide letter No..... dated..... The Design Drawings, as listed below, have been checked, scrutinized and signed by me/us and the same are safe to be issued for execution.

a) List of drawings:

SN	Drawing No.	Descriptions

b) List of Design Documents:

SN	Design document No.	Descriptions

Signature of Consultant(s)
(Name & Position)
Professional Certificate No. (if any)
Stamp/Seal

Annexure - B**PROOF CONSULTANT'S CERTIFICATE**

(Ref, Rly Bd. L No. 2020/17/CE-III/BR/Girder Inspection (E-3322338) , dated 31.07.2025)

1. It is to certify that I/we have analyzed & designed the bridge components involved in the drawings and examined the adequacy of the sections and/or reinforcement steel as provided with respect to approved Design Basis Note (Version –xx).
2. Detail scrutiny of Geotechnical Investigation Report for the bridge has been carried out. The design parameters have been selected in accordance with relevant IS/IRS/IRC codes.
3. *Hydraulic design has been carried out in accordance with RBF-16 & other relevant guidelines of RDSO/Code/Manual and design flood discharge, max flood level, flow velocities, afflux c\etc have been accordingly worked out. Adequate protection against scour and bank erosion has been done.
4. The report, of independent proof checking, has been submitted to client vide letter No..... dated..... The Design Drawings, as listed below, have been checked, scrutinized and signed by me/us and the same are safe to be issued for execution.

a) List of drawings:

SN	Drawing No.	Descriptions

b) List of Design Documents:

SN	Design document No.	Descriptions

Signature of proof Consultant(s)
(Name & Position)
Professional Certificate No. (if any)
Stamp/Seal

*: Strike off if not applicable