

Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Bridge Branch

Guideline for Quality Management for Concrete Bridges

2018

Forward



Quality means excellence. It is thus a philosophy rather than a mere attribute. The difference between two objects is judged by their qualities. We set some standards which determine the level of acceptability. Nowadays, application of quality management is not only becoming popular but also mandatory in construction industry.

Just knowing some quality control methods or procedures will not do any good. We must have to adopt and implement the quality control methods and tools that are available to us. The concept and its practice must be tuned in harmoniously.

Quality assurance in construction activities guides the use of correct structural design, specifications and proper materials ensuring that the quality of workmanship by the contractor /sub-contractor is achieved and finally maintaining the structure after construction is complete through periodic assessments for maintenance and repairs. Quality control has to be imposed by the contractor whereas quality assurance is carried out by a separate third party agency engaged by the owner, or owner itself.

The contribution of Er. Prabhat Kumar Jha, Senior Divisional Engineer, Bridge Branch for preparation of the “Guideline for Quality Management for Concrete Bridges-2018”; is highly appreciated. The suggestions and experience shared by peer review team ,engineers and experts has been incorporated.

The guideline is compiled version of to Standard Specifications for Road and Bridge Works,2073 of DOR, IRC SP 047:1998 Guidelines on Quality Systems for Road Bridges, and all other relevant IRC and IS codes.

I hope the guideline will lead the Department of Roads to achieve higher level of quality for Concrete Bridge Construction.

Thank You

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Er. Rabindra Nath Shrestha
Director General
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Acknowledgement



The Quality Management Guideline for Concrete Bridges has been prepared with reference to Standard Specifications for Road and Bridge Works, 2073 of Department of Roads, IRC SP 047:1998 Guidelines on Quality Systems for Road Bridges, and all other relevant IRC and IS codes.

The Guideline has covered the Material Selection, Steel Placement, Concrete Production and Placing and Post-Tensioning Activities including Typical Proformae. It is believed that the Guideline will boost the quality management during the construction of bridges under Department of Roads.

The effort and dedication of Er.Prabhat Kumar Jha, Senior Divisional Engineer of the Bridge Branch; is highly appreciable. Bridge Branch is obliged to the SDE. Shiv Raj Adhakari, SDE. Binod Sapkota and Er. Krishna Bahadur Kuwar, who had done the peer review of the Guideline and had recommended for approval. The support of Mr. Bishnu Shrestha, World Bank Consultant, is also acknowledged by the Department.

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References :

- 1. IRC SP 047:1998 Guidelines on Quality Systems for Road Bridges**
- 2. IRC 18:2000 Design Criteria for Prestressed Concrete Road Bridges(Post Tensioned Concrete)**
- 3. IS 1343 (1980): Code of Practice for Prestressed Concrete**
- 4. IRC 21:2000 Standard Specifications and Code of Practice for Road Bridges**
- 5. IS 1786 (2008): High strength deformed steel bars and wires for concrete reinforcement**
- 6. IS 383 (1970): Specification for Coarse and Fine Aggregates From Natural Sources For Concrete**
- 7. IS 9103 (1999): Specification for Concrete Admixtures**
- 8. IS 14268 (1995): Uncoated stress relieved low relaxation seven-ply strand for prestressed concrete**
- 9. Standard Specifications for Road and Bridge Works 2073**
- 10. Notes of DOR PSC Superstructure Standard Drawing**