



COMPENDIUM OF INDIAN STANDARDS

UNIT RATE ANALYSIS FOR RIVER VALLEY PROJECTS



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Introduction

This compendium provides an overview of Indian Standards that standardize proformas and guidelines for analyzing unit rates across key construction activities like concreting, excavation, tunnelling, grouting, etc. and cost components in river valley projects like materials, machinery, labor, overheads, and applicable taxes such as GST and BOCW Cess.

1. IS 4851: 2024 — Estimating Unit Rate of Concrete Used in Mechanized Construction of River Valley Projects — Proforma

This standard prescribes a detailed proforma to estimate the unit rate of different types of concrete used in mechanized construction, facilitating comparative analysis across projects and to help user establish a unit rate for the item of work.

2. IS 10061: 2024 — Analysis of Unit Rate of Excavation of Tunnels by Cyclic Drilling and Blasting — Proforma

This standard covers cost analysis for tunnel excavation using cyclic drilling and blasting, excluding lining so that the per unit cost can be used in estimation of the cost of the work.

3. IS 10062: 2024 — Analysis of Unit Rate of Quarrying Rock by Mechanical Means — Proforma

This standard defines a standard proforma for analyzing unit rates of rock quarrying through mechanical methods.

4. IS 10160: 2024 — Analysis of Unit Rate of Earthwork in River Valley Projects — Proforma

This standard provides proforma for unit rate estimation of earthwork (manual, mechanical, or combined) to help users figure out the various components involved in the final unit rate.

5. IS 10777: 2025 — Analysis of Unit Rate of Rock Excavation by Mechanical Means Including Blasting for Open Excavation — Proforma

This standard covers unit rate estimation of rock excavation in open areas using mechanical and blasting methods. It involves key components like drilling, blasting, mucking, scaling, haulage, and disposal, overheads and taxes.

6. IS 11590 (Draft: 2025) — Guidelines for Working Out Unit Rate Cost of Construction Equipment Used in River Valley Projects

This standard gives guidelines to compute owning and operating cost per hour of construction equipment to help establish uniformity in cost analysis across various projects. It involves various components like capital (interest, insurance, depreciation) and operating (fuel, maintenance, labor).

7. IS 11638: 2025 — Estimation of Unit Rate in Construction of Embankment by Mechanical Means — Proforma

This standard gives a standard proforma for calculating the unit rate for mechanically constructed embankments. It gives detailed heads for excavation, haulage, placement, compaction, and site infrastructure.

8. IS 13418: 2025 — Analysis of Unit Rate of Grouting in River Valley Projects — Proforma

This standard covers the unit rate analysis for cement grouting operations with or without additives. It provides for two-part analysis: drilling cost per meter and grouting cost per kg of cement.

9. IS 4852: 2024 — Estimating Unit Rate of Random Rubble Masonry Used in Construction of River Valley Projects — Proforma

This standard provides a standardized proforma to estimate unit rates for random rubble masonry in river valley projects, allowing uniform and comparative rate analysis across projects.

10. IS 10421: 2025 — Proforma for Analysis of Unit Rate of Shuttering/Formwork for Concrete Works

This standard provides a proforma for estimating unit rate of steel and wooden shuttering/formwork used in concrete works for river valley projects. It covers materials, fabrication labor, equipment usage, ancillaries, erection/dismantling, and reuse calculations.

11. IS 13419: 2025 — Proforma for Analysis of Unit Rate of Shotcreting/Guniting in River Valley Projects

This standard standardizes unit rate estimation for shotcreting/guniting in river valley construction. It references IS 9012 for rebound variation and IS 1566 for wire mesh specs.

12. IS 14590: 2025 — Proforma for Analysis of Unit Rate of Dewatering

This standard lays down a standard proforma for estimating unit rates for dewatering operations in river valley projects. It suggests using IS 11590 for equipment cost references.

13. IS 14749: 2000 — Proforma for Analysis of Unit Rate of Underground Excavation by Cyclic Drilling and Blasting

This standard standardizes rate analysis for underground excavation by cyclic drilling and blasting. It considers excavation classification based on geology and excavation method. It includes comprehensive technical data collection, time-cycle analysis, and safety considerations.

14. IS 14835: 2025 — Estimating Unit Rate of Items of Work in Construction of Rubble Masonry for River Valley Projects — Guidelines

This standard offers guidelines for estimating unit rates of rubble masonry items in river valley projects. It incorporates region- and project-specific adjustments for mortar content and stone dressing.