



SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थं सत्यनिष्ठा
Dedicated to Truth in Public Interest

**Report of the
Comptroller and Auditor General of India
on
Development of Roads in Madhya Pradesh
by MP Public Works Department
for the year ended 31 March 2023**



**Government of Madhya Pradesh
Report No. 7 of 2025
(Performance Audit - Civil)**

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PREFACE

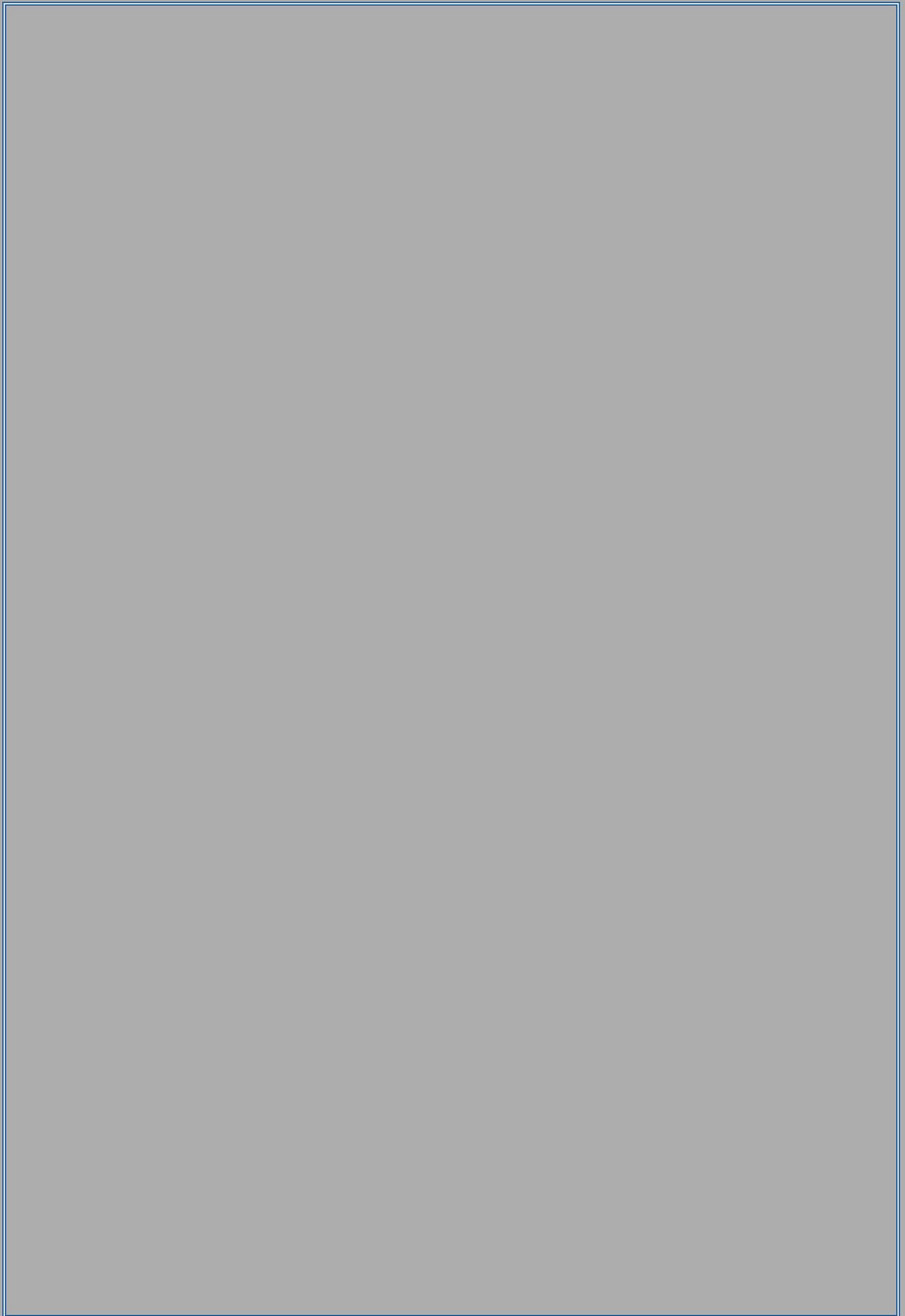
This Report of the Comptroller and Auditor General of India for the year ending on 31 March 2023 has been prepared for submission to the Governor of Madhya Pradesh under Article 151 of the Constitution of India, for being laid before the Legislature of the State.

The Report contains significant results of a Performance Audit on “Development of roads in Madhya Pradesh by the Madhya Pradesh Public Works Department” covering the period from 2018-19 to 2022-23.

The Report aims to provide valuable insights and recommendations to improve road infrastructure planning and implementation in Madhya Pradesh. We acknowledge the cooperation of Madhya Pradesh Public Works Department throughout this audit process.

The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

Executive Summary



Development of Roads by MP PWD - A Performance Audit

Executive Summary

Why this Audit

Road infrastructure is critical for Madhya Pradesh's economic growth, given its strategic central location and role as a transit hub for north-south and east-west traffic. The Public Works Department (PWD) of Madhya Pradesh, through its Buildings and Roads (B&R) wing, oversees the construction, upgradation, and maintenance of Major District Roads (MDRs), Other District Roads (ODRs), Village Roads (VRs), and minor structures like culverts. This performance audit evaluated whether financial management, planning, tendering, execution, monitoring, and quality control of road projects under the MPPWD adhered to applicable rules, regulations, and best practices.

Audit criteria were sourced from the Madhya Pradesh Works Department (MPWD) Manual, Central Public Works Account (CPWA) Code, Ministry of Road Transport and Highways (MoRTH) guidelines, Indian Road Congress (IRC) specifications, and contractual documents.

What we found

Audit findings in this report emerged out of the scrutiny of State Level Macro data and detailed test check of records at 25 out of 56 PWD (B&R) divisions, examination of 276 road works and 10 New Development Bank (NDB)-funded projects during 2018–2023. Fieldwork was conducted from March 2023 to June 2024, including Joint Physical Inspections (JPIs) of 51 roads to validate/support audit findings.

I. Fund Management

The state's road network under PWD saw minimal growth, despite considerable investment sourced from the State Budget, Central Road Fund (CRF)/Central Road and Infrastructure Fund (CRIF), National Bank for Agriculture and Rural Development (NABARD), and NDB, owing to inefficiencies in planning and execution.

Only a small fraction of audited road works constructed by Public Works Department was completed in time, with average delay of 424 days in completion, and multiple cases of foreclosure of incomplete work. Contracts under the Engineering Procurement and Construction (EPC) models were able to complete the projects before time. It was, however, seen that EPC contracts were incentivised with early completion bonuses, and the time schedule provided was in excess of the norms prescribed, thereby extending undue benefit to the contractors.

Among 10 NDB-funded projects, only one met the deadline, while others faced significant shortages in terms of targeted road length, leading to unutilised loan portions. Delays in disbursements incurred avoidable financial penalties. Further, funds from various other sources were also underutilised, with allocations often misdirected, and diverted to activities like land acquisition and utility shifting, which were required to be state funded.

Only ₹ 13.79 crore of the ₹ 26 crore allocated for capacity building under the NDB-funded project was utilised, mainly for consultancy services by M/s KPMG. However, Capacity-building initiatives were not operationalised, as consultant recommendations were ignored, rendering expenditures on such efforts fruitless. Audit noted cases of duplicate payments to consultants for tasks already contracted. Fiscal discipline was found lacking in the form of taking up road works without assessment of Benefit - Cost Ratio, unrealistic estimates, and unauthorized expenditures.

II. Initial Planning & Estimation

There was no long-term Master Plan or strategic frameworks for development of road network in the State, which led to haphazard project selection and execution delays. Audit did root cause analysis of planning failure and found that non-existence of Road Asset Management System. Projects commenced without securing land or statutory clearances, resulting in stalled works and wasted resources. Planning errors included constructing roads in environmentally sensitive or impractical areas. Premature and irregular upgradation of roads led to wasteful expenditure in multiple divisions. In Satna, the Amarpatan–Rampur Road was upgraded to CC road despite reduced traffic and before completion of its planned design life, while the Jhinna–Charki Ghati Road was foreclosed and later transferred to MPRDC for two-lane upgradation, rendering ₹ 5.12 crore infructuous. In Shivpuri, 7.40 km of forest stretch was irregularly included in the Pichore–Dinara Road project, leaving the road incomplete and abandoned after spending ₹ 15.02 crore. Similarly, in Mandsaur, the Bhaugarh–Dalauda–Sitamau Road was upgraded before expiry of Defect Liability Period rendering the entire cost of construction under PMGSY as infructuous.

Estimations were flawed, incorporating costlier materials without justification, inadequate structural designs, and unnecessary components, inflating costs. Arbitrary project timelines resulted in unwarranted bonuses, while irregular reclassification of roads increased financial burdens.

Merging embankment and subgrade in MPPWD SOR undermines cost transparency and budgeting, leading to inefficient expenditure. In NDB projects, separate treatment of embankment with CBR five *per cent* at ₹ 110 per Cu.M. instead of the SOR rate of ₹ 144 highlighted potential savings of ₹ 2.87 crore, demonstrating the financial benefit of itemised costing as per IRC guidelines.

Funds from various sources were underutilized, with allocations often misdirected. Resources meant for road development were diverted to activities like land acquisition and utility shifting, which should have been state-funded. NDB projects fell short of their targeted road length, leading to unutilized loan portions. Delays in disbursements resulted in avoidable financial penalties.

Tendering processes flouted norms, with outdated formats, insufficient publicity, and invalid tender committees undermining fairness. Pre-qualification criteria were frequently overlooked for smaller projects, allowing unqualified contractors to secure contracts. Blacklisted firms were awarded work, and flawed bid evaluations led to improper payments. Delays in finalizing agreements, unchecked subcontracting, and additional works awarded without competitive bidding further eroded transparency.

III. Contract Management

Contract management was marred by irregularities, including unrecovered advances, unauthorized payments against invalid guarantees, and undue leniency toward defaulting contractors. Price escalations were mismanaged, with payments made beyond contract terms. Execution suffered from substandard materials and practices, such as deficient structural components and non-compliance with specifications.

Audit observed incorrect bid evaluation in NDB funded projects, where contractors quoting bid exclusive of GST were treated as L1, contrary to FIDIC and BOQ provisions requiring GST inclusive bids. This led to avoidable financial liabilities, including escalated contract costs in Shyama Prasad Mukherji Marg, Bhopal, and excess liability of ₹ 7.39 crore in Ratlam Division, highlighting lapses in adherence to tender rules and the need for accountability.

In 59 of 61 tenders above ₹ five crore, NITs were published in a single newspaper, violating GoMP guidelines for wide publicity and undermining transparency and competition. Additionally, the E-in-C irregularly altered the composition of tender evaluation committees, replacing mandated officers with ineligible members, rendering all tenders finalised between 2019–23 irregular. These lapses point to weak oversight and compliance with publicity norms and tender evaluation procedures in PWD projects.

Lapses in enforcing blacklisting and tender participation norms in PWD projects were observed. Blacklisted contractors were irregularly awarded contracts or issued LOAs despite ineligibility and expired bid validity, highlighting inadequate verification and monitoring mechanisms. Additionally, defaulting firms that failed to submit performance security or sign contracts were neither suspended nor blacklisted, resulting in non-compliance with FIDIC and GoMP guidelines and exposing the Department to potential financial and procedural risks.

IV. Quality Control & Monitoring

Quality control was compromised by delayed laboratory setups, untested materials, and substandard construction practices, undermining structural integrity. Monitoring was ineffective, with works commencing long after agreements, completion certificates issued prematurely, and final payments released without enforcing penalties. Staff shortages and lack of training further weakened oversight, allowing systemic lapses to persist. Road safety was a critical concern, with missing markings, barriers, and signage contributing to a high accident toll. JPIs confirmed unsafe designs, substandard infrastructure, and premature deterioration, posing risks to commuters.

As-Built drawings and video recordings were not submitted in two of three EPC contracts, violating contractual obligations. This hindered verification of executed works, oversight, and future maintenance, and exposed the Department to quality and accountability risks. Projects like Tilau Village–Pichore–Dinara–Gajora road incurred ₹ 15.02 crore despite eventual abandonment.

Compressive strength of PQC and DLC in 11 works was below specifications. Sub-standard work was accepted without payment reductions, leading to excess payments of ₹ 6.43 crore. This compromises pavement durability and reflects poor quality control.

V. Impact of Audit

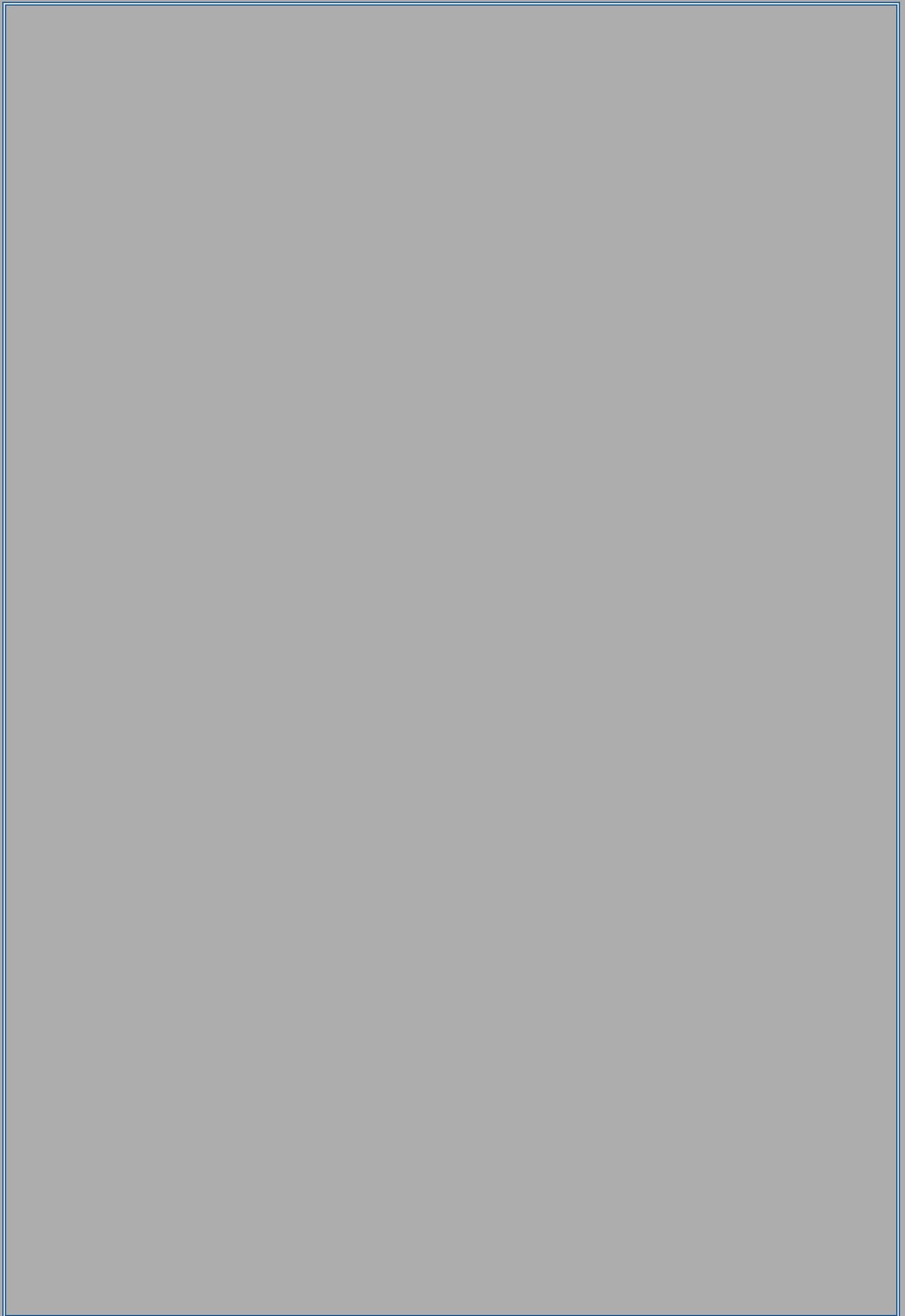
The Department has revised the prequalification criteria, lowering the threshold from ₹ five crore to ₹ two crore. Items of PQC and DLC with fly ash, earlier removed, have been reinstated in the SOR 2025. PTR has been included in Bituminous Concrete works, and provisions for tree-shifting and plantation with maintenance for three to five years have been added. Further, SOR 2025 mandates procurement of bitumen from Government refineries such as IOCL, HPCL, BPCL, etc., only.

What We Recommend

Audit recommends the following actions to address systemic deficiencies:

1. Update Manual	PWD should take urgent steps to update the MP Works Manual by incorporating the latest guidelines, orders <i>etc.</i>
2. Develop a Long-term Master Plan/Policy	PWD should finalise a 10-year Master Plan prioritizing road projects based on Benefit-Cost Ratio (BCR) analysis, as per IRC: SP:30-2009, to ensure economic viability and systematic expansion, monitored by the Government. Upgradation works should be taken up only after proper assessment of road history.
3. Strengthen Tendering Processes	PWD should ensure that items are correctly incorporated in BOQs, and conduct tenders through valid committees, with half-yearly compliance checks by the Engineer-in-Chief (E-in-C). Estimates prepared by DPR consultants should be re-checked for errors. Any major revisions in estimates post award of contract should be thoroughly investigated at the Government level.
4. Improve Quality Control	PWD should implement a digital project monitoring system to track progress, ensure timely commencement, and issue completion certificates only post-physical verification, with quarterly/half-yearly reviews by the E-in-C to eliminate irregularities.
5. Strengthen Monitoring Mechanisms	PWD should henceforth mandate establishment of field laboratories within 30 days of contract signing for all projects, enforce 20 <i>per cent</i> material testing in NABL/Departmental labs, and recover penalties for delays, with compliance tracked monthly by the Chief Engineer (CE). Penalties should be levied on the Authority Engineers as well as the contractors for sub-standard works. IRC: 35:2015-compliant road markings and MoRTH-specified crash barriers should be installed on 100% of MDRs, with safety audits conducted annually by the E-in-C, to reduce accident risks.
6. Investigate and Fix Responsibility	The Government should set up an independent committee to review all acts of omissions and commissions which have resulted in loss to the exchequer in the form of over payments, sub-standard work, over estimations, deficient designs, <i>etc.</i> , and fix accountability.

CHAPTER – I: Overview & Financial Management



CHAPTER I: OVERVIEW & FINANCIAL MANAGEMENT

1.1 Overview

1.1.1 Introduction

Roads are crucial for the economic progress of the nation. In Madhya Pradesh, the classification of roads and their operational jurisdiction is as under:

National Highways
<ul style="list-style-type: none">• Roads managed by the Government of India that connect major cities, states, and strategic locations across India.• <i>Managed by NHAI</i>
State Highways
<ul style="list-style-type: none">• Roads maintained by State Governments that connect district headquarters, important towns, and national highways within a state.• <i>Managed by Madhya Pradesh Roads Development Corporation</i>
Major District Roads
<ul style="list-style-type: none">• Roads within a district that connect production areas, markets, and link to state or national highways.• <i>Managed by Public Works Department, Madhya Pradesh</i>
Other District roads/Village Roads
<ul style="list-style-type: none">• Rural roads within districts that connect smaller towns and villages to each other or to major district roads and highways.• <i>Managed by Public Works Department, Madhya Pradesh</i>

The Public Works Department (PWD), Madhya Pradesh has two branches, PWD (Buildings & Roads) and PWD (Bridges). Construction of National Highways (NH) and State Highways (SH) are taken up by National Highway Authority of India (NHAI) and Madhya Pradesh Roads Development Corporation (MPRDC), respectively. The primary functions of PWD (B&R) are construction, upgradation, and maintenance of Major District Roads (MDRs) and Other District Roads (ODR) / Village Roads. It also constructs minor bridges, culverts, and other small structures up to 50 meters.

PWD (Bridge Construction Division) manages bridge networks (bridges, flyovers and railway overbridges).

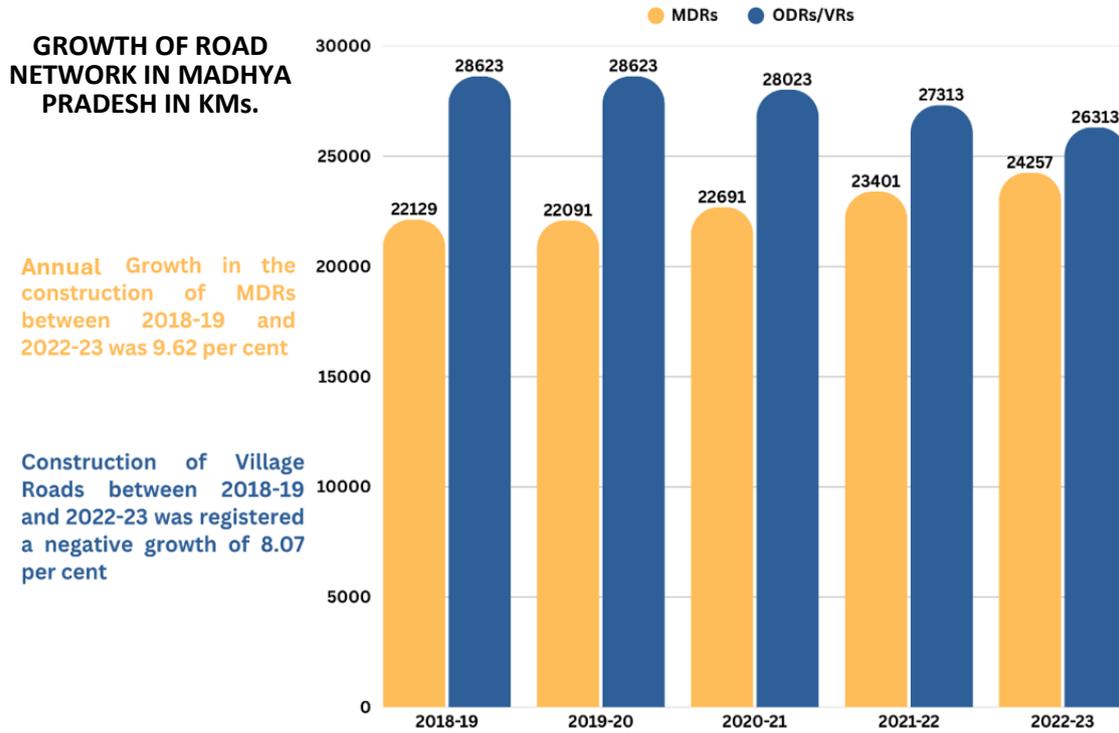
The total road network of the State as of March 2025 is as follows:

Type of Road	No.	Length (in KM)
National Highways	45	9,315
State Highways	94	11,389
Major District roads	1,126	25,639
Other District Roads	--	34,432
Total	1,265	80,775

(Source: Administrative Report of PWD for the year 2024-25)

The change in the road network under PWD (B&R) between the years 2018-19 and 2022-23 has been shown in **Chart 1.1** below:

Chart 1.1: Growth in road network in Madhya Pradesh



(Source: Administrative Report of PWD for the year 2018-19 and 2022-23)

Audit observed that during the period 2018-19 to 2022-23, Madhya Pradesh recorded a marginal increase of only 275 km in its total road network. This minimal growth includes the lengths of National Highways (NH) and State Highways (SH), which are under the jurisdiction of NHA and MPRDC, respectively. However, despite an expenditure of ₹ 32,149.48 crore¹ incurred by the Public Works Department (PWD) during the same period, the state registered a negative growth in total road length under the category of roads in the direct control of MPPWD comprising MDR, ODR/ and VR.

Table 1.1: Road Network Length and Expenditure Over Time

Year	Road Length (in KM)					Expenditure Incurred (₹ in crore)		
	National Highway	State highway	Major District Roads	Village Roads	Total road length	New construction and upgradation ²	Strengthening	ADB
2018-19	8,858	11,389	22,129	28,623	70,999	4,597.85	86.95	1,232.15
2019-20	8,858	11,389	22,091	28,623	70,961	5,101.61	297.09	786.12
2020-21	8,858	11,389	22,691	28,023	70,961	4,568.80	136.23	697.52
2021-22	8,853	11,389	23,401	27,313	70,956	5,661.87	66.12	1,379.90
2022-23	9,315	11,389	24,257	26,313	71,274	6,028.82	73.45	1,435.00
					Total	25,958.95	659.84	5,530.69

¹ ₹ 32,149.48 crore includes ₹ 25,958.95 crore expenditure from State Plan, CRF and NDB funds (executed by PWD (B&R)) and ₹ 5,530.69 crore on ADB funded roads (executed by MPRDC) and ₹ 659.84 crore on strengthening of existing roads.

² Total expenditure from State Fund, CRF, NABARD and NDB Fund.

The overall road network in India recorded an average annual growth rate of 1.82 *per cent* during the period 2018-19 to 2022-23³, resulting in a cumulative increase of 7.36 *per cent*. In contrast, the road network in Madhya Pradesh exhibited a significantly lower average annual growth rate of 0.10 *per cent*, corresponding to a net growth of only 0.39 *per cent* over the same period.

The above table and chart, when analysed, indicate that either there is a saturation of the existing network, or an absence of a structured Master Plan or long-term prospective planning to guide the systematic expansion and prioritisation of the road network based on socio-economic and connectivity needs.

The lack of tangible increase in PWD managed road categories despite significant capital outlay points to deficiencies in planning, project identification, and alignment with developmental goals.

In the Exit Conference (June 2025), the Government accepted the fact.

1.1.2 Organisational set-up

The Principal Secretary (PS) is the head of PWD at the Government level whereas the Engineer-in-Chief (E-in-C) is the technical head. The E-in-C is assisted in his work by seven Chief Engineers (CE) posted at the zones and a CE for New Development Bank (NDB)-funded projects. The CEs are further assisted by 14 Superintending Engineers (SE) at the Circle level and 56 Executive Engineers (EE) posted at the Divisions. The EEs are primarily responsible for the implementation of the Road and Building Projects.

The organisational structure of PWD, GoMP is given in **(Appendix 1.1)**.

1.1.3 Audit objectives

The audit was conducted to assess whether:

- Fund management was prudent and was effectively aligned with the works executed;
- Planning for roads was judicious, effective and followed sound principles;
- Contract management was competitive, fair, and transparent and execution was as per the relevant specifications;
- Effective monitoring system was in place to ensure quality control and timely completion of the projects.

3

Year	Total Road Length in India (in KM)	Total Road Length in Madhya Pradesh (in KM)
2018-19	58,97,671	70,999
2019-20	58,97,671	70,961
2020-21	62,15,797	70,961
2021-22	63,71,847	70,956
2022-23	63,31,791	71,274

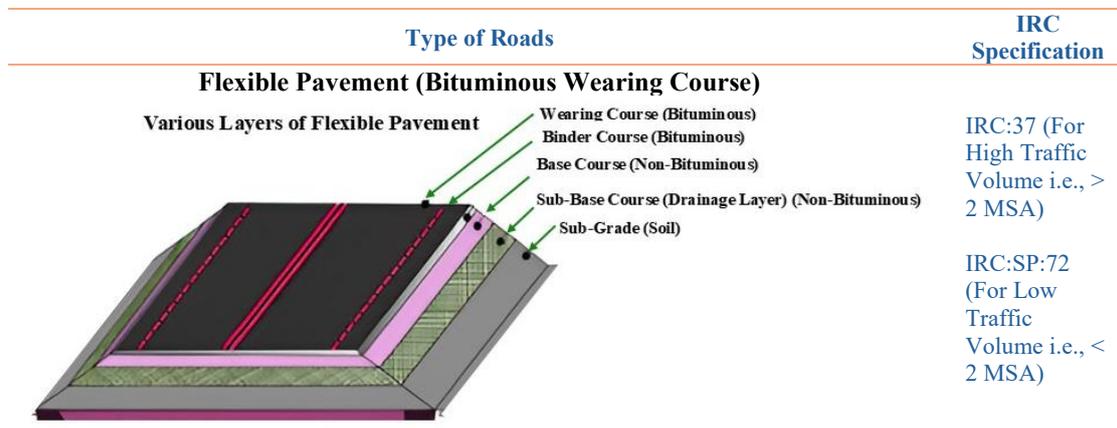
1.1.4 Audit criteria, Scope and Methodology

Criteria

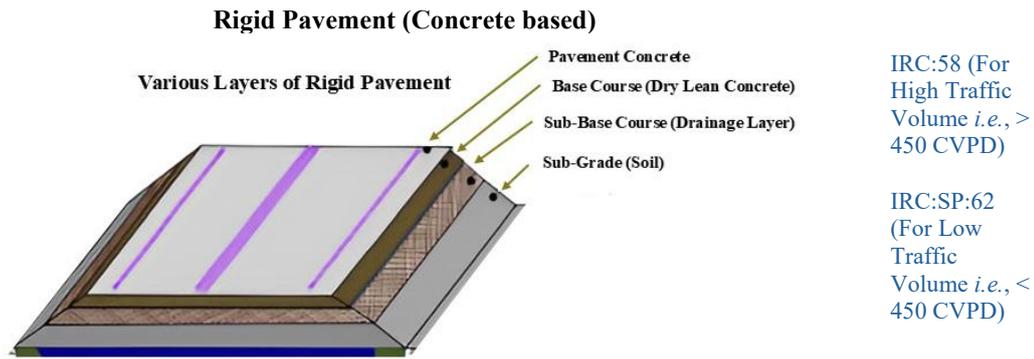
The audit findings are benchmarked against the criteria derived from the MP Works Department (MPWD) Manual and the Central Public Works Account (CPWA) Code, the General Financial Rules, Madhya Pradesh Treasury Code, Madhya Pradesh Financial Code, Detailed Project Reports (DPRs) estimates and sanction orders of individual projects. Guidelines and specifications for road and bridge works issued by the Ministry of Road Transport and Highways of India (MoRTH) and the Indian Road Congress (IRC). Indian Standard Codes (IS codes). Further, contractual provisions contained in the Agreements, Percentage rate tender, Item rate tender through Standard Bidding Documents for Central Roads Fund (CRF)/Central Road and Infrastructure Fund (CRIF) and FIDIC⁴, tender documents for the works funded by the NDB, Engineering Procurement and Construction (EPC) contract were also referred to in addition to the Administrative orders, guidelines and circulars issued by the GoMP.

Although the Madhya Pradesh Works Department (MPWD) Manual has been referenced as an audit criterion for the PA, the same has not been updated since 1983. Instead, the Department has been relying on the Government orders issued from time to time. This has resulted in the Department officials not adhering to current instructions, due to lack of awareness of the latest guidelines. Such issues have been brought out in subsequent chapters.

Three of the IRC Specifications have been majorly used throughout the Report as they guide the construction and upgradation of roads. The road designs and the relevant IRCs are given in the diagram below:



⁴ FIDIC is a French language acronym for *Fédération Internationale des Ingénieurs-Conseils* (the International Federation of Consulting Engineers). FIDIC is a global organization known for publishing standard forms of contracts used in engineering and construction projects worldwide, especially in infrastructure, road, and water projects. MPPWD and MPRDC use FIDIC-based contracts for road and bridge works which are externally funded, ensuring transparency, dispute resolution, and international standards in project execution.



Scope

Audit selected 25 Divisions⁵ out of 56 Divisions of PWD (B&R) for conducting the Performance Audit (PA). The offices of all the concerned SEs, CEs, E-in-C and Additional Chief Secretary (PWD) were also audited. Statistical information and data were collected from the office of the E-in-C.

In this PA, 276 agreements for “Widening & Upgradation” and “Strengthening & Renewal” of MDRs/ODRs out of 3,887 agreements (7 *per cent*) and 10 NDB funded packages⁶ out of 19 packages (53 *per cent*) executed between the years 2018-19 and 2022-23 were examined by the Audit during the period from March 2023 to June 2024.

Methodology

The audit objectives, criteria and methodology of the PA were discussed with the Secretary, PWD during an entry conference held in July 2023.

The findings were communicated to the GoMP in January 2025. The reply of the Government was received on 19 June 2025 and thereafter the Exit Conference was held on 26 June 2025 with the Government.

The views expressed by the Government in the reply and during the Exit Conference were taken into consideration and suitably incorporated in the Audit Report

1.1.5 Policy changes at the instance of Audit

In course of the PA, several deficiencies with reference to SORs and other policy matters were highlighted. We appreciate the Government of Madhya Pradesh for taking corrective steps based on Audit observations for systematic improvement in function of PWD. The changes adopted by the Department at the instance of Audit are being mentioned below:

⁵ Alirajpur, Betul, Bhopal-2, Budhni, Burhanpur, Chattarpur, Dewas, Gwalior, Indore-1, Jabalpur-2, Khandwa, Khargone, Mandsaur, Narmadanagar, Narsinghpur, Raisen, Ratlam, Rewa, Sagar, Satna, Sehore, Shivpur, Singrauli, Ujjain, Vidisha. These Divisions were selected using Stratified Random Sampling through IDEA.

⁶ NDB Projects comprising 43 roads taken up for “Widening & Upgradation”.

	Audit Remark	Action taken by Department	Status
Tender Documents	Pre-qualification criteria for the contractors was applicable for the works valuing more than ₹5.00 crore. Several cases were highlighted by Audit where delays in work, execution of sub-standard work and non-execution of works was observed due to absence of pre-qualification criteria in works valuing less than ₹ 5.00 crore.	The prequalification has now been revised (March 2025) and is applicable to works valuing more than ₹ 2.00 crore.	Resolved ✓
Technical Circular	<p>As per GoMP order (February 2013), for works up to ₹ 5.00 crore, the establishment of field laboratory and the deployment of technical staff will be verified by the SE and for the works worth ₹ 5.00 crore or more by, the CE. The first bill for the work done can be paid only after such verification.</p> <p>Audit highlighted several cases of delay in establishment of field laboratory and irregular payment of Running Account Bills without ensuring establishment of field laboratory.</p>	The Government has now issued (February 2025) circular that in works valuing ₹ 2.00 crore and ₹ 5.00 crore, the works will be commenced only after verification of laboratory by SE and CE respectively.	Partially Done ⚠
Schedule of Rates	Ministry of Environment, Forest and Climate Change of India (MoEFCC) mandated use of fly ash in construction of PQC and DLC is mandatory within 300 km radius of a Thermal Power Plant. The Department, however, omitted the items, execution of PQC and DLC with fly ash from the SOR 2022.	The items of PQC and DLC with fly ash have now been incorporated in the SOR 2025.	Resolved ✓

Schedule of Rates	GoMP, PWD mandated the use of Pneumatic Tyre Roller (PTR) in Bituminous Concrete. However, no provision for reduction in the rate of the relevant items in the SOR has been made.	The Department have now included the item of PTR in execution of Bituminous Concrete, yet there is no provision for reduction in the rate against non-deployment of PTR in the SOR 2025.	Partially Done
	In earlier SORs, there was provision of deduction at the rate of ₹ 50 per Cu. M. if vibratory roller/ motor grader is not used in concerned items.	The Department have now mandated the use of Vibratory roller and motor grader in execution of concerned items and introduce a new item of deduction at the rate of ₹ 100 per Cu. M., in the SOR 2025, if sensor paver is not used in the execution of WMM.	Resolved
	In old SORs, tree-cutting was included as a standard site clearance activity, leading to the destruction of many trees. Audit highlighted issue of non-provisioning of roadside plantation.	In SOR 2025, tree-shifting has been introduced as an alternative to tree-cutting. Additionally, new items for tree plantation have been added and will be maintained under contractor's supervision for three to five years.	Resolved
	Several case of procurement of Bitumen from Private vendors leading to substandard execution were highlighted by the Audit	Department has now mandated (April 2025) that the bitumen used for execution shall be procured from Government refinery e.g., IOCL, HPCL, BPCL etc.	Resolved
	Despite increase in the rates of items ranging from 17.43 per cent to 27.95 per cent in SOR 2017 to SOR 2022, the deduction for non-utilisation of slip form paver finisher with electronic sensor was ₹ 150 per Cu. M. and ₹ 350 per Cu. M. for DLC and PQC respectively.	The Department has now increased the rate of such deduction to ₹ 300 per Cu. M. and ₹ 800 per Cu. M. for DLC and PQC respectively, in the SOR 2025.	Updated

1.2 Financial Management

1.2.1 Types of funding

The works pertaining to the construction and upgradation of the roads are carried out by the Department through the funds provided by the Central Road Fund (CRF), the New Development Bank (NDB) Loan, the National Bank for Agriculture & Rural Development (NABARD) assistance, and the State Budget.

Central Road and Infrastructure Fund (CRIF) ⁷	<p>The CRF/ CRIF is a non-lapsable fund created under Section 6 of the Central Road Fund Act, 2,000 out of the cess/ tax imposed by the Union Government on the consumption of Petrol and High-Speed Diesel to develop and maintain National Highways, the State Roads (particularly those of economic importance and which provide inter-state connectivity), railway under/over bridges, etc. The Central Road Fund (State Roads) Rules, 2014 provides for a maximum period of 24 months for project completion for the projects approved under CRIF. The CE of the concern zone is the employer for the execution of work funded by CRIF.</p> <p>Audit test checked three out of 43 works funded by CRIF.</p>
NABARD	<p>The Government of India announced setting up of a Rural Infrastructure Development Fund (RIDF) through the budget of 1995-96. It was to be operationalized by NABARD for new rural infrastructure</p>

⁷ The Central Road Fund was replaced by the Central Road Infrastructure Fund in 2018.

projects, and its ambit was broad based to cover almost all the important aspects of rural infrastructure. The respective EE is the employer for the works funded by NABRAD (RIDF).

NABARD funded roads works have been included under State Plan Works.

NDB

The funding from NDB is aimed at enhancing infrastructure, promoting economic development, and improving connectivity in the region. This involved upgradation of 2,000 km of Major District Roads under the jurisdiction of PWD. The employer for the NDB funded project is the Director, NDB Project.

Audit test checked 10 packages out of 18 packages funded by NDB.

Own State Budgetary provisions

The State also funds road projects through its own budgetary provisions.

Audit test checked 267 works out of 3,844 works funded by State's own resources.

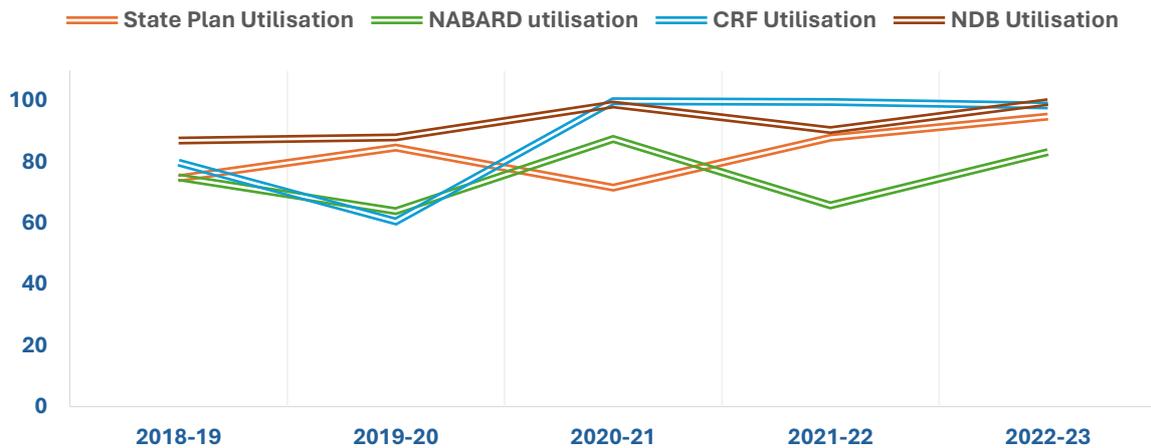
The year wise break up of allotment and expenditure for construction and development of existing roads during the period from 2018-19 to 2022-23 is given in **Table 1.2** below:

Table 1.2: Details of Allotment and Expenditure

Year		2018-19	2019-20	2020-21	2021-22	2022-23	(₹ in crore) Total
State Plan Budget	Allotment	3,391.50	3,550.69	3,122.24	3,249.47	4,324.66	17,638.56
	Expenditure	2,530.85	3,005.52	2,235.47	2,857.27	4,100.46	14,729.57
	Utilisation (per cent)	74.62	84.65	71.60	87.93	94.82	83.51
CRF	Allotment	900	780	480	580	737	3,477
	Expenditure	718.71	472.26	479.29	577.74	725.69	2,973.69
	Utilisation (per cent)	79.75	60.55	99.85	99.61	98.46	85.52
NABARD	Allotment	362	255	152	167	107	1,043
	Expenditure	271.43	163.01	133.01	109.85	89.01	766.31
	Utilisation (per cent)	74.98	63.93	87.51	65.78	83.19	73.47
NDB	Allotment	1,238.85	1,659	1,742.31	2,342	1,118.47	8,100.63
	Expenditure	1,077.86	1,460.82	1,721.03	2,117.01	1,113.66	7,490.38
	Utilisation (per cent)	87.00	88.05	98.78	90.39	99.57	92.47
Total Allotment		5,892.35	6,244.69	5,496.55	6,338.47	6,287.13	30,259.19
Total Expenditure		4,598.85	5,101.61	4,568.80	5,661.87	6,028.82	25,959.95

(Source: Information provided by E-in-C, PWD)

Chart 1.2: Utilisation (in per cent) of Budget

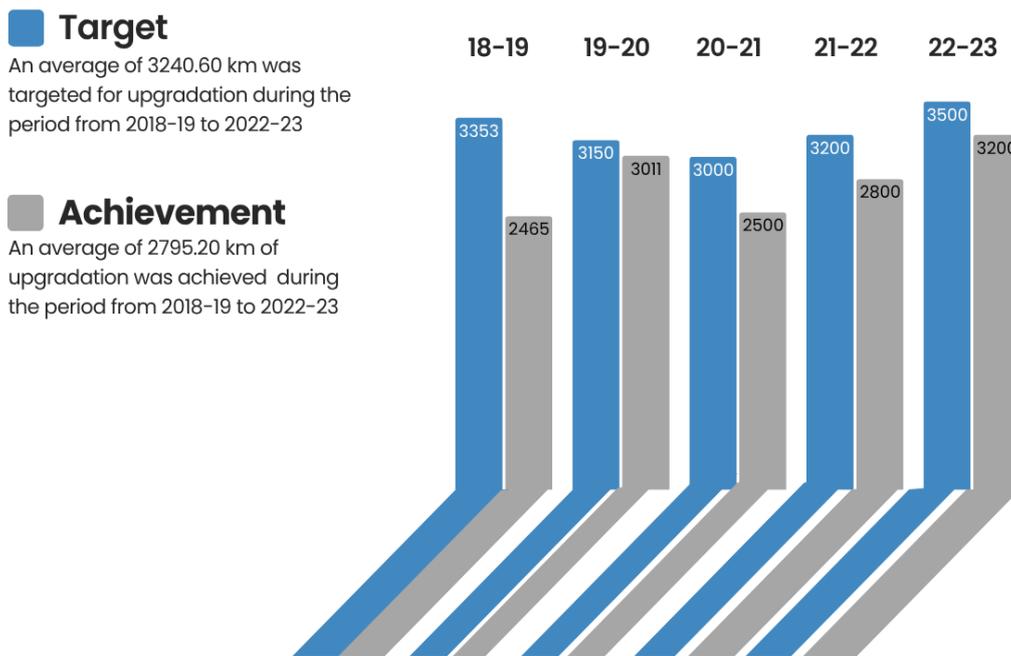


The above details show that the actual utilisation during the specified period was consistently higher for NDB funds while from 2020-21 onwards, utilisation of Central Road Fund (CRF) was the highest.

As per the circular issued (January 2018) by the E-in-C, the targets of construction/ renewal of the roads shall be decided division-wise and compiled zone/ circle-wise, and the achievements will be mentioned accordingly. This information shall be produced to the E-in-C by the 3rd day of every month.

Audit noticed that the Department in the past five years (from 2018-19 to 2022-23) did not achieve the physical target of construction and upgradation of roads as committed by the divisional officers in their report sent to the E-in-C at the beginning of the financial year. The details of target and achievement are given in **Chart 1.3** below:

Chart 1.3: Shortfall in construction & upgradation of roads



(Source: Administrative Report of MPPWD for the year 2022-23)

In the Exit Conference (June 2025), the Government admitted (June 2025) that delays in land acquisition and forest clearance hindered target achievement. The Department also accepted that year-end fund releases led to underutilisation. However, the Government also informed that, as a remedial measure, a circular has since been issued instructing that works should be awarded only after completion of land acquisition.

The fact remains that the Department was unable to meet the targets it had set for itself.

Audit Findings

1.2.2 Utilisation of New Development Bank loans

The CE, NDB has been created in 2018 to oversee implementation of road projects funded by New Development Bank (NDB), Shanghai. NDB has approved three loans for the State of Madhya Pradesh (under sovereign project finance facility) as follows:

Loan Account No. 16IN02	US \$ 350 million to MPRDC
Loan Account No. 18IN02	US \$ 350 million to PWD (B&R), GoMP
Loan Account No. 18IN03	US \$ 175 million to PWD (Bridge Construction Division), GoMP

For the Madhya Pradesh Major District Roads Project (Loan Account No. 18IN02), NDB, through a loan agreement with the GoI, financed US\$ 350 million (30 March 2017) along with a counterpart funding by GoMP of USD 150 million, which aims to upgrade and improve a total road length of 2,143 km MDRs (87 roads) in the state. The loan agreement between the Republic of India (“Borrower”) and NDB was executed on 5th October 2018. The project was implemented by the State Government through the MP PWD, with the Director, NDB Project, acting as the Project Implementing Agency.

As per Section 2 of the Loan Agreement, NDB the tenure of loan was 20 years, including a moratorium period⁸ of five years from the date of signing the agreement.

The Borrower was required to submit a drawdown request⁹ to NDB after the effective date and before the last drawdown request date, with all amounts drawn to be used only for expenditures incurred after signing and before the closing date, *i.e.*, 05 October 2023.

Issues pertaining to utilisation of NDB loan are discussed below.

1.2.2.1 Short utilisation of NDB Loan

Audit noticed (May 2024) that there was significant under utilisation of funds allocated from the NDB loan across various components of the project for the construction and improvement of 2,143 km of Major District Roads (MDRs).

In December 2021, the Public Works Department revised the total project length to 2,000 km. Subsequently, the State Government (August 2023) decided that 1,860 km would be executed under the NDB loan scheme, while the remaining 140 km would be reconstructed using State budgetary support, to comply with NDB’s mandate to complete a total project length of 2,000 km. However, even against the updated target, the Department could construct only 1,823 km length, resulting in a shortfall of 8.85 *per cent* in physical achievement. The financial target shortfall ranged between 33.16 *per cent* and 60.79 *per cent* (in utilisation of the NDB loan) in various components is shown below:

Expenditure Category	NDB Funding (MUSD)	Actual Expenditure incurred till date (MUSD)	(in million US \$)	
			Short Utilisation (MUSD)	Short Utilisation (Percentage)
1	2	3	4=2-3	5=4×100/2
Civil Work and Equipment	296	197.86	98.14	33.16
Supervision, Consultancy and Administration	20	12.51	7.49	37.45
Capacity Building	4	1.88	2.12	53.00
Financing Charges (front-end fee)	0.875	0.88	-0.005	-0.57
Contingency	29.125	11.42	17.705	60.79
Total	350	224.55	125.45	35.84

⁸ A period where the borrower is not required to make regular payment.

⁹ “Drawdown Request” shall mean the request for a Drawdown, submitted to NDB by the Borrower’s Authorised Representative at least 15 China Banking Days prior to the proposed date of the Drawdown, in the form and manner prescribed in NDB Loan Disbursement Handbook (as may be revised by NDB from time to time).

As the Department was unable to complete the projected road length within the stipulated loan tenure, an amount of US \$ 30 million (₹ 249.54 crore)¹⁰ was surrendered in December 2023 (as loan savings).

Surrender of US \$ 30 million out of the total US \$ 350 million not only indicates the inefficiencies in project implementation, but also led to avoidable costs, including commitment charges and excess front-end fees.

In the Exit Conference (June 2025), the Government accepted the fact and stated that the funds were surrendered due to elimination of road lengths, currency exchange rates, delays due to COVID-19, *etc.*

The reply confirms that the Department failed to timely utilise the loan amount for the intended purpose.

1.2.2.2 Under utilisation of fund in Capacity Building

The NDB funded Project aimed to strengthen the capacity of Project Implementation Agency (PWD, in this case), by supporting its initiative to optimise the organisation's structure and human resources, updating the software and hardware for PWD's in-house road design, and establishing a state of art lab for material testing.

Out of 350 MUSD, Four MUSD (equivalent to ₹ 26.00 Crore) was allocated to Capacity Building. Audit noticed (May 2024) that the Department initiated the "Transformation of PWD" Project in 2018, aimed at improving the functioning of PWD through institutional improvements and information technology. The Department engaged a consultancy agency, M/s KPMG Advisory Services Pvt. Ltd. at a cost ₹ 12.22 crore (actual payment made was ₹ 13.79 crore) for the above purpose. The E-in-C submitted (March 2022) the detailed report of recommendations of KPMG Advisory Services to the Government, seeking guidance for the PWD Transformation Project.

Audit noticed that the Department failed to utilise the remaining funds and did not act on the recommendations of M/s KPMG. These recommendations included various institutional and technological improvements. This included Work & Accounts Management System, Road Asset Management System, Integrated Project Management System, *etc.* As such, the entire expenditure incurred on hiring external consultants at a cost of ₹ 13.79 crore was infructuous. The balance funds (i.e., ₹ 12.21 crore) available for capacity building remained unspent and were eventually surrendered, since the loan period expired and no extension was granted by NDB.

In the Exit Conference (June 2025), the Government stated that capacity building initiatives were undertaken using State funds due to delays in project execution. It was further informed that some of the consultant's recommendations are still under consideration. Additionally, 13 zonal laboratories have already been upgraded, and an IPMS portal is under development to monitor work progress.

¹⁰ Calculated at \$ 1 = ₹ 83.1802 (based on exchange rate of December 2023). Entire amount short utilised was not surrendered.

The reply is not acceptable, as the main objectives of the project were not achieved within the planned timeframe due to delayed execution. Although steps like capacity building and developing an IPMS portal are positive but were not as part of the original project plan since these were taken up through State funds. Furthermore, mere initiation or partial implementation of consultant recommendations without concrete timelines undermines the effectiveness of the capacity building.

1.2.2.3 Avoidable Payment of Commitment Charges to NDB

NDB levies a commitment charge to defray the cost of keeping adequate liquidity to meet the disbursements of its borrowers. The commitment fee is levied on the accrued portion of undisbursed net-loan balance. The charge is effective 60 days after the signing of the loan agreement.

As per Section 3.3 of the Loan Agreement, the commitment charge payable by the Borrower shall be 0.25 *per cent* effective 60 days from the date of signing of the Loan Agreement. Additionally, if the amount disbursed at the end of the first, second and third year after the date of signing of the Loan Agreement exceeds 15 *per cent*, 45 *per cent* and 85 *per cent*, respectively the Loan Amount, then the commitment charge shall be NIL.

The commitment charge shall be payable by the Borrower on the Interest Payment Date, immediately following the date on which the commitment charge becomes due.

Audit noticed (May 2024) that there was a recurring slippage in the disbursement of the loan compared to the disbursement schedule. Due to slow progress¹¹, there was a slippage in disbursement which ultimately resulted in unwarranted payment of commitment charges of ₹ 8.71 crore. Had the disbursements been timely, according to the schedule, these commitment charges could have been avoided.

In the Exit Conference (June 2025), the Government accepted the fact and stated that the intended work progress could not be achieved due to elimination of road lengths, delays due to COVID-19, *etc.*

The fact remains that there was unwarranted payment of commitment charges of ₹ 8.71 crore.

1.2.2.4 Irregular diversion of NDB fund for execution of ineligible road length

The guideline for execution of NDB projects provides for taking up upgradation of only MDRs.

Audit observed (July 2023) in case of six MDRs (five MDRs in Package 14, Narmadapuram and one MDR in Package 12, Vidisha) that against the MDR road length of 103.500 km, PWD constructed 127.658 km of road, which indicates that 24.158 km of non-MDR road was executed using NDB funds, which was a violation of NDB loan conditions and resulted in diversion of NDB funds amounting to ₹ 15.80 crore¹² meant for construction of MDR roads.

On being pointed out, no comment was offered by the Government. However, the Project Manager, NDB Narmadapuram stated (June 2023) that the DPR consultant prepared the DPRs

¹¹ As detailed in Paragraph 3.2.9 of Chapter 3 of this Report.

¹² 24.158 km × ₹ 65,40,832 per km.

of all the roads which are technically sanctioned by the Director, NDB projects. The works have been executed as provided in the DPRs.

The reply is not acceptable because the extended road lengths were not categorised as MDRs, and as such, inaccurate information was provided to the NDB.

1.2.2.5 Unwarranted excess payment for the work of social and environmental impact assessment to the DPR consultant

The RFP document for the DPR consultant, prepared by PWD, includes requirements for social and environmental impact assessment. Consultants must evaluate and rank projects based on criteria such as environmental sensitivity, social and economic factors, poverty and unemployment levels, and other concerns identified in initial assessments and development plans for Indigenous peoples and resettlement. These assessments are crucial for project ranking before the Government's approval.

Audit noticed (May 2024) that the Department granted retrospective approval for additional social and environmental assessment work. This approval was granted at a rate of ₹ 5,428 per km (₹ 4,600 per km plus 18 *per cent* GST) for three specific packages (Package 01, Indore, Package 02, Bhopal and Package 03, Jabalpur).

Despite the provisions already specified in the RFP for DPR consultants, the Department made an additional payment of ₹ 1.13 crore (₹ 96.15 lakh plus 18 *per cent* GST) for the social and environmental impact assessment work, in respect of these three packages. This resulted in excess payment of ₹ 1.13 crore to the DPR consultants.

In the exit conference, the Government stated (June 2025) that the RFP for DPR consultants was drafted by an expert team of PWD, asserting that it lacked provisions for social and environmental concerns. The CE also highlighted the project's NDB funding requirement which necessitated social and environmental impact assessments, which were subsequently included in PWD's directive dated 19 September 2018, sanctioned (February 2019) by the GoMP.

The reply is factually incorrect, as RFP documents for consultants, explicitly addressed critical aspects including environmental sensitivity assessments and social and economic factors. Furthermore, the project ranking criteria specified in the RFP emphasised evaluating environmental sensitivity as pivotal in project selection. Therefore, it was well within the DPR consultant's scope of work to address social and environmental concerns.

1.2.2.6 Irregular payment of Forest clearance and Land Acquisition

According to the Project Evaluation Report, 2022 of NDB, no land acquisition or rehabilitation & resettlement issues were envisaged for any of the sub-projects¹³ and none of the sub-project roads passed through wildlife sanctuaries or habitats of indigenous people.

Audit noticed (June 2024) that in Package 03 and Package 09 of NDB project, 10 *per cent* and 39 *per cent* respectively of the road length were passing through forest area. As the roads were to be widened from single lane to intermediate lane, the Department needed additional land beyond the available Right of Way (ROW). Accordingly, the Department made payments to

¹³ Except for minor land requirements related to geometric corrections of alignments near the accident blackspots.

the Forest Department for land acquisition in forest area. However, instead of utilising state funds for land acquisition, an amount of ₹ 4.50 crore was irregularly spent from the NDB fund, as detailed in **Table 1.3** below:

Table 1.3: Details of payment for Forest clearance and Land Acquisition

Sl. No.	Paid to	Name of Road	Amount (in ₹)
Package No. 03 (Ratlam)			
1.	CAMPA ¹⁴	Ratlam-Morwani-Umar-Raoti-Bajna Road	87,66,871
Package No. 09 (Gwalior)			
2.	CAMPA	Kariya to Aron via Golarghati Road	1,48,05,693
3.	CAMPA	Nayagaon Chinor Road	1,03,30,637
4.	CAMPA	Nayagaon Chinor Road	9,41,859
5.	MP Tiger Foundation Society	Panihar - Pagara Road	97,85,770
6.	Land Acquisition Officer	Kariya to Aron via Golarghati Road	4,00,000
Total			4,50,30,830

(Source: Information provided by Director, NDB Project, Madhya Pradesh)

In the Exit Conference, the Government stated (June 2025) that no land acquisition payments were made in these packages. Only payment has been made as per the norms of the Forest Department towards CAMPA, which was meant to promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest uses. It was an inter-departmental fund transaction which comes under the forest rules and cannot be deemed as land acquisition. Thus, the payment was not irregular.

The reply is factually incorrect. Payment towards CAMPA was towards compensatory afforestation for utilisation of forest land for the ROW of the roads. This is calculated on the basis of the net present value of forest land (being diverted) and hence not allowed under NDB funding.

Other Issues

1.2.2.7 Shortfall in completion of roads

Audit noticed (March 2023 and June 2024) that 240 works out of 286 works were completed with delays ranging between 18 days and 2,155 days between the year 2017 and 2023, with an average shortfall of 424 days. Thus, there was a shortfall in achievement in completion of road works from 72.73 per cent to 96.77 per cent.

Out of these 286 works, three were EPC projects. Audit observed that two out of three EPC contracts were finished ahead of the scheduled completion date, resulting in the EPC contractors receiving a bonus for early completion.

In the Exit Conference (June 2025), the Government accepted the fact and stated that the work progress has been improved in 2023 and thereafter.

The reply confirms that the Department failed to timely complete the works executed during the Audit period.

¹⁴ Compensatory Afforestation Fund Management and Planning Authority.

1.2.3 Taking up of road works without assessment of Benefit Cost Ratio

As per the provisions of IRC: SP:30-2009 (Manual on Economic Evaluation of Highway Projects), preparation of Detailed Project Reports (DPRs) for road infrastructure projects should include an economic appraisal using the Benefit-Cost Ratio (BCR) to assess the economic viability of proposed investments. The Department of Economic Affairs (DEA) also mandates inclusion of economic analysis in Externally Aided Projects (EAPs) to ensure cost-effective utilisation of multilateral loan funds.

Audit scrutiny of the Request for Proposals (RFPs) issued by the Madhya Pradesh Public Works Department (MPPWD) indicated that the RFPs did not contain any provision mandating the computation of BCR or any other form of economic evaluation. The Terms of Reference (TOR) of the consultants focused primarily on technical aspects such as traffic projections, engineering surveys, and cost estimates, but did not include economic viability assessments.

The DPRs submitted by the consultants did not include BCR analysis or economic justification for any of the proposed road works. In contrast, DPRs prepared under ADB-funded projects implemented by Madhya Pradesh Road Development Corporation (MPRDC) contained detailed BC Ratio assessments in line with appraisal norms, indicating non-uniform practices across in execution of EAPs under PWD, despite similar project objectives and financial sources.

The omission of BCR analysis, especially in NDB-funded projects, reflects a significant lapse in planning and prioritisation, undermining transparency and economic justification in the selection of road projects. It also indicates a lack of internal controls during both RFP formulation and DPR review by the implementing agency.

In the exit Conference (June 2025), the Government accepted the recommendation to finalise a Master Plan prioritising road project based on Benefit-Cost Ratio (BCR) analysis, to ensure economic viability and systematic expansion, monitored by the Government.

Necessary action from the Government is still awaited (July 2025).

1.2.4 Misutilisation of Central Road Fund on utility shifting

As per the MoRTH's standard norms for issuing sanction orders read with CRF Rules, 2014, the cost of land acquisition and utility shifting is to be borne by the State Government and cannot be charged to CRF/CRIF funds. The CRIF Guidelines (January 2020) also reiterate that such expenditures are not permissible under the central share.

Audit noticed (between August 2023 and October 2023) in two roads¹⁵ in two Divisions (Gwalior and Dewas) that ₹ 48.00 lakh and ₹ 108.54 lakh were paid towards shifting of electrical poles and ₹ 161.88 lakh¹⁶ towards land acquisition in forest area from the CRIF, in violation of MoRTH's sanction order dated January 2020. Further, the Department furnished incorrect information to MoRTH, while certifying the availability of ROW and the relocation of utilities. This resulted in irregular diversion of CRIF amounting to ₹ 3.18 crore.

¹⁵ Shivpuri loop to Sheetlamata-Chinor-Dabra road, Gwalior and Six-Lane Road from Maksi Bypass Chauraha to Bhopal Chauraha.

¹⁶ Shivpuri loop to Sheetlamata-Chinor-Dabra road.

In the Exit Conference (June 2025), the Government stated with respect to the Shivpuri loop to Sheetla Mata-Chinor-Dabra road in Gwalior division that to keep the work going, the payment was made. However, the funds have already been sanctioned but due to technical issues, the transfer-entry could not be done. However, no comments were offered with respect to the work of Maxi Bypass to Bhopal Tiraha under CRIF in Dewas division. However, EE, Dewas stated (October 2013) that the work of utility shifting was included in the contract as per the instructions of CE, Ujjain. It was within the scope of work of the EPC contract. As per Schedule B-1 of the EPC contract, the shifting of utilities and felling of trees was to be carried out by the Civil Contractor. The expenditure was to be borne by the contractor and hence the item of utility shifting was taken in the scope of work and payment was made.

The reply is not acceptable because according to the CRIF guidelines and MoRTH's sanction orders, the expenditure on contingency and utility shifting were to be borne by the State Government.

1.2.5 Time overrun due to non-availability of funds

As per Para 2.120 of the MPWD Manual, except as provided below, no work will be commenced, or liability incurred in connection with it until administrative approval has been obtained and funds allotted. Further, the Finance Department, GoMP has issued (May 2009) instruction to the Works Departments of MP that the tenders for works costing more than ₹ one crore should be called only after ensuring availability of financial resources.

Audit noticed (May 2023 to March 2024) that in 33 road works of 17 Divisions involving expenditure of ₹ 319.62 crore (**Appendix 1.2**), there were delays ranging from 60 days to 1,046 days in completion of works due to non-availability of funds. However, from the data provided by the Office of the E-in-C, Audit observed that there was recurring saving in the allotment during the period from 2018-19 to 2022-23. This indicated that the allotment to the Divisional Offices was not adequately made available during the year, or excess allotment was provided at the fag end of the year, indicating poor financial management.

In the Exit Conference (June 2025), the Government accepted the fact and stated that the delays occurred due to non-availability of funds on multiple occasions.

The fact remains that poor financial management exists within the Department.

1.2.6 Unrealistic estimation resulting in revised Technical Sanction

As per MP Financial Code, all expenditures should be incurred with proper sanctions of the competent authority and within the sanctioned limits. Saving, if any, shall be surrendered to the Government and it shall not be utilised for other non-sanctioned works/ items without competent approval. As per Para 2.006 of the MPWD Manual, for every work a detailed estimate must be prepared for the 'Technical Sanction' (TS) of the competent authority, and it must not exceed the sanctioned expenditure.

Audit observed instances of violation of the above instructions as follows:

Para 1.2.6.1	In 15 works of 10 Divisions (Appendix 1.3), 93 items worth ₹ 19.13 crore which existed in the sanctioned estimates were not executed or executed in lesser quantities whereas 177 extra items/ excess quantities worth ₹ 67.35 crore which did not exist in the sanctioned estimates were got executed by the Department.
Para 1.2.6.2	In all 15 works there were 76 non-BOQ items of filter media, PCC M 15 in foundation, RCC railing M 30 grade, CC railing M 30 grade HYSD bar and construction of embankment, etc., amounting to ₹ 25.10 crore were executed beyond the sanctioned estimates. As per RFP for DPR consultants (FIDIC works), for variation of more than 15 <i>per cent</i> between original and revised estimates, penalty equivalent to five <i>per cent</i> of the DPR consultancy fee is leviable.
Para 1.2.6.3	In two packages of NDB projects (Package 1 and Package 10) items worth ₹ 43.16 crore were executed in excess of the sanctioned estimates as per BOQ, while items worth ₹ 18.00 crore were not available in BOQ but were executed (total variation: 19.22 <i>per cent</i>).
Para 1.2.6.4	In new packages of NDB projects (Dr. Shyama Prasad Mukherji Nagar Marg Kolar Bhopal), original estimate was ₹ 233.14 crore, while revised TS was granted for an amount of ₹ 302.60 crore, reflecting an increase of ₹ 69.46 crore (29.79 <i>per cent</i>). Major components such as CD works (136.29 <i>per cent</i> increase), electric pole shifting (128.12 <i>per cent</i> increase), dismantling (56.72 <i>per cent</i> increase) and sewer line chambers (80 <i>per cent</i> savings) exhibited abnormal variations. Additions like Smart City utility shifting, signage, and price escalation amounting to over ₹ 49 crore were not part of the original scope and were included post-facto, without corresponding revision of administrative approval.

In all the above cases, the significant deviations from approved estimates clearly indicate that the estimates were not based on realistic data/ survey. Further it vitiates the entire process of tendering where the L1 bidder after award of contract can increase the contract value through escalations which are duly approved by the Department through revised TS. No action has been taken in any of the cases against the DPR consultants which also points to systemic lapses in the entire estimation and revision of TS process. This needs further investigation and fixing of responsibility.

In reply, the Government stated (June 2025) that in all such cases revised technical sanctions were obtained. The Director NDB Project stated that the variation in the project cost was due to a change in plan & profile due to site conditions which were not in the original scope of the DPR Consultants.

The replies support Audit contention that original estimates were not properly drawn.

1.3 Conclusion

The audit highlighted significant financial management shortcomings in road infrastructure projects funded by CRF/CRIF, NABARD, NDB, and the State Plan Budget. Substantial allocations were often not fully utilised, resulting in savings and highlighting areas of inefficiency. Key issues included misutilisation of funds for unauthorised purposes like utility shifting, and irregular expenditures on non-sanctioned forest clearance and land acquisition. The underutilisation of NDB loans led to significant unspent funds and only 91.15 *per cent* of the targeted road length could be completed. Additionally, avoidable commitment charges and unwarranted overpayments were noted.

Delays and discrepancies in project execution due to inadequate fund management and unrealistic estimations led to unauthorised expenditures.

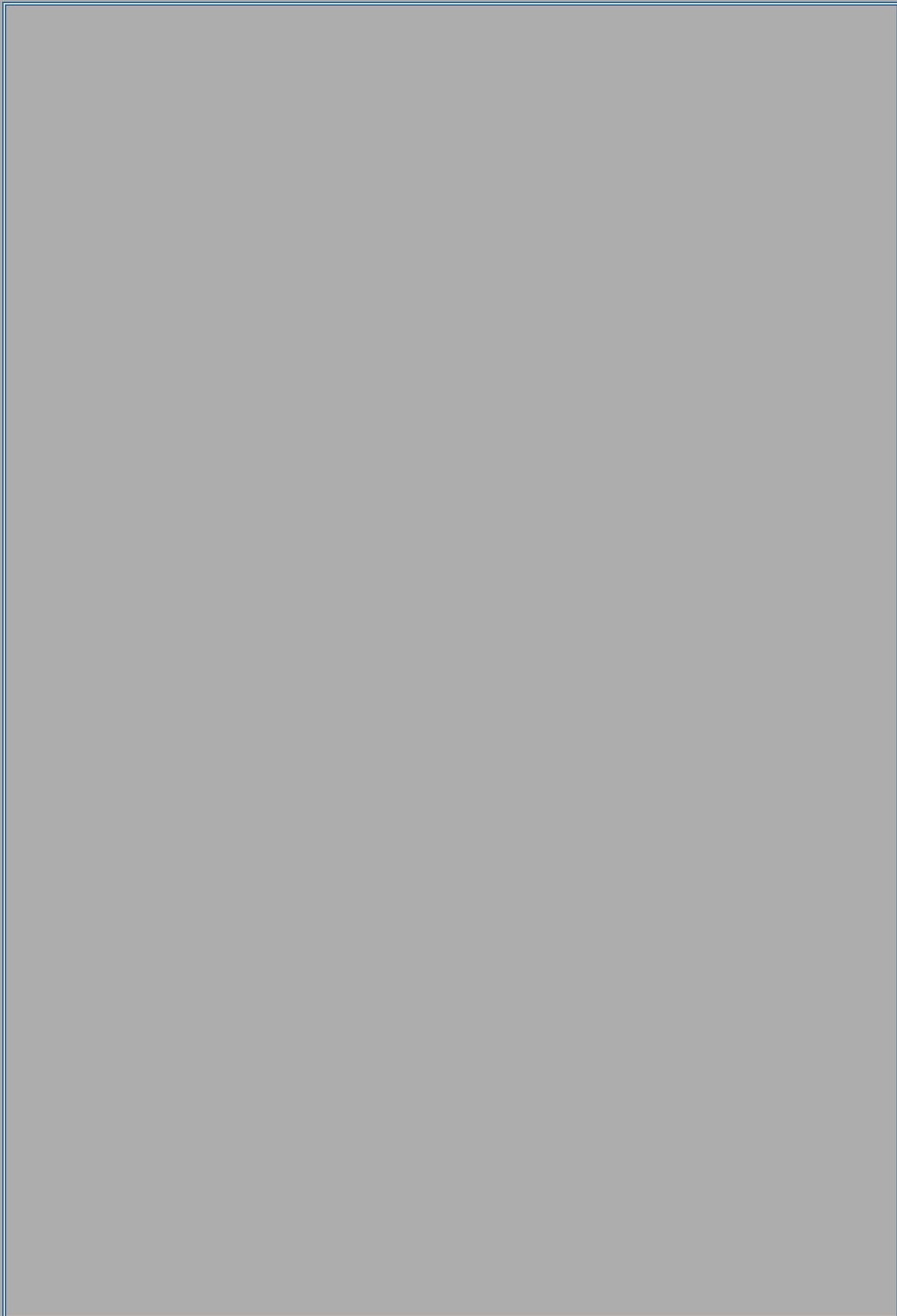
The decrease in road length points to likely saturation in road network, resulting in upgradation of existing roads rather than focusing on creating greenfield networks. Absence of master plans and strategic plans means that the Department has no term vision on how to efficiently utilise the resources to increase or improve the road coverage in the State. The fact that the GoMP has also not assessed the road network plan or created a vision document reflects in the bottom down absence of vision in the Department. Non-updating of the Works Manual since 1983 is also a matter of concern which needs immediate intervention.

1.4 Recommendations

It is recommended that:

- *The Department should take urgent steps to update the MP Works Manual by incorporating the latest guidelines, orders etc.*
- *The Department should prioritise road projects based on Benefit-Cost Ratio (BCR) analysis to ensure economic viability of projects.*
- *The Department should implement consultancy recommendations through a time bound plan with accountability and monitoring to ensure effective utilisation of capacity building funds in future projects.*

CHAPTER – II: Planning – Design & Estimation

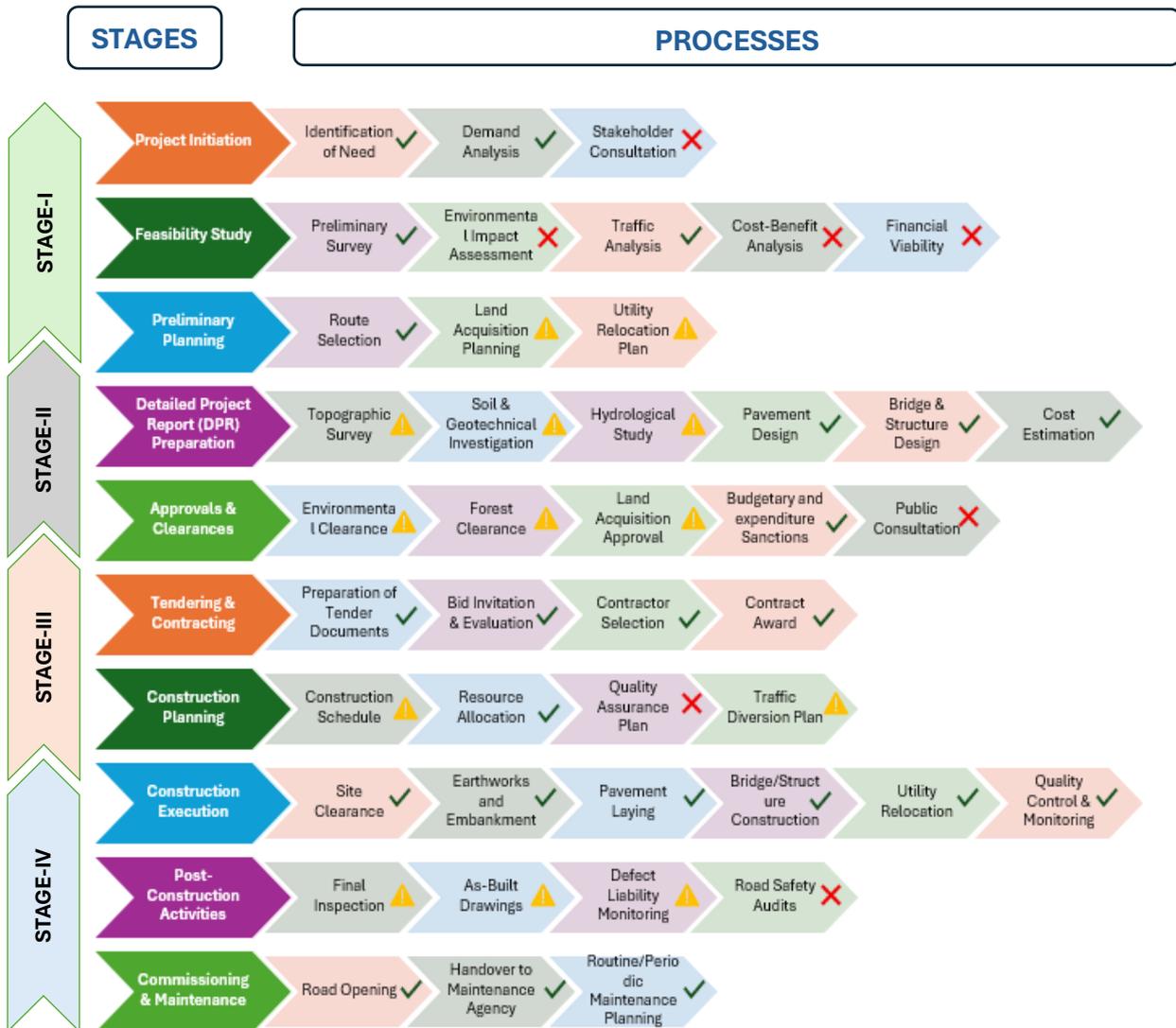


CHAPTER II: PLANNING – DESIGN & ESTIMATION

2.1 Introduction

Effective planning plays a crucial role in the success of infrastructure projects as it can help in ensuring that roads are built on schedule, stay within budgetary limits, and fulfil quality requirements, thus enhancing connectivity and fostering regional socio-economic progress.

The stages of planning involved in a road project are as follows:



Audit in course of the Performance Audit examined the processes followed by the Department for each of the prescribed stages as per IRC: SP: 19-2001.

Followed ✓ **Not followed** ✗ **Partially followed** ⚠ have been marked accordingly.

Each of these stages is interdependent on the other, and the success of the project depends on proper and timely execution of each stage of the planning process.

Audit observed deficiencies in every stage of planning which have not only resulted in time/cost overruns, but have also resulted in non/delayed implementations, affecting not only the overall infrastructure development scheme of the State Government/Government of India but also causing losses to the exchequer. Details are discussed in subsequent paragraphs.

2.2 Stage-I Planning

2.2.1 Non-existence of Road Asset Management System (RAMS) and Road History (RH)

Clause 5.3.5.2 of IRC:130-2020 provides that pavement structural data are usually collected at different frequencies, depending on the road class. Pavement strength data are collected in three to five years intervals. The frequency needs to be sufficient to identify major changes that will influence road maintenance decisions.

Audit noticed (April 2023 to June 2024) that Road Asset Management system and Road History records were neither being maintained offline nor any IT application is implemented at any level in MPPWD including the Divisional Offices (EEs), Controlling Offices (CEs), and even the Apex Office (Engineer-in-Chief). Crucial documentation such as pavement composition history, pavement performance data, and other essential historical records related to roads were found to be completely absent or neglected. This has significantly undermined the department's ability to make informed/data-driven maintenance and investment decisions.

Moreover, since no comprehensive road history is maintained by the Department, it becomes challenging to track the condition, usage, and performance of previously executed road works. Even when higher-grade specifications such as M-40 concrete and PMB-40 bitumen are used, the absence of proper road history documentation can lead to premature dismantling of the crust, leading to unnecessary upgradation of the road, well before reaching end of its intended design life, causing avoidable loss.

The absence of these critical records has led to poor prioritisation of maintenance activities, inefficient allocation of funds, and premature upgradation and strengthening of road works. Few cases highlighting poor planning because of lack of RAMS and RH are highlighted below:

Amarpatan-Rampur Road, Satna Division	Even though the traffic decreased from three million standard axles (MSA) to two MSA, the road which had been constructed in 2011, was prematurely upgraded to CC road in 2016 at a cost of ₹ 30.74 crore, one year after the defect liability period (DLP). The useful life of the road planned in 2011 was never attained.
Jhinna-Charki Ghati Road, Satna Division	Work was taken up in April 2017 at a cost of ₹ 5.72 crore. The work was foreclosed in June 2022 due to delays, after incurring a cost of ₹ 5.12 crore. At the time of foreclosure, the road was in a complete motorable state (surface wearing course completed) except for road markings, which indicate that the road was useful for the next 10 years (as per design life). However, without assigning any reasons, PWD transferred the road to MPRDC for two-lane upgradation. This rendered the entire expenditure of ₹ 5.12 crore as wasteful.
Pichore-Dinara Road, Shivpuri Division	MDRs are upgraded village roads/ODRs. In case of Pichore-Dinara Road, out of 22.90 kms, 7.40 kms road length passed through forest area which was not an original village road/ODR. Inclusion of this road length in the total road length taken up at a cost of ₹ 25.16 crore was irregular. This road stretch was never constructed and consequently the Pichore-Dinara road remains abandoned after incurring an expenditure of ₹ 15.02 crore.
Bhaugarh-Dalauda-	MDR upgradation was taken up for a total road length of 44.20 kms at a cost of ₹ 63.94 crore. After administrative approval, PWD noticed that only 12.70 kms was available for upgradation, as the

Sitamau Road, Mandsaur Division	balance 31.50 kms had already been constructed under PMGSY Scheme in 2017 and the road was under DLP up to November 2020. CE, Ujjain awarded the work (funded by CRF) for only 12.70 kms in 2016 at a cost of ₹ 16.06 crore, and thereafter, the balance road length of 31.50 kms, which had only been recently constructed under PMGSY, was also taken up for upgradation in 2021 (at a cost of ₹ 40.01 crore), immediately after expiry of the DLP, thereby rendering the entire cost of construction under PMGSY as infructuous.
Asirghar- Dhulkot- Ghatakhedi- Pandhana Dulhar	Audit noticed in April 2024 that the contractor failed to complete the construction of cross drainage structures along the road alignment passing through the forest area, despite it being included in the scope of work under the BOQ. The contract was finalised on 15 July 2023, leaving 16 cross drainage structures, valued at ₹ 3.98 crore, unexecuted. Additionally, the shoulders on either side of the road were constructed with inadequate width. Such deficiencies may affect road durability and public safety.
Rodiya- Umaria- Bangaon- Maltar- Madaraniya- Khurampura (NDB)	Out of the 63.82 km road under NDB Package No. 06 in Khargone Division, 16.76 km passed through forest land, where the available Right of Way (ROW) was restricted to 6.00 m. The Forest Department had permitted the construction confined within the available ROW. However, audit observed in June 2024 and February 2025 that the measurement of road was recorded with a pavement width of 5.5 m and a formation width of 10 metre. However, during physical inspection, it was found that the shoulders were constructed with inadequate width, despite full payments being made for the complete formation width. This indicates not only an unauthorised execution of ₹ 7.18 ¹⁷ crore but also excess payment of incomplete execution of road width, pointing to systemic lapses in planning and adherence to contract terms.

The cases are only illustrative and not exhaustive, but they show how the Department ignored previous road history and carried out/awarded upgradation works based on *ad-hoc* decision without robust scientific process, incurring significant expenditure in the process.

In the Exit Conference (June 2025), the Government accepted the fact and stated that RAMS is being developed, and all the data are being compiled, even data regarding the status of tree plantation and maintenance is also being compiled.

The assurance of the Government about ongoing data compilation and RAMS development at the transition stage does not address the core concern. This has impacted on the quality and timeliness of asset management and decision-making, defeating the objective of proactive maintenance planning.

2.2.2 Non-preparation of Master Plan

As per various provisions outlined in IRC, a comprehensive master plan prepared by the PWD, should typically cover:

Network Planning	Principles for developing an efficient road network, including hierarchy of roads (National Highways, State Highways, Major District Roads, Other District Roads, Village Roads).
Traffic Studies	Guidelines for conducting traffic surveys, forecasting future traffic, and assessing traffic capacity of roads.
Geometric Design	Standards for various geometric elements like lane widths, medians, shoulders, curves, gradients, and sight distances.
Pavement Design	Specifications for the design of flexible and rigid pavements, considering traffic load, subgrade strength, and material properties.

¹⁷ ₹ 1.3465 crore/ km (₹ 207.32 crore contract amount / road length of 153.975 km) Pro-rata cost of 1.75 (widening portion) = $1.3465 \times 1.75/5.50 = ₹ 42.84$ lakh per km Total length involved in forest area (16.76 km) = ₹ 42.84 lakh × 16.76 km = ₹ 7.18 crore.

Structures	Guidelines for the design of bridges, culverts, and other road structures.
Drainage	Principles and specifications for surface and subsurface drainage systems.
Road Safety	Integration of road safety features, traffic control devices, and safety audits.
Land Acquisition	Considerations for land acquisition and defining appropriate ROW for various road categories.
Environmental Social Aspects	Guidelines for addressing environmental impacts and social considerations in road projects.
Financial Planning	While not exclusively an IRC domain, Master Plans often include financial feasibility and funding strategies.
Maintenance & Management	Strategies for the long-term maintenance and management of the road network.
Technology Integration	Recommendations for utilising modern technologies like GIS for asset management and project monitoring.

It is important that a Master Plan is prepared by the agency responsible for development of roads, so that all activities relating to the roads such as construction, upgradation and maintenance can be taken up systematically within the framework of this Master Plan. Further, for long-term planning which will aid in sustainable development and efficient use of resources, a Strategic Plan for road network construction is also required. Strategic Plan should detail specific goals and priorities while creating a policy framework to guide decisions on infrastructure investments.

The PWD, GoMP has not prepared any Master Plan, Strategic Plan or Annual Plans. Therefore, the Department was unable to prioritise upgradation, strengthening, and renewal projects of roads coming under its jurisdiction. This lack of planning is reflected in the various deficiencies in project identification, resource allocation, environmental clearance process, *etc.*, which have been suitably brought out in this Report.

It may be highlighted here that MP Rural Roads Development Authority, an agency responsible for development of rural roads under PMGSY, has developed a master plan and all activities such as construction, upgradation and maintenance are taken up within the framework of this plan. Further, several states¹⁸ across India have implemented/initiated the process of preparing master plans, which highlights the importance of these Plans.

In the Exit Conference (June 2025), the Government accepted the fact and stated that the planning for preparation of master plan is being worked out. It is slightly difficult to precisely craft a master plan in this Department owing to various kind of roads and their utilities.

Necessary action from the Government is still awaited (July 2025).

2.2.3 Infertuous expenditure on road work in submerged areas

As per IRC: SP:19-2001 – Guidelines for Road Alignment, selection and improvement of road alignments must consider safety, cost-efficiency, and environmental impact. In cases where an

¹⁸ Kerala, Maharashtra, Himachal Pradesh, Uttar Pradesh, Assam, *etc.*

existing road is likely to be submerged due to infrastructure development (such as reservoirs or dams), it is essential to identify and assess suitable alternate alignments.

Audit noticed (July 2023) that the Agreement for NDB Package 12 Comprising of Udaipur-Bamaura-Pathari stretch up to Bina River Road (length 28.10 kms of which 23.60 kms was declared as MDR) was executed in September 2018 at a cost of ₹ 47.07 crore. In the same month, the GoMP, WRD accorded Administrative Approval for construction of “Hanauta Irrigation Project” in Sagar District. Despite knowing the fact that this Irrigation Project will submerge one stretch of the road (from CH 23700 to CH 28100, 4.40 kms), the Director, NDB continued with the project, without planning an alternate alignment.

Thereafter, an inspection team comprising the EE, PWD, Vidisha and the EE, WRD, Sagar conducted (10 November 2020) a joint inspection to assess the portion of the road that would be submerged, following which, EE, WRD issued a ‘recommendation note’ to not proceed with the road construction in the submerged area. However, the PWD continued with the project and the expenditure incurred on the portion of the road which was to come under submergence was ₹ 5.94 crore (August 2023).

As per the present situation (March 2025), the portion of the road has come under submergence, as already forewarned by the EE, WRD, Sagar and the WRD has already provided funds (₹ 6.30 crore) for shifting the road. Thus, execution of road works without prior coordination with concerned line Departments, the expenditure of ₹ 47.07 crore incurred on the project has been rendered infructuous. Particularly, although the road was completed, it remains non-functional, and even the stretches not affected by submergence are unusable, thereby defeating the intended objective and resulting in avoidable loss to the public exchequer.

In the Exit Conference, the Government stated (June 2025) that due to delay of four to five years in Dam construction, the construction of the road was based on the demand from the Public Representatives.



Submerged and closed alignment of the Udaipur-Bamaura-Pathari Road

The reply is not acceptable as public sentiment cannot be a rationale for poor planning. Instead of planning for alternate routes based on advance information received from WRD, the PWD constructed a road which remains unusable, thereby affecting both infrastructure utility and local community interests.

2.2.4 Extra cost on unnecessary widening of road

As per the guidelines issued (December 1999) by the MoRTH and circular issued (August 2010) by the E-in-C, the traffic that should be considered for design improvement of the road should be based on the expected volume of traffic at the end of design life with the specified traffic growth rate. The capacity of road that could cater for the traffic for the design life is as detailed below:

Traffic volume up to 4,000 PCU	Single lane having a formation width nine metre and carriage width 3.75 metre.
Traffic volume above 4,000 PCU up to 10,000 PCU	Intermediate lane having formation width 10 metre and carriage width 5.50 metre.
Traffic volume above 10,000 PCU	Double lane having formation width 10 metre and carriage width seven metre.

Audit noticed (between April 2023 and May 2024) in the cases of improvement and up-gradation of 19 road works of six packages¹⁹ (**Appendix 2.1**) taken up through NDB loan that the designed traffic in terms of PCUs at the end of the design life of 15 years from the year of completion ranged between 841 PCUs and 3,819 PCUs, for which carriage width of 3.75 m was sufficient for the design life period. However, due to poor planning, the design provided for unnecessary widening of carriage width from 3.75 m to 5.50 m for 446.77 kms of road length (flexible pavement), resulting in extra burden of ₹ 84.75 crore²⁰ on the exchequer.

In the Exit Conference (June 2025), the Government accepted the observation.

The fact remains that unnecessary widening led to extra burden on the exchequer.

2.2.5 Land Acquisition

Note 3 of Para no. 2.104 of the Madhya Pradesh Public Works Department Manual further provides that notifications for the acquisition of land required for any work must be submitted before the work order is allotted. In December 2014, the E-in-C directed that tenders should not be issued unless the Department has possession of the required land. Furthermore, if it becomes necessary to issue a tender under such circumstances, prior approval must be obtained from the Chief Engineer of the respective zone.

Audit noticed several cases of violation of the above provisions as mentioned below:

Name of the road	Observation	Department's Response and Audit Rebuttal
Kaliyashot Dam to New Bypass 11 Mile Road, Bhopal Division	<p>The construction of road, Kaliyashot Dam to New Bypass 11 Mile Road was to be completed within 20 months (10 March 2021). Due to failure of the contractor to achieve the milestones, the Agreement was terminated (14 November 2019) by the CE. The contractor approached (September 2020) the Arbitrator, and the Agreement was reinstated (February 2021) with the condition the contractor would not demand/ claim anything in future.</p> <p>Audit noticed (January 2024) that the work could not be completed, and the Agreement was foreclosed (10 February 2021) because the Department failed to hand over the ROW to the contractor. Surprisingly, the Department called tenders and awarded the balance work to another contractor for completion up to 09 March 2022 even in the absence of clear ROW. The second contractor also failed to achieve the milestone, and the work is still incomplete (January 2024). Total wasteful expenditure incurred: ₹ 4.48 crore.</p>	<p>In the Exit Conference (June 2025), the Government did not offer any specific reply to these paragraphs. However, in similar issues, it was stated that circular has been issued to award the work only after land acquisition.</p> <p>The fact remains that mere issuance of a circular directing that work be awarded only after land acquisition does not adequately address the issue; its strict and effective implementation is essential to</p>

¹⁹ Package 1,5,6,9,12 and 14.

²⁰ 446.771 km at the rate of ₹ 18.97 lakh per km excluding tender premium and GST.

Name of the road	Observation	Department's Response and Audit Rebuttal
	Due to lack of planning and foresight of the Department to ensure timely handover of the right of way (ROW) to contractors, the project remains incomplete even after four years of time overrun.	ensure compliance and prevent recurrence.
Misrod to Salaiya Road, Bhopal Division	The work of construction of Misrod to Salaiya Road was awarded to a contractor in November 2016. Due to slow progress, the work was terminated in May 2020. Audit noticed (January 2024) that the work was re-awarded to another contractor for completion up to 30 June 2021. This contractor also failed to achieve the milestone due to failure of PWD to provide a clear ROW and existence of sewer line. The work was completed with a delay of 303 days.	
Bangrasia - Bilkhiria - Amjhara Road, Bhopal Division	The work of construction of Bangrasia - Bilkhiria - Amjhara Road was awarded (June 2016) to a contractor for completion up to February 2018. As the work was delayed by 1,590 days, it was foreclosed in June 2022. The Department foreclosed the Agreement due to failure to provide a clear ROW to the contractor. However, the Department again called for tender without ensuring a clear ROW. As the new tender provides for price adjustments, it is likely to lead to cost overrun besides a time overrun of more than four years.	
Construction of Bankhedi - Umardhar Road	The work of construction of Bankhedi – Umardhar Road was declared completed in April 2022 after an expenditure of ₹ 56.15 crore. A stretch of 2.90 kms (from Ch. 15+300 to 18+200) however, remained unconstructed (July 2023) due to the unavailability of land whereas the DPR had stated that no land acquisition was necessary for this section. Total cost overrun incurred: ₹ 11.25 crore ²¹ .	

2.3 Stage-II Planning

2.3.1 Award of work based on misleading statement of facts by the DPR consultant/ SE without topographic survey

Package No. 05 NDB project under PWD, Khandwa includes eight road projects, including the Bhawasa to Jambupani road (total road length: 18.040 km), in which 14.840 km was included for upgradation and reconstruction under the NDB project, at an estimated cost of ₹ 42.49 crore.

The contractor quoted (5.18 *per cent* below) the rate of ₹ 323.57 crore for the entire project under Package No. 05 (eight road projects), however, after awarding the work, the entire 14.840 stretch of Bhawasa - Jambupaani road was deleted (September 2021) from the scope of work. The reason for deletion (as stated by SE in his August 2020 proposal) was the 132 sharp curves in the road, which made construction difficult.

The DPR consultant in his proposal/report (May 2018) confirmed that the road alignment was most suitable based on surveys (topographical, geotechnical, *etc.*). The fact that the SE later stated that construction was difficult on the road due to sharp curves, in sharp deference to the consultant's report clearly indicates that either DPR consultant or the SE had misrepresented

²¹ Contract Price for 33.80 km = ₹ 49.11 crore
 Cost for execution of 30.90 km (33.80 km-2.90 km) = ₹ 49.11 crore × 30.90 km / 33.80 km = ₹ 44.90 crore
 Expenditure incurred in execution of 30.90 km = ₹ 56.15 crore
 Cost Overrun = ₹ 56.15 crore - ₹ 44.90 crore = ₹ 11.25 crore

facts. Further, Audit is of the view that if the Department had de-scoped the work prior to bidding process, comparatively lower rates could have been elicited from the participating contractors.

In the Exit Conference (June 2025), the Government agreed with the audit findings and stated that the process of DPR preparation needs to be strengthened through more thorough preliminary studies.

Necessary action from the Government is still awaited (September 2025).

2.3.2 Under utilisation of excavated soil despite suitable soil characteristics for road projects

If Free Swelling Index (FSI) of expansive clay is less than 50 *per cent*, it can be used in non-expansive soil for constructing sub-grades and the top 500 mm of the embankment.

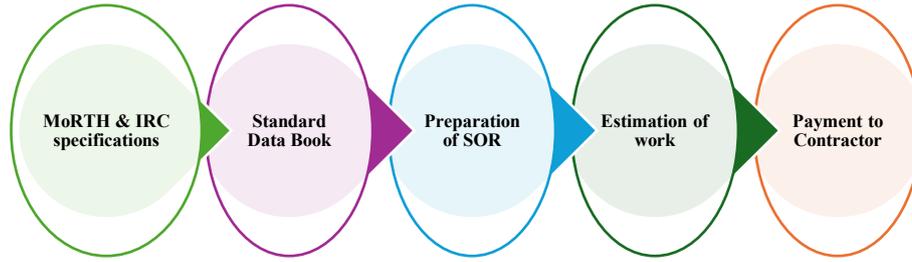
Audit noticed (between July 2023 and June 2024) in seven road works of seven Divisions that 28,94,570.57 Cu. M. of soil was obtained from excavation at the site. The contractors had utilised only 11,41,898.77 Cu. M. of excavated soil in construction of embankment, out of the stated quantity, while utilising 11,08,433.63 Cu. M. of soil from borrowed pits.

Non-conducting of test on the remaining quantity of available excavated soil and instead utilising 11,08,433.63 Cu. M. of soil available from borrowed pits was irregular. This has resulted in likely avoidable expenditure amounting to ₹ 5.57 crore as detailed in **Appendix 2.2**. It is also important to note that despite the excavated soil having a FSI of less than 50 *per cent* (in case of NDB Project Package No. 3 – Ratlam and Maxshi Bypaas to Bhopal Chauraha Road in PWD (B&R) Division, Dewas), it was not used in embankment construction.

In reply, the Government stated (June 2025) that all necessary soil tests (OGL Tests) were conducted to ascertain the quality of the material such as FSI (<50 *per cent*), Particle size, CBR (>seven *per cent*), *etc.* The majority of the constructed roads were previously Other District Roads or Village Roads, constructed with a width of 3.75 m and most of the excavated material for these roads was found unsuitable for reuse due to its poor quality. The reply is not acceptable because FSI tests were not conducted (barring Ratlam and Maxshi Bypaas to Bhopal Chauraha Road), in order to determine the usability of the soil. Further, if the roads had earlier been constructed using material of inferior quality, the same should not have been provisioned for reuse in the estimates.

2.3.3 Discrepancy in Schedule of Rates by MPPWD regarding Embankment and Subgrade Items

The Schedule of Rates (SOR) is prepared based on MoRTH and IRC specifications, using the Standard Data Book to define item-wise rates. These rates are then applied for work estimation and form the basis for contractor payments.



According to IRC:36-2010 and IRC:37-2018 guidelines, embankment and subgrade construction are explicitly treated as distinct items due to significant differences in their technical specifications, compaction levels, and quality control requirements. Embankment ensures structural elevation, while subgrade requires higher strength and quality standards. Merging both complicates cost estimation, billing, and quality control, and increases the risk of premature pavement failure. The MoRTH Standard Data Book clearly provides separate rate analyses for embankment and subgrade to ensure accurate budgeting, financial transparency, and technical quality.

Audit scrutiny revealed that the MPPWD Schedule of Rates has consistently merged embankment and subgrade items into a single combined item (named as ‘Construction of embankment with material obtained from borrow pits’) in successive SORs, as depicted in **Table 2.1**.

Table 2.1: Statement showing item rate of ‘Construction of Embankment with Material Obtained from Borrow pits’ as per different SORs

Date of SOR	03-11-2014	06-06-2016	29-08-2017	25-03-2022	11-04-2025
Item no. 03	3.13	3.10	3.10	3.13	3.13
Rate of item	178	160	144	155	298

This practice contradicts standard practices and guidelines and poses significant technical risks by undermining subgrade quality control measures and lack of transparency in measurements and payments.

The adverse impact of this discrepancy is highlighted in the sub-paragraph below.

Extra cost due to incorrect estimation of earth work

As per Clause 3.3 of IRC: SP:72-2015, a design life of 10 years is recommended for purposes of pavement design for flexible pavements in the event of roads being either Ordinary District Road or Village Road. Clause 4.1.1 of IRC: SP:72-2015 specifies sub-grade thickness of 300 mm for rural roads whereas IRC:37 specifies a thickness of 500 mm for urban roads.

The E-in-C had issued (November 2015) a circular which suggested use of embankment/subgrade, up to 5,000 Cu. M. *per* km for intermediate lane roads and up to 7,000 Cu. M. *per* km for two-lane roads. The estimated quantity of subgrade needed for a single-lane 3.75 m wide road works out to be a maximum of 3,000 Cu. M. *per* km. Additionally, the E-in-C, also instructed that if subgrade is needed beyond the specified quantity, it must be included in the Technical Report of the DPR.

Audit noticed (between May 2023 and February 2024) in 27 road works (ODR/Village Roads of road length 284.331 kms) of 10 Divisions that embankment/ subgrade was executed with

17,48,082 Cu. M. soil, instead of the specified requirement of 9,57,668 Cu. M. This resulted in additional cost of ₹ 12.28 crore.

In case of NDB-funded projects (e.g., Packages 03, 05, 06, etc.), the Department included a separate non-SOR item 'Construction of Embankment with approved material having CBR five per cent' for embankment construction with the rate of ₹ 110 per Cu. M., as opposed to the combined rate of ₹ 144 per Cu.M., which was taken into consideration in case of other projects. This also highlights that the Department was aware of the need to treat embankment and subgrade as distinct items in the SOR.

Had the Department included a separate item for the construction of embankment in the SOR, the payment would have been made at a ₹ 34 per Cu. M. lower rate (₹ 144 - ₹ 110 as per SOR 2017), limiting the additional cost to ₹ 9.41 crore²² (potential saving of ₹ 2.87 crore).

In the Exit Conference (June 2025), the Government assured to issue a corrigendum to the SOR 2025 in this regard.

Necessary action from the Government is still awaited (September 2025).

2.3.4 Systemic deficiency resulting in non-conduction of Benkelman Beam Deflection Test to determine strengthening requirement

As per IRC, strengthening (IRC:81-1997) involves improving the structural capacity of an existing road through overlays based on Benkelman Beam Deflection Test²³. In contrast, new construction refers to building a road from scratch, including subgrade, base, pavement layers, and related infrastructure on a new alignment. The design of new roads is guided by IRC:37-2018 for flexible pavements and IRC:58-2015 for rigid pavements, which specify pavement thickness and layer composition based on traffic load, subgrade strength, and environmental conditions to ensure long-term performance.

Audit observed that PWD, GoMP does not follow the system of BBD test to determine the strengthening requirements for roads. It was observed that the BBD test was neither conducted during the preparation of the DPR/ Detailed Estimates nor during execution to assess the requirement of the overlay course in all the 47 works under "Strengthening" in the 25 divisions. Not using BBD tests to determine strengthening resulted in unwarranted expenditure on unnecessary works as discussed below:

19 roads in 16 Divisions

Road strengthening projects did not adhere to the prescribed procedure outlined in IRC:81-1997. Instead, of execution of strengthening work on the basis of guidelines prescribed for the BBD tests, the estimates were prepared as new construction, following IRC 37 guidelines. Despite the need for only Bituminous Bound overlay and surface corrections such as filling cracks, potholes, ruts, and undulations, the inclusion of earthwork and Crusher Run Macadam (CRM) across the entire stretch not only deviated from BBD test requirements but also incurred an additional cost of ₹ 26.40 crore.

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (between April 2023 and May 2024) that estimates were based on physical surveys

²² Extra Cost = ₹ 12.28 crore - (17,48,082 Cu. M. - 9,03,770 Cu. M.) × ₹ 34 per Cu. M. = ₹ 12.28 crore - ₹ 2.87 crore.

²³ Benkelman Beam Deflection test is a non-destructive method used to evaluate the structural capacity of existing flexible pavements and determines the need for and thickness of pavement overlays. It measures the pavement's rebound deflection under a standard wheel load, providing valuable data for pavement management and rehabilitation planning.

showing severe damage from heavy traffic. This justified WBM and CRM provisions due to extensive road deterioration.

The reply is not acceptable as the BBD test is superior to physical inspection for estimating road strengthening needs as it provides objective, quantitative data on pavement deflection underload. This test reveals structural weaknesses not visible through surface inspection, enabling accurate assessment of the road's load-bearing capacity. Estimates based on physical inspection potentially include unwarranted items, potentially leading to undue benefit to the contractor.

2.3.5 Wrongful overestimation of traffic data and deficient provision of thickness of Pavement Quality Concrete

As per Clause 6.2.5 of IRC:58-2015, for traffic of more than 450 CVPD, dowel bars are usually provided across transverse joints for load transfer, however, for traffic less than 450 CVPD dowel bars need not be provided.

As per IRC:58-2015, the thickness of rigid pavement slabs is determined based on cumulative traffic loading, specifically the cumulative number of CVPD expected over the design life.

Overestimation of traffic data

PWD (B&R)
Division, Burhanpur

Audit noticed (February 2024) serious discrepancies in traffic data of two roads, Dariyapur-Ambada-Neapanagar Road, 22.055 kms and Asirghar-Dhulkot-Ghatakhedi-Pandhana Dulhar and Dhulkot to Kamal Kheda Road, 38.12 km. Initially, pavement designs were based on traffic volumes of 94 CVPD and 130 CVPD respectively. However, records indicated a sudden revision of traffic volumes to 458 CVPD and 450 CVPD without any valid justification or supporting evidence. This abrupt and unexplained increase in traffic volumes is fraudulent and was done to justify the inclusion of dowel bar without revision of the pavement thickness. Unwarranted inclusion of dowel bar resulted in irregular payment of ₹ 2.37 crore to the contractor and deliberate misuse of public funds.

Deficient provision of thickness of Pavement Quality Concrete

PWD (B&R)
Division, Burhanpur

In the above case, where traffic volume was increased to justify inclusion of dowel bars, there was no corresponding revision in the pavement thickness. For the 'revised' traffic, a minimum thickness of 300 mm of PQC was necessary, against which the DPR provided for only 280 mm thickness, which was inadequate to handle the revised traffic (based on road life design excel sheet as per IRC 58) and would result in premature failure of the pavement.

The failure to revise the pavement thickness despite a substantial increase in traffic volume was a serious design lapse and led to substandard work amounting to ₹ 48.69 crore.

In reply, the Government stated (June 2025) that the original DPR design, based on actual axle load data and 94 CVPD traffic, recommended 280 mm thickness, which was safe and later approved even for revised 450 CVPD traffic. The competent authority sanctioned the same thickness in the revised estimates. The work was executed as per approved design and remains in good condition even after five years. No premature damage was observed, and the department saved ₹ 4.35 crore without compromising quality.

The reply of the Government is not acceptable, as per IRC:58-2015, pavement design must consider cumulative axle load over the design life of 30 years. A fivefold rise in traffic from 94 CVPD to 450 CVPD warranted a revised pavement design. Retaining the original 280 mm pavement thickness raises concerns of under-design. This increases a risk of premature failure, as seen in the case of Dariyapur–Ambada–Neapanagar Road.

2.3.6 Systemic deficiency resulting in unwarranted execution of Dowel Bar for low traffic roads

As per Clause 6.2.5 of IRC: 58-2015, for traffic of more than 450 CVPD, dowel bars are usually provided across transverse joints for load transfer, however, for traffic less than 450 CVPD dowel bars need not be provided.

Audit noticed (between April 2023 and May 2024) in 60 roads of 20 Divisions (**Appendix 2.3**) where traffic was ranging from 40 CVPD to 395 CVPD having most of the traffic volume lying around 97 CVPD, which is much lesser than that required for provision of dowel bar. However, unwarranted execution of 6,886.43 MT of dowel bar led to an extra burden to the exchequer amounting to ₹ 27.49 crore.

In the Exit Conference (June 2025), the Government agreed that dowel bars are required where traffic exceeds 450 CVPD. However, their use is necessary at all construction joints.

The issue remains unresolved awaiting (September 2025) further Government action.

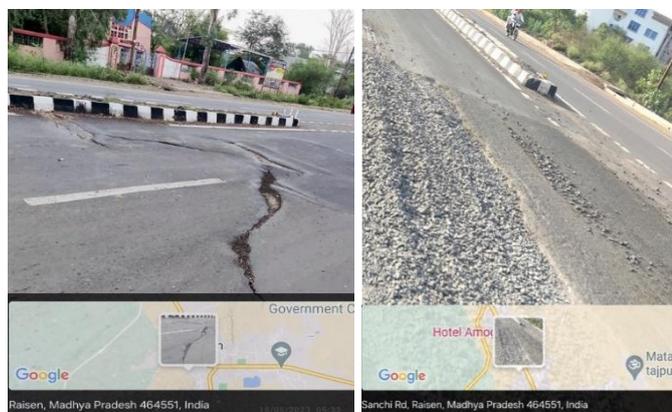
2.3.7 Systemic Deficiency in design on account of limited traffic analysis

Traffic analysis for road design, as per IRC:108-2015, involves assessing current and projected traffic volumes to determine appropriate design parameters. It includes classifying vehicles, calculating equivalent standard axle loads (ESAL), and estimating design traffic over the pavement's design life. The analysis ensures that pavement thickness and structural capacity align with expected traffic growth and axle load repetitions. Accurate traffic forecasting is critical to achieving long-term performance and cost-effectiveness of the road infrastructure.

Instances related to discrepancy in traffic analysis and inaccurate computation of crust are given below:

2.3.7.1 Deficient provision of crust in flexible pavement (under design)

Audit noticed (between April 2023 and September 2023) in five road works of four Divisions (**Appendix 2.4**) that erroneous computation of traffic led to the deficient provision of crusts composition and accordingly sub-par works were executed. In these roads, deficient provisioning in bituminous crust ranged between 10 mm and 30 mm, while in one case, non-bituminous crust had a deficient provision of 50 mm. As a result, the works, valued at ₹ 58.49 crore, failed to meet the required design standards, significantly compromising the structural integrity and durability of the roads. Audit conclusion is further substantiated by the visible deterioration evident during Joint Physical Inspection in one case (Raisen Tigadda to Gopalpur Tigadda Road).



Raisen Tigadda to Gopalpur Tigadda road

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (between April 2023 and September 2023) that the road was designed based on the data obtained from traffic census.

The reply is not acceptable because erroneous computation of crust resulted in deficient provision of thickness of various layers in crust composition which will impact the road and may also end up reducing the intended design life.

2.3.7.2 Extra cost due to provision of richer item for execution of Bituminous Concrete

As per Clause 6.2.2 of IRC:37-2012:

Condition	VG requirement
Traffic up to 30 MSA	Normal bituminous mix with Viscosity Grade (VG) 30 Bitumen
Traffic greater than 30 MSA	Richer bituminous mix with stiffer VG 40 Bitumen

Audit noticed (between April 2023 and June 2024) in seven works of seven Divisions that DPR provided for execution of bituminous surfacing with BC. The road was designed for 5 MSA and CBR seven *per cent*. Therefore, the VG 30 bituminous mix was sufficient for execution of BC. The DPR consultants, however, prepared the estimate with the provision of costlier item, *i.e.*, PMB 40²⁴ without ensuring the actual requirement as per IRC and the contractor executed the work accordingly. This resulted in extra cost of ₹ 1.58 crore as detailed in **Table 2.2** below:

Table 2.2: Details of extra cost due to richer provision of PMB-40 in execution of BC

NDB Package No (Division).	Quoted rates of BC with PMB 40 (in ₹)	Pro-rata Quoted rates of BC with VG 30 (in ₹)	Difference	Quantity executed	Excess payment (in ₹)
01 (Ujjain)	8,400	8,274.85	125.15	20,177.77	25,25,228
06 (Khargone)	8,008	7,888.33	119.67	24,419.00	29,22,139
09 (Gwalior)	8,831	8,699.71	131.29	18,172.68	23,85,826
10 (Shivpuri)	7,800	7,683.57	116.43	25,060.19	29,17,730
15 (Jabalpur)	7,800	7,683.57	116.43	12,365.78	14,39,734
12 (Vidisha)	8,200	8,077.76	122.24	18,406.53	22,50,057
14 (Narmadapuram)	8,012	7,892.93	119.07	11,970.02	14,25,213
Total					1,58,65,927

(Source: Records furnished by the Department)

In the Exit Conference, the Government stated (June 2025) that the decision to use PMB 40/NRMB was based on engineering considerations, including anticipated axle load increase, temperature variations, and distress prevention in high-traffic. The use of PMB 40 was a proactive measure to enhance pavement durability and to minimise maintenance cost.

The reply is factually incorrect as the execution of BC with PMB-40 was completely unwarranted in all these cases where traffic was less than five MSA while IRC allows usage of VG30 even up to 30 MSA. Therefore, the justification of using such a costly item is completely unacceptable. Further, in such a situation the fact that normal VG 30 may have been used in place of PMB 40 also cannot be ruled out, since PMB-40 was absolutely not required for BC execution.

²⁴ Polymer Modified Bitumen (PMB) is bitumen combined with one or more polymer materials. This modification is done with the aim of enhancing the mechanical properties of the bitumen material. PMB is used on road pavements, particularly those that are intended to withstand heavy duty traffic and extreme weather conditions.

2.3.7.3 Unwarranted application of richer specifications in bedding

Bedding is the material laid at the trench bottom to support the pipe, while embankment distributes load, especially for rigid pipes. Cement concrete cradle bedding is used where maximum support is needed, such as heavily trafficked roads or when the fill height exceeds eight metres.

Audit noticed (between December 2023 and January 2024) in four road works across two divisions that despite low traffic volumes (95 CVPD to 172 CVPD), first-class bedding was replaced with costlier concrete cradle bedding (PCC M15), incurring an unwarranted extra cost of ₹ 24.32 lakh.

In reply, the Government stated (June 2025) in respect of Mandsaur – Sanjeet road that concrete cradle bedding was used to enhance load distribution and reduce deformation risk. However, the Government did not offer any comments with respect to the other roads.

The reply is not acceptable as cradle bedding is meant for high-load conditions, which did not apply here. Replacing first-class bedding with costlier concrete cradle bedding was unwarranted given the low traffic volumes.

2.3.8 Extra cost due to adoption of richer specifications

According to the provision of Clause 3.1 of IRC:37-2018, each proposal should be economically designed and include broad aspects to ensure durability and cost-effectiveness in the construction and maintenance of flexible pavement roads. Hence, established guidelines prohibit the unwarranted execution of richer specifications. Such specifications should be applied judiciously and only when justified by specific engineering requirements and conditions.

The issues relating to the deficiencies in design and consequential extra cost are mentioned below:

Unwarranted execution of richer specification in bituminous base and surfacing

[22 road works of 13 Divisions (Appendix 2.5)]

Flexible Pavements for new roads should be designed following IRC: 37-2012 and IRC: SP 72-2015 for urban and rural roads, respectively. According to the specification 1.6.1 and Clause 8 of IRC: SP 72-2015, in the case of a rural road, where the designed traffic is less than two Million Standard Axles²⁵ (MSA) and sub-grade²⁶ CBR²⁷ of more than seven *per cent*, Open Grade Premix Carpet (OGPC) with seal coat should be provided as a bituminous course. When traffic exceeds two MSA, its crust computation is required to be done in accordance with IRC 37.

Audit noticed (between April 2023 and May 2024) that as against the requirement of OGPC and Seal Coat, the Department provided Dense Bituminous Macadam (DBM) and Bituminous Concrete (BC) in the design. The provision of richer specifications led to an avoidable extra cost of ₹ 28.09 crore.

On being pointed out, no comment was offered by the Government. However, the EEs Stated (April 2023 to May 2024) that the works were executed as per the provisions of IRC and the provisions made in the DPR.

The reply of EEs is not acceptable as the design and the estimates sanctioned were not according to the IRC Specifications. The CEs also failed to review the provisions included in the DPR while approving the Technical Sanction.

²⁵ Million standard axles denote cumulative axle load of traffic on road.

²⁶ Sub grade is top 30 cm to 50 cm layer of earth work in roads.

²⁷ California bearing ratio (CBR) denotes strength of soil.

Avoidable extra cost due to provision and execution of excess thickness of crust CRM/ WMM/ BC

[11 road of 11 Divisions (Appendix 2.6)]

The choice and thickness of sub-base, granular base and bituminous base and surfacing course are decided based on specifications prescribed in IRC: 37 - 2001 & 2012. The thickness of CRM, Wet Mix Macadam (WMM) and BC are based on the strength of subgrade in terms of CBR and projected designed traffic which is to be worked out on the basis of initial traffic, lane distribution factor, vehicle damage factor and design life.

Audit noticed (between April 2023 and May 2024) that incorrect calculation of pavement design and designed traffic resulted in unwarranted provision and execution of excessive thickness of CRM, WMM and the surface course of BC ranging between 10 mm and 30 mm. This resulted in an avoidable expenditure of ₹ 39.89 crore.

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (between April 2023 and May 2024) that the execution of thickness of CRM sub-base, WMM base and BC were according to the sanctioned estimates duly approved by the competent authority.

The reply of EEs is not acceptable as the estimates sanctioned were not according to the specifications of IRC: 37.

2.3.9 Extra cost due to execution of excess thickness of PQC

The design of concrete pavements involves calculating the stresses caused by different axle loads, single, tandem, and tridem, on the pavement slab, especially the tensile flexural stresses at the top and bottom layers. The design must consider the total fatigue damage from all these axle loads combined.

Key factors in designing concrete pavements *inter alia* include design period volume and type of commercial traffic, lateral placement of loads, climatic conditions. According to Clause 6.9.3 of IRC:58-2015 and IS-456-2000, the strength of concrete improves as it ages. For Pavement Quality Concrete (PQC), a flexural strength²⁸ of 4.95 N/mm² at 90 days is recommended for M40 grade concrete to ensure safety and performance.

Audit noticed (April 2023 to May 2024) in 29 road works of eight out of 25 selected Divisions that the Department applied incorrect input of flexural strength (FS), lane width, lane distribution factor and temperature differential, *etc.*, while computing the pavement thickness of PQC. Thus, the Department miscalculated the actual requirement of PQC and applied excess thickness (between 20 mm and 70 mm) of PQC in the roads as detailed in **Appendix 2.7**. This led to an extra cost of ₹ 49.96 crore in execution of 97,257.25 Cu. M. of PQC concrete.

In the Exit Conference, the Government accepted (June 2025) the facts and stated that we are working to improve the procedure of DPR preparation, since there was a lack of technical expertise and qualified consultants, the irregularities persisted.

The reply confirms that the Department failed to ensure the intended purpose of hiring consultants which was to ensure the availability of field specific technical expertise.

2.3.10 Execution of richer specification in Cement Concrete Pavement

For low-volume traffic roads with average daily traffic of less than 450 CVPD, the specification of IRC:SP:62-2014 are applicable (CC pavement with M 30 grade of cement concrete). However, for roads having an average daily traffic of more than 450 CVPD, specifications of IRC:58-2015 are applicable (CC pavement with M 40 grade of cement concrete).

²⁸ For 90 days setting.

Audit noticed (April 2023 to May 2025) in 12 Divisions that 29 road works had initial traffic volume between 56 CVPD and 239 CVPD and the pavement of these roads should have been designed with M 30 grade of cement concrete in accordance with IRC:SP: 62-2014. The Department, however, despite having clear specification, designed the rigid pavement with M 40 grade of cement concrete as per IRC:58. The unwarranted richer specification, thus, resulted in an extra burden of ₹ 29.52 crore on the exchequer.

On being pointed out, no comment was offered by the Government. However, in reply, the CEs stated (April 2024) that all the roads are of importance and connected to MDRs and SHs. After widening and reconstruction of the roads, heavy truck traffic was also anticipated. As per Clause 3.3 of IRC: SP62, IRC: 58 need not be considered for low-volume traffic except in special situations where heavy truck traffic is anticipated. Again, as per Clause 3.1 of IRC: SP 62, IRC 58 may be relevant for arriving at pavement thickness in some cases as mentioned in Clause 1.3 of IRC: SP 62 which states that factors such as diverted heavy traffic conditions. Keeping these factors in mind the road was designed with M 40 and technical sanction was accorded.

The reply is misleading because the pavement is designed on the basis of initial traffic volume in these roads. In all the cases, the initial traffic was less than 450 CVPD., indicating that the roads should have been designed using the specifications outlined in IRC:SP:62, provisioning M 30 grade of cement concrete for pavement. However, the Department deliberately provisioned richer specification of M40 grade of cement concrete for low volume roads, ignoring IRC specifications.

2.3.11 Execution of Pavement Quality Concrete and Dry Lean Concrete with and without fly ash

As per the notification (January 2016) of the Ministry of Environment and Forests & Climate Change (MoEFCC), it is mandatory to use fly ash in construction of PQC and DLC within a radius of 300 km of a Thermal Power Plant. Further, it shall be the responsibility of the State Authorities to ensure the use of fly ash and accordingly, the SOR 2014, SOR 2016 and SOR 2017 of PWD included different rates for PQC and DLC with and without fly ash. In case of PQC, the difference in rates (items of with and without fly ash) are ₹ 383 per Cu. M., ₹ 345 per Cu. M., ₹ 310 per Cu. M. respectively in SORs 2014, 2016 and 2017. Similarly, rate difference for DLC are ₹ 110 per Cu. M. ₹ 99 per Cu. M. and ₹ 89 per Cu. M. for the *ibid* SORs.

Audit noticed (between April 2023 and May 2024) the fly ash is either not being provisioned in non-EPC works or the rates are not being regulated even if there is execution using fly ash in the items of PQC and DLC.

In 82 road works being executed in 23 Divisions (**Appendix 2.8**) that Department did not include the items of PQC and DLC with fly ash in the DPRs. This resulted in extra cost of ₹ 69.05 crore in execution of DLC and PQC. Moreover, in six road works being executed in five divisions (**Appendix 2.9**), the contractors utilised fly ash in PQC and DLC. However, the payments were made to the contractors without regulating the rates for execution of PQC and DLC with fly ash. This resulted in an excess payment of ₹ 9.94 crore due to negligence of the Department.

It is important to highlight that in EPC contracts, contractors used fly ash in PQC, DLC and in structural works, even when no provision was made for its use, allowing them to benefit financially since payments are based on linear measurements. However, in non-EPC contracts involving PQC and DLC, the Department is either deliberately not including provisions for fly ash or failing to regulate the rates, despite its actual use in execution benefiting the contractors.

In the Exit Conference (June 2025), the Government that it delays in gaining strength beyond 14 days, which is impractical as traffic cannot be halted for such a duration. However, upon the matter of regulation of rate of PQC with respect to the instance of use of fly-ash but the rates were not reduced, the Government assured us to look into the matter.

The reply of the Government is not acceptable as the standard construction practice and IRC guidelines, curing of concrete for a minimum of 28 days is essential to achieve the desired strength and durability. Premature opening to traffic compromises the structural integrity of the pavement. The argument that traffic cannot be halted for such a duration is also not valid, as arranging and managing traffic diversions during the curing period is the responsibility of the contractor, as per contract provisions and MoRTH guidelines.

2.3.12 Sub-standard provision and execution of drainage layer

Sub-clause 407.1 of MoRTH Specifications stipulate that hard shoulders should be constructed on either side of the pavement over the drainage layer. As per Clause 5.4.2 of IRC: SP 87-2013, a properly designed drainage layer of 150 mm of CRM shall be provided throughout the formation width below the DLC layer. Further, as per Clause 11.3 of IRC:37, care should be exercised to ensure that the exposed ends of the drainage layer do not get covered by the embankment soil. As per GoMP's order (May 2015)²⁹, hard shoulder shall be constructed with the material having CBR>12 just above the drainage layer made with CRM in the full thickness up to the road level.

Audit noticed (August 2023 to January 2024) in six works of three Divisions (**Appendix 2.10**) that the drainage layer of the CRM was overlaid with earthen shoulders that had a CBR of seven *per cent* instead of the required hard shoulders with a CBR of 12 *per cent*, which possesses a lower plasticity index. The use of earthen shoulders, which have a higher plasticity index, hindered the drainage function intended for the CRM layer located above the sub-grade. As a result, the intended drainage performance of the CRM layer was compromised, and the work on the CRM drainage layer throughout the formation is deemed below specification, amounting to ₹ 17.37 crore.

In reply, the Government stated (June 2025) that in two divisions (PWD, Mandsaur and PWD, Shivpuri) while carrying out the work only more than 12 *per cent* soil was used, while in PWD, Chhatarpur another division (EE, Shivpuri) stated (September 2023) that the work of shoulders and drainage layer was executed as per the approved design.

²⁹ Ministry Circular No. 2661/3184/2015/19/P Dated 20 May 2015.

The replies are not acceptable because Audit scrutiny of MBs indicated placement of earthen shoulders just above the drainage layer, which affected the drainage performance of the CRM layer and hence the work done was sub-par, resulting in loss to the exchequer.

2.3.13 Extra cost due to execution of excess thickness of DLC in road pavement

Clause 2 of IRC SP: 49-2014 provides that the thickness of Dry Lean Concrete (DLC) sub-base will be a minimum of 150 mm for all the major projects of State Highways and National Highways. In other roads, it will be executed in 100 mm thickness.

Audit noticed (January 2024) in the PWD, Maintenance Divisions No.-2, Bhopal Division in the work “Improvement of 15.10 km stretch of Dr. Shyama Prasad Mukherjee Nagar Marg on Kolar Road” that despite a safe pavement design guarantee with a 100 mm DLC sub-base, 150 mm thickness DLC was executed. This resulted in extra cost of ₹ 2.63 crore³⁰.

In the Exit Conference (June 2025), the Government assured that the pavement composition of Shyama Prasad Mukherjee Marg would be investigated, and the revised design will be submitted. The Department also acknowledged that the original DPR should have been prepared with greater accuracy.

The reply of the Government is not acceptable as the assurance to submit a revised design remains unfulfilled till date (September 2025). As per IRC:49, a 100 mm DLC sub-base is mandatory for MDRs, which was also provided in the original design of Shyama Prasad Mukherjee Marg. The execution of additional 50 mm without technical necessity or supporting design approval reflects lack of adherence to cost effective engineering practices and results in unwarranted financial burden on public resources.

2.3.14 Tack coat

As per IRC:16-2008, tack coat is a thin layer of bitumen applied on an existing pavement surface before laying the next layer of asphalt or bituminous mix. It is applied to ensure an adequate bond between the old and new layers, thereby enhancing pavement performance and longevity.

2.3.14.1 Sub-standard work due to delay in laying the bituminous courses

Clause 4.3.6 of IRC:16 specifies that after application of the emulsion as a tack coat, the bitumen emulsion should be allowed to break before placing the bituminous mixture or overlay. Traffic should be kept off the area where the tack coat is being sprayed. Therefore, tack coat should be laid just before laying the bituminous course.

Audit noticed (between June 2023 and June 2024) in five road works of three Divisions that DBM was laid over WMM, either without tack coat or with a delay of two to 15 days. And the BC was executed with delays ranging from 10 days to 20 days for which additional tack coat was to be applied, which was however not done.

Execution of DBM over WMM (non/delayed application of tack coat) and delayed execution of BC without tack coat affects the bonding between the two main layers adversely. Thus, there has been deficient execution of work (DBM: 8,980.45 Cu. M. and BC: 6,214 Cu. M.) of below specification worth ₹ 8.60 crore as detailed in **Appendix 2.11**, besides rendering the road prone to early damage.

In reply, the Government stated (June 2025) that after execution of Tack Coat the road had to be opened for traffic due to local conditions. However, before laying the DGBM application of

³⁰ Total quantity of DLC executed was 30,356.10 Cu.M. , the required quantity of DLC was 20,237.4 Cu. M., thus 10,118.7 Cu. M. at the rate of ₹ 2,600 per Cu. M. = ₹ 2,63,08,620.

tack coat was done at the cost of contractor. As this item was not payable to the contractor, it was not recorded in the measurement book.

The reply is not acceptable as the standard procedure, all executed items whether payable or not must be properly recorded in the Measurement Book (MB) for transparency and accountability. If the additional tack coat was executed but deemed non-payable, the MB should have included a clear remark such as "measured but not to be paid."

2.3.14.2 Irregular provision and execution of additional Tack Coat

As per Clause 504.5 of Ministry's specification, if there are any delays in covering DBM with BC, the cost of an additional tack coat required shall be borne by the contractor.

Audit noticed (between April 2024 and June 2024) in nine Divisions that in the revised estimates of ten road works, the Department provided '*application of additional/ intermediate tack coat*' as an item. The contractors executed additional tack coat on 47,48,215.36 sqm in these works due to the delays in execution of BC over DBM and the payment of ₹ 6.31 crore was made accordingly.

Execution of additional tack coat indicates that there were delays in execution of BC over DBM and hence the cost of additional tack coat was to be borne by the contractors. Inclusion of tack coat as an additional item in the revised estimates was unwarranted and resulted in an extra expenditure of ₹ 6.31 crore as detailed in **Appendix 2.12**.

In the Exit Conference (June 2025), the Government stated that this issue will be investigated.

Necessary action from the Government is still awaited (September 2025).

2.3.15 Failure to obtain necessary clearances from the Forest Department indicating ineffective planning

Clause 2.111 of MPWD Manual states that as per Forest (Conservation) Act 1980, all proposals for diversion of forest land to any non-forest purpose would require the prior approval of the MoEFCC, GoI. As per Sub-rule 2 of Rule 6 of the CRF (State Roads) Rules 2014, the proposal shall contain only those works where land is available without any encumbrance.

As per MoRTH technical circular (October 1984), the alignment plans showing details of the existing road with respect to the roadside development giving *inter alia*, the right-of-way available, extra land required for widening the position of avenue trees, utility lines *etc.*, should be prepared. Once the land acquisition is completed, the work of shifting utility lines, electric/telephone poles *etc.*, construction of cross drainage works, and ancillary works need to be undertaken. Before the award of work, the Department must hand over the hindrance-free site to the contractor.

Audit noticed (May 2023 to June 2024) in 16 Divisions that there were delays in completion of 48 works (**Appendix 2.13**) ranging between 117 days and 1,838 days due to failure to obtain permission from the Forest Department, private land disputes, encroachments and delay in utility shifting.

All these cases reflect improper planning as these works were taken up without ensuring necessary clearances having time and cost overrun implications.

In the Exit Conference (June 2025), the Government accepted the fact and stated that there was a confusion between the Revenue and Forest Department about boundary of jurisdiction. However, the matter will be investigated and noted for future compliance.

The fact remains that the Government's reply is not acceptable, as similar assurances were also given during the Exit Conference held on 25 September 2012 regarding issuance of instructions to avoid awarding works prior to obtaining forest clearance. However, the issue continues to persist, indicating lack of effective implementation.

2.3.16 Arbitrary determination of completion timelines in EPC contract

EPC projects entail a start-to-finish approach where the risks are all on the contractor, who is responsible for design, procurement and timely execution. These contracts are most suitable for bigger projects with complex scope and designs and ensure implementation of the projects with a fair degree of certainty relating to cost and time. As per the model norms for EPC contracts as prepared by MoRTH, contractors are eligible for Early Completion Bonus (ECB) at the rate of 0.03 *per cent* of contract value for each day by which the completion precedes the target (subject to a maximum of five *per cent*).

Out of three EPC works examined by audit, one was foreclosed (owing to non-availability of ROW). The status of the other two is as follows:

**Six lane-Maxshi bypass
chauraha to Bhopal chauraha,
4.80 kms**
EPC contract value: ₹ 50.70 crore
Completion Schedule: 24 months

The timelines were fixed arbitrarily and without analysing the scope, quantum, bottleneck in execution of the projects, *etc.*

Consequently, the projects were completed within 518 and 550 days respectively.

Irregular determination of timelines resulted in their completion 231 days and 192 days ahead of schedule, respectively. Consequently, the contractors became entitled for bonus of ₹ 3.13 crore and ₹ 1.91 crore for their respective works as stipulated in the Agreement.

**Balance work of Bhaugarh-
Dalauda-Sitamau Road, 30.55
kms (intermediate lane)**
EPC contract value: ₹ 33.82 crore
Completion Schedule: 24 months

It may also be mentioned that the RFP provided for 18 months as the completion timeline. Had this been planned for, the ECB paid to the contractors could have been substantially reduced or avoided. This indicates that the timelines were fixed without analysis, merely to provide extra benefit to the contractors by way of additional remuneration through ECB.

On being pointed out, no comment was offered by the Government. However, in reply, the Authority Engineers stated (between October 2023 and January 2024) that timeline of two years was fixed as per proper CPM & PERT analysis to determine the time limit of the works. Apart from the road works, many structures, utility shifting *etc.* were also included in the work.

The reply is not acceptable because the CPM & PERT analysis was not available in the records. The justification provided regarding utility shifting and construction of structures was also not justifiable as these are the integral aspects of road widening and strengthening works.

At the instance of audit, the Department has reduced the timelines in EPC projects (widening and strengthening) to 18 months.

2.3.17 Acceptance of Abnormally Low Tenders without Justification – Risk to Quality and Contract Viability

The Schedule of Rates (SOR) prepared by MPPWD provides standardised unit rates for estimating public works and forms the basis for tendering and payments. It incorporates current

market rates for materials, labour, and machinery, considering standard consumption norms and productivity. Overhead charges are included, along with a 10 *per cent* provision for contractor's profit.

As per MP PWD's Schedule of Rates (SOR), unit rates include materials, labour, overheads, and a reasonable contractor profit. The *Manual for Procurement of Works, 2022* (MoF, Para 5.6.4) mandates that abnormally low bids must be justified through written explanations and rate analyses, and contracts awarded only if rates are found sustainable.

Bids significantly below SOR are unrealistic and acceptance of such bids without feasibility analysis risks poor quality and threatens contract viability, especially since quoted rates fall below cost recovery levels.

Audit scrutiny of tenders approved during 2015–23 revealed that out of 276 tenders, 229 tenders were awarded at negative percentages below SOR, with some as low as (-) 26.88 *per cent*. Out of these, 159 tenders were below than (-) 10.00 *per cent*. No supporting analyses or bidder clarifications were found to justify the feasibility of such bids, despite SOR already accounting for contractor profit. This raises serious concerns about how quality and profitability are maintained at such discounted rates.

Further, Audit observed that out of 159 tenders which are exceptionally below than (-) 10.00 *per cent*, cost of work increased in the range of 10 *per cent* to 190 *per cent* in 16 tenders, while cost of work reduced in the range of (-) 10.37 *per cent* to (-) 34.33 *per cent* in 12 tenders. This indicates that prices were escalated post award in some cases while in others the entire work was not executed.

In the Exit Conference (June 2025), the Government stated that tenders are accepted/rejected only after analysing the prevailing trend.

The reply is not acceptable as merely following prevailing market trends is not a valid justification for accepting tenders below SOR, particularly when the SOR already factors in the contractor's profit. Accepting bids with more than 10 *per cent* below SOR raises serious concerns about financial viability, increasing the risk of substandard materials, delayed timelines, and contractual disputes.

2.4 Conclusion

Audit observed systemic deficiencies in the MP PWD in the planning and execution of road infrastructure projects, leading to significant financial losses, inefficiencies, and compromised project outcomes. The absence of a Road Asset Management System (RAMS) and Road History (RH) records and the MP PWD Manual has severely undermined data-driven decision-making, resulting in poor maintenance prioritisation and premature road upgradation, as seen in cases like Amarpatan-Rampur and Jhinna-Charki Ghati roads. The lack of a Master Plan or Strategic Plan, unlike the MP Rural Roads Development Authority, has led to haphazard project identification, inefficient resource allocation, and neglect of critical aspects such as environmental clearances and road safety integration.

Significant financial implications arise from poor planning and non-compliance with guidelines. Infructuous expenditure was incurred on the Udaipur-Bamaura-Pathan road,

rendered unusable due to submergence by the Hanauta Irrigation Project, despite prior warnings. Unnecessary road widening in 19 projects, ignoring traffic volume guidelines, resulted in an extra cost. Land acquisition violations, such as issuing tenders without securing ROW, led to project foreclosures, as in the Kaliyasot Dam to New Bypass road case. Failure to conduct Benkelman Beam Deflection (BBD) tests for strengthening projects resulted in inflated costs during road repairs.

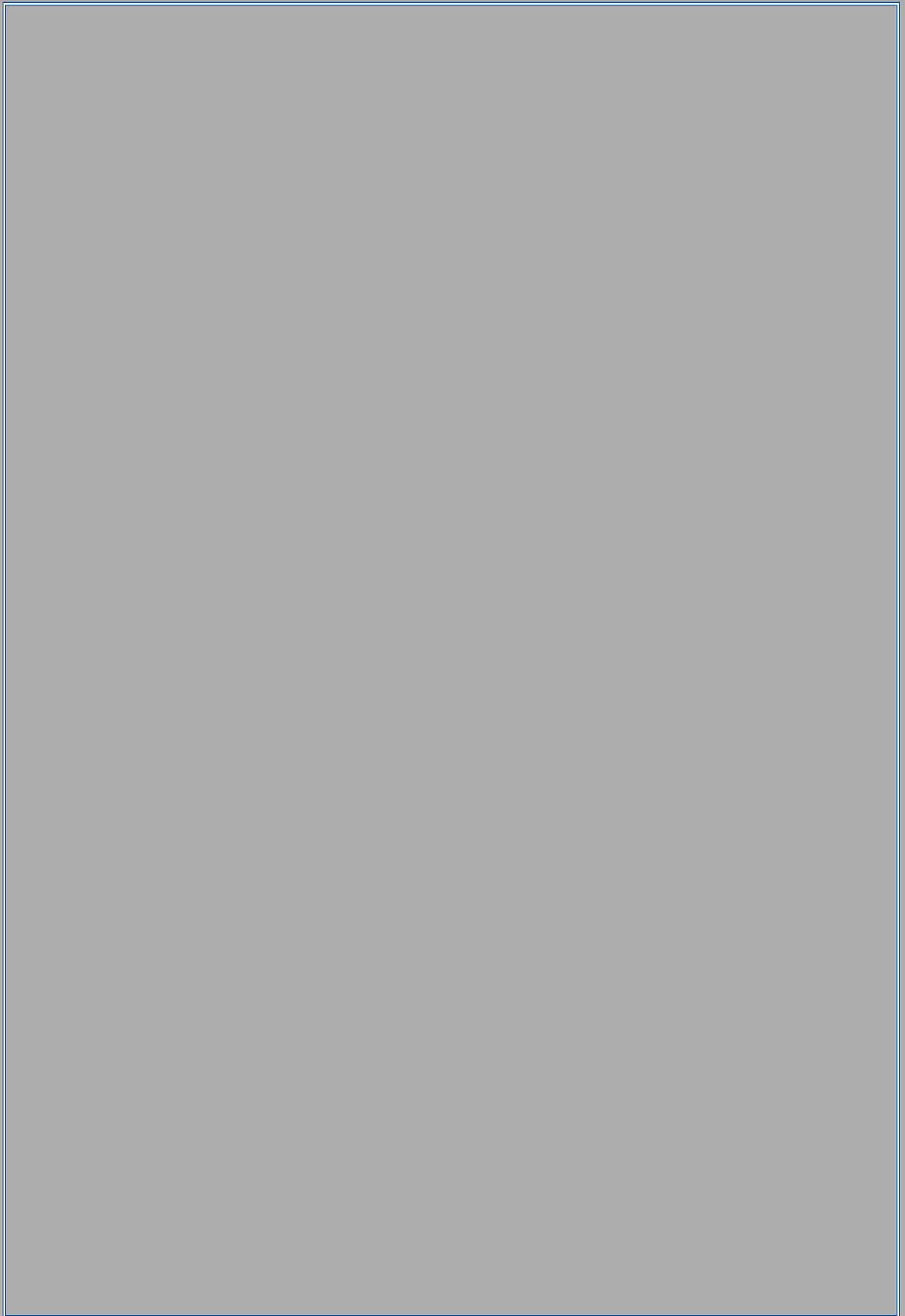
Substandard execution practices further compounded issues. The non-use of fly ash in PQC and DLC, despite MoEFCC mandates, led to extra costs. Substandard drainage layers, overlaid with earthen shoulders instead of hard shoulders (CBR >12 *per cent*), compromised pavement performance. Arbitrary project timelines in EPC contracts, without proper CPM/PERT analysis, resulted in unwarranted early completion bonuses. Consistent below-par bid submission by bidders raises questions on the credibility of the estimations prepared by the Department as it is practically not possible for contractors to work below the estimates prepared on the basis of old /outdated SORs.

2.5 Recommendations

It is recommended that:

- *PWD should finalise a 10-year Master Plan to ensure economic viability and systematic expansion, monitored by the Government.*
- *PWD should take upgradation works only after proper assessment of road history.*
- *The Government should investigate and fix responsibility for all acts of omissions and commissions which have resulted in loss to the exchequer through:*
 - *Infructuous expenditure (Paragraph 2.2.3)*
 - *Unnecessary widening resulting in extra costs (Paragraph 2.2.4)*
 - *Wasteful expenditure owing to land acquisition issues (Paragraph 2.2.5)*
 - *Unwarranted execution of richer specifications (Paragraphs 2.3.7.2, 2.3.7.3, 2.3.8, 2.3.9, 2.3.10, 2.3.13)*

CHAPTER – III: Planning - Contract Management



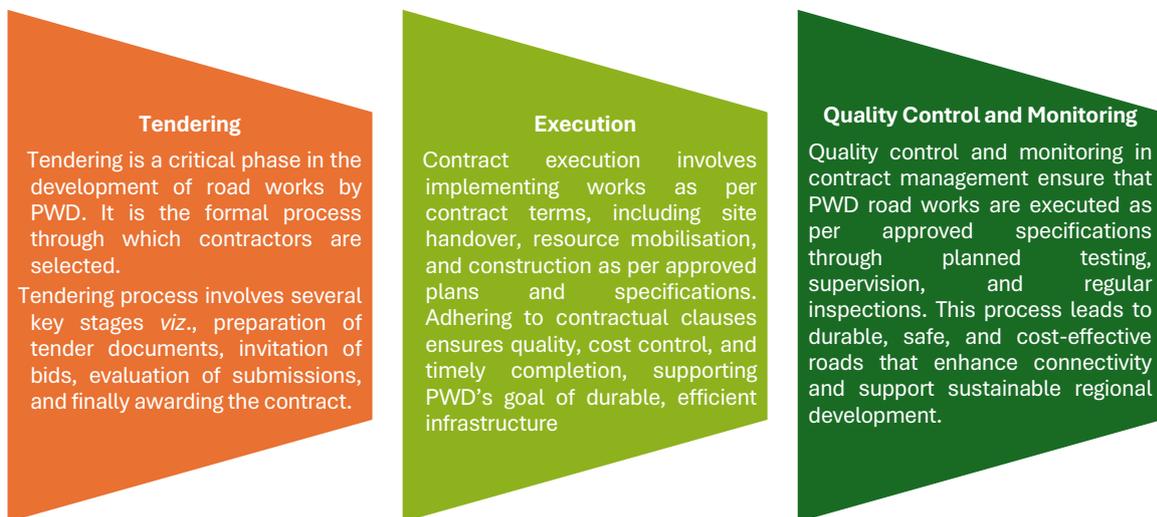
CHAPTER III: PLANNING - CONTRACT MANAGEMENT

Contract Management

Contract management is the process of systematically and efficiently managing contract creation, execution and analysis to maximise financial and operational performance and minimising risk. Effective contract management is pivotal in the successful delivery of road construction projects by the MP PWD.

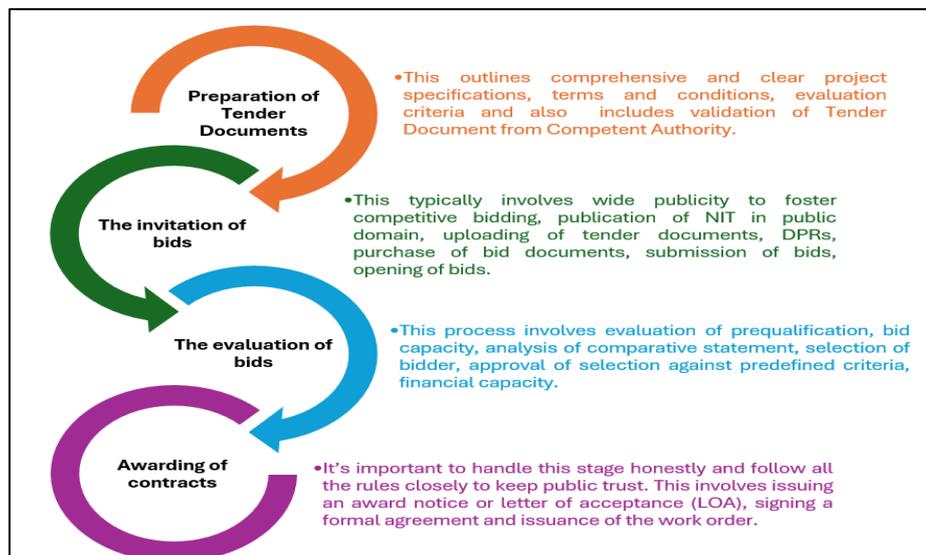
Ensuring compliance with contractual agreements, technical specifications, IRC codes, DPRs and Estimates with Technical Sanction (TS) is fundamental to effective contract management and execution in road construction projects overseen by the MP PWD. These elements serve as benchmarks for upholding quality standards, safety protocols, and financial accountability throughout the project lifecycle.

The stages of contract management are as follows:



3.1 Tendering

The processes involved in tendering are outlined below:



This paragraph evaluates the tendering processes adopted by MPPWD in the development of road works. Irregularities related to this aspect are discussed in the following paragraphs.

3.1.1 Preparation of Tender Documents and evaluation of bids

3.1.1.1 Incorrect evaluation and acceptance of bids without GST

NDB funded projects are guided by the FIDIC tendering principles. As per the Preamble of Bill of Quantities of the FIDIC tender document³¹, the contractor's rates, quoted for various items of work and electric utility shifting³², shall be inclusive of all overhead charges, including GST.

<p>Construction of Improvement & Upgradation of Dr. Shyama Prasad Mukherji Nagar Marg (Kolar Road), Bhopal Division</p>	<p>Audit noticed that the work was awarded (September 2022) to the lowest bidder, M/s Bansal Construction Works Pvt. Ltd., Bhopal at a contract price of ₹ 182.36 crore (18.04 per cent below PAC). However, after commencement of work, the contractor irregularly demanded (August 2023) an additional amount of GST (₹ 23.84 crore) towards the up-to-date value of work executed, even though the PAC was inclusive of GST and the below par bid quoted by the contractor was based on the PAC, inclusive of GST.</p>
<p>Probable Amount of Contract (PAC) of the work at ₹ 222.51 crore inclusive component of ₹ 23.84 crore</p>	<p>In response, the Director, NDB communicated (October 2023) to the contractor that the additional claim of GST was not sustainable as per the contract provisions. Further development in this regard is not available in the records (April 2024).</p>
	<p>It can be seen from the above chain of events that the CE did not properly evaluate the bids and accepted the L-1 contractor's bid, even though the contractor thereafter claimed that the bid was exclusive of GST. Had this aspect been examined during bid evaluation, the same could have been cancelled on technicality, which was not done. This has resulted in an escalated situation which was avoidable.</p>
	<p>Audit is further of the view that the contract price of ₹ 182.36 crore has since increased by 66 per cent to ₹ 302.60 crore and the increased scope of work, as claimed by the contractor, has not been reviewed and has been accepted as claimed. In such a situation, given that the work is in progress, the likelihood that the contractor will claim these "GST component" through increase in scope of work cannot be ruled out.</p>
	<p>In the Exit Conference (June 2025), the Government stated that the payment of GST should not be made as the BOQ was inclusive of GST. However, the committee have given report to allow the payment of GST to the contractor engaged in execution of Shyama Prasad Mukarjee Marg.</p>
	<p>The fact remains that the reply is self-contradictory, as GST payments are being allowed not only in violation of the provisions but also beyond the scope of the BOQ, which already included GST in the estimated cost.</p>
<p>Package No.03 in Ratlam Division</p>	<p>The Contractor M/s Aryavart Project and Developers Pvt. Ltd. (JV) Eagle Infra India Ltd. was awarded the contract at the quoted price of ₹ 72.10 crore (excluding GST). Analysis of the bids by Audit indicated that the bidder was not L1, as the quoted price was exclusive of GST. The actual position of bid submitted by all six bidders is given below in Table 3.1.</p>
<p>Contract Price (excluding GST) ₹ 72.10 crore</p>	

³¹ Preamble of Bill of Quantities given in Volume 2, Section 4(b) of the FIDIC tender document.

³² The rates of items are inclusive of all costs related to materials, labour charges, transportation charges, and taxes, etc., complete for the work related to electrical utility shifting.

Table 3.1: Details of bidders and their actual comparative statements for quoted prices

							(₹ in Crore)
Contractor	Bid Amount quoted (₹ in crore)	Percentage below SOR	Bidder ranking given by Department	GST in Quoted Price	Actual Quoted Price inclusive of GST	Percentage below SOR	Actual Bidder ranking evaluated by Audit
M/s Aryavart Project and Developers Pvt Ltd (JV) Eagle Infra India Ltd.	72.19	17.29	L1	Excluded	80.85	7.33	L4
M/s AK Shivhare Infrastructure Pvt. Ltd. Bhopal	72.39	17.06	L2	Excluded	81.08	7.08	L5
M/s VVC Real Infra Pvt. Ltd. Guna	73.46	15.83	L3	Included	73.46	15.81	L1
M/s Jugal Kishore Ram Krishna Agrawal	74.56	14.57	L4	Included	74.56	14.54	L2
M/s OASIS Technocon Limited Chandigarh	74.60	14.53	L5	Included	74.60	14.50	L3
M/s Shreeji India Pvt. Ltd.	77.62	11.07	L6	Excluded	86.93	0.36	L6

(Source: Bids submitted by the bidders, Records of MP PWD)

Thus, the tender committee irregularly assessed M/s Aryavart Project and Developers Pvt. Ltd. (JV) Eagle Infra India Ltd. as the L1 bidder instead of Ms. VVC Real infra Pvt Ltd. This not only resulted in violation of Financial Rules as well as the contractual provisions of the FIDIC documents but has also resulted in excess liability of ₹ 7.39 crore³³.

In the Exit Conference (June 2025), the Government accepted the Audit observation.

The fact remains that incorrect evaluation of bids resulted in avoidable financial liability, warranting further examination to establish accountability.

3.1.2 Non-Compliance with established standard norms in tendering and bidding process

Adhering to established standard norms in the tendering and bidding process is crucial for maintaining transparency, fairness, and efficiency in public procurement. These norms ensure systematic and equitable procedures, fostering competitive bidding and securing the best value for public funds.

Audit had demanded 144 works valuing ₹ 3,118.45 crore selected for detailed scrutiny³⁴. However, only 61 tender files (42 per cent) valuing ₹ 1,473.93 crore were made available to audit. The remaining 83 files were not provided to Audit and hence detailed examination of the

³³ Difference between actual L1 and L4 (the contractor awarded work) bid = ₹ 7.39 crore.

³⁴ Out of 276 works (excluding NDB) examined in audit, these are the works which were approved by the E-in-C.

same could not be carried out during the course of the PA, despite eight reminders³⁵. Audit noticed the following irregularities in the tendering process.

3.1.2.1 Non-Compliance with Publicity Norms in Tender Processes

Inviting bids with wide publicity ensures competitive bidding and secures the best deals for Government projects. By using newspapers, official websites, and industry publications, this practice enhances transparency, fairness, and competitive pricing. It also upholds accountability, reduces favouritism, and fosters a level playing field in public procurement.

The guidelines issued (December 2014)³⁶ by GoMP, stipulate the manner of publishing the NIT in various newspapers based on the tender cost. Further, the E-in-C instructed the CEs (March 2013)³⁷ to ensure that photocopies of all newspapers containing tender notifications are attached to tender cases to ensure strict compliance of the orders (December 2014). Audit observed in respect of the 59 out of 61 works (having tender value of above ₹ five crore) that NITs were published in a single newspaper; as such the tenders were not given wide publicity.

In the Exit Conference (June 2025), the Government stated that the NITs were published in sufficient number of newspapers.

The reply is factually incorrect as the records clearly indicate that the NITs were published in only single newspaper.

3.1.2.2 Disposal of tenders by invalid Committee

As per GoMP order dated July 2011, tender evaluation committees were to be formed at every level in the PWD. As per the *ibid* order, at the E-in-C level, the tender evaluation committee was to be headed by the E-in-C with concerned CE, CE (Planning/Budget) and Accounts Officer as member.

The deadline for finalising the tender is 10 days from the receipt of the tender from the regional office.

Audit observed that the E-in-C irregularly changed (June 2012) the composition of the Tender Committee and appointed a Joint Director (Finance) in the place of a Senior Accounts Officer/Accounts Officer as a member of the Committee, in violation of the GoMP's orders. Consequently, all tenders evaluated/disposed by the Committee during the period from 2019-23, were irregular.

In the Exit Conference (June 2025), the Government assured to investigate the issue and make necessary changes.

Necessary action from the Government is still awaited (September 2025).

3.1.3 Absence of pre-qualification criteria in the work valuing up to ₹ five crore

Pre-qualification is a method used to identify contractors who are qualified and interested in bidding for a project. It is an information-gathering process that assesses contractor's capability, capacity, resources, and performance at the beginning of the tendering/ procurement process.

³⁵ Eight reminders followed by an Audit memo, were issued to the E-in-C.

³⁶ GoMP PWD orders vide No. F-53/16/2012/19/Plan/6241 dated 26 December 2014.

³⁷ Order No. 4630 dated 23 March 2013.

The bidders meeting the minimum qualifying criteria are further evaluated for bid capacity. Audit noticed (in August 2023 and January 2024) in the documents of Percentage Rate Tenders³⁸ that pre-qualification criteria was not required for road works valuing up to ₹ five crore. As such, there was no criteria to assess the actual capability of the interested bidders. This paved a way for the bidders to bid for and get multiple contracts (less than ₹ five crore), leading to award of contracts to ineligible bidders as mentioned in the succeeding sub paragraphs.

<p>CE, Gwalior Zone</p> <p>15 road works valued at ₹ 21.91 crore</p>	<p>Works were awarded to a single contractor on the same day (25 September 2020) without evaluating the cumulative bid capacity. Due to absence of prequalification criteria in the documents of percentage rate tender, works were awarded to the contractor without assessment of actual bid capacity. The works were completed with a delay ranging between nine and twelve months.</p>
<p>EE, Mandasaur Division</p> <p>Eight works costing ₹ 4.51 crore</p>	<p>Works were awarded to a single contractor in the same year without any assessment of the bid capacity, of which, five works were awarded to him on the same day (17 May 2018). The contractor did not commence any of the works despite expiry of the scheduled period of completion and later completed the works with a delay ranging between seven and 15 months. This indicated that the contractor was not competent to execute even a single work of ₹ 0.11 crore, let alone the total work of ₹ 4.51 allotted to him.</p>

In the Exit Conference (June 2025), the Government accepted the fact and stated that pre-qualification criteria have now been reduced to ₹ two crore.

The reply supports audit contention that there is systemic deficiency in the PWD where pre-bid criteria are not applied on bids lesser than ₹ five crore resulting in execution delays.

At the instance of Audit, PWD, GoMP vide order dated 25 March 2025 has mandated pre-qualification criteria for all works valuing ₹ two crore and above revised from ₹ five crore).

3.1.4 Imprudent cancellation and injudicious acceptance of Tender

In the interest of transparency and fair process, the Department should evaluate the reasons provided for rejecting bids in the first (and second calls) and accepting the bid in the third or subsequent calls. There is no specific SOP or guidelines are present in the Department regarding bid acceptance and rejection.

Audit noticed (June 2024) in the case of tender for the construction of Phulada to Murrah-Mathni Road that there were issues of bid rejection and acceptance. The details are given in **Table 3.2** below:

Table 3.2: Actual status of lowest bidding in different calls (₹ in lakh)

Tender Call	PAC (₹ in lakh)	Tender Percentage	Contract Amount (₹ in lakh)	After application of Tax (₹ in lakh)
1 st call	2,120.40	4.05 per cent below	2,034.52	2,034.52 (i/c Tax)
2 nd call	2,120.40	12.05 per cent below	1,864.89	1,864.89 (i/c Tax)
3 rd call	1,902.17	11.37 per cent below	1,685.89	1,888.19 (Additional 12 per cent GST)
Net effect		3rd call bid is higher than 2nd call		₹ 23.30

(Source: Records of MP PWD)

³⁸ Appendix 2.10 of MPPWD Manual.

Thus, the injudicious rejection of the successful bidder in second call and acceptance of a single bid in the third call at a relatively higher rate was not appropriate.

In the Exit Conference (June 2025), the Government stated that tenders are accepted/ rejected only after analysing the prevailing trend.

The reply is not acceptable as merely following prevailing market trends is not a valid justification for accepting tenders. As the Government's decision is based on the proposal submitted by the Committee, headed by the E-in-C. Rejection of second bid and acceptance of third bid at higher rate and that too to a single bidder, was technically and financially imprudent.

3.1.5 Unauthorised amendment of RFP to award work consultants

Clause 1.8 (i) of the RFP for DPR consultants stipulates that Joint Ventures and Associates³⁹ are not allowed for bidding. However, vide amendment dated January 2018 Director, NDB Projects replaced the criteria as per which Joint Venture was allowed for bidding, but Associates were not allowed. Director, NDB Project is not authorised to amend/modify RFP in case of NDB Projects.

Due to the unauthorised amendment of RFP, the Department awarded the work of preparation of DPRs for various roads under Package No.3 to a JV firm, M/s Manglam Associates JV Amondz Infrastructure Consultant, Bhopal, for ₹ 2.75 crore⁴⁰, and was paid ₹ 2.50 crore (on *pro-rata* basis).

In reply, the Government state (June 2025) that amendment was issued by Director, NDB to encourage broader participation of experienced consultants, considering the scale and urgency of the DPR under the NDB project. Allowing joint ventures (while disallowing associations) aimed to promote collaboration between firms with complementary expertise. The selection of M/s Manglam Associates JV Amondz Infrastructure Consultant was made in accordance with the amended RFP, following a transparent technical and financial evaluation.

The reply is factually incorrect because the Director, NDB was not authorised to amend RFP. Thus, by amending a legally binding document by the Director, NDB without authorisation, extended undue favour to the consultant, for which investigation is to be carried out and accountability is to be fixed.

3.1.6 Blacklisting of contractors and Restrictions in Tender Participation

As per the orders (March 2015)⁴¹ of GoMP, CE can blacklist a contractor for being non-serious in executing works or on other reasonable grounds. During suspension, the contractor's registration cannot be renewed, and blacklisted contractors, even with JVs, cannot obtain fresh registration until the blacklisting order is revoked. Even if the tender filled by them earlier is accepted after this order, such tender will be treated as void. If any member, Contractor or any of its firm is a partner in any other firm, then that firm will also not be eligible after this order

³⁹ A joint venture involves two or more parties creating a new legal entity to undertake a specific business project, sharing profits, losses, and control according to their agreement. In contrast, an associate refers to a company in which another company holds a significant but non-controlling stake (typically 20-50 *per cent*), allowing for influence without direct management or decision-making control. Joint ventures are typically formed for particular projects or business activities, while associates are more about investment and influence in ongoing operations.

⁴⁰ At the rate of 51,555 per km for the road length of 485.03 km.

⁴¹ Letter no. F-17-1/2010/B/19/243 dated 24 March 2015.

to participate in the tender process, to purchase tender form, to enter into new contract and to get new registration. The ID of the registered contractor should be blocked immediately after the order of blacklisting to prevent them from applying for contracts.

The Department does not have a mechanism for monitoring blacklisted firms as discussed below.

<p>3.1.6.1 Irregular award of work to Blacklisted Contractor</p>	<p>Audit noticed (May 2023) in Vidisha that M/s Ketan Construction Ltd. was blacklisted in August 2018 for slow progress and a four-year delay in another project. Therefore, the firm was ineligible for participation in tenders. The firm, however, entered into JV with M/s Sorathia Velji Ratna and Co. and was awarded a contract valued at ₹ 139.25 crore in September 2018.</p> <p>Thus, on account of non-verification/monitoring of blacklisted firms, work was irregularly awarded to an ineligible/blacklisted contractor.</p> <p>In the Exit Conference (June 2025), the Government accepted the fact and stated that this might have happened due to delay in updating blacklisting status and blocking IDs. However, the Government also agreed to work out a way to make a real time updation of blacklisting of contractors in public domain.</p> <p>Necessary action from the Government is still awaited (September 2025).</p>
<p>3.1.6.2 Award of work to Blacklisted contractor on invalid bid</p>	<p>Award to blacklisted contractor</p> <p>A contractor M/s Veerendra Raghuvanshi, who was blacklisted (January 2019) by the Madhya Pradesh Road Development Corporation (MPRDC) until January 2021, was irregularly awarded a work by the PWD for construction of “Barrighat Dhaturia Karaiya Andia to Iklodiya Road” at a contract amount of ₹ 6.04 crore.</p> <p>Issuing of LOA on invalid bid</p> <p>The aforesaid blacklisted contractor submitted his bid on 11 January 2021 with validity up to 10 April 2021. The financial bid was opened in March 2021. However, the Letter of Acceptance (LOA) was issued to the contractor on 12 August 2021, much after the expiry of the bid validity. Consequently, LOA was issued on an invalid bid.</p> <p>No reply has been furnished by the Government (September 2025).</p>
<p>3.1.6.3 Inaction against the defaulting firms</p>	<p>According to clause 42.2 of Instruction to Bidder for NDB Agreement (FIDIC Documents), failure of the successful Bidder to submit the Performance Security or to sign the Contract Agreement as per Clause 19 within 28 days shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security or execution of the Bid-Securing Declaration.</p> <ul style="list-style-type: none"> ➤ In Package No. 03 of PWD Ratlam Division, M/s PD Agrawal's bid of 26.71 <i>per cent</i> below SOR was accepted in July 2018, but the contractor did not sign the agreement. The Project Director forfeited the EMD (₹ 43.65 lakh) and annulled the award, but did not suspend or blacklist the contractor. ➤ In Mandsaur Division the work Ratlam Nasirabad Road (city portion) was awarded to M/s Ram Prakash Gupta (24.99 <i>per cent</i> below PAC). As the firm did not deposit the Performance Security the Department forfeited the EMD of ₹ 9.03 lakh but did not suspend or blacklist the firm. <p>On being pointed out, no comment was offered by the Government.</p> <p>However, the Director (NDB) PWD stated that they forfeited the bid securities under “Invitation to Bid” conditions and proposed blacklisting the contractor. The contract was ultimately awarded to the lowest bidder in the third tender invitation, thereby avoiding any loss.</p> <p>The reply is silent on not blacklisting the contractors despite failure of the bidders to sign the agreement or furnish performance security.</p>

3.1.7 Irregular award of works to the existing contractors without any NIT

As per instructions issued (January 2002)⁴² by the Government, no work shall be executed under the agreement other than the work for which NIT has been issued.

Audit noticed (June 2023) in three Divisions (Bhopal, Budhni and Shivpuri) that the Department had awarded (between January 2017 and October 2022) 13 road works worth ₹ 35.17 crore under four agreements. During execution of these works, the Department irregularly added seven additional road works worth ₹ 11.58 crore (between February 2017 and December 2022), cost of which ranged between ₹ 46.54 lakh and ₹ 5.10 crore to the existing agreements. The Department did neither invite fresh tenders, nor did they obtain additional Performance Guarantee from the contractors for the additional works.

In the Exit Conference the Government stated (June 2025) that as the visit of Chief Minister was scheduled, and roads were damaged, needing urgent repair. Therefore, the works were awarded to an existing contractor to save time.

The reply is not acceptable. As per the order of the Government, all works must follow due procedures, including sanction, technical approval, and tendering. Urgency due to a VIP visit does not justify awarding work without tender, especially when emergency provisions were neither invoked nor documented.

3.1.8 Suspected tampering with the bidding process

The tendering process includes the publication of the Notice Inviting Tender (NIT), bid submission, pre-qualification checks, evaluation of technical and financial bids, and issuance of the Letter of Acceptance (LoA) to the lowest bidder (L1). If L1 fails to execute the agreement, the work should be offered to the second lowest bidder (L2).

Audit noticed that in NDB, Package No. 3, Ratlam Division, the L1 bidder (M/s PD Agrawal, whose bid was 26.71 *per cent* below PAC) failed to execute the agreement. However, instead of awarding the contract to L2 (VCC Real Infra Pvt. Ltd., whose bid was 23.03 *per cent* below PAC), the Department issued a second call for NIT. Consequently, the contract was awarded to M/s Aryavart Project and Developers Pvt. Ltd. JV M/s Eagle Infra Pvt. Ltd. at 17.29 *per cent* below SOR, resulting in an extra burden of ₹ 8.23 crore⁴³. Had the Department negotiated with the L2 of first call in terms of the provision of clause 42.2 of ITB, it would have saved ₹ 5.02 crore⁴⁴ in the interest of the Government.

Additionally, the work of Ratlam Nasirabad Road (city portion) of Mandsaur Division, was initially awarded to M/s Ram Prakash Gupta at 24.99 *per cent* below PAC. The firm failed to execute the agreement. Subsequently, in second call for rate offered by the L1 was 10.39 *per cent* below, which was not accepted by the Department. Again, in the third call the tender was accepted at 11.11 *per cent* below. This led to a loss of ₹ 1.25 crore⁴⁵ to the Government.

⁴² Vide Letter no. 02/B/09 Dated 08 January 2002.

⁴³ ₹ 72,19,25,113 (Bid of L1 in second call) - ₹ 63,96,31,540 (Bid of L1 in first call) = ₹ 8,22,93,573.

⁴⁴ ₹ 72,19,25,113 (Bid of L1 in second call) - ₹ 67,17,60,939 (Bid of L2 in first call) = ₹ 5,01,64,174.

⁴⁵ ₹ 903.41 lakh (PAC) × (24.99 *per cent* - 11.11 *per cent*) = ₹ 125.39 lakh.

The above actions resulted in loss of ₹ 9.48 crore⁴⁶, with the forfeited EMD covering only ₹ 52.68 lakh⁴⁷, resulting in an undue benefit of ₹ 8.95 crores to the defaulting firms.

In reply, the Government stated (June 2025) that as per Clause 42.2 of the ITB and GoMP orders, the bid security of the defaulting L1 was forfeited and the contract annulled. Since bid securities are returned after financial bid opening, L2 was no longer available. The Department followed due procedure, issued a fresh tender, and awarded the contract to the lowest bidder in the third call, maintaining transparency.

The Government's reply is not acceptable as clause 42.2 does not prohibit offering the work to L2, yet no effort was made. Further, as per guidelines of Manual for Procurement, the EMD furnished by the unsuccessful tenders will be returned as early as possible after the expiry of validity of their bid but not later than 30 days of award of contract. The inaction of the Department led to a loss of ₹ 9.48 crore. Besides, claims of blacklisting remain unsubstantiated.

3.1.9 Delay in execution of agreement and submission of performance security

As per the letter of acceptance, the Performance Security / Performance Guarantee, along with signed Agreement, is to be submitted by the contractor within 15 days of issuance of the Letter of Acceptance.

Audit noticed (May 2023 and October 2023) in three Divisions (Dewas, Raisen and Shivpuri) that in seven works all the contractors had signed the agreement and submitted the Performance Security with a delay ranging from more than one month to eight months. This subsequently affected the work schedule which has a bearing on project timelines.

On being pointed out, no comment was offered by the Government. Moreover, the concerned CEs did not furnish reply (December 2024).

Despite provided sufficient opportunities during the audit process, including the Exit Conference, the Government did not furnish any justification regarding this audit observation. Consequently, the audit observation remained uncontested.

3.2 Execution

3.2.1 Mobilisation Advance

3.2.1.1 Non-recovery of Mobilisation Advance

Clause 14.2 of Particular Conditions of Contract (PCC) provided that if the contractor fails to execute 10 *per cent* of the accepted contract amount within 30 *per cent* of the time allocated for completion, the Employer shall have the right to recover the total advance amount paid to the contractor along with interest.

Audit noticed (between April 2023 and June 2024) in three packages⁴⁸ out of 10 test checked NDB packages, that the contractors showed zero *per cent* to 3.67 *per cent* progress in the work even after the expiry of 30 *per cent* of the scheduled period. Therefore, as per the contractual provisions, the entire amount of mobilisation advance amounting to ₹ 50.36 crore

⁴⁶ ₹ 8.23 crore + ₹ 1.25 crore.

⁴⁷ ₹ 43.65 lakh + ₹ 9.03 lakh.

⁴⁸ Package 05, 10 and additional package for Dr. Shyama Prasad Mukherjee Nagar Marg Kolar Road, Bhopal.

(Appendix 3.1) paid to them should have been recovered along with interest. However, the Director, NDB did not take any action in this regard and thus extended undue advantage to the contractors.

In the Exit Conference (June 2025), the Government stated that the issue will be checked and recovery, if any, will be made from the Performance Guarantee.

Necessary action from the Government is still awaited (September 2025).

3.2.1.2 Irregular release of Mobilisation Advance

As per Clause 14.2 of the Agreement, the contractor was entitled for Mobilisation Advance of 10 *per cent* of the contracted amount, subject to submission of an unconditional Bank Guarantee (BG)⁴⁹. In case of the contractor being a Joint Venture firm (JV), BG should bear the name of the JV.

Audit noticed (June 2024) in NDB Package No. 10 of Shivpuri Division that the Department had released three instalments of mobilisation advance of ₹ 15.96 crore to the contractor, a JV Firm (M/s R K Jain Infra Projects Pvt. Ltd., JV with M/s PRL Projects & Infrastructure Ltd.) against three BGs totaling ₹ 15.96 crore.

Audit examination of three BGs indicated that one BG (for an amount of ₹ four crore) was not in the name of the JV and hence was liable to be rejected. Acceptance of this BG without due verification thereby resulted in irregular release of mobilisation advance amounting to ₹ four crore.

In reply, the Government stated (June 2025) that the mobilisation advance was released as per norms and the BG was duly verified. The Government further stated, though Clause 14.2 requires the BG to be in the JV's name, the partner named was a legal JV member with adequate financial capacity. The BG was valid and enforceable, posing no financial risk, and necessary compliance was ensured.

The reply is not acceptable because submission of correct BG is the precondition for release of mobilisation advance, which was not done in this case, and hence release of advance was irregular.

3.2.2 Infertuous expenditure on construction of MDR

As per IRC:SP:13-2004 (Clause 13.3.1), for maintaining the geometric standard of the road, culverts and small bridges should be constructed simultaneously with the earthwork, otherwise every culvert and small bridge practically becomes a hump on the road and geometry of the road is affected, which results in duplication of consolidation of approaches of structures, giving rise to extra cost.

⁴⁹ Bank Guarantee equivalent to 100 *per cent* of the mobilisation advance.

Audit noticed (August 2023) in Shivpuri Division that the Notice Inviting Tender (NIT) for construction of the CRF assisted village road, Lukwasa – Ganeshkheda - Chandapur Road (Single Lane-31.62 kms) was floated in December 2016. Agreement for this road was executed on 03 April 2017, and the work order was issued in April 2017.



There were four major structures⁵⁰ in the alignment of the road which were, however, not constructed concurrently with the road. Cross drainage

structures were removed from the scope of work at the end of stipulated completion period of the agreement, citing the conditions that water way was exceeding 30 meters and thus it was decided to get constructed through the PWD, Bridge Construction Division. After incurring an expenditure of ₹ 21.00 crore, the road was physically completed in June 2020 (excluding the four bridges and cross drainage structures).

Owing to non-execution of the bridges and cross-drainage structures, the road, even though constructed, remains non-operational. This has adversely affected the functionality of the MDR Project. Approximately the intended beneficiaries in the area are deprived of the benefits of all-weather connectivity. Prolonged non-use of bituminous roads leads to binder oxidation, surface cracking, and moisture entrance due to lack of mechanical compaction and environmental exposure results in premature deterioration of riding surface of the road.

In the Exit Conference (June 2025), the Government stated that cross drainage structures exceeding 30 metres fall under the jurisdiction of the Bridge Division.

The reply is factually incorrect. All four structures were part of the DPR and within the approved scope, as acknowledged by the Department. The de-scoping was not due to flood conditions but resulted from a fund shortage. Additionally, critical DPR components such as flood velocity, HFL, trial pit analysis, and catchment area survey were neglected, indicating inadequate survey and planning.

3.2.3 Irregular and unauthorised subletting of work

As per the provisions, contractor may sub-contract any portion of work, up to a limit of 50 *per cent* of the Initial Contract Price (in case of CRF). In the case Percentage Rate Tender Document, sub-contracting is permitted up to 25 *per cent* of the contract price.

⁵⁰ Chainage 12,500, three slabs of six meter, Chainage 15,620, six slabs of six meter, Chainage 22,720, six slabs of six meter, and Chainage 23,860, 10 slabs of six meter.

Audit noticed (between September 2023 and January 2024) in Rewa and Narsinghpur Divisions that two works having contract price of ₹ 94.34 crore and ₹ 63.22 crore, respectively were fully sub-contracted as detailed in **Table 3.3** below.

Table 3.3: Details of works sub-contracted on back-to-back basis

							(₹ in crore)
Division	Name of work	Original contractor	Contract price	Sub-contractor	Subcontract Details	Excess sub-letting	
Rewa	Rewa City Portion of Old NH No. 7 (CRF)	Shri B. R. Goyal Infrastructure Ltd.	94.34	M/s Vijay Shankar Mishra & Company	100 per cent	47.17 (50 per cent)	
Narsinghpur	Construction of Narsinghpur-Sankal-Gotegaon Road	M/s Krishna Infrastructure, Rajasthan	63.22	M/s Vanshika Construction	100 per cent	47.42 (75 per cent)	
Total			157.56			94.59	

(Source: Records of MP PWD)

This resulted in irregular sub-contracting of work valued at ₹ 94.59 crore. Further, it indicates that the original contractor had no intention to do the work and merely acted as a commission agent on behalf of the sub-contractor, which needs investigation by the Government.

On being pointed out, no comment was offered by the Government. However, in reply, EE, Rewa (September 2023) said that documentation regarding potential subcontracting was discussed with M/s Vijay Shankar Mishra & Company but there was no back-to-back subcontracting. Since the same lacked proper stamping and registration, it was legally invalid. EE, Narsinghpur stated that the M/s Krishna Infrastructure executed the work without subcontracting.

The reply of EE, Rewa indicates that despite being aware of the illegality of the sub-contract, the EE did not take action against the original contractor for contract violation. The reply of EE, Narsinghpur is factually incorrect as documents available in the work file clearly indicate that the work had been fully sub-contracted.

3.2.4 Delay in commencement of work

As per Para 23.2 of Section 2 of the Tender Document, the signing of the contract agreement shall be reckoned as intimation to the commencement of work. No separate work order shall be issued by the Employer to the contractor for commencement of work.

Audit noticed (between July 2023 and March 2024) in 35 road works of nine Divisions (**Appendix 3.2**) that the contractors had started the work after 48 days to 1,245 days from the date of the agreement. Thus, the Department failed to get the work commenced immediately after the agreement.

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (between July 2023 and March 2024) that the commencement of the works was delayed due to the reasons such as land acquisition, the third summer crop being irrigated in agricultural fields and for protection of crops, the fencing was very close to the ROW, encroachment, delay in the revised estimate of the work, non-issuance of clearance from Forest Department timely and work awarded in rainy season.

The reply is not acceptable because a clear ROW should have been made available to the contractor immediately after award of the work.

3.2.5 Construction of sub-base

3.2.5.1 Delay in the execution of subsequent crust after execution of earthwork

(A) As per GoMP's circular (January 2011), the EE shall approve the Work Programme by ensuring a sequential execution - Earthwork, followed by GSB/ CRM, Base Course, and Surface Course on a defined stretch, maintaining proper chronology of execution.

Audit noticed (between June 2023 and December 2023) in eight works across six Divisions, work programmes were not obtained prior to the commencement of execution. Scrutiny of MBs revealed that contractors constructed the embankment over substantial lengths of the roads in a single day, while the subsequent layer of Crusher Run Macadam (CRM) was executed after a considerable time gap, as detailed in **Table 3.4** below.

Table 3.4: Details of interval between execution of embankment and CRM

Name of Division	Name of work	Dates of construction		Delay in (in days)
		Embankment	CRM	
Vidisha	Hasua-Katsara Road	04.06.2021	03.11.2022	517
Betul	Ridhora-Sondiya Road	21.03.2019	28.11.2019	252
Sagar	Amoda-Nayagaon-Pipaliya Road	26.02.2019	15.01.2020	323
Chhatarpur	Bajna-Nayakheda-Jatashankar Road	28.02.2019	11.01.2020	317
	Nainagiri-Majhgua Ghati Road	02.12.2018	03.02.2020	428
Rewa	Muretha to Majhigawan Road	11.06.2019	02.03.2020	265
	Manika Lakhwar Garhi Road	10.03.2015	18.01.2016	314
Singrauli	Sarai Bypass Road	24.03.2020	10.06.2020	808

(Source: Measurement Books of the respective works)

It is pertinent to mention that the Department had preferred the costlier item of CRM over GSB for expedited construction of the works. However, the delay ranging from 252 to 769 days in execution of CRM after construction of the embankment rendered this futile.

In reply, the Government stated (June 2025) that earthwork was executed in layers as per MoRTH Specifications and completed satisfactorily as per the submitted work programmes. They clarified that the dates mentioned in the MBs reflect the dates of measurement, not the actual dates of execution.

The reply is factually incorrect as the standard departmental procedures provide that MB entries must reflect actual execution dates. If not, it indicates irregular measurements and undermines the validity of payments. Such delayed recording raises concerns of manipulation and supervisory failure, warranting investigation.

(B) As per Clause 305.3.5.1 of MORT&H Specifications, the embankment and sub-grade material shall be spread in layers of uniform thickness in the entire width with a motor grader. The compacted thickness of each layer shall not be more than 250 mm when a Vibratory Roller/ Vibratory Soil Compactor is used.

Audit noticed (between June 2023 and December 2023) in eight works⁵¹ of six Divisions⁵² that the contractors had laid single layers of sub-grade material which exceeded the prescribed

⁵¹ Hasua - Katsara Road (Vidisha), Ridhora-Sondiya Road (Betul), Amoda-Nayagaon-Pipaliya Road (Sagar), Bajna-Nayakheda-Jatashankar Road (Chhatarpur), Nainagiri-Majhgua Ghati Road (Chhatarpur), Muretha to Majhigawan Road (Rewa), Manika Lakhwar Garhi road (Rewa), Sarai Bypass Road (Singrauli).

⁵² Vidisha, Betul, Sagar, Chhatarpur, Rewa and Singrauli.

thickness of 250 mm. The subsequent layers shall only be laid when the previous layers have been thoroughly compacted. Laying sub-grade material in thickness of more than 250 mm in a single layer negates the possibility of achieving the desired degree of compaction (95 per cent minimum) and hence, the chances of settlement of crust cannot be ruled out.

In reply, the Government stated (June 2025) that the subgrade material was initially laid in layers up to a thickness of 225 mm. After compacting each layer, another layer was laid and similarly compacted. Compaction was carried out layer by layer in accordance with MoRTH Specifications. However, the measurements for different layers were taken simultaneously.

The reply is not acceptable because compaction of more than 250 mm earthwork indicated that the work was not executed as per the specifications. Additionally, delayed measurements are a matter of serious concern and raises questions on the credibility of such measurements and the validity of payments, which needs investigation.

3.2.6 Adoption of incorrect mode of execution of WMM

As per Clause 4.3 of IRC:109-1997 and Clause 406.3.2 of MoRTH Specifications, WMM construction must be laterally confined by simultaneously laying and compacting shoulder layers matching the thickness of the adjoining pavement layer. Each pavement layer and its corresponding shoulder layer must be completed before proceeding to the next, ensuring structural stability and proper confinement.

The E-in-C, PWD also issued (January 2023) instruction to prioritise the construction of hard shoulders to provide lateral confinement.

Audit noticed (April 2023 to May 2024) in six packages of 10 test-checked packages (**Appendix 3.3**) that housing was not maintained before laying the 1st & 2nd layers of WMM in a thickness of 125 mm during the execution of the WMM base layer. As a result, the offset on either side of the WMM layers was provided to maintain a slope of 2:1 and the contractor executed the WMM layer in an excess width (as an offset) as against the requirement of 5.50 m and 7.00 m respectively, which were the carriage width of the road. Therefore, the unwarranted execution of the slant height of WMM due to the incorrect mode of execution resulted in an extra expenditure of ₹ 4.98 crore.

In the Exit Conference (June 2025), the Government agree with the Audit observation and assured to comply the procedure of MoRTH.

The matter remains unresolved in the absence of a clear departmental directive or corrective guideline on this issue.

3.2.7 Incorrect provision of Bituminous Concrete in renewal of roads

According to Clause 2.2 of IRC:105-1988 read with Clause 2 of IRC:47-1972, Bituminous Concrete (BC) is used as a surface course and typically should not be applied directly over any granular base. The suitable overlay or renewal course on any granular base should be OGPC followed by Seal Coat. According to Clause 2 of IRC:109-2015, WMM is a sub-base/ base course of the pavement wherein clean, crushed graded aggregates and granular material, like, graded coarse sand are mixed with water and rolled to a dense mass on a prepared surface.

Audit noticed (between June 2023 and March 2024) in five road work of three Divisions that SOR item no. 4.11 “Providing, laying, spreading and compacting graded stone aggregate to WMM specification including premixing the material with water in mechanical mix plant carriage of mixed material by tipper to site (for profile correction and potholes filling)” and SOR item no. 5.6 “Bituminous Concrete” as a surface course were provided in the estimate renewal work of the roads. The works were executed as provisioned in the estimate. As WMM is a granular base, the provision and execution of BC of 4,680.98 Cu. M. as an overlay wearing course was not correct because BC is a dense-graded mix, designed to carry heavy traffic loads. WMM is a granular layer, and laying BC directly over it leads to poor bonding, which may cause slippage, cracking, or premature failure.

Thus, provision and execution of BC directly over granular base resulted not only in below specification work of ₹ 7.24 crore but also led to an extra cost of ₹ 2.47 crore as detailed in **Appendix 3.4**.

In the Exit Conference (June 2025), the Government agreed with the Audit observation.

The matter remains unresolved in the absence of a clear departmental directive or corrective guideline on this issue.

3.2.8 Undue benefit to contractors

Execution of road work involves careful planning and estimation and bids are to be carefully analysed and accepted to ensure that contract executed are held in sanctity. Payments to contractors are to be carefully monitored and work is to be duly measured to ensure that desired workmanship is achieved in order to get value for money.

Several cases of grossly negligent work were noticed, which not only affected quality of work but also resulted in undue benefit to the contractor as discussed below:

Type of undue benefit	Criteria	Deviation	Department’s response
Undue benefit to the contractors through non-deployment of Slip Form Paver with Electronic Sensor Paver	CC Pavement of M 40 grade and the DLC sub-base should be laid with an Slip Form Paver with Electronic Sensor. If these have been laid without Slip Form Paver with Electronic Sensor by any other method deduction at the rates of ₹ 150 per Cu. M. and ₹ 350 per Cu. M.	In 31 road works of 15 Divisions there was no documentary evidence that the DLC and CC M 40 grade pavement were laid by Slip Form Paver with Electronic Sensor. Hence, deductions at prescribed rates should have been made from the bills of the contractors, which was not done by the department, resulting in undue benefit of ₹ 14.24 crore to the contractors as detailed in Appendix 3.5 .	In reply, the Government stated that deduction for not using Slip Form Paver was made where required. In some stretches, it was avoided due to site constraints. Rebuttal: The reply is not acceptable, as no supporting records confirming the use of Slip Form Paver with electronic sensor were available in the Divisional office or

Type of undue benefit	Criteria	Deviation	Department's response
	from the rates of DLC and CC M 40 grade respectively, should be made from the bills of the contractor.	In the construction of the Burhanpur–Hathnour–Bahadarpur–Biroda–Padliya and Shahpur–Phofnar–Sangrampur Road (MDR, 18 km PQC), the core thickness was found to be 280–290 mm against the specified 27 cm ±1 mm. This 20 mm variation indicates that the work was not executed using a Slip Form Paver with Electronic Sensor. As such, payment at full rates to contractor resulted in undue benefit of ₹ 24.10 lakh.	enclosed with the Government's response.
Undue benefit to the contractor in execution of Bituminous Concrete	The SORs (2014, 2016, 2017, and 2022) included items for laying bituminous concrete of Grading-II using 60/70 bitumen (VG-30), executed via Drum or Batch Mix Plants.	Audit observed (between April 2023 and May 2024) in four Divisions that 13,752.91 Cu. M. of bituminous concrete was executed in eight road works with payments made at Batch Mix Plant rates. However, no documentary evidence supported the use of Batch Mix Plants. The works might have been executed using Drum Mix Plants, warranting payment at lower rates. This resulted in an undue benefit of ₹ 33.03 lakh to the contractor, as detailed in Appendix 3.6.	On being pointed out, no comment was offered by the Government. However, the EEs stated that BC was executed using Batch Mix Plants and payments were made accordingly, with contractors sourcing ready-mix material. Rebuttal: The reply is not acceptable as contractors had not installed any Batch Mix Plants. Hence, the rates should have been regularised.
Undue financial aid to the contractor	According to the conditions of the Agreement, if the contractor quotes an unworkable rate of more than 10 <i>per cent</i> (below the SOR), additional security equivalent to the rate percentage exceeding 10 <i>per cent</i> shall be obtained from the contractor.	In the work of Bankhedi - Umardha Road in Narmadapuram Division, the contractor had bid 16.52 <i>per cent</i> ⁵³ below the Probable Amount of Contract (PAC) of ₹ 58.84 crore. As the NIT for the work was issued in February 2016, the contractor was required to deposit an additional security deposit of ₹ 3.84 crore equivalent to 6.52 <i>per cent</i> of the contract price. The Department, however, obtained an additional performance security of ₹ 4.57 lakh only. This resulted in an undue benefit of ₹ 3.79 crore to the contractor.	On being pointed out, no comment was offered by the Government. However, the EE stated that the amendment issued (May 2016) by MP PWD was effective from the date of issue of order. Further, the additional performance security obtained was in accordance with the revised guidelines applicable to Standard Bid Documents (SBD ⁵⁴). Rebuttal: The reply is not acceptable because the amendment did not apply to the above project, as it had been tendered before the order was issued.

⁵³ PAC ₹ 5,883.65 Lakh and contract amount ₹ 4,911.32 lakh hence 16.52 *per cent* below.

⁵⁴ Item rate of tender form for centrally sponsored scheme.

Type of undue benefit	Criteria	Deviation	Department's response
Undue benefit to the contractor for non-execution of trial length	As per Clause 601.8 of MoRTH Specifications, a trial length of minimum 100 m and full pavement width shall be constructed outside the main work at least 14 days before DLC and 30 days before PQC. The trial section must validate moisture content, concrete strength, and compaction density. It is considered incidental to the work and not paid separately.	In 49 road works across 19 Divisions, trial lengths were not executed before commencing main CC works, violating MoRTH specifications. Trial lengths are vital for verifying pavement design, construction quality, and durability. Their omission deprived the Engineer of essential data for approval and risked substandard performance. This lapse extended undue benefit of ₹ 4.77 crore to contractors.	At the instance of Audit, the SOR 2025 has been suitably updated, which now mandates execution of trial length at least seven days in advance of the proposed date of commencement of work.
Injudicious Grant of Time Extension under non-penal clause	As per Clause 8.7 of the GCC, if the contractor fails to complete on time, delay damages of 1/20 per cent of the contract price per day, up to a maximum of 10 per cent, will apply.	In nine packages out of 10 test-checked packages of NDB, the contractors had failed to achieve the prescribed milestones as per the scheduled programme and time extension was granted on the ground of shifting of water pipeline, unseasonal/ abnormal rainfall, working restriction in forest area and delay in electrical utility shifting. As the delays were solely attributable to the contractors, penalty of ₹ 137.32 crore was required to be imposed on the defaulting contractors and deducted from their IPCs. No penalty was, however, leviable on the contractors resulting in undue benefit to that extent.	On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated in respect of delays in Percentage Rate Contracts that the time extension was granted by the competent authority after analysing the reasons for the delay. Rebuttal: The reply is not acceptable as no speaking order for analysing the timeline of delays was issued by the competent authority. Instead, time extensions were granted arbitrarily under non-penal clause, even though the delays were solely the faults of the contractors.
	As per Annexure P of Percentage Rate Contract, in case the work is not completed within the stipulated period of completion along with all such extensions which are granted to the contractor for either employer's default or <i>force majeure</i> , the compensation shall be levied on the contractor at the rate of 0.05 per cent per day of delay limited to a maximum of 10 per cent of the contract price.	Audit noticed in 72 road works (other than NDB works) of 22 Divisions that there were delays ranging from 211 days to 2,155 days. The delays were attributable to the contractors and attracted levy of penalty amounting to ₹ 68.73 crore. No penalty was, however, leviable on the contractors resulting in undue benefit to that extent.	

Sub-standard execution of work by the contractor

Type of execution	Rule	Deviation	Department's response
Non-execution of filter media behind retaining wall	As per IRC:78-2014, filter media must be at least 600 mm thick, with proper grading, placed behind abutments and retaining walls.	In the Bhadbhada-Bilkisganj-Ratibad Road work (8.00 km) under PWD (B&R) Maintenance Division No.-II, Bhopal, that filter media behind the retaining wall was not provided. This critical omission raises concerns over the long-term durability of the retaining wall constructed at a cost of ₹ 5.65 crore.	On being pointed out, no comment was offered by the Government. However, the EE stated that the work followed approved estimates, using excavated disintegrated rock behind the retaining wall without extra payment. The contractor was paid only for installing weep holes as per the BOQ. Rebuttal: The reply is not acceptable because the work should have been executed using the specified filter media, such as geotextiles, gravel, crushed stone, or specialised drainage fabrics, etc.
Substandard execution of backfilling	As per IRC:78-2014, a 600 mm thick filter material must be placed behind abutments, wing, or return walls, except for spill-through abutments. Proper filling sequence should match design assumptions, with weep holes (spaced ≤1m) above low water level to prevent water accumulation and hydrostatic pressure.	In five road works that backfilling was done without filter media or weep holes, violating specifications. Thus, structures worth ₹ 56.32 lakh (Appendix 3.7) are potentially vulnerable to damage.	On being pointed out, no comment was offered by the Government. However, the EE, Narmadapuram stated that an adequate number of weep holes were provided. The EE of Gwalior mentioned that the work was carried out as per estimates sanctioned by the CE. The EEs of Mandsaur and Burhanpur explained that soft rock found during excavation was used as filter media. Rebuttal: The replies from Mandsaur and Burhanpur are not acceptable because filter media requires specific gradation, the excavated soft rock, being sedimentary with plastic properties, can block drainage and cause disruptions, as observed in premature settlement on the Bankhedi-Umardha Road. Furthermore, the replies from other EEs confirm that filter media was not used, which violates specifications.
Execution of below specification work of PQC due to non-execution of Tie Bars	According to clause 8.1 of IRC:58-2015 and Clause 8.4 of IRC:15-2011 the provision of Tie Bars in longitudinal joints in Pavement Quality Concrete (PQC) is crucial as they promote load transfer, enhance pavement performance, prevent joint faulting, and contribute to the overall durability of the pavement structure	In seven road works across four Divisions that tie bars were not provided in longitudinal joints of PQC (14,475.44 Cu. M.). This omission risks vertical joint displacement and pavement distress, leaving the ₹ 6.01 crore work below specification (Appendix 3.8).	The Government stated (June 2025) with the cases pertaining to the O/o EE PWD, Gwalior that tie bars were automatically inserted during slip form paving, so their measurements weren't recorded in MBs. However, with respect to the case of EE PWD, Mandsaur, stated that the work was executed as per approved drawing and design. In the rest of the cases, the Government did not offer any comments. Rebuttal: The replies are not acceptable as tie bar measurements must be recorded even with slip form paving and automatic insertion. Missing tie bars can cause gaps at longitudinal joints, as observed on Bankhedi-Umardha-Sandiya Road, leading to premature road damage.

Type of execution	Rule	Deviation	Department's response
Execution of Grade of Polymer Modified Bitumen not in conformity with the IS Code	Clause 5.1 of IS:15462-2004, mandates that PMB be prepared by blending suitable penetration grade bitumen with additives at refineries.	Audit (June 2024) in NDB Package No. 15, PWD Division No. 1, Jabalpur, found that PMB 40 was improperly blended with 60/70 viscosity grade bitumen instead of the required 30-50 penetration grade, violating IS code. For 12,365.78 Cu. M. of BC, 1,669.38 MT of PMB worth ₹ 6.17 crore was used, resulting in below-specification work.	On being pointed out, no comment was offered by the Government. However, the Director, NDB stated that penetration grade bitumen required for PMB-40 manufacture, with the final product's penetration between 30-50 as per IS 73. Rebuttal: The reply is not acceptable because using 60/70 grade bitumen risks inconsistent quality and performance, compromising pavement durability, especially for heavy-traffic roads, contrary to standards.
Execution of WMM contrary to the specifications	IRC:109-1997 introduced Water Mixed Macadam (WMM) as a more durable alternative to Conventional Water Bound Macadam (WBM). IRC:109-2015 mandates immediate spreading of WMM after mixing and a 24-hour drying period before bituminous overlay to ensure quality and durability.	In five road works amongst four Divisions that newly laid WMM, designed for traffic loads of 2 to 10 MSA, remained exposed to traffic for 15 days to 32 months. Consequently, 29,550.32 Cu. M. of WMM worth ₹ 4.80 crore was damaged and considered below specification (Appendix 3.9). The contractors' delayed overlay of WMM, defeated the purpose of shifting from conventional WBM to the improved WMM granular base.	The Government stated (June 2025) with the cases pertaining to the O/o EE PWD, Khandwa that the WMM surface was immediately covered with bituminous layer, with running and final measurements recorded in MBs. With respect to the cases pertaining to EEs PWD, Gwalior and Shivpuri stated that the contractor corrected the WMM profile at his cost before overlay, with no separate payment made. In the rest of the cases, the Government did not offer any comments. However, the EE of Ratlam stated traffic was diverted, and no movement occurred after WMM laying. Rebuttal: The replies from Khandwa and Ratlam are not acceptable as the delays between 22 days and 63 days in execution of WMM and bituminous layer, violate IRC:109-2015. The replies from Gwalior and Shivpuri are incorrect since WMM is premixed and cannot be corrected on site, thus leading to substandard work.

Type of execution	Rule	Deviation	Department's response
Use of aggregates not conforming with the specifications	According to the provision of IRC:109-2015, the maximum permissible limit of Aggregate Impact Value (AIV) ⁵⁵ , Flakiness Index and Elongation Index (EI) ⁵⁶ in WMM is 30 per cent. As per clause 407.3.2 of MoRTH Specifications, the maximum permissible limit of AIV and Flakiness Index and EI in CRM are 30 per cent and 35 per cent, respectively.	<p>Audit noticed (January 2024) in the work of Strengthening of Araniya-Digawa-Basai Road, 6.60 km in Mandsaur Division that the test results for chainage 1270 to 1700 contained AIV of CRM between 35.5 and 42.5 per cent, Flakiness Index between 37.3 and 43.8 per cent in WMM between 32.4 and 42.5 per cent, and 39 and 43.2 per cent respectively.</p> <p>The above exceeded the maximum permissible limits, indicating that the coarse aggregates used in construction of CRM and WMM were of irregular shape and poor quality. The layers of CRM (7,343.70 Cu. M.) and WMM (6,979.31 Cu. M. worth ₹ 1.45 crore⁵⁷ may likely succumb to the vehicular load.</p>	<p>In the Exit Conference (June 2025), the Government accepted irregularity. The Department assured that vast training program is being organized to train departmental staff to prevent such errors.</p> <p>Rebuttal: The matter is under consideration by the Government.</p>
Cement Concrete work Sub-standard execution DLC and PQC	As per Clauses 7.2 and 7.8 of IRC:SP:49-2014, PQC should be laid only after seven days of DLC construction with continuous curing during this period.	Audit observed (August 2023–January 2024) in seven works across four Divisions that PQC was laid prematurely, violating specifications. Consequently, DLC and PQC works worth ₹ 12.01 crore (Appendix 3.10) are prone to early failure due to inadequate curing.	<p>The Government stated (June 2025) with the cases pertaining to the O/o EE PWD, Shivpuri that due to shortage of staff and excess work, the date of measurement of execution of DLC was entered in MBs with delays from actual date. Whereas, with the case pertaining to the EE PWD, Singrauli stated that the MB entries were clerical errors. In the rest of the cases, the Government did not offer any comment.</p> <p>Rebuttal: The reply is not acceptable. Such errors undermine the credibility of MB records and raise serious concerns about delayed measurements and the validity of related payments, warranting further investigation.</p>

⁵⁵ The AIV test is crucial in CRM and WMM construction as it provides insights into the durability, strength, and performance of aggregates under impact, thereby influencing material selection, quality control, and long-term pavement performance.

⁵⁶ The EI tests play a crucial role in CRM and WMM construction by ensuring the quality, workability, durability, and long-term performance of aggregates used in these applications. They help in maintaining construction standards and achieving sustainable infrastructure development.

⁵⁷ ₹ 69,69,171 (CRM) + ₹ 88,00,910 (WMM) – 17.77 per cent (Tender Premium) + 12 per cent (GST).

Type of execution	Rule	Deviation	Department's response
Deviation from design mix	As per IS:456-2000, concrete design mix ⁵⁸ refers to the process of selecting appropriate materials and determining their proportions to produce concrete that meets specific strength, durability, and workability requirements.	In the “Bhesola to Karondi Nagda Road” work under PWD (B&R) Division, Ratlam, that mix designs for M-30 concrete and DLC were approved with OPC-43 cement. However, PPC was used during execution instead of the specified OPC. The deviation was allowed without revising the design mix. Consequently, 550.591 Cu. M. of DLC and 1,237.813 Cu. M. of M-30 concrete worth ₹ 66.87 lakh were executed without adhering to approved specifications.	On being pointed out, no comment was offered by the Government. However, the EE stated (December 2023) that the revised mix design submitted by the contractor was as per the requirement of actual execution of work using PPC which was shown to Audit. Rebuttal: The reply is not acceptable as no revised mix design was shown to audit. Further, in the event of use of PPC ⁵⁹ , a cheaper product, the rates of DLC and PQC should have been regulated as per the item which contained fly-ash which was not done.

Sub-standard Bituminous work

Sub-standard execution of WMM and Prime Coat	As per Clause 4.7 of IRC:109-2015, the WMM layer must dry 24 hours before priming. Priming aims to seal surface pores, bind loose particles, block capillary voids, and make the base course water-resistant.	Audit noticed (between May 2023 and March 2024) in 16 road works of nine Divisions that the contractors had applied Prime Coat on the surface of WMM in the same chainages on the same day. Thus, 17,858.08 Cu. M. of WMM worth ₹ 2.31 crore was executed, without conforming to the specifications (Appendix 3.11), which can cause premature failure of the surface.	The Government stated (June 2025) that the Prime Coat was laid only on the next day after being satisfied that the WMM layer had dried up. The measurements of WMM were taken after it dried on the day when the Prime Coat was done. Rebuttal: The reply indicate doubtful measurements which need investigation.
Sub-standard execution of Prime Coat and Tack Coat		Audit observed (July 2023–January 2024) in nine road works across five Divisions (Appendix 3.12) that Tack Coat, OGPC, and Seal Coat were laid over Prime Coat on the same day, without allowing proper drying. This may lead to premature slippage or damage of the bituminous surface.	The Government stated (June 2025) that the Tack Coat was laid only on the next day after being satisfied that the Prime Coat layer had dried up. Measurements of the Prime Coat were recorded only when it dried up. Hence, measurements of the prime coat were taken on the day when the tack coat was done. Rebuttal: The reply indicates doubtful measurements which need investigation.

3.2.9 Unauthorised execution of work by the sub-contractor

As per Clause 4.4 of the Agreement, the contractor was authorised to sub-let up to a maximum quantum of 50 *per cent* of the total work of the Package to the sub-contractor with the prior consent of the Construction Supervision Consultant (CSC). In the absence of the consent,

⁵⁸ Key Components of Concrete Mix:

- (i) Cement: Acts as a binder and provides strength when mixed with water.
- (ii) Water: Hydrates the cement and initiates the chemical reaction for setting.
- (iii) Aggregates: Includes fine (sand) and coarse (gravel, crushed stone) aggregates, which provide bulk to the mix.
- (iv) Admixtures: Chemicals added to modify properties such as workability, setting time, or durability.

⁵⁹ In PPC cement, minimum 20 *per cent* fly-ash was included.

Clause 15.2 provided for termination of the agreement by the Department. The bid capacity of the sub-contractors was to be assessed before sub-contracting based on the lowest Road Construction Experience⁶⁰ and average turnover of the last three years.

Audit noticed (June 2024) in NDB Package No.3 of Ratlam Division that the contractor sub-contracted (23 March 2022) 49.49 *per cent* work valuing ₹ 35.73 crore.

Audit observed that the sub-contractor executed additional quantities over what was shown in the IPCs for March 2022 and March 2023 as shown below:

Table 3.5: Details of quantum of execution before and after sub-contracting

Item	IPC 12 (03/2022)	IPC 22 (03/2023)	Maximum quantities executed by the sub- contractor	Quantities shown executed by the sub- contractor up to 03/2023	Difference	Rate	Value of work whose execution was unauthorised
A	B	C	D = C - B	E	F = D - E	G	H = F x G
Earthwork excavation	1,61,053	3,04,230	1,43,177	1,83,056.21	-39,879.21	60	-23,92,753
Embankment construction from borrow pit	2,25,408	3,53,255	1,27,847	2,21,951.09	-94,104.09	111	-1,04,45,554
Embankment construction from roadside cutting	60,202	1,23,887	63,685	1,10,561.49	-46,876.49	46	-21,56,319
CRM	38,695	1,05,653	66,958	83,358.49	-16,400.49	854	-1,40,06,019
WMM	12,589	69,697	57,108	59,898.79	-2,790.79	1,061	-29,61,028
						Total	-3,19,61,673

(Source: Records of MP PWD)

The difference in quantity executed and that available in the sub-contractor's certificate of work indicates that the sub-contractor had been executing additional work even before award of the sub-contract in March 2022. Therefore, the work shown executed by the sub-contractor valuing ₹ 3.20 crore had been irregularly executed by the sub-contractor prior to the legal deployment date, *i.e.*, 23 March 2022. As such, the contractor sub-let more than 50 *per cent* of the work in violation of contract provisions.

On being pointed out, no comment was offered by the Government. However, in reply, the Director, NDB Projects stated that the quantities executed by the subcontractor up to March 2023 were mistakenly taken as the up-to-date quantities until IPC-22. This was an inadvertent error. The quantities shown as executed are accurate and based on actual work performed.

The reply is factually incorrect. While the Director attributes the discrepancies to unintentional reporting errors up to March 2023, it's important to highlight that these mistakes compromise the reliability of the reported quantities, necessitating further investigation and correction by the Department.

⁶⁰ Maximum value of single road project executed in last five years.

3.2.10 Irregular consideration of appeals

Clause 15 of the GCC regarding compensation for delay mandates strict adherence to project timelines and milestones by the contractor. As per Sub-clause 5.3, in the event milestones are laid down in the Contract Data for execution of the works, the contractor shall have to ensure strict adherence to the same. Failure of the contractor to adhere to the timelines and/or milestones shall attract such liquidated damages as is laid down in the Contract Data.

If the contract is terminated under Clause 27.2 or 27.3, the security deposit/ performance security deposit stand forfeited along with the liability to recover 20 *per cent* of the remaining work. Disputes must be raised in writing to the Competent Authority defined in the Contract Data, with a full description and grounds within 45 days of their occurrence; otherwise, they will not be entertained as provided under Clause 12 of GCC. Clause 12.4 of GCC provides that an appeal against the order of the Competent Authority can be preferred within 30 days to the Appellate Authority as defined in the Contract Data. The Appellate Authority shall decide the dispute within 45 days.

Audit noticed (between January 2024 and February 2024) in five road works of three Divisions⁶¹ that the EEs terminated the contracts under Clause 27.3⁶² of the Agreement due to abnormal delays and apparent reluctance of contractors to work. In one of the cases, the CE had also cancelled the registration of the contractor. As the contractors had approached the concerned appellate authorities in all the cases after lapse of several days (ranging between 63 days and 297 days) from the expiry of the period prescribed for the purpose their requests were liable to be rejected at once. The concerned Authorities however, not only accepted the requests but also amended/ revoked the original orders of termination (under Clause 27.3) to foreclosure (under Clause 27.4⁶³). Thus, the contractors were provided protection against the prescribed forfeiture/ recovery of ₹ 11.54 crore as detailed in **Table 3.6** below:

Table 3.6: Details of irregular entertainment of appeal by the CE and E-in-C

Name of Division	Name of road	Date of Termination under 27.3/ Blacklisting	Date of appeal by the contractor	Delay in appeal by the contractor	Date of order of foreclosure under clause 27.4/ Revocation	The prescribed forfeiture/ recovery under Clause 28.2 (₹ in lakh)	
Bhopal	Construction of road from Kaliyashot Dam to new bypass 11 mile (12.10 km) (old agreement) (30/2018-19)	14-11-2019	03-09-2020	297 Days	10-02-2021	Security Deposit	9.41
						20 <i>per cent</i> of Balance Work	773.93
						Performance Guarantee	188.30
	Widening and Strengthening of Misrod Salaiya Road (163/2016-17)	20-05-2020	24-08-2020	96 Days	12-01-2023	Security Deposit	10.84
						20 <i>per cent</i> of Balance Work	56.59
						Performance Guarantee	28.27

⁶¹ PWD, Maintenance Division II, Bhopal, PWD, Division Burhanpur and PWD, Division Gwalior.

⁶² The Engineer-in-Charge may, upon giving 14 days' notice to the Contractor, terminate the contract and expel the contractor from the site.

⁶³ The Engineer-in-Charge may terminate the contract for convenience by giving notice to the contractor.

Name of Division	Name of road	Date of Termination under 27.3/ Blacklisting	Date of appeal by the contractor	Delay in appeal by the contractor	Date of order of foreclosure under clause 27.4/ Revocation	The prescribed forfeiture/ recovery under Clause 28.2 (₹ in lakh)	
Burhanpur	Strengthening of Singot Mordhad, Gandhwa to Padliya Road km 22/2 to 31/4 (16/DL/2018-19)	07-03-2020	05-06-2020	90 Days	CE on 29-06-2020, granted time extension up to 31.12.2020	Security Deposit	3.84
						20 per cent of Balance Work	31.93
Burhanpur	Strengthening of Jhiri Asirgarh Railway Station (0.70 km) and Asirgarh Fort approach road (1.40 km) (31/DL/2018-19)	03-03-2020	05-05-2020 to SE	63 Days	22-06-2020	Performance Guarantee	11.6
			20-06-2020 to CE	109 Days		Liquidated Damage	39.18
Gwalior	Construction of Road Behat to Arora Gundhara Jakahara Supawali-Bilheti Parsen Bahadurpur Malanpur of length 40 KM (98/SAC/2018-19)	05-03-2020	05-10-2020	214 Days	05-12-2020	The contractor was blacklisted on 05-03-2020 and its blacklisting was revoked on 05-12-2020 against appeal dated 05-10-2020.	

(Source: Records of MP PWD)

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (between August 2023 and February 2024) that the final actions were taken by the competent authority after due consideration of virtues and vices of the matter, after hearing the appeals of the contractors and the department personnel.

The reply is not acceptable as the appeals were submitted after the prescribed 45 days' deadline.

3.2.11 Price Escalation

Price adjustment allows for changes in contract price to account for fluctuations in cost of components such as materials, labour or other inputs during the contract period.

3.2.11.1 Irregular payment of price escalation to a blacklisted contractor

As per Clause 13.10 of PCC, price adjustment is not to be allowed if any cost incurred by the Contractor is on account of default or negligence of the Contractor.

Audit noticed (April 2023) during the scrutiny of records of NDB Package 05 that the contractor (M/s Ashish Infracon Pvt. Ltd. JV – M/s NCC Infraspace Pvt. Ltd.) did not meet project milestones, as shown in **Table 3.7** below:

Table 3.7: Financial Progress of the work as per milestone

S. N.	Time Period	Targeted Financial Progress	Achieved Financial Progress
1	50 per cent of Scheduled Completion (08-03-2020)	30 per cent	2.55 per cent
2	70 per cent of Scheduled Completion (01-08-2020)	50 per cent	4.39 per cent
3	100 per cent of Scheduled Completion (08-03-2021)	100 per cent	17.00 per cent

(Source: Records of MPPWD)

Issues noticed are discussed below.

Irregular payment of price escalation Only 56.61 per cent (as per 34th IPC) had been achieved despite lapse of more than three-year time from the scheduled period of completion (08 March 2021). Due to significant and unjustified delays, the Department blacklisted the contractor in March 2023. However, despite blacklisting, the Department granted three time extensions (June 2023, April 2024 and October 2024) up to 04 October 2024.

Irregular action of the Department to allow time extensions to a blacklisted contractor, thereby resulted in irregular claim of price escalation amounting to ₹ 26.50 crore, which was approved and paid, resulting in unjustified payment and undue benefit to the contractor.

Wrongful ex-poste freezing of price index The price adjustment was calculated based on the index for 31 December 2022. This was done on ex-poste basis in April 2024. Audit observed that the price of bitumen showed a declining trend after December 2022⁶⁴ and hence the decision to freeze the indices on 31 December 2022 was biased and was likely taken to extend benefit to the contractor since price adjustment, if taken on the basis of later indices, would have been much lower⁶⁵.

In the Exit Conference (June 2025), the Government stated that even after freezing of indices, if indices decline, the negative escalation is accounted for during final payment.

The reply is not acceptable as the Department blacklisted (24 March 2023) the contractor due to significant and unjustified delays. Hence time extension up to 03 October 2024 (under Clause 8.4 of the GCC/PCC⁶⁶) was irregular, which resulted in irregular payment of price adjustment. For this, the Director, NDB needs to be investigated, and responsibility needs to be fixed.

3.2.11.2 Irregular EOT under Clause 8.4 of GCC instead of Clause 8.7

Extensions granted (on account of contractor's fault) under Clause 8.7 of the GCC/PCC are not eligible for price adjustments and in all such cases, the employer has the right to impose liquidated damages.

(A) Audit noticed (July 2023) in Narmadapuram that the work of NDB Package No.14 commenced on 10 June 2019, with scheduled date of completion as 09 June 2021 but even after lapse of more than two years from the scheduled date (June 2023) the work remained incomplete. The Committee (headed by Director, NDB Project) approved (29 August 2022) the EOT up to 15 March 2023 without granting any relief to the contractor towards price adjustment, indicating thereby that the EOT had been granted under Clause 8.7 of the GCC.

The Director, NDB however (30 August 2022), in violation of the committee's recommendations, granted EOT up to 30 April 2023, under Clause 8.4 of GCC of the Agreement. Irregular action of the Director, NDB Project in allowing EOT under Clause 8.4 of the GCC thereby allowed the contractor to claim price adjustment of ₹ 4.53 crore⁶⁷ for the extended period, which was approved and paid to him, resulting in loss to the exchequer to that extent.

In reply, the Government stated (June 2025) that EOT (from 08 October 2022 to 30 April 2023) under Sub-clause 8.7 of GCC and PCC of the Agreement which reserves the Employer's right to recover liquidated damages but not automatically disallow the escalation payment.

⁶⁴ IOCL rate of bitumen was ₹ 50,002/MT in December 2022, and it decreased to ₹ 39,887/MT in February 2024.

⁶⁵ Actual price adjustment depends on several components and hence excess cannot be worked out.

⁶⁶ Extensions granted under Clause 8.4 of the PCC/GCC are eligible for price adjustments, treating the delays as valid.

⁶⁷ ₹ 12,96,76,566 - ₹ 8,43,04,632.

The reply is self-explanatory. The grant of EOT under Clause 8.7 of the GCC and PCC, while retaining the Employer's right to impose liquidated damages, clearly indicates contractor default. Hence, the payment of price adjustment was irregular and resulted in loss to the exchequer. Responsibility also lies with the Director, NDB project for allowing such inadmissible claims despite the clear contractual provisions.

(B) Audit noticed (June 2024) in two divisions as follows:

Division	Contract Details	Observation
NDB Package-03, Ratlam Division	Agreement Date: 30 August 2019 Scheduled Completion Date: 23 April 2021	The Director, NDB sanctioned (November 2022) an EOT up to 15 January 2023 stipulating that the contractor must submit an undertaking, refraining from making any claims in this respect, thereby treating the EOT as granted under Clause 8.7 of the GCC. However, for the EOT, price adjustment of ₹ 4.14 crore was granted in violation of the November 2022 order, resulted in excess payment to that extent.
NDB Package-10, Shivpuri Division	Agreement Date: 20 December 2018 Scheduled Completion Date: 14 January 2021	The Director, NDB sanctioned (October 2021) an EOT up to 31 January 2022 stipulating that the contractor must submit an undertaking, refraining from making any claims in this respect, thereby treating the EOT as granted under Clause 8.7 of the GCC. However, for the EOT, price adjustment of ₹ 9.52 crore was granted in violation of the October 2021 order, resulted in excess payment to that extent.

Irregular treatment of EOT under Clause 8.4 instead of 8.7 of the GCC resulted in excess/undue payment of ₹ 13.66 crore.

In reply, the Government stated (June 2025) that several uncontrollable events caused delays such as State Assembly Elections, variation in the scope of work, unavailability of funds in the NDB account, *etc.*

The reply is factually incorrect because while granting EOT to the contractor, the Director clearly stated that no claims during EOT period would be allowed, which indicates that the delays were attributable to the contractors and not to the Department. Further, the Department also recovered additional expenditure made to the consultant (in case of Ratlam division) during the extended period (from the contractor), due to delay in achieving the milestones, which further strengthens the fact that the delays were attributable to the contractor.

3.2.11.3 Injudicious payment of escalation beyond the date of termination

Audit noticed (July 2023) in PWD (B&R) Division, Narmadapuram that contractor could complete only 15 *per cent* of the work of Bankhedhi – Umardha Road (CRF) during the stipulated date of completion (up to June 2018). Despite receiving several penal notices to accelerate the progress of the work, the contractor failed to improve progress. Consequently, the CE, Bhopal terminated the contract (05 October 2019) and blacklisted the contractor (10 March 2017).

Subsequently, the contractor appealed (30 January 2020) to the E-in-C with an undertaking to complete the work within 22 months. Based on E-in-C's instructions, the CE reviewed the case and reinstated the Agreement, with an EOT of 18 months (up to 02 June 2021).

Since the contractor was blacklisted for delays attributable to him, claim of price adjustment during EOT was ineligible. However, the contractor claimed price adjustment amounting to

₹ 5.76 crore, which was paid to him, resulting in excess payment and undue benefit to that extent.

On being pointed out, no comment was offered by the Government. However, in reply, CE, Bhopal stated (July 2023) that the payment of price variation beyond the stipulated completion period was made to the contractor as an intermediate payment till approval of the final EOT. The same was finally adjusted at the completion of the whole work.

The reply is misleading because the CE himself granted final EOT to the contractor based on review and since the delays were attributable to the contractor, any additional payment towards price adjustment was irregular.

3.2.11.4 Excess payment of price adjustment due to adoption of incorrect weightage

As per Clause 47 of the Agreement based on Standard Bidding Documents (SBD), the percentage components would govern the price adjustment for the entire contract. Further, as per MoRTH's letter dated June 2014, if a cement concrete road is constructed, the bitumen component for calculation of price adjustment should not be taken separately but shall be added under the component "other materials". The component-wise weightage is shown in **Table 3.8** below:

Table 3.8: Details showing the percentage components for Price Adjustment

Components	Weightage in Percentage	
	Bituminous Road	CC Road
Cement	5	5
Steel	5	5
Petrol, Oil and Lubricants	5	5
Plant and Machinerics	5	5
Bitumen	10	0
Labour	25	25
Other materials	45	55
Total	100	100

(Source: Records of MP PWD)

Audit noticed (June 2023 to October 2023) in two works of cement concrete roads in two Divisions⁶⁸ that bitumen was separately included in the "bitumen component" (10 per cent) instead of including it in "other materials". This resulted in an excess payment of ₹ 1.41 crore as detailed in **Appendix 3.13**.

In reply, the Government accepted the fact and stated (June 2025) with respect to the case of EE PWD, Satna that a letter has been issued to the contractor instructing them to refund the excess price adjustment payment. It was further mentioned that, failing voluntary deposit, the amount would be recovered from dues payable to the contractor. No specific response was provided in relation to the case concerning EE PWD, Narmadapuram. However, However, the CE, Bhopal stated that price variation on 100 per cent component should be required to be paid when the work was awarded on the SBD for the work executed under CRF irrespective of the fact whether the component of items of work was executed or not. However, the payment for

⁶⁸ PWD (B&R) Division, Satna and PWD (B&R) Division, Narmadapuram.

bitumen in PQC road was not made. EE, Satna did not offer any specific comment on this observation.

Necessary action from the Government is still awaited (July 2025). The reply of the CE is factually incorrect. The weightage for the Bitumen component should have been considered in the 'other material' to cover the 100 *per cent* components, which was not done. This resulted in excess payment to that extent.

3.2.11.5 Excess payment of Price Adjustment for Diesel component

As per the terms of the agreement, for the purpose of calculating price adjustment, price of POL (HSD) as on bid open date should be taken into account.

Division	Audit Observation
Karthua- Chitrangi Road in Singrauli Division	The Division had paid price adjustment amounting to ₹ 2.30 crore to the contractor, which included ₹ 1.35 crore as price adjustment on account of POL (HSD) component (up to May 2020). Audit observed that the Division had adopted incorrect base rate of ₹ 52.52 per Litre (April 2016) instead of ₹ 57.41 per litre (August 2016 ⁶⁹). This resulted in an excess payment of ₹ 68.96 lakh ⁷⁰ to the contractor.
Sehora- Gauraha-Khadra Road in Division No. 2, Jabalpur	The Division had paid price adjustment amounting to ₹ 6.30 lakh to the contractor, which included ₹ 5.43 lakh as price adjustment on account of POL (HSD) component (up to October 2018). It was observed that the Division had adopted incorrect base rate of ₹ 52.35/ Litre (02 March 2016) instead of the rate ₹ 54.35/ litre (24 March 2016 ⁷¹). This resulted in an excess payment of ₹ 4.63 lakh ⁷² to the contractor.

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (December 2023) that the price adjustment will be re-calculated. If any discrepancy arises in payment, action will be taken accordingly.

Further action in this regard is awaited (September 2025).

3.2.12 Royalty

3.2.12.1 Short deduction of royalty

As per the SOR, for each Cu. M. compacted quantity of the items of bituminous base and surface courses, approximately 1.43 Cu. M. of loose quantity shall be required. Further, according to Chapter 4 of MoRTH, the loose quantity required for CRM should be approximately 1.32 Cu. M. for every one Cu. M. of the compacted quantity.

Audit noticed (between April 2023 and May 2024) that in 82 road works of 15 Divisions, as against requirement of 80,12,879 Cu. M.⁷³ of loose aggregates towards compaction in bituminous base/ CRM, the Department recovered royalty on 57,76,794 Cu. M. This resulted in a short deduction of royalty on 22,36,085 Cu. M. of aggregates amounting to ₹ 22.35 crore.

In the Exit Conference (June 2025), the Government stated that royalty is recovered only on compacted quantity/pit measurement, not for voids. However, the Department agreed that the

⁶⁹ Bid open date.

⁷⁰ Paid amount ₹ 6,30,612, payable ₹ 1,67,502.

⁷¹ Bid open date.

⁷² Paid amount ₹ 6,30,612, payable ₹ 1,67,502.

⁷³ Cu. M. required for bituminous bases and Cu. M. required for CRM.

matter would be reconsidered, and a circular should be issued to bring uniformity in the deduction of royalty.

The reply is not acceptable as the royalty was to be deducted on the basis of the formula prescribed in SOR/ MoRTH notification, for which no additional Government orders were required.

3.2.12.2 Irregular final payment without No-Dues certificate from the Mineral Resources Department

According to Clause 25.2-Tax of the Agreement, final bill shall be paid only after producing the “No-Dues certificate” (NDC) from the Mineral Resources Department.

Audit noticed (between April 2023 and February 2024) in 28 road works of nine Divisions that the works valuing ₹ 389.33 crore were finalised without obtaining royalty clearance certificates/ NDC of Mineral Resources Department from the contractors as detailed in **Appendix 3.14**. In such cases, Audit cannot derive assurance that due royalty has been paid by the contractors to the Mineral Resources Department.

In the Exit Conference (June 2025), the Government clarified that final bill payments are made only after deducting the applicable royalty, and payments are released only upon submission of the NDC.

The reply is not acceptable because NDC is a standard protocol for ensuring that all the financial obligations are settled prior to the final payment. In absence of certificate, chances of illegal mining and use of material from illicit extraction also could not be ruled out.

3.2.13 Inflated payment to the Contractor

As per Clause 12.2 of the GCC, measurement shall be made of the net actual quantity of each item of the permanent works in the MBs and the method of measurement shall be in accordance with the BOQ or the other applicable Schedules.

Audit noticed (June 2024) in five NDB packages under five PWD (B&R) Divisions⁷⁴ that negative measurements⁷⁵ were entered against various items in the IPCs of the contractors. This indicates that previous payments were made based on fictitious measurements, as a result of which, excess measurements were recorded. This indicated lackadaisical and irresponsible contract management by the Department. In such situations, the Department runs the risk of extending undue benefit to the contractors through excess payments on the basis of fictitious/excess measurements.

In the Exit Conference (June 2025), the Government stated that payments made for RA bills are treated as advance payments and extra payment, if any, are adjusted in subsequent bills.

The reply is not acceptable because, for procedural integrity, the payment should be released against the realistic quantities of work. The payments based on incorrect measurements were in contravention of the provisions of GCC and was irregular. Although the consultants were responsible for ensuring payments to the contractors based on correct measurements, the contracts did not contain provisions for penalising the defaulting consultants.

⁷⁴ Gwalior, Jabalpur, Khargone, Shivpuri and Ujjain.

⁷⁵ The quantity of item measured earlier was comparatively more than the quantity measured later.

3.2.14 Excess payment due to execution of deficient thickness of RCC drain

The Department approved the design of the RCC U-shaped drain along the road and communicated it during the pre-bid meeting. The drain had 25 cm thick RCC M20 walls and cover, with a 10 cm PCC M15 base. The estimated cost of the drain work was ₹ 1.44 crore in flexible pavement and ₹ 13.95 crore in rigid pavement.

Audit observed (October 2023) in the six-lane road project from Maxshi Bypass Chauraha to Bhopal Chauraha under PWD (B&R) Division, Dewas, that the contractor reduced the scope of drain work as follows:

Item of work	Original scope	Reduced scope/ Actually executed
Drain	Thickness of 25 cm RCC	12.5 cm thickness
Drain Cover	Thickness of 25 cm RCC	14 cm thickness
Drain Base	Thickness of 10 cm PCC (M-15)	Thickness of 7.5 cm PCC (M-15)

Despite such a wide variation between approved design and executed work, resulting in almost 50 *per cent* reduction in RCC quantity, the Authority Engineer did not evaluate the negative impact of scope changes, resulting in excess payment of ₹ 7.70 crore, besides execution of sub-standard work.

On being pointed out, no comment was offered by the Government. However, the CE, Ujjain stated (April 2024) that this being the EPC mode contract, the design is the obligation of the contracting agency.

The reply is factually incorrect as payments are to be made on the basis of work actually executed. The contractor was bound to execute the work as per approved specifications, which the Department should have checked before releasing payments. Failure of the engineer concerned to monitor the work thereby resulted in deviation from agreed-upon specifications outlined in the EPC contract.

3.2.15 Excess payment of GST to the contractor

It is understood from the instruction (No.2) issued (October 2022) by the State Government that where the rates were inclusive of GST the contractor was entitled to get GST at the rate of 12 *per cent* only on the work measured before 18 July 2022.

Audit noticed (June 2024) in the work of NDB Package No. 01 in Ujjain Division that the work was completed on 29 April 2022. Although the work was completed before the increase in GST from 12 *per cent* to 18 *per cent*, the contractor claimed additional amounts of ₹ 148.89 lakh and ₹ 17.03 lakh, equivalent to 6 *per cent* through the IPCs. The claims were accepted and paid by the Department. This resulted in excess payment of ₹ 1.66 crore to the contractor.

In the Exit Conference (June 2025), the Government stated that payment was made as per conditions of the agreement.

The reply is not acceptable because the work was measured before April 2022, hence as per Condition No. 2 of Government's order (October 2022) applicable rate of GST was 12 *per cent*.

3.2.16 Suspicious issuance of completion certificate and irregular commencement of defect liability period

➤ In the execution of road work of Tada – Khamriya Road (under PWD B&R Division, Raisen) it was noticed (May 2023) that the work was shown as completed (29 October 2021) and the Time Extension (TE) up to 29 October 2021⁷⁶ was approved by the SE, Bhopal *post facto*. However, the following additional time extensions were sought/ granted by the SE, Zone 2, Bhopal:

I. 2nd TE up to 31 December 2021 (sanctioned in August 2021).

II. 3rd TE up to 31 May 2023 (permission sought in December 2022).

That fact that time extension was sought in December 2022 much after the date of completion of work in October 2021 indicates work had not been completed up to December 2022 and that incorrect/ fake completion certificate had been issued in October 2021.

Irregular issuing of completion certificate before the actual completion date extended undue benefit in the shape of a reduction in the defect liability period, depriving the Government of penalty of ₹ 1.51 crore⁷⁷ against the delay in completion of the work for about one year and seven months.

It was also observed that the contractor had submitted the RAB on 19 April 2023 *i.e.*, after a lapse of one year and six months, and accordingly, the bill was passed in April 2023 with enhanced rate of GST at 18 *per cent* even though the value of work measured (July 2022) prior to the increase in the rate of GST from 12 *per cent* to 18 *per cent*. Thus, the enhanced rate of GST paid to the contractor amounting to ₹ 5.73 lakh was also recoverable.

➤ Audit noticed (August 2023) in the work of “Gol Pahadiya to Motijheel Road” of Gwalior Division that the work was not completed by the contractor but the CE, Gwalior had issued (July 2022) orders of commencement of the defect liability period from June 2022. Further, the measurement books revealed that 11 items worth ₹ 1.36 crore included in the BOQ were not executed (June 2022) and no certificate of physical completion had been issued.

In the Exit conference (June 2025), the Government stated that the issues will be checked.

Necessary action from the Government is still awaited (July 2025).

The Department should investigate the unauthorised/ irregular action of the concerned authority in issuing completion certificate to the contractor and fix responsibility

3.2.17 Substandard execution of Work

3.2.17.1 Use of sub-standard soil in Hard Shoulder

As per the circular issued (May 2015) by the GoMP, PWD, hard shoulders should be constructed in full thickness above the drainage layer of CRM with material having California Bearing Ratio (CBR) >12.

Audit noticed (between May 2023 and March 2024) in 38 road works of six Divisions that 6,46,064.72 Cu. M. of the SOR Item no. 4.13 “Construction of Hard Shoulders with approved

⁷⁶ Post facto order on 27 January 2023.

⁷⁷ PAC ₹ 1659.47 – 8.88 *per cent* = ₹ 1512.10 lakh × 10 *per cent*.

material/ selected soil having CBR>12” of was executed at cost of ₹ 11.07 crore as detailed in **Appendix 3.15**. Audit, however, could not find any report of test results in the records confirming that the material/ selected soil used was of CBR> 12 *per cent*. As such, chances of execution of the inferior quality work of Hard Shoulder using sub-standard soil cannot be ruled out.

In reply, the Government stated (June 2025) that the RABs were paid only after due scrutiny of the test results. The tests were carried out at the desired frequency.

The reply is not acceptable, as only three out of nine Divisions submitted test results for seven roads. The remaining six Divisions, where 38 road works were included in the Audit Observation, failed to provide the necessary test reports to verify the quality of hard shoulders.

3.2.17.2 Sub-standard compaction of shoulder

As per Clause 305.3.5.1 of MoRTH, the embankment and sub-grade material shall be spread in layers of uniform thickness in the entire width with a motor grader. As per Clause 9.2 of IRC:SP:97-2013, the moisture level of the layer is to be checked before compaction in accordance with IS:2720. Each compacted layer should not be of more than 250 mm when compacted with the help of a vibratory soil compactor and not more than 200 mm when compacted with 8-10 ton Static roller.

Audit noticed (between May 2023 and March 2024) in 16 road works of nine Divisions that the shoulders were constructed in single layer having thickness between 295 mm and 480 mm. On laying this much thickness in a single layer, it is not possible to achieve the desired minimum compaction of 95 *per cent*. Hence, the possibility of premature settlement of the embankment and sub-grade cannot be ruled out. This was execution of below specification work worth ₹ 4.79 crores as detailed in **Appendix 3.16**.



Chich to Kalwana Road, Budhni



Asirghar-Dhulkot-Ghatakhedi-Pandhana Dulhar

In reply, the Government stated (June 2025) the hard shoulders were executed in a maximum thickness of 25 cm. However, the final sectional measurement was recorded in the MBs.

The reply is not acceptable because the recorded measurement showed that the item of hard shoulders had been executed in a single layer and consequently the shoulders settled, three to four inches.

3.2.17.3 Irregular construction of earthen shoulder

As per GoMP's circular (May 2015), hard shoulders shall be constructed with the material having CBR>12 above the drainage layer of CRM in full thickness up to the road level. Hard shoulders are paved⁷⁸ and designed to support vehicle weight in emergencies, while earthen shoulders are unpaved and less suitable for stopping vehicles, especially in poor weather conditions.

Audit noticed (May 2023 to August 2023) in seven road works of three Divisions that instead of the hard shoulders, the Divisions had constructed earthen shoulders with materials having CBR>seven. The earthen shoulders which were prone to early damage, were constructed with ₹ 0.94 crore as detailed in **Table 3.9** below:

Table 3.9: Details of execution of earthen shoulders

Divisions	Name of road	Agreement No.	Quantity of Earthen shoulder (in Cu. M.)	Rate (₹ per Cu. M.)	Tender per cent	Amount (in ₹)
Chhatarpur	Naugaon-Baldevgarh Road (MDR)	03/2018-19	5,024.10	150	(-) 16.78	6,27,158
	Bijawar-Bajna-Baxwaha Road (MDR)	08/2016-17	5,616.00	150	(-) 15.97	7,07,868
	Chandla-Hathoha-Ajaygarh Road (MDR)	04/2018-19	27,190.34	186	(-) 7.77	46,64,442
	Chandla-Sarawai-Gagaurihar-Mathodh Road (MDR)	08/2022-23	17,054.93	140	(-) 20.36	19,01,556
Vidisha	Grant Bala Berkheda Sagoda Patariya Karela Amoda Road (VR)	14/2018-19	7,660.64	150	(-) 6.59	10,73,371
Singrauli	Kaira to Pondi Road, Dhani Village Approach Road Mudapali ghadi Road (VR)	09/2018-19	1,222.50	150	(-) 7.88	1,68,925
	Raila-Kanpura Road (VR)	13/2020-21	1,788.50	150	(-) 7.90	2,47,081
Total						93,90,401

(Source: MBs of the respective works)

In reply, the Government stated (June 2025) that the work of Hard Shoulders were carried out using a soil having CBR >12 per cent.

The reply is not acceptable as the measurements recorded in MBs and bills paid indicated that the work of Hard Shoulders were carried out using soil of CBR seven per cent and CBR 12 per cent.

⁷⁸ Paved shoulders refer to the areas on the side of a road or highway that are surfaced with durable materials like asphalt or concrete, similar to the main roadway itself.

3.3 Conclusion

There are systemic deficiencies in contract management by MP PWD. DPRs are prepared without proper surveys, leading to incorrect estimations which necessitate subsequent revisions in estimates. Tenders were floated without conforming with the advertisement norms and disposed off by invalid committees. Blacklisted contractors continued to work and were subsequently awarded contracts. Instead of levying penalties for delays in execution, the contractors were allowed price escalations for delays. Items were incorrectly provisioned for, leading to execution of unnecessarily rich provisions with increased costs to the exchequer. Royalties were either not recovered or were short recovered from the contractors. Fraudulent completion certificates were issued to contractors even before completion of work. Execution of works was sub-standard indicating lax quality and monitoring controls.

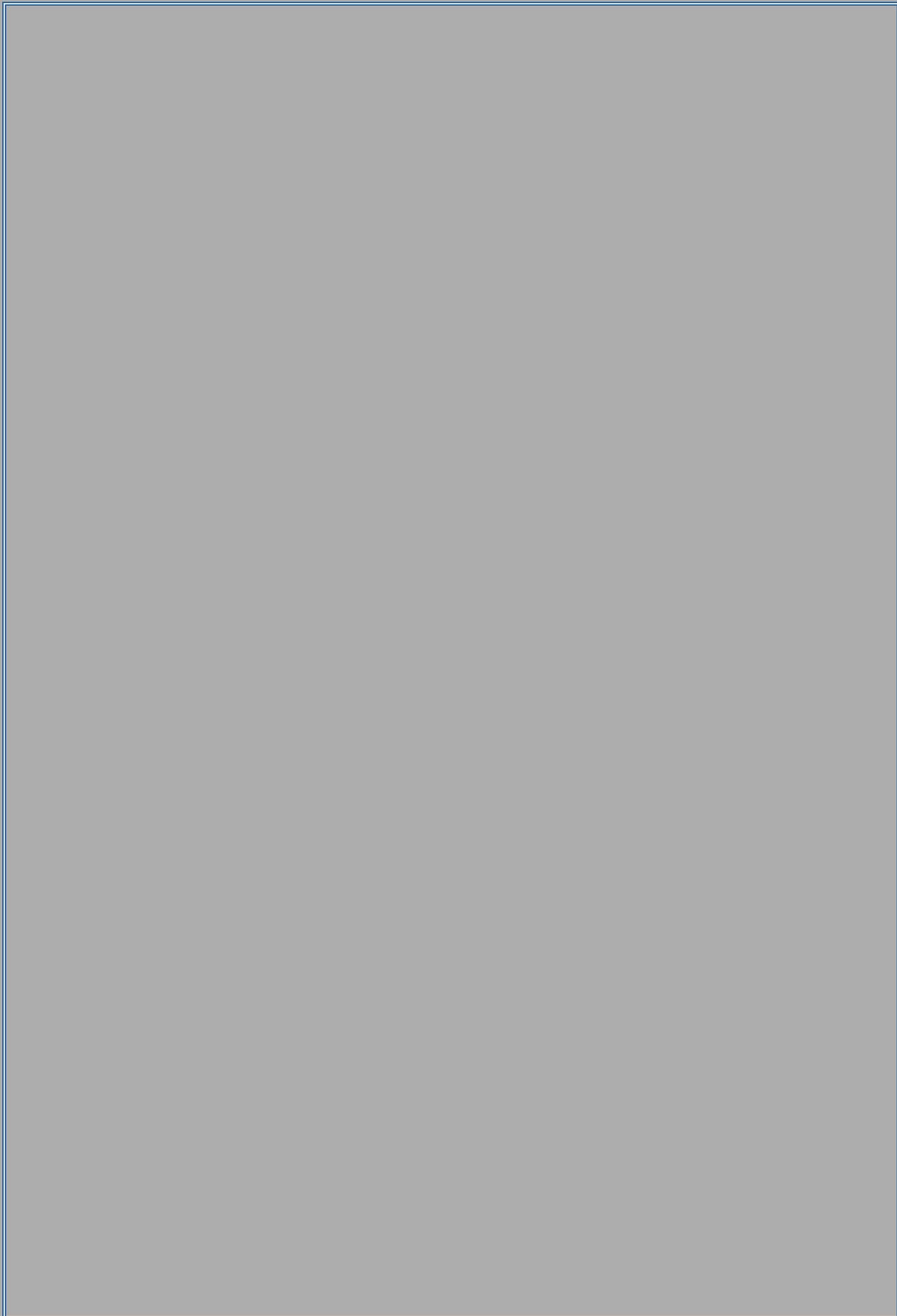
All these have a bearing on the useful road life and audit is unable to derive assurance that the citizens, who are the ultimate stakeholders, can enjoy the infrastructure for the intended life. Government expenditure, in short has not been properly managed by the MP PWD, which is a matter of serious concern.

3.4 Recommendations

It is recommended that:

- *Items should be correctly incorporated in the BOQs with accurate rates, and the quantities in the estimates should be precise to ensure correct costing, includes necessary items.*
- *Tenders must be evaluated and awarded strictly by duly constituted committees as per guidelines to ensure transparency, fairness, and accountability.*
- *Estimates prepared by DPR consultants should be re-checked for errors. Any major revisions in estimates post award of contract should be thoroughly investigated at the Government level.*
- *Penalties should be levied on the Authority Engineers as well as the contractors for sub-standard works.*
- *The Government need to take action on the officials who have not submitted tender files (58 per cent) asked by Audit.*

CHAPTER – IV: Quality Control & Monitoring



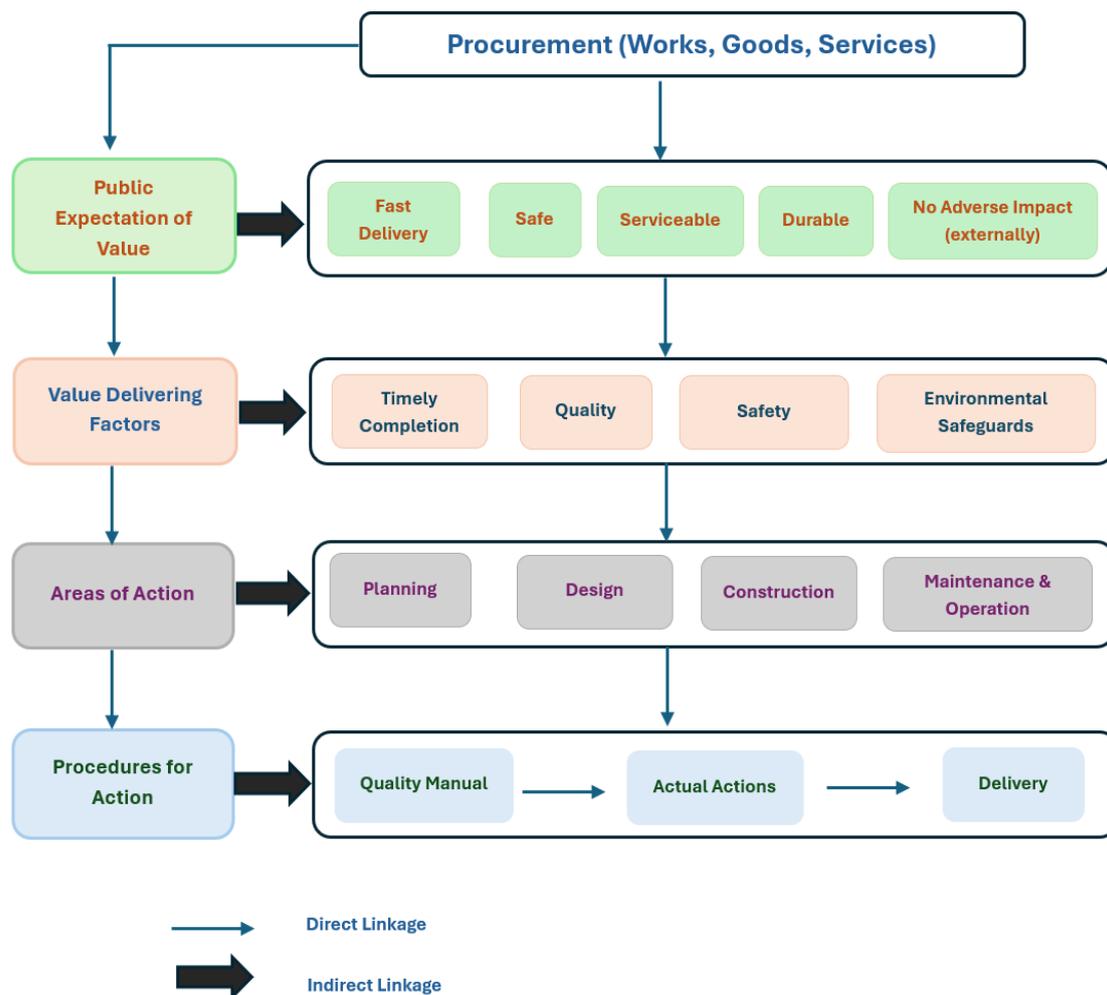
CHAPTER IV: QUALITY CONTROL & MONITORING

4.1 Quality Control

4.1.1 Introduction

Quality control in road works is essential to ensure the durability, safety, and performance of the road infrastructure. The prime responsibility of ensuring quality in the work lies on the Engineer-in-Charge of the work.

As per the IRC:SP:112 Quality control manual for road and bridge, the role of Quality Manual in overall procurement of works is as given below in flow chart:



Place of Quality Manual in overall procurement of works

Issues pertaining to quality control in Madhya Pradesh Public Works Department are discussed below:

4.1.2 Non-submission of As-Built drawings and video recordings

As-Built drawings are essential for verifying the actual execution of works against design specifications, and their absence hampers effective review, future maintenance. This is a key tool for monitoring construction progress. As per Articles 10 and 11 of the EPC contracts, absence of As-Built drawings significantly undermines project oversight and accountability.

Audit observed that in two⁷⁹ out of three EPC contracts, neither As-Built drawings nor video recordings were submitted, violating Articles 10 and 11. This non-compliance hampered project oversight, verification of executed works, and future maintenance. It also exposed the Department to quality and accountability risks, as seen in the Tilau Village–Pichore–Dinara–Gajora road (22.90 km) in PWD, Shivpuri, which was abandoned despite incurring an expenditure of ₹ 15.02 crore spent, besides, instances of multiple sub-standard works were also noticed.

The Authority Engineer, PWD Shivpuri, stated that the contractor will be asked to submit two copies of the As-Built drawings at the earliest. However, the Authority Engineer, PWD Mandsaur, stated that the contractor had already submitted the As-Built drawings and video CD, which were produced to the Audit.

The reply of the Authority Engineer, PWD Shivpuri, confirms non-compliance, as the As-Built drawings have yet to be submitted, despite the clear contractual obligation. In the case of PWD Mandsaur, although the Authority Engineer claimed that the documents had been submitted, As-Built drawings or video recordings were not provided for verification during the audit.

4.1.3 Field Laboratories

4.1.3.1 Delays in establishment of field laboratories

Clause 17 of Section 3 of the GCC stipulates that the contractor shall have to establish a field laboratory within the specified time and have such equipment as specified in the Contract Data. The Contract Data provisioned that the contractor would have to establish a Field laboratory within 30 days from the date of signing of the agreement, failing which, penalty of one *per cent* of the contract amount per month will be levied, subject to a maximum of ₹ 50,000 per month of delay.

Audit noticed (between May 2023 and March 2024) in 79 road works of 20 Divisions that there were delays ranging from two months to 56 months in establishment of field laboratories. As such, a minimum amount of ₹ 5.28 crore should have been recovered from the defaulting contractors as per GCC conditions, which was, however, not levied. Besides, on account of delays in establishment of laboratories, the Department could not ascertain the quality of the road work, nor could the contractor assure the same.

In reply, the Government stated (June 2025) that the field laboratories were established by the contractors in time and the tests were carried out in required frequency. Furthermore, the non-recording of certificates by the Sub-Engineers and Sub-Divisional Officers (SDOs) does not mean that the laboratories were not established.

The reply is factually incorrect, merely stating that laboratories were established and tests conducted lacks credibility without supporting documentation. The absence of mandatory certifications by Sub Engineers and SDOs undermines the claim and raises doubts about actual compliance. Moreover, audit scrutiny revealed that at several instances, the EEs himself had issued notices to the contractor stating that the field laboratory had not been established by that

⁷⁹ Tilau Village–Pichore–Dinara–Gajora road (22.90 km) in PWD, Shivpuri and Bhaugarh - Dalauda- Sitamau Road (30.55 km) in PWD, Mandsaur

date, clearly contradicting the Department's claim and confirming delays or non-establishment of labs.

4.1.3.2 Payment of First Running Account Bill without establishment of field laboratories

As per GoMP order (February 2013), for works up to ₹ five crore, the establishment of field laboratory and the deployment of technical staff will be verified by the SE and for the works worth ₹ five crore or more by, the CE. The first bill for the work done can be paid only after such verification.

Audit noticed (between May 2023 and March 2024) in 60 road works of 12 Divisions that verification reports of laboratories were not available in the file/records, indicating thereby that the CEs/ SEs had not verified established of laboratories including technical staff. However, without verification of field laboratories and technical staff, the Department released the 1st Running Account (RA) Bill amounting to ₹ 39.10 crore to the contractors, violating the above orders.

In reply, the Government stated (June 2025) that the field laboratories had been established by the contractors well in time, and all the required tests have been carried out therein. However, it was acknowledged that in some cases, verification of the field laboratories by SEs and CEs could not be carried out prior to the payment of the first RA bill.

The reply is not acceptable as relevant verification reports in all such cases, where inspections had been carried out, were available in the file/records except in respect of the above cases, which clearly indicates that the concerned CEs/SEs had not carried out verification of the same. However, in the Exit Conference, the Government stated that a circular has already been issued regarding commencement of work only after verification of field laboratory by SE & CE in works costing ₹ two crore and ₹ five crore respectively.

4.1.3.3 Failure to conduct requisite number of tests from NABL/ Departmental Laboratories

In January 2016, GoMP mandated that at least 20 *per cent* of construction material tests be conducted by NABL-accredited or Departmental Laboratories at the contractor's expense. In January 2018, this was amended, requiring requisite tests to be carried out only in Departmental Laboratories.

Audit noticed (between May 2023 and March 2024) in 75 road works of 15 Divisions that the materials utilised in road construction were not tested in accordance with the above provisions. In the absence of tests, execution of sub-standard works may not be ruled out.

In reply, the Government stated (June 2025) that all required material tests were conducted by NABL/ Departmental labs.

The reply is unacceptable as supporting records related to tests from the NABL/ departmental laboratories for only 13 roads were submitted to Audit. Even the test reports provided by the Government were not for every component. A limited sample cannot be considered representative, especially when quality assurance requires systematic and comprehensive testing for each executed road.

4.1.4 Lack of quality control over procurement

4.1.4.1 Procurement of bitumen from private vendors

According to the instruction issued (June 2006) by the E-in-C, bitumen required for execution of road works should be brought from the Public Sector Oil Refineries like IOCL, BPCL, etc.

Audit noticed (between September 2023 and June 2024) in four road works of three Divisions (**Appendix 4.1**) that the work of flexible pavement was executed using the bitumen procured from the private vendors in violation of the above instruction. The contractors had bought 4,355 of Bitumen VG 30 amounting to ₹ 12.90 crore from the private vendors at a cheaper rate (₹ 2,500 per MT difference) as compared with refineries. The Department did not check the invoices to ensure that bitumen was purchased from refineries and due to absence of quality checks, contractors executed work using locally procured bitumen whose quality cannot be ensured, thereby resulting in compromised bituminous work.

In the Exit Conference (June 2025), the Government stated that the bitumen procured from private vendors were allowed only when bitumen from refineries was not available due to maintenance at refineries.

The reply is not acceptable as it lacks documentary evidence of refinery maintenance or bitumen unavailability. This indicates non-compliance with instructions and compromised the quality of the executed bituminous work.

4.1.4.2 Laying of uncertified Hume Pipe

As per Note 6 of Chapter 13 of the SOR, for Hume pipe culverts, Hume pipe shall be marked by the Indian Standards Institution (ISI) or certified by the Directorate General of Supplies and Disposals (DGS&D), only. A certificate should invariably be produced by the contractor to the satisfaction of the Engineer-in-Charge before getting the pipes fixed at the site.

Audit noticed (between May 2023 and March 2024) in 47 road works of 11 Divisions that the Hume pipes NP4 / prestressed concrete pipes laid by the contractors in the culverts were neither marked by the ISI nor were certified by the DGS&D. The contractors did not submit ISI or DGS&D certificate and the original invoices of the Hume pipes, also. In the absence of adequate checks, the Department has compromised with the quality of the work by using uncertified Hume pipes worth ₹ 9.25 crore as detailed in **Appendix 4.2**.

In reply, the Government stated (June 2025) that the Hume Pipe/ NP4 was used in the work as per the specification prescribed by the Government and the pipe used was either ISI marked or certified by the DGS&D.

The reply is factually incorrect as file records clearly indicated that the items were not ISI marked.

4.1.5 Lack of checks resulting in execution of bituminous work during the rainy season

As per Clause 501.5.1 of MoRTH Specification (General requirements for bituminous pavement layers), laying the bituminous surface shall be suspended in the presence of standing water on the surface or when rain is imminent, and during rains, fog or dust storm.

Audit noticed (between June 2023 and December 2023) in three works of three Divisions that the bituminous works were executed during the rainy season as shown in **Table 4.1** below:

Table 4.1: Details of execution of bituminous work during the rainy season

Name of division	Name of work	Name of bituminous course	Road length (in meter)	Date of execution
Betul	Betul Station Road	Prime coat, Tack coat, OGPC, and Seal coat	110	12.08.2018 to 15.08.2018
Chhatarpur	Naugaon-Baldevgarh Road	Prime coat, Tack coat, DBM, and BC	2,000	12.07.2019 to 20.07.2019
Singrauli	Dhirauli to Purani Dhirauli Approach Road	Prime coat, Tack coat, DBM and BC	840	11.09.2019

(Source: Measurement Books of the respective works)

Due to lack of checks during execution phase, bituminous layer was executed during the rainy season because of which, premature failure of the crust cannot be ruled out.

In reply, the Government stated (June 2025) that at the time of execution of the said work, there was no rainfall, and the weather was clear even in the rainy season. Furthermost the WMM work had already been executed by the contractor. If the bituminous work would remain unexecuted, the WMM would get damaged due to the traffic. The executed work is in no way sub-standard as there was no damage to the bitumen layer even after completion of the rainy season.

The reply is not acceptable because in the rainy season, the base and binder course are normally damp, the surface is wet due to the presence of water, and rain and air temperatures are normally lower. These affect the work adversely.

4.1.6 Non-regulation of the concrete tests

4.1.6.1 Cube Test of concrete

The cube test of concrete is a common method to determine the compressive strength of concrete. It involves casting concrete into standard-sized cubes (usually 150 mm x 150 mm x 150 mm) and testing them in a compression testing machine after curing for a specified period (typically seven or 28 days).

PQC

Clause 15.2 of IS Code 456-2000 read with Clause 16 and Annexure-C of IRC:44-2017, provide for testing of concrete in terms of the requirement of compressive strength of concrete cube as per the relevant standard. The targeted mean strength (after passing 28 days) of concrete should be 48.25 N per sq. mm. The approved design mix for PQC and the test results appended with the file against the minimum targeted strength of M 40 grade concrete was 52 N per sq. mm. Below the compressive strength of 44.125 N per sq. mm, the work of CC pavement should be rejected outrightly.

DLC

According to Clause 6.7.1 of IRC 58-2015, the minimum seven days compressive strength of the DLC layer should not be less than 10 MPa.

Further, Clause 1719 of MoRTH Specifications envisaged that if the concrete is found to be acceptable by the Engineer-in-Charge as sub-standard work, the contractor shall be subjected to reduction in the contract unit rate.

Audit noticed (between May 2023 and March 2024) in 11 works of five Divisions that the results of average compressive strengths of the design mix achieved, for PQC and DLC were much lower than the specifications. In the event of the design mix not conforming to the specified acceptable criterion of compressive strength and flexural strength, the possibility of

survival of the PQC pavement for the entire design period of 30 years under heavy axle loads, is grim. The Department had not only accepted the sub-standard work but also not reduced the rates of the above items before payment to the contractors. This resulted in excess payment of ₹ 6.43 crore to the contractors.

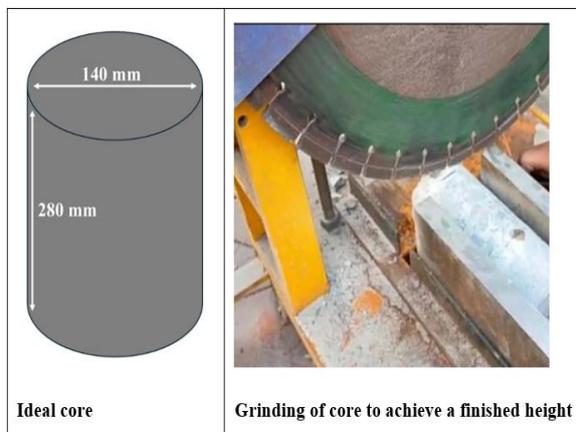
In the Exit Conference (June 2025), the Government stated that when Cube Test fails, before regulating the payment, the core test is conducted. If the core test is as per the specifications, no deductions are made. Additionally, the Department agreed with the Audit suggestion that a remark should be made on test reports regarding its acceptance/ rejection, date of casting/ date of testing /chainage location.

The reply is not acceptable as the cube tests appended to the file clearly indicate that the compressive strength of M 40 concrete was around 40 N per mm² instead of the required 48.25 N per mm² as per the design mix which was not even acceptable. However, the Government agreed with the Audit suggestion that a remark should be made on test reports regarding its acceptance/ rejection, date of casting/ date of testing/ chainage location.

4.1.6.2 Core Test of concrete

Clause 17.4.1 of IS Code:456-2000 specifies that the points from which cores are to be taken and the number of cores required shall be at the discretion of the Engineer-in-charge. In no case, however, shall fewer than three cores be tested. Cores shall be prepared and tested as described in IS:516. As per Clause 602.11.5.4 of MoRTH Specifications, if the PQC pavement has been executed using Slip Form Paver, the thickness tolerance allowed will be ± 1 mm.

Audit noticed (January 2024) in three road works of Mandsaur Division that there were discrepancies in measurement of height of the finished cores as compared to the actual pavement thickness. The height of the finished cores exceeded the executed pavement thickness ranging from five mm to 30 mm. Since the differences were much greater than the allowed thickness tolerance of ± 1 mm, it can be concluded that either the tests were fictitious, or the works were not executed by Slip Form Paver. Further, in the test records, Dates of Testing were mentioned but the Dates of Casting of Concrete pavements were not mentioned. Hence, the age of concrete could not be ascertained by Audit.



In the Ratlam-Nasirabad Road (City Portion) four-lane project, cores were initially taken at a height of 300 mm, but their finished heights were reduced to a range of 178–184 mm with a core diameter of 140 mm, a correction factor of approximately 1.33 was applied. However, if the finished core height had been limited to a reduction of just 10–15 mm, the height-to-diameter ratio would have exceeded 1.75, eliminating the need for a correction factor in determining the concrete's compressive strength. The excessive reduction in the height of the cores compromised the accuracy of the compressive strength of concrete.

On being pointed out, no comment was offered by the Government. However, in reply, the EE stated (January 2024) that in Bhaugarh - Dalauda- Sitamau Road, Mandsaur the final thickness as shown in departmental core test is 260 mm. In Mandsaur to Sanjeet Road and Ratlam Nasirabad Road a Slip Form Paver was utilised during the execution of these works. Core tests revealed that the thickness exceeded the specified requirements of 270 mm and 300 mm, respectively, demonstrating the department's efficiency.

The replies are unacceptable, as such a significant deviation from the allowable tolerance of ± 1 mm suggests either the Slip Form Paver was not used, despite full payments being made to the contractor without the required deduction of ₹ 350 per Cu. M. for the quantities of PQC, or the test results were fabricated. Moreover, this does not reflect the department's efficiency but rather a failure to implement an effective monitoring mechanism.

4.2 Monitoring

4.2.1 Irregular issuance of completion certificate

As per Clause 35 of GCC, a completion certificate in the prescribed format (Annexure-U) shall be issued by the Engineer-in-Charge after the physical completion of the work. After final payment to the contractor, a Final Completion Certificate in the prescribed format (Annexure V) shall be issued by the Engineer-in-Charge.

Audit Observation	Reply of Department	Audit Rebuttal
In the work of "Shahpur-Bhayawadi Road", Betul, that the physical completion certificate was issued for the date of actual completion on 31 March 2021. However, the last measurement of the hard shoulder was recorded (Page No. 5 of MB No. 5997) on 30 June 2021. This resulted in irregular issuance of physical completion certificates without actual completion and consequent extension of undue favour to the contractor by way of reduction in the defect liability period.	In reply, the Government stated (June 2025) that the work was completed on 31 March 2021, and a physical completion certificate was issued on the same date. However, due to an error, the measurement date was incorrectly recorded as 30 June 2021 instead of 31 March 2021.	The reply is not acceptable, as the discrepancy in the measurement date raises doubts about the actual date of completion. Such errors in official records indicate a lack of due diligence and undermine the credibility of the supporting documents.
Audit noticed (May 2023) in the work of "Manakwada Rimjha Pipliya Road", Raisen that a Completion Certificate for the above-mentioned work was issued on 30 December 2020. It was further noticed that an "Under Progress Certificate" was issued on 06 February 2021 for the same work. Again, a letter for a time extension up to 31 December 2021 was written. Thus, issuance of a Completion Certificate without physical completion of the work is suspicious and the possibility of misuse of the same for getting another contract by the contractor.	On being pointed out, no comment was offered by the Government. However, EE stated that the Cross Drainage and minor bridge works were completed by 30 December 2020, with some shoulder and stone pitching works left for rectification. A physical completion certificate was accordingly issued on that date. The contractor initially refused to rectify the defects, but after letters sent on 31 December 2021 and 26 December 2021, the defects were corrected. Therefore, work done beyond 30 December 2020 was not considered part of the original contract.	Reply is not acceptable as work valuing ₹ 1.07 crore was executed after the issuance of completion certificate. Thus, issuing of CC was inherently flawed. This is a serious matter and needs further investigation.

4.2.2 Irregular release of Last & Final payment to contractors

The GoMP, Finance Department issued (May 2009) instructions regarding improvement in the prevalent process of payments under the Works Departments. In many cases, the final payment is made without recovery of the penalty amount from the contractors.

Audit noticed (between May 2023 and March 2024) in 20 road works of seven Divisions that the final payments for these works were made to the contractors before granting final time extension by the competent authority (SEs). Further, in 14 road works of 10 Divisions, the final time extension was not granted by the SEs. But the EEs released the final payments amounting to ₹ 9.33 crore to the contractors, this practice violates contract administration protocols and directly undermines the Department's ability to enforce time-bound performance, as it precluded the imposition and recovery of delay penalties.

In reply, the Government stated (June 2025) that enough Security Deposit and Performance Security was available with the Divisions, and the delays were not on the part of the contractors.

The reply is not acceptable, as the presence of Security Deposit or Performance Security does not exempt the Department from enforcing contractual provisions relating to delays and associated penalties. These securities are meant to ensure overall compliance, not to substitute mandatory penalty procedures. Therefore, processing final payments without resolution of time extension issues represents a clear deviation from codal and financial norms, and compromises the Department's ability to safeguard public funds.

4.3 Road Safety

Road safety is vital for public well-being and efficient transportation. Poor road design, maintenance, and missing safety features increase accident risks. Road furniture, including signs, signals, markings, and barriers, plays a crucial role in guiding users, reducing risks, and improving safety on Indian roads.

Road accidents result from multiple factors, including human error, road conditions, and vehicle issues. Poor road engineering, such as sharp curves, potholes, and steep grades, increases accident risks, requiring skill and caution to navigate. Effective road design and emergency care are crucial for improving safety.

In Madhya Pradesh, in the year 2022, a total of 54,432 road accidents were recorded which resulted in 13,427 deaths. The data underscores the critical need for targeted road safety interventions tailored to address specific challenges posed by different road features.

Year-wise data of road accidents are mentioned below:

Table 4.2: Details of Year wise data of road accidents, fatalities and death

Particulars/ Years	2018	2019	2020	2021	2022
Total Number of Road Accidents that occurred in Madhya Pradesh including National Highways	51,397	50,669	45,266	48,877	54,432
per cent Share in Total	10.93	11.09	12.16	11.85	11.80
Number of Persons Killed in Road Accidents in MP	10,706	11,249	11,141	12,057	13,427
Rank of MP in Persons Killed in Road Accidents	5	4	4	4	4

(Source: Data taken from the reports on "Road Accident in India 2022" published by Transport Research Wing of MoRTH)

Issues pertaining to road safety are discussed below:

4.3.1 Road Furniture

4.3.1.1 Non-execution of Road Markings

According to IRC:35-2015, Clause 1.1.1, Road Markings play a crucial role in guiding and controlling traffic by delineating traffic paths and providing clearance from hazards. They also direct pedestrians and cyclists safely and extend sidewalks/ cycle tracks across roadways. Road markings are essential for maintaining smooth traffic flow and promoting road safety. Clause 1.1.4 mandates safety audits of existing road markings to ensure uniformity.

Audit noticed (between December 2023 and April 2023) in 26 road works of 13 Divisions that the item of “Hot Applied Thermoplastic Compound with Reflectorising Glass Beads”, crucial for longitudinal markings, was neither included in the BOQ nor executed by the contractors. This omission has likely compromised with the safety of the road users across 404.75 kms of road length constructed at a cost of ₹ 478.27 crore.

In the Exit Conference (June 2025), the Government stated that earlier road markings were not being executed due to paucity of funds. However, the items of road markings are now being executed in all works.

The reply is not acceptable because IRC specifications and PWD directives mandate road markings as essential safety features. Delaying or omitting them undermines safety protocols and exposes users to risks, making the justifications unacceptable. Compliance with safety regulations is crucial and cannot be compromised.

4.3.1.2 Extra cost due to unwarranted execution of Road Studs

Clause 804.1 of MoRTH Specifications specifies installation of Reflective Pavement Markers (RPM) or Road Studs to enhance lane marking and visibility at night as per the contract specifications. According to Clause 5.1.1 of IRC:35-2015, retro-reflective studs complement reflectorized road markings, improving visibility in night and adverse weather conditions.

The Department amended (August 2018) the SOR, 2017 and reduced the rate of Road Markers/ Road Studs with lens reflectors from ₹ 545 to ₹ 448 each and specified that the studs must be affixed using epoxy or adhesive, without nails, to avoid safety hazards. Additionally, the contractor must provide a two-year replacement warranty for satisfactory field performance.

Audit noticed (between September 2023 and February 2024) in two road works of two Divisions that as per the revised specifications, 1,568 studs were required to be installed over the total road length of 25.90 kms. The Department, however, installed 4,560 studs. Further, instead of allowing payment at the revised rate of ₹ 448 per stud, the Department allowed payment at the pre-revised rate of ₹ 545 per stud. This not only resulted in excess execution of 2,992 studs but also resulted in excess payment of ₹ 15.42 lakh. Further, road studs with nails were installed by drilling holes in the concrete or asphalt surface, contrary to the provision of using adhesive, thereby compromising safety norms.

In reply, the Government stated (June 2025) that the Road Studs were installed as per site requirements and provisions in the DPR with a higher number of studs placed at curves.

The reply is not acceptable because the provisions made in the DPR were not in conformity with the specifications and amendments in the SOR mentioned above.

4.3.1.3 Installation of crash barrier

IRC:119 provides for installation of Crash Barriers on high-speed Highways, crucial for preventing accidents on sections with sharp curves, bridges, high embankments, and obstacles like poles and trees. Properly placed barriers redirect vehicles parallel to their path, minimising injury and property damages. MoRTH guidelines specify 'THRIE' barriers for Expressways and 'W' Beam Barriers for hilly areas with low traffic and lower containment vehicles.

(i) Extra Cost due to installation of expensive crash barrier

Audit noticed (between April 2023 and October 2023) in the works of two MDRs (having low traffic volume) of two Divisions that for adequate safety, they required 'W' Beam Type Metal Crash Barriers only. The Department, however, installed Type-B 'THRIE' Metal Beam Crash Barriers over 2,479 RM, which are required for Expressways and high-speed corridors. This resulted in unwarranted extra expenditure of ₹ 35.92 lakh.

On being pointed out, no comment was offered by the Government. However, in reply, the EEs stated (April 2023) that Type-B 'THRIE' Metal Beam Crash Barriers were executed due to presence of sharp curves and deep ditches in forested and hilly sections of one road. They argued that the 'THRIE' barriers were necessary for security reasons based on technical sanctions.

The reply is not acceptable because the roads were not Expressway or high-speed corridor, where Type-B 'THRIE' Metal Beam Crash Barriers are recommended. And as per the specifications, installation of 'W' Beam Crash Barrier was sufficient.

(ii) Non-installation of crash barriers

Audit noticed during the joint physical inspection of 20 road works of nine Divisions that despite requirement of crash barriers, no crash barriers were installed on the designated road sections. The Department had not only overlooked the safety of the commuters but had also neglected the specifications of MoRTH and IRC.

The Department's failure to execute crash barriers as per specified norms underscores the urgent need for corrective action to align with safety protocols and safeguard the public welfare effectively.

In reply, the Government stated (June 2025) that steel railings were provided for slab culverts as per DPR provisions, while for HPC and VCW, wheel guards were specified instead. In some locations, contractors constructed wheel guards, but since these were not as per norms, they were neither measured nor paid. Hence, the item was excluded from the measurement book.



The reply is not acceptable, as the audit specifically highlighted the requirement of crash barriers at locations where the embankment height exceeded three metres. However, the Department reply focused only on provisions near structures like slab culverts, HPCs, and VCWs, without addressing the core issue raised by the Audit.

4.4 Joint Physical Inspection

In course of the PA, Audit carried out Joint Physical Inspections (JPIs) of two roads in each of the test checked division. A total of 51 roads were joint inspected by the audit teams along with departmental representatives⁸⁰. The JPIs were employed as evidence gathering techniques to supplement the observations emanating from examination of records.

Gist of the JPI findings are given below:

Execution of Steep Gradient

During the JPI of Section-A of Chandan - Pipaliya to Juna - Raipura Road in Raisen Division, Audit found (on basis of the coordinates, Latitude and Longitude) that the road was steeply inclined as there was approximately 9 m (380 m – 371_m) elevation gain in around 51 m stretch. Audit check revealed that the gradient was around 17 per cent against the specified requirement of five to seven per cent (maximum).

This type of designing resulted in creation of a highly unsafe and accident-prone zone on the road.



[Chandan-Pipaliya to Juna-Raipura, Raisen]

Non-execution of Road Furniture items

During the JPI of 10 roads in seven Divisions⁸¹, Audit noticed that the items of Road Furniture and Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads were not executed. Road markings, such as lane lines, crosswalks, and stop lines, play a crucial role in guiding and regulating traffic.



[Bhaugarh Daloda Sitamau Road, Mandsaur]

Widening of Carriageway on Curves

During the JPI of three roads in three Divisions⁸², Audit noticed that the required extra widths were not provided to the carriageway on curves.



[Asirghar- Dhulkot-Ghatakhedhi-Pandhana Dulhar and Dhulkot to Kamal Kheda Road, Burhanpur]

⁸⁰ EE, or SDO of the concerned division, as per their availability.

⁸¹ Bhopal, Burhanpur, Jabalpur, Khargone, Mandsaur, Rewa and Shivpuri.

⁸² Bhopal, Burhanpur and Ujjain.

Substandard execution of approach slabs

Audit observed that approach slabs were completely damaged due to improper thickness of approach slabs and levelling course in four out of five Slab Culverts, while in the remaining one Slab the approach slab, levelling course of M 15, was also not found executed. The condition is severely deteriorated and poses significant risks, necessitating immediate reconstruction in accordance with the specifications. This assumes even more significance considering that this is an EPC project, funded under CRF. A total of ₹ 15.02 crore has been spent on this road.

Current status: Abandoned.



[Pichore Dinara Road, Shivpuri]

Deterioration of newly constructed road surface

During the JPI of five roads in four Divisions⁸³ (flexible pavement), Audit noticed that DBM and BC layers were eroded completely; therefore, re-construction was required. It was quite unexpected to observe that the roads had been completed recently. The rapid decline in the road conditions, which had been completed recently, is an indicator of substandard workmanship.



[Sallabaru – Rampura Tigadda Road, Raisen]

Deterioration of newly constructed road surface

During the JPI of 12 roads in nine Divisions (rigid pavement)⁸⁴, Audit noticed cracks on the pavements. The road metal was found loose and uncovered. When a minor crack forms in the roadway, the delay in sealing it can lead to an increase in size and danger over time. Continuous traffic applies persistent pressure on the damaged surface. Additionally, the road faces the challenge of rainwater and moisture infiltrating the opening. Hence, the longitudinal joints required immediate stapling.

These defects might have arisen due to non-conduction of tests in required frequency, non-conduction of cube and core tests, execution of cement work without verifying invoices of cement used to ensure consumption in required quantity, and poor workmanship.



[Narsinghpur – Kerapani Road, Narsinghpur]

Blockage of waterways in Slab Culvert and Minor Bridges

During the JPI of five road projects across four divisions⁸⁵, the audit observed that the waterways of the structures were obstructed by the dumping of excavated or dismantled materials. In the event of heavy rainfall and flooding, this could lead to creation of afflux and an increase in water levels, causing the cross-drainage structures to overflow.



[Mandsaur - Sanjeet, Mandsaur]

⁸³ Alirajpur, Indore, Raisen and Vidisha.

⁸⁴ Betul, Chhatarpur, Indore, Narsinghpur, Raisen, Rewa, Satna, Sehore and Singrauli.

⁸⁵ Mandsaur, Narsinghpur, Raisen and Shivpuri.

Delay in groove cutting

During the JPI of the ongoing work of Shahganj – Baneta to Sudaniya Road in Budhni Division, Audit noticed that the groove cutting was being executed in the initial reach of the road (between Ch. 00 and Ch. 1,000 m) after lapse of almost four months rendering the groove cutting unfruitful as by this time the pavement would have attained full strength and become hard.



[Shahganj – Baneta to Sudaniya Road, Budhni]

Longitudinal Gaps in Roads

During the JPI of 14 roads in 11 Divisions⁸⁶, Audit noticed instances of gap of about three to four inches in the longitudinal joints. The gaps can pose significant hazards and may lead to accidents. These defects might have arisen due to poor monitoring and non-deployment of technical personnel by contractors, work of PQC executed without Slip Form Paver with electronic sensor and poor workmanship.

The CC roads are costlier as compared to the Bituminous roads. As per IRC Specifications, design life of CC roads is 30 years, but the gap developed at site in the longitudinal joint questions the design life and sustainability of the roads.



[Bandkhedi-Umardha –Sandiya Road, Naramdapuram]

Inferior construction of shoulder

The shoulder is a strip of pavement outside an outer lane; it is provided for emergency use by the traffic and for minimising damage of the pavement edges due to vehicular load. Any subsidence in the shoulders would lead to a gap at the pavement edge.

During the JPI of 16 roads in 13 Divisions⁸⁷, Audit noticed instances of subsidence of shoulders at various chainages which needed urgent rectification to avoid accidents and further deterioration. These defects might have arisen due to non-conduction of mandatory tests of in required frequency, execution of Hard Shoulder in a single layer of more than 250 mm and poor workmanship.



[Jhukehi Station Road, Satna]

⁸⁶ Betul, Bhopal, Dewas, Narmadapuram, Narsinghpur, Sagar, Satna, Sehore, Singrauli, Ujjain and Vidisha.

⁸⁷ Raisen, Alirajpur, Betul, Budhni, Burhanpur, Gwalior, Jabalpur, Narsinghpur, Rewa, Sagar, Satna, Singrauli and Vidisha.

Crash Barrier issues

Crash barriers are crucial for road safety, preventing vehicles from veering off roads and into hazardous areas. They absorb and deflect collision forces, reduce accident's severity and minimise the injuries.

Damaged crash barriers During the JPI of four roads in four Divisions, Audit noticed that crashed barriers were severely damaged at some places and were lying loose on the ground.

Non anchoring of crash barriers Without proper anchoring and end treatments, the barrier might not perform as intended during such impacts. Anchoring also ensures that these end treatments remain stable and functional.

During the JPI of Shivpuri Loop Road to Dabra Road and Nagda Bercha Rajla Tutiyakhedi Kovil Street Panthpiplodha Tal Road in Gwalior and Ujjain Divisions, respectively, Audit noticed that anchoring was not provided to the crash barriers.



[Nagda Bercha Rajla Tutiyakhedi Kovil Street Panthpiplodha Tal Road]

4.5 Conclusion

Road safety is an issue of paramount importance. The Public Works Department, by adhering to substandard road safety norms, is compromising motorist safety through poorly designed infrastructure, inadequate signage, and neglected maintenance. This negligence heightens risks, underscoring the urgent need for stricter standards and accountability to ensure safer roads for all.

The JPIs support the audit observations highlighted across this PA. The Department has consistently failed to monitor the workmanship resulting in execution of substandard works. All these have a bearing on road life as well as the safety of motorists.

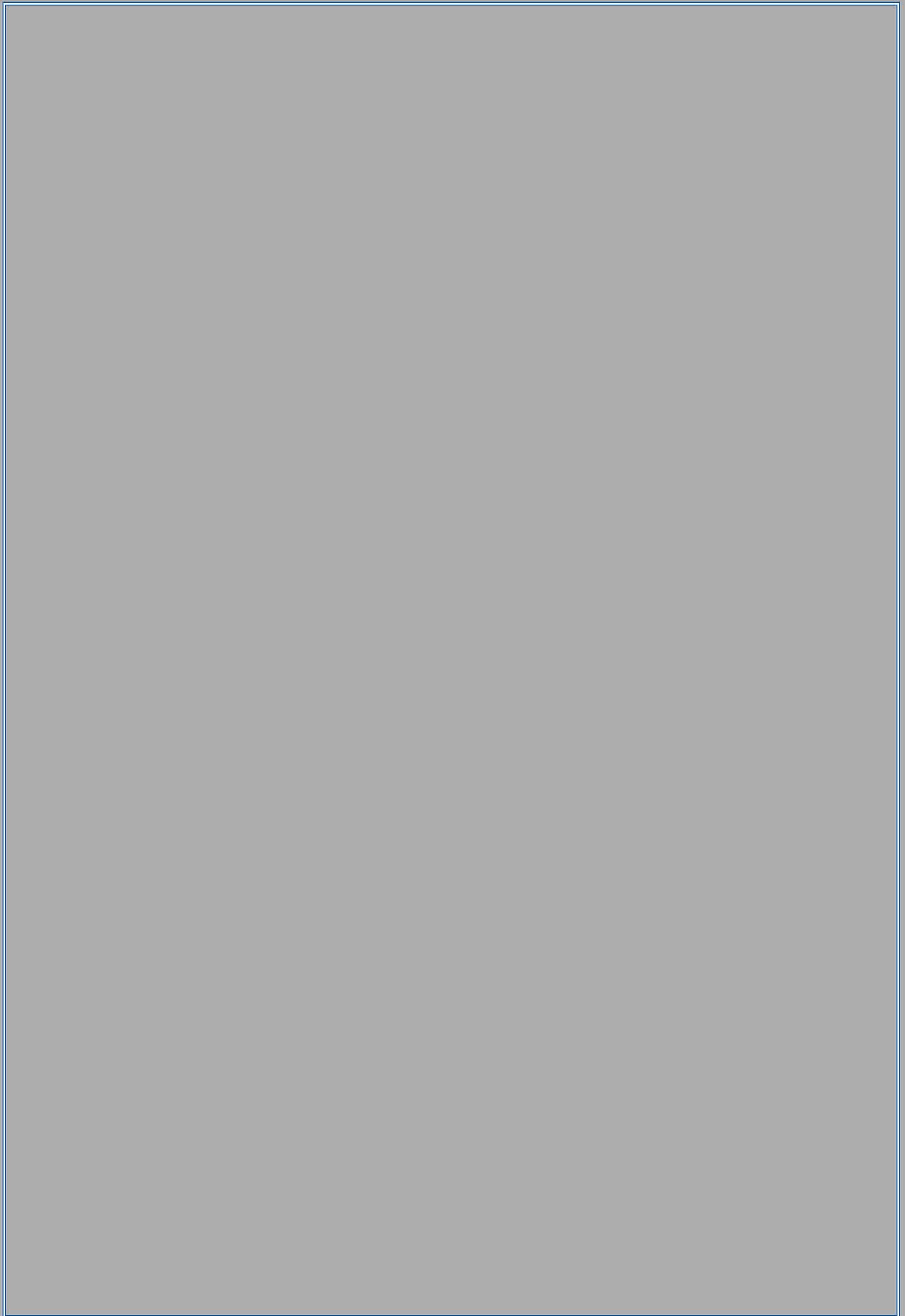
4.6 Recommendations

It is recommended that:

- *PWD should mandate establishment of field laboratories within 30 days of contract signing for all projects, enforce 20 per cent material testing in NABL/Departmental labs, and recover penalties for delays. Compliance to be tracked monthly by the Chief Engineer (CE).*
- *IRC: 35:2015-compliant road markings and MoRTH-specified crash barriers should be installed on 100 per cent of MDRs, with safety audits conducted annually by the E-in-C, to reduce accident risks.*
- *The Department must ensure obtaining As-Built drawings and video recordings from contractors on time, and the Department should verify their accuracy before project closure. Delays or non-submission should attract penalties to ensure compliance and safeguard project quality.*

- *The Department must ensure strict compliance with cube test standards before acceptance, reduce payments for sub-standard concrete as per MoRTH/IRC guidelines, and maintain detailed test records with remarks on acceptance, dates, and chainage for accountability.*

CHAPTER – V: Conclusion and Recommendations



CHAPTER V: CONCLUSION AND RECOMMENDATIONS

5.1 To Sum Up

The performance audit of the Madhya Pradesh Public Works Department (PWD) covering a period of five years from 2018-19 to 2022-23 indicates several systemic deficiencies and operational lapses which can undermine the development and maintenance of the state's critical road infrastructure. The Department has fallen short in delivering timely, cost-effective, and safe road networks.

PWD has been unable to meet physical targets, with significant delays noticed across many of the test checked projects. Absence of a long-term Master Plan has led to haphazard project prioritisation, often ignoring economic viability and resulting in stalled works due to unaddressed land and clearance issues. Financial management has been equally concerning, with persistent underutilisation of funds and misdirection of resources. Non-compliance with established procedures in the tendering processes have enabled unqualified and even blacklisted contractors to secure contracts, compromising transparency and fairness.

Execution and quality control further highlight the Department's poor performance. Substandard materials, inadequate testing, and non-adherence to specifications have resulted in roads which may fail prematurely and are not likely to last over the intended/useful design life. Road safety, a critical public concern, has been neglected, with missing markings, barriers, and signages. Joint physical inspections underscored/confirmed these issues by revealing unsafe designs and structural defects that pose ongoing risks to commuters.

Systemic deficiencies in all phases of planning (up to completion), indicate that these deficiencies have become institutionalised. Weak monitoring and irregular oversight have further resulted in these lapses continuing unchecked. These shortcomings not only jeopardize public safety and infrastructure durability but can also erode public trust in the PWD's ability to utilise public funds efficiently, economically and effectively.

PWD must adopt rigorous planning, transparent processes, and robust quality assurance. The following summarised recommendations, as proposed by Audit, offer a roadmap for transformation. Implementing these recommendations with urgency and accountability is required, in order to ensure that Madhya Pradesh's roads become safe, durable, and economically viable, while serving the needs of the citizens.

5.2 Summary of Recommendations

Audit recommends the following actions to address systemic deficiencies:

PWD should take urgent steps to update the MP Works Manual by incorporating the latest guidelines, orders *etc.*

PWD should finalise a 10-year Master Plan prioritising road projects based on Benefit-Cost Ratio (BCR) analysis, to ensure economic viability and systematic expansion, monitored by the Government. Upgradation works should be taken up only after proper assessment of road history.

PWD should ensure that items are correctly incorporated in the BOQs, and conduct tenders through valid committees, with half-yearly compliance checks by the E-in-C. Estimates prepared by DPR

consultants should be re-checked for errors. Any major revisions in estimates post award of contract should be thoroughly investigated at the Government level.

The Government need to take action on the officials who have not submitted tender files (58 per cent) asked by Audit.

PWD should implement a digital project monitoring system to track progress, ensure timely commencement, and issue completion certificates only post-physical verification, with quarterly/half-yearly reviews by the E-in-C to eliminate irregularities.

PWD should mandate establishment of field laboratories within 30 days of contract signing for all projects, enforce 20 per cent material testing in NABL/Departmental labs, and recover penalties for delays, with compliance tracked monthly by the CE. Penalties should be levied on the Authority Engineers as well as the contractors for sub-standard works. IRC: 35:2015-compliant road markings and MoRTH-specified crash barriers should be installed on 100 per cent of MDRs, with safety audits conducted annually by the E-in-C, to reduce accident risks.

The Government should set up an independent committee to review all acts of omissions and commissions which have resulted in loss to the exchequer in the form of over payments, sub-standard work, over estimations, deficient designs, etc., and fix accountability.



(RAM HIT)

Principal Accountant General (Audit II)
Madhya Pradesh

Bhopal
The 14 January 2026

Countersigned

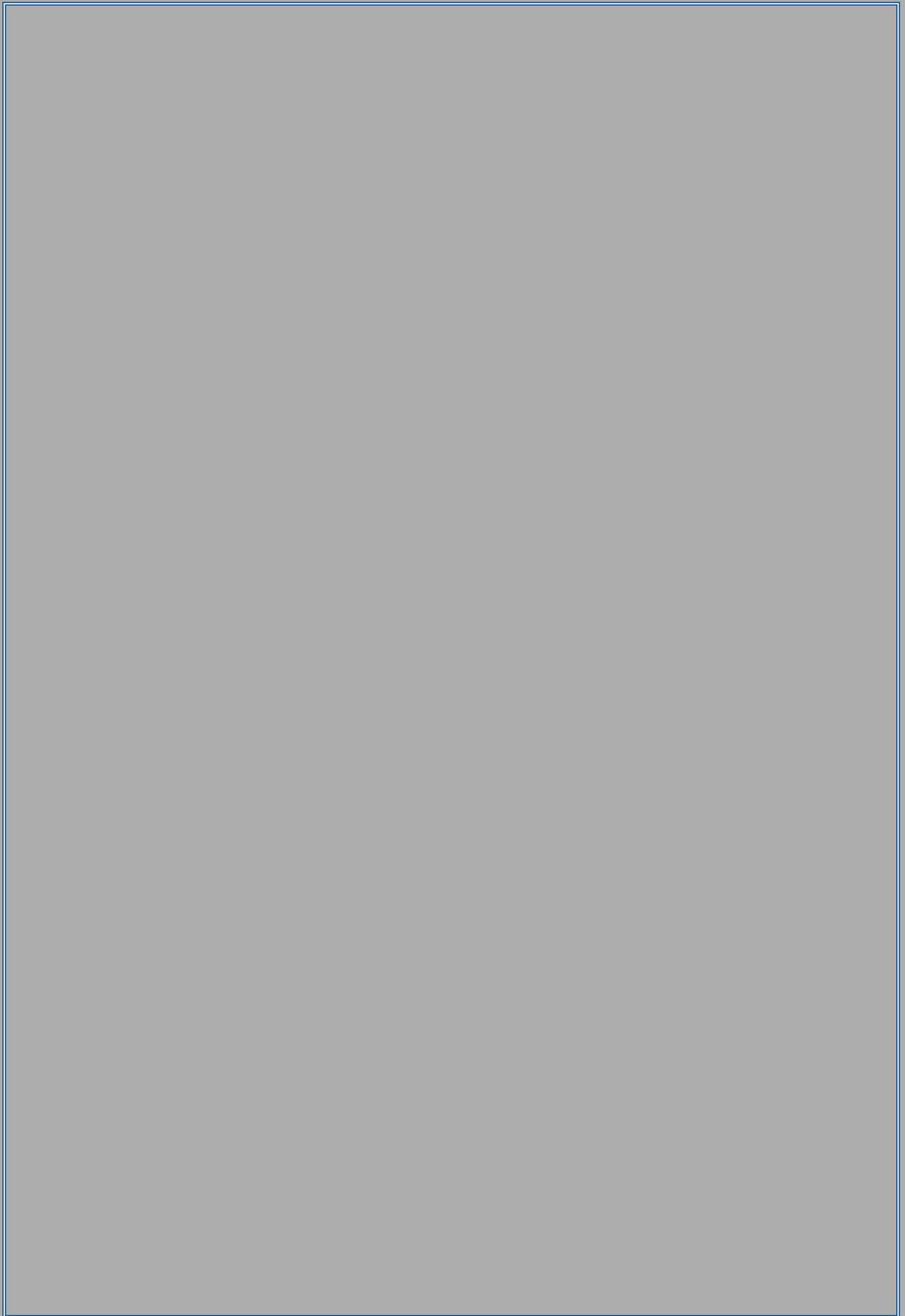


(K. SANJAY MURTHY)

Comptroller and Auditor General of India

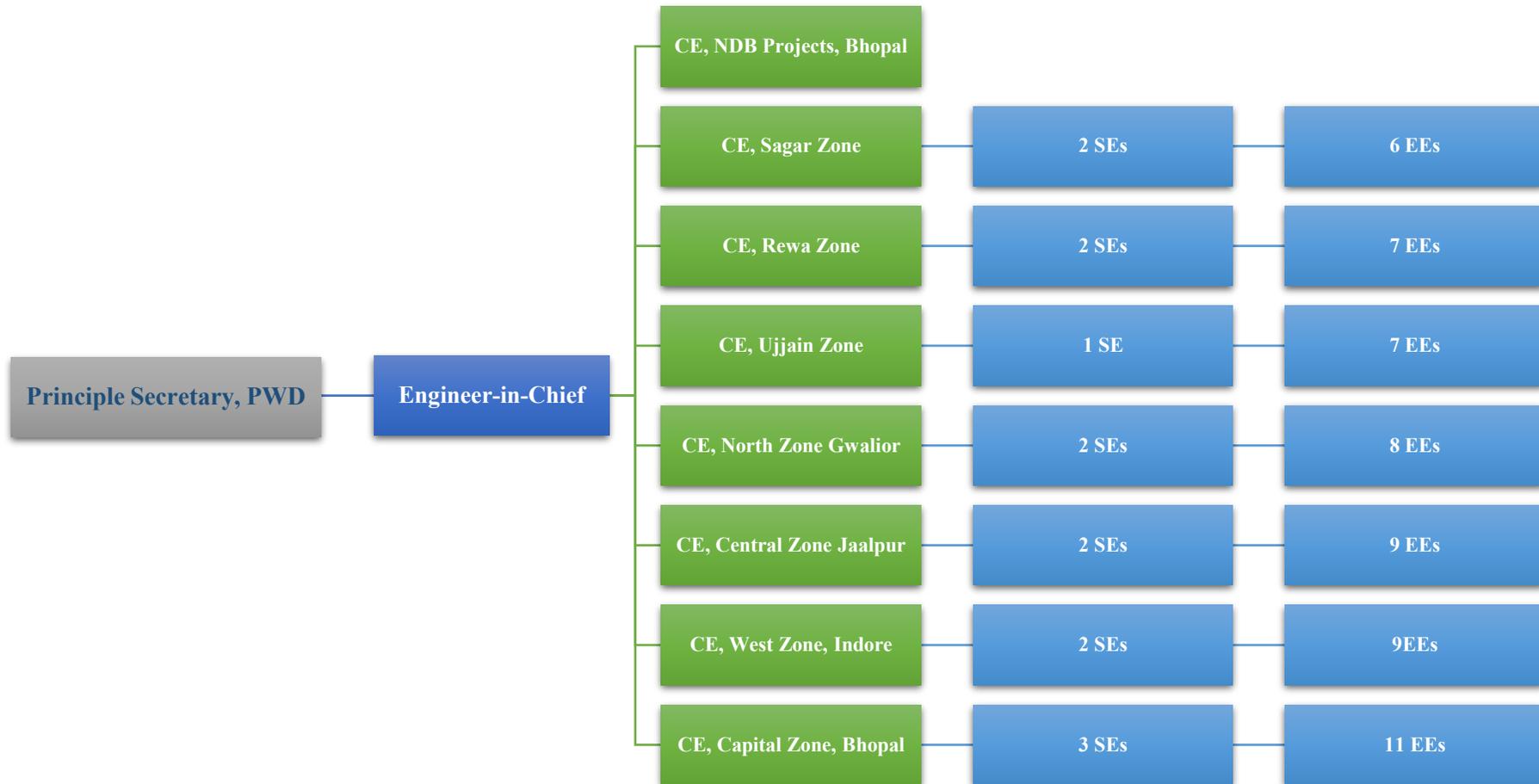
New Delhi
The 15 January 2026

Appendices



Appendix 1.1

Organisational chart of the Public Works Department, Madhya Pradesh



Appendix 1.2

Statement showing time-overrun due to non-availability of funds

Sl. No.	Name of (B/R) Division	Name of work	Agreement No.	Tender per cent	Schedule period of completion	Schedule date of completion	Actual date of completion	Final/last payment (₹ in lakh)	Delay due to non-availability of fund
1	Chhatarpur	Construction of Bajna-Nayakheda-Jatashankar Road 16.99 km	71/2018-19	-20.70	12 Months excluding rainy season	03.02.2020	20.03.2022	773.34	days not specified in Time extension order
2	Chhatarpur	Construction of Nainagiri-Majhgua Ghati Road 6.20 km	107/2017-18	-18.81	08 Months excluding rainy season	19.02.2019	13.06.2021	359.62	days not specified in Time extension order
3	Chhatarpur	Strengthening of Naugaon-Baldevgarh Road 35.90 km	03/2018-19	-16.78	10 Months excluding rainy season	25.06.2019	23.12.2020	1,768.56	279 days
4	Chhatarpur	Construction of Chandla-Hathoha-Ajaygarh road, Chhatarpur	14/2015-16	-7.77	20 months i/c including rainy season	31.03.2017	31.10.2019	3,267.19	days not specified in Time extension order
5	Sagar	Construction of Amoda Nayagaon Pipaliya Road	59/2018-19	-7.21	10 Months including rainy season	12-06-2019	05.03.2022	515.14	386 days
6	Sagar	Strengthening of Dalpatpur-Barra Road	65/DL/2017-18	-4.25	08 Months including rainy season	22.08.2018	29.11.2019	204.63	80 days
7	Rewa	Upgrading of Harrai Pratap Singh approach Road 4 Km	286/DL/2012-13	-11.60	06 Months including rainy season	03.06.2013	15.06.2018	307.23	146 days
8	Rewa	Construction of Muretha to Majhigawan Road	146/DL/2018-19	-11.25	12 Months including rainy season	22.09.2019	25.07.2022	359.67	679 days
9	Satna	Construction of Jhukehi Railway station to Delha Road 43.27 km (VR)	66/Maihar/2018-19	-7.13	24 Months including rainy season	27.09.2020	29.12.2022	5,467.49	days not specified in Time extension order
10	Satna	Construction of Bhumkahar Mudaha-Tumin Road, Length 6.40 Km.	46/2018-19	-20.73	12 Months including rainy season	06-08-2019	15.02.2020	347.09	140 days
11	Singrauli	Construction of Dhirauli to Purani Dhirauli via Huddhul Nadi approach road 4.5 Km	58/DL/2018-19	-20.10	09 Months including rainy season	12.08.2018	15.05.2020	243.88	184 days
12	Singrauli	Strengthening work on Kaira to Pondi Road 3 km, Dhani Village approach road 2 km, Mudapali ghadi road 2 km (Total 7 km).	09/EE/2018-19	-7.88	04 Months including rainy season	25.06.2019	01.02.2023	100.32	66 days
13	Singrauli	BT renewal work on Raila-Kanpura road in 8.80 km	13/DL/2020-21	-7.90	03 Months including rainy season	23.09.2020	27.02.2021	64.39	127 days
14	Singrauli	Construction of Construction of Sarai Bypass Road, Length 16.80 km	119/2019-20,	-10.02	24 months i/c including rainy season	14-11-2021	Ongoing	1,218.58	430 days

Sl. No.	Name of (B/R) Division	Name of work	Agreement No.	Tender per cent	Schedule period of completion	Schedule date of completion	Actual date of completion	Final/last payment (₹ in lakh)	Delay due to non-availability of fund
15	Singrauli	BT renewal work on Mada to Majhauri road (length 5.86 km) and Raila-Kanpura-Betariya road(length 5.00 km) total length 10.86 km.	99/DL/2019-20	-1.20	06 Months including rainy season	29.04.2020	10.4.2021	94.23	346 days
16	Singrauli	Strengthening work of Gorbi main road to Muher approach road 7.00 km	58/EE/2017-18	-7.59	06 Months including rainy season	18.06.2018	28.02.2019	109.12	120 days
17	Alirajpur	Construction of Mahendra to Dobaniya-Faliya Road Length 3.00 km	07/AJ/ 2020-21	-16.32	10 months including rainy season	17-05-2021	15-04-2023	400.71	60 days
18	Alirajpur	Construction of Amkhut-Kathiwada Road length 9.20 km	09/DL/2013-14	-1.01	15 Months including rainy season	31.08.2014	30.07.2018	697.69	260 days
19	Alirajpur	Construction of Barjhar Main Road to Koriyapan Road Length 3.50 km & Chhotipole to Sejwada (Bada Khutaj) road length 5.30 KM	01/AJ/ 2020-21,	-13.84	12 months including rainy season	03-05-2021	02-12-2021	599.14	146 days
20	Jabalpur	Construction of Ghughari Heerapur Nichi road length 5.68 KM, and Devri Purani to Kherua Road length 2.15 KM	12/DL/ 2020-21/02-06-2020	-22.51	14 Months including rainy season	15-08-2021	14-07-2022	388.25	283 days
21	Jabalpur	Strengthening of Mahgaon-Pindrai Road length 5.00 KM	121/DL/ 2017-18/15-02-2018	-8.87	04 months excluding rainy season	14-06-2018	21-03-2022	268.62	331 days
22	Jabalpur	Construction of Katangi Lami Road 1.80 km	53/2018-19	-3.70	06 Months including rainy season	28.02.2019	30.07.2021	114.06	390 days
23	Narsinghpur	Construction of Berman-Tendukheda CC Road length 23.26 Km	23/DL/2017-18	-13.72	20 month including rainy season	13.04.2019	05.10.2021	2,681.42	46 days
24	Sehore	Bhopal Naka – Jamonia Semaradangi Road	07/2016-17	-14.20	20 Months i/c rainy season	18-05-2016	17.01.2018	161.24	766 days
25	Vidisha	Grant Bala Berkheda Sagoda Patariya Karela Amoda Road	14/DL/2018-19	-6.59	04 Months excluding rainy season	04-02-2019	27.03.2021	170.62	185 days
26	Budhni	Construction of Road Phulada to Muraha Mathni road via Neeonor Narmada Ghat road Length 13.40 KM (CC road)	61/D/2017-18	-11.37	18 months including rainy season	15-07-2019	31-12-2021	1,701.05	247 days
27	Budhni	Gram Bhadkul to Sangoniya – Bhopal Main Road	33/2017-18	-18.01	12 Months i/c rainy season	20-11-2018	31-08-2019	471.49	90 Days
28	Gwalior	Strengthening work of Nolakha-Sonsa Road	06/SAC/2018-19	-23.71	12 Months i/c rainy season	01.06.2019	Ongoing	362.17	11 Months

Sl. No.	Name of (B/R) Division	Name of work	Agreement No.	Tender per cent	Schedule period of completion	Schedule date of completion	Actual date of completion	Final/last payment (₹ in lakh)	Delay due to non-availability of fund
29	Narmadapuram	Construction of Babai-Bagra-Nasirabad up to Narmada Bridge Road	41/DL of 2017-18	-16.00	24 Months i/c rainy season	23-07-2019	28-07-2022	3,890.54	34 Months 6 Days
30	Ujjain	Construction of Kheda Khajuriya to Makla Fanta via Dhanodiya Padikheda Nipaniyaraju, Hanuman Chopai, Nagpua, Gelakhedi Zarda Road	63/SAC/2018-19	-18.69	18 Months i/c rainy season	22-02-2020	Ongoing	1,693.72	No time extension was sought by contractor
31	Burhanpur	Strengthening of Singot Mordhad, Gandhwa to Padliya Road km 22/2 to 31/4	16/DL/2018-19	-5.85	12 Months including rainy season	17-06-2019	20-07-2023	249.35	03 Months
32	Mandsaur	BT Renewal in 0 km to 12.60 km on Malkheda Chandwasa Road	12/2018-19 dated 17.05.2018	-13.21	Six Months excluding rainy season	16-03-2019	01-07-2020	154.49	85
33	Bhopal	Construction of Widening and Upgradation of road from Gol Amrawat, Mandideep road via Pachama, Badhori	41/2017-18 dated 31.07.2017	-10.35	20 Months including rainy season	30-03-2019	12-08-2021	2,756.64	Not specified
17 Division				Total				31,961.68	

Appendix 1.3

Statement showing extra burden on the exchequer due to unrealistic estimation

Sl. No.	Division	Name of the Road	Agreement No.	Technical Sanction	No. of items not executed or executed in lesser quantity	Amount	No. of non-BOQ items or executed in excess quantity	Amount
1.	Sehore	Soya Housing Colony Chaupal-Board	08/2016-17	2,982.39	0	0	7	79,91,285
2.		Bhopal Naka to Semra dangi Road	07/2016-17	3,817.00	11	-60,81,326	7	6,03,77,358
3.		Maina Kurawar road	60/2016-17	968.36	0	0	5	10,63,358
4.	Vidisha	Kurwai to Bamora Road road	43/2018-19	829.95	2	-59,92,862	7	25,34,277
5.		Basoda Bareth Udaipur road	13/DL/2021-22	307.71	0	0	3	20,90,755
6.		NH-86 Dhaturiya Haveli to Dholkhedi Road	56 DL/2015-1	1,728.63	0	0	9	7,84,86,181
7.	Betul	Shahpur-Bhayawadi road	05/2018-19	177.49	16	-58,86,527	0	47,51,101
8.	Ratlam	Sailana-Shivgarh-Raoti-Ranising Road	39/2015-16	4,786.25	10	-2,82,53,362	51	11,61,57,663
9.		Construction of Ratlam Ringroad (Banjali to Mongrol Fanta via Varoth Mataji Mandir and Jhabua Road)	24/2020-21	3,295.29	7	-1,28,63,999	22	9,95,12,554
10.	Narmadapuram	Budhwada-Mudiykheda Road	29/ 2018-19	2,862.74	0	0	3	15,46,52,324
11.	Budhni	Pandagaw on Jamoniya	23/2017-18	3,840.42	25	-3,11,76,787	6	1,27,73,974
12.	Shivpuri	Mayapur Khaniyadhana Guddar Road	14/2016-17	4,753.90	7	-68,89,471	44	10,94,29,537
13.	Ujjain	Maxshi-Tarana-Rupakhedi road	78/2017-18	9,391.05	1	-17,66,939	2	1,03,85,253
14.	Gwalior	Dorar to Bhanwarpur Road	196/DL/2018-19	1,202.73	0	0	11	1,32,95,049
15.	Singrauli	Sarai Bypass Road	119/2019-20	1,669.64	14	-9,23,89,420	0	0
		Total			93	-19,13,00,693	177	67,35,00,669

Appendix 2.1

Statement showing details of extra cost due to unnecessary widening of roads

Package No.	MDR No.	Road Name	Length Executed (km)	PCU (15 Year Design)	Road Detail (Width + 2 × Shoulder)
Package 01	MP-MDR-26-01	Gogapur to LasodiyaGoyal Via Bapaiya-Koyal-Jhutawad -Dongariya- Ghatpaliya - RanayarapurArmiyadam-Makal - LasodiyaGoyal	38.510	3,000	5.5 m + 2 × 2.25 m
	MP-MDR-26-05	Kanchankhedhi Bhesola Banjari, Shridas Godra Road	13.970	3,358	5.5 m + 2 × 2.25 m
Package 05	MP-MDR-50-07	Beed-Shelja-Selda-Sant Singaji Pul-Charkheda- Chanera-Bard-Piplani	30.400	1,578	5.5 m + 2 × 2.25 m
	MP-MDR-50-23	Pandhana-Nihal-Badi-Dabhi-West Nimar Border Road	17.870	3,914	5.5 m + 2 × 2.25 m
	MP-MDR-50-24	Pandhana-Arud-Borgaon Road	19.000	3,165	5.5 m + 2 × 2.25 m
	MP-MDR-50-26	Piploda- Kumtha-Bhilkhedhi-Saraya-Chamera-Dongergaon-Borgaon Road	17.990	3,405	5.5 m + 2 × 2.25 m
Package 06	MP-MDR-49-10	Rodiya – Umariya – Bangaon – Multhan – Borawa – Bither – Besarkund – Singun – Maltar – Madaraniya – Khurampura	63.820	1,816	5.5 m + 2 × 2.25 m
	MP-MDR 49-09	Badi – Khamkheda – Multhan – Gogawa – Mohammadpura - Ghugariya Khedi - Rupkheda Road .	29.675	2,688	5.5 m + 2 × 2.25 m
	MP-MDR 49-15	Khargone – Kumharkhedha – Umarkhali – Dhulkot	26.080	3,048	5.5 m + 2 × 2.25 m
Package 09	MP-MDR-26-07	Karriya-Aron-Vyaha- Golarghati Road	15.255	3,686	5.5 m + 2 × 2.25 m
	MP-MDR-26-01	Maharajpur – Shanichara and Old Jail to Shanichara Road	16.000	3,686	5.5 m + 2 × 2.25 m
	MP-MDR-26-05	Rangawa- Devgarh-Gijorra- Jigniya Road	28.900	3,388	5.5 m + 2 × 2.25 m
Package 12	MP-MDR-29-19	Barkhedhi Shayar Bamora parasi Khamkheda	15.994	2,691	5.5 m + 2 × 2.25 m
	MP-MDR-29-01	DevpurMughalsaray road length	10.700	3,002	5.5 m + 2 × 2.25 m
	MP-MDR-29-06	Lateri Mundela Najirabad road	22.732	2,506	5.5 m + 2 × 2.25 m
Package 14	MP-MDR-33-11	Babai Sirvada Furtala Sangakheda road	16.746	3,614	5.5 m + 2 × 2.25 m
	MP-MDR-33-14	Semri Harchand To Paladevri Saini Mithta Borna Ritaal Khapa Telsir Mahuakheda Khapariya Kheri Raniguhaan Dhapada Gajnayi Bridge Till Sankala road	34.500	3,426	5.5 m + 2 × 2.25 m
	MP-MDR-33-04	Shobhapur To Bhatgaon road	13.571	2,791	5.5 m + 2 × 2.25 m
	MP-MDR-33-03	Shobhapur To Rewawankhedhi road	15.056	3,476	5.5 m + 2 × 2.25 m
			Total	446.769	
Total Cost of Roads = 446.769 km × ₹ 18.97 lakh per km = ₹ 84.75 crore					

Appendix 2.2

Statement showing underutilisation of excavated soil Despite suitable soil characteristics for road projects

(Quantity in Cu. M. and Amount in ₹)

Sl. No.	Name of B&R Division	Name of Work	Agreement No.	Tender per cent	Total excavated qty.	Construction of Embankment with material deposited from roadway cutting (SOR Item No. 3.11)	Embankment Construction with Material Obtained from Borrow Pits, CBR 5%	Difference in Quantities	Rate of construction of Embankment with material deposited from borrow area	Rate of construction of Embankment with material deposited from roadway cutting	Rate Difference	Total Amount including tender premium
A	B	C	D	E	F	G	H	I=F-G limited by H	J	K	L	M=I×L±E
1	Ujjain	Package 01	16/NDB/Roads-II /2018 Dated 20.09.18	0	5,79,315.03	1,41,608.72	3,77,551.45	3,77,551.45	105	60	45	1,69,89,815
2	Ratlam	Package 03	63/NDB/Road-II/20119-20, dated 30.08.2019	0	3,55,226.03	1,59,261.79	61,305.82	61,305.82	111	46	65	39,84,878
3	Khargone	Package 06	401/NDB-54067/Package-06/2018-19	0	6,18,994.00	2,89,243.00	2,40,430.00	2,40,430.00	124	61	63	1,51,47,090
4	Gwalior	Package 09	50/NDB/Roads-II /2018-19 Dated 07-03-2019	0	3,30,035.09	2,17,830.43	3,41,933.87	1,12,204.66	101	62	39	43,75,982
5	Shivpuri	Package 10	29/NDB/ Road-II/2018 dated 20-12-2018	0	6,45,428.55	3,30,369.83	25,880.49	25,880.49	110	65	45	11,64,622
6	Narmadapuram	Package 14	53/NDB/Road-II/2018-19 Dated 25.05.19	0	2,91,646.87	59,112.725	2,31,551.22	2,31,551.22	94	50	44	1,01,88,254
7	Dewas	Construction of 6 lane road from Maxshi bypass chauraha to Bhopal chauraha under CRF (EPC mode of Contract)	01/CRF/EPC/dewas 2021-22 dated 18.10.21	-18.18	73,925.00	3,585.00	59,510.00	59,510.00	144	65	79	38,46,595
Total					28,94,570.57	12,01,011.50		11,08,433.63				5,56,97,236

Appendix 2.3

Statement showing unwarranted execution of Dowel Bar for low traffic roads

Sl. No.	Name of Division	Agreement No.	Name of CC road	Traffic in terms of CVPD	Executed Qty of dowel in MT	Rate of Dowel Bar in ₹ per MT	Tender per cent	Extra burden to exchequer
A	B	C	D	E	F	G	H	I=F×G+H
1	Maintenance Dn. II, Bhopal	23/DL/2018-19 Dated 28-09-2015	Misrod Shiv Mandir Gurarighat Ratanpur Narela Hanumant Khandawad road excluding Gurarighat to Ratanpur)	160	258.945	39,259	-11.55	89,91,758
2	Maintenance Dn. II, Bhopal	30/2018-19 dated 11.07.2018	Kaliyashot dam to new Bypass road length 12.10 km)	177	242.960	54,837	-15.03	1,13,20,721
3	Maintenance Dn. II, Bhopal	163/2016-17 dated 11.11.2016	Misrod Salaiya Road (District Bhopal)	170	32.192	43,621	-16.10	11,78,163
4	Maintenance Dn. II, Bhopal	148/2020-21 dated 30.12.2020	Misrod Salaiya Road (District Bhopal) (Balance Work)	170	40.410	54,837	-21.93	17,30,002
5	Maintenance Dn. II, Bhopal	41/2017-18 dated 31.07.2017	Gol Amrawat, Mandideep road via Pachama	260	204.094	43,621	-10.35	79,81,346
6	Raisen	2/D/2019-20 Dated 18.06.2019	(Sallabarru Tola & Nigari –Saikheda)	97	12.426	39,259	-12.60	4,26,365
7	Raisen	60/2016-17	(Itkhedi-Ajeet Nagar)	173	169.075	43,621	-15.90	62,02,561
8	Raisen	67/D/Dt. 23-08-2018	(Kakrua Narayanpur)	97	5.990	39,259	-8.21	2,15,855
9	Raisen	84/D/2018-19, Dt. 20-09-2018	(Sarra-Suwagarh)	97	8.023	39,259	-7.70	2,90,722
10	Raisen	45/2016-17	Mangrol Bagalwada Road)	179	233.515	43,621	-13.97	87,63,152
11	Budhni	05/ 2018-19	(Basaniya khurd)	132	142.760	39,259	-1.08	55,44,085
12	Budhni	33 of 2017-18 Dated 21.11.2017	Bhadkul to Sangoniya – Bhopal Main Road	135	51.299	39,259	-18.01	3,00,383
13	Budhni	45/2021-22/31.03.22	Shahganj Baneta	205	6.681	54,837	-18.01	3,00,383
14	Budhni	61/D/2017-18Dt. 05-02-2018	(Phulada to Muraha Mathni)	120	188.957	39,259	-8.31	68,01,805
15	Ujjain	03/ CRF/2017-18/15.05.2017	Nagda Bercha Tal Road	172	439.740	49,980	-11.37	1,94,79,283
16	Ujjain	78/2018-19, Dated: 12-09-2018	Kadcha-Kadchali-Badkummed-Maksi road	Less than 1 MSA	16.543	39,259	-13.50	5,61,784
17	Ujjain	81/2015-16, Dated: 01-10-2015	Jharda to Mahidpur road	100	4.180	61,059	-20.22	2,03,620
18	Ujjain	02/2015-16	Ignoria road over Bridge to Bypass	172	99.625	56,000	item rate	55,79,000
19	Ujjain	63/SAC/2018-19 dated 23-08-2018	Kheda Khajuriya to Makla Fanta Road	-	24.599	39,259	-18.69	7,85,237
20	Ujjain	50/2017-18 dated 10.08.2017	Ghatiya Jagoti Kanakhedi Road	53	4.523	43,621	-21.56	1,54,760
21	Ujjain	28/2016-17	Mahidpur to Kachariya Road	61	1.555	43,621	-18.17	55,506
22	Ratlam	61/ 2017-18	Ratlam Bypass Road (Pratap Nagar Over Bridge to Sejawata Fanta)	242	41.850	39,259	-17.72	13,51,851
23	Ratlam	39/2015-16	Sailana-Shivgarh-Raoti-Ranisig Road	172	382.409	61,069	-25.55	1,73,86,558
24	Ratlam	01/CRF/2018-19	Mawta-Kaluakheda-Dhodhar-Kalaliya-Fanta-Ringnod-Hatpaliya-Khajuriya-Badawada road length 47.50 KM	86	26.313	46,000	-21.51	9,50,041

Sl. No.	Name of Division	Agreement No.	Name of CC road	Traffic in terms of CVPD	Executed Qty of dowel in MT	Rate of Dowel Bar in ₹ per MT	Tender per cent	Extra burden to exchequer
A	B	C	D	E	F	G	H	I=F×G±H
25	Ratlam	45/2021-22	Balance work of upgradation of Ratlam- Bajna-Kushalgarh road (upto Rajasthan Border) length 5.379 KM	81	75.857	54,837	-24.99	31,20,244
26	Ratlam	32/2016-17	Ratlam- Bajna-Kushalgarh road (upto Rajasthan Border) length 56	81	789.670	43,621	-24.42	2,60,34,434
27	Dewas	02/CRF/2016-17	02/CRF/2016-17, Nagmaharaj Fanta	78	2.470	61,069	item rate	1,50,840
28	Dewas	62/2021-22 Dated 15.03.2022	Kannod to Bahirawad Road	96	5.199	54,837	-27.96	2,05,384
29	Dewas	55/2018	55/2017-18, Strengthening of Sonkach Sub Dn. Roads	54	1.332	39,259	-10.11	47,006
30	Dewas	51/15-16, Dated: 04-09-2015	Dewas to Vijayaganj Mandi road	132	432.046	61,069	-19.10	2,13,45,155
31	Dewas	01/2020-21, Date: 07-05-2020	Chuabaradheera to Bairakhedi Phata road	292	0.990	54,837	-15.66	45,787
32	Dewas	05/2017-18 Dated 20.06.2017	Gandharvपुरी to Pipalrawa Road	248	209.667	43,621	-16.80	76,09,376
33	Shivपुरी	15/2016-17 dated 08.06.2016	Khaniyadhana to Kadwaya Road	67	66.49	43,621	-15.64	24,46,744
34	Shivपुरी	14/2016-17 Dated 08.06.2016	Mayapur Khaniyadhana Guddar Road	67	75.32	43,621	-16.64	27,38,821
35	Shivपुरी	30/2016-17/14.07.16	Magroni Dholagad Dongari Road	60	16.793	43,621	item rate	7,32,527
36	Burhanpur	08 DL / 30.08.2017	Sahpur - Phofnar - sangrampur road length 18 km (PQC road) MDR	94	184.474	43,621	-11.14	71,50,511
37	Burhanpur	05/DL/ 2017-18 dated 21.06.2017	Construction of Burhanpur Hathnoor Bahadarpur Biroda Padliya (Maharashtra Border) Road	94	160.711	43,621	-16.25	58,71,189
38	Khandwa	12/DL/2017-18, 30-08-2018	Rewapur-Mojwadi	50	2.048	43,621	-15.11	75,837
39	Khargone	02/ 24.06.2016	Maheshwar-Jalkoti road	395	84.520	43,621	18.21	43,58,222
40	Mandsaur	16/2015-16	Mandsaur to Sanjeet road	172	495.576	61,069	-17.56	2,49,49,914
41	Mandsaur	38/2020-21 dated 11.11.2020	Guradiya Mata to Garoth via Dasoriya road	96	1.974	54,837	-21.77	84,683
42	Mandsaur	56/2020-21 dated 04.02.2021	Kachnara Fanta to Nahargarh Billod Road	95	17.191	54,837	-23.99	7,16,548
43	Mandsaur	02/CRIF/EPC/Mandsaur 2021-22 dated 08.11.2021	Construction of Balance work Bhaugarh - Dalauda-Sitamau Road 30.55 km under CRIF EPC contract	104	384.50	54,837	-20.21	1,68,23,583
44	Sagar	28 DL/2017-18	Jamuniya-Kanera-Budon Road	Village road 3.75 m	22.308	43,621	-10.21	8,73,744
45	Satna	Agt.232/2015-16 Dt. 11.01.2016	Amarpatan – Rampur Road	117	196.740	61,069	-17.20	99,48,184
46	Satna	01/DL/CRF/2017-18 Dt. 03.04.2017	Rampur Tapa Baghai Road	117	377.710	4,700	item rate	17,75,237
47	Narsinghpur	29/MDR/16-17	Narsinghpur-Kerpani-Sarsala road	124	259.172	60,000	item rate	1,55,50,320
48	Narsinghpur	03/DL/ 2020-21, Date: 30-05-2020	Simari Badi-Neguan road	134	4.047	54,837	-5.01	2,10,807
49	Narsinghpur	14/DL/ 2016-17, Date: 17-06-2016	Linga-Chhitapar-Bhujhir Road	97	349.062	43,621	-15.60	1,28,51,110
50	Dn. I, Indore	179/A/2018-19 dated 10.09.2018	Samariya-Rau to Bhatkhedi road	110	2.131	39,259	-3.39	80,825
51	Dn. I, Indore	177/ 2018-19, Date: 10-09-2018	Mhow Berchha Road	249	5.010	39,259	-3.90	1,89,017
52	Dn. I, Indore	184/DL/2018-19 dated 14.09.2018	Chikhli to Nayagaon road	106	7.170	39,259	-8.87	2,56,519

Sl. No.	Name of Division	Agreement No.	Name of CC road	Traffic in terms of CVPD	Executed Qty of dowel in MT	Rate of Dowel Bar in ₹ per MT	Tender per cent	Extra burden to exchequer
A	B	C	D	E	F	G	H	I=F×G±H
53	Dn. I, Indore	77/ 2018-19, Date: 27-04-2018	Neuguradiya to Bhagora Road	117	0.926	39,259	-6.51	33,987
54	Dn. I, Indore	232/17-18 dated 7.2.2018	Bicholi approach road	84	1.680	39,259	-19.13	53,338
55	Betul	10/2018-19 Dt. 18.7.2018	Ridhora-Sondiya Road	168	0.784	39,259	-11.00	27,393
56	Vidisha	23 DL/2019-20 Dt. 8.10.2015	Lohara, Norja, Jhiriya Mandir to Hardot road	50	3.835	39,259	-8.52	1,37,731
57	Alirajpur	07/AJ/ 2020-21	Mahendra to Dobaniya-Faliya Road	40	0.925	54,837	-16.32	42,446
58	Alirajpur	05/A/2018-19 dated 30.5.2018	Umralli-Chhakitla-Gujrat border road	250	0.947	39,259	-11.11	33,048
59	Alirajpur	64/AJ/ 2017-18, Date: 19-02-2018	Deepa Ki Chowki to Chichalguda Road	232	1.257	39,259	-13.51	42,682
60	Singrauli	164/2022-23, Dated 02-03-2023	NH-39 to industrial area Morwa	VR	7.23	63,587	-12.76	4,01,072
					6,886.426			27,49,20,061

Appendix 2.4

Statement showing deficient provision of crust in Flexible Pavement

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Actual Design Traffic	Design Traffic adopted by Department	Subgrade CBR per cent	Components of crust	Thickness Required (mm)	Thickness executed	Inadequate provision (mm)	Quantity Executed	Rate	Amount Saved	Total Expenditure Incurred
A	B	C	D	E	F	H	H	I	J	K	L=J-K	M	N	O=(L×M×N/K)±E	P=M×N±E
1	Shivpuri	Karera to Bamor kalan via Damnor, pichor Khaniyadhana to Arawan	01/2018-19	-10.52	7.80 MSA	5 MSA	7	CRM	230	180	50	1,16,766.85	960	2,78,62,127	10,03,03,658
								WMM	250	250	0	1,01,370.26	1260	0	11,42,89,697
								DBM	60	50	10	19,623.84	6600	2,31,78,424	11,58,92,119
								BC	40	30	10	11,770.66	7650	2,68,57,586	8,05,72,757
2	Gwalior	Gol Pahadiya to Gupteshwar Mandir to Motijheel Road	209/TC/2018-19	-16.40	10.93 MSA	10 MSA	7	DBM	90	60	30	9,501.00	6640	2,63,70,216	5,27,40,431
								BC	40	40	0	6,586.00	7669	0	4,22,24,716
3	Gwalior	Shivpuri Loop-Shitla Mata-Chinor-Dabra road	02/MDR/CRF/2016-17	-19.28	16.90 MSA	10 MSA	7	DBM	90	60	30	1,241.95	5956	29,85,451	59,70,902
								BC	40	40	0	891.71	6878	0	49,50,704
4	Khandwa	Moondi Beed road	37/ 2013-14	-7.13	5 MSA	5 MSA	5	BM	75 ¹	55	20	1,039.09	5291	18,56,666	51,05,830
								SDBC	25	25	0	486.1	7799	0	35,20,789
5	Raisen	Raisen Tigadda to Gopalpur Tigadda	32/D/2020-21	-8.88	30 MSA	10 MSA	8	DBM	100	70	30	6,741.11	6557	1,72,61,301	4,02,76,369
								BC	40	30	10	2,829.73	7376	63,39,549	1,90,18,647
Total													13,27,11,320	58,48,66,619	

¹ As per clause 4.2.3.3 of IRC 37:2001, 10 mm BM can be taken equivalent to 7 mm of DBM. Thus, 55 mm of DBM is equivalent to 75 mm of BM approximately.

Appendix 2.5

Statement showing execution of richer specification in bituminous base and surfacing

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Design Traffic (ESAL)	Actually executed				Requirement of crust (mm)			Difference	
						Component	Quantity	Rate	Cost	Component	Quantity	Rate		Cost
A	B	C	D	E	F	G	H	I	J=H×I	K	L	M	N=L×M	O=J-N±E
1	Raisen	Tada – Khamariya Road 20.60 km under Distt. Raisen	66/2018-19	-8.88	6,70,357.30	DBM	2,717.88	6,557	1,78,21,139	OGPC	54,377.80	110	59,81,558	1,07,88,226
						BC	1,630.73	7,376	1,20,28,264	Seal Coat	54,377.80	45	24,47,001	87,30,447
2		Sallabarru Tola & Nigari – Saikheda Roads in Silwani sub-division	02/D/2019-20	-12.60	6,70,357.30	DBM	3,093.75	6,557	2,02,85,719	OGPC	61,875.00	110	68,06,250	1,17,81,056
						BC	1,800.00	7,376	1,32,76,800	Seal Coat	61,875.00	45	27,84,375	91,70,379
3		Bariya-Marehati-Raypani Kakrua Narayanpur Samnapur Jauhar	67/D/2018-19	-8.21	6,70,357.30	DBM	2,537.81	6,557	1,66,40,420	OGPC	50,756.25	110	55,83,188	1,01,49,433
						BC	1,522.69	7,376	1,12,31,361	Seal Coat	50,756.25	45	22,84,031	82,12,754
4		Sarra-Suwagarh to Suneti – Gajanda-Kalapatha-Kashab Bamhori Road	84/D/2018-19	-7.70	6,70,357.30	DBM	3,100.97	6,557	2,03,33,060	OGPC	62,020.00	110	68,22,200	1,24,70,524
						BC	1,849.34	7,376	1,36,40,732	Seal Coat	62,020.00	45	27,90,900	1,00,14,395
5		Jaithari-Sarra-Chandpura-Meghgaon khurd road	03/2021-22	-25.20	6,70,357.30	DBM	2,812.50	6,557	1,84,41,563	OGPC	56,250.00	110	61,87,500	91,66,039
						BC	1,687.50	7,376	1,24,47,000	Seal Coat	56,250.00	45	25,31,250	74,16,981
6		Padariya Kalan-Dungariya Khurd-Siyalwada-Kesli-Chor Pipaliya	03/2021-22	-25.20	6,70,357.30	DBM	1,987.50	6,557	1,30,32,038	OGPC	39,750.00	110	43,72,500	64,77,334
						BC	1,192.50	7,376	87,95,880	Seal Coat	39,750.00	45	17,88,750	52,41,333
7	Shivpuri	Lukwasa-Ganeshkheda-Chandapur CRF Road	51/2018-19	-15.08	1 MSA	DBM	4,286.81	6,265	2,68,56,865	OGPC	1,05,120	122	1,28,24,640	1,19,16,165
						BC	2,572.08	7,236	1,86,11,571	Seal Coat	1,05,120	50	52,56,000	1,13,41,551
8	Narmadapuram	Budhwada-Mudiykheda Road	29/ 2018-19	-0.90	8,66,209	BM	3,954.187	5,071	2,00,51,682	BM	0	5,071	0	1,98,71,217
						OGPC	79,083.75	110	86,99,213	OGPC	79,083.75	110	86,99,213	0
						Seal Coat	79,083.75	45	35,58,769	Seal Coat	79,083.75	45	35,58,769	0
9	Khargone	Bamanala to Kamodwada Road	33/2018-19	-14.70	16,09,771	DBM	887.81	6,557	58,21,370	BM	887.81	4,999	44,38,162	11,79,876
						BC	532.68	7,376	39,29,048	OGPC	17,756	110	19,53,160	16,85,432
						Seal Coat	0	45	0	Seal Coat	17,756	45	7,99,020	-6,81,564
10	Vidisha	Hasua - Katsara Road	03/2021-22	-15.39	17,85,843	DBM	1,251.25	6,557	8,20,446	BM	1,251.25	4,999	62,54,998	16,49,428
						BC	750.75	7,376	5,53,752	OGPC & seal coat	26,950	155	41,77,250	11,50,935
	Betul			-11.00	19,70,586	DBM	545.29	6,640	3,62,076	BM	545.29	5,071	27,65,166	7,61,448

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Design Traffic (ESAL)	Actually executed				Requirement of crust (mm)				Difference
						Component	Quantity	Rate	Cost	Component	Quantity	Rate	Cost	
A	B	C	D	E	F	G	H	I	J=H×I	K	L	M	N=L×M	O=J-N±E
11		Ridhora-Sondiya Road	10/2018-19 Dt. 18.7.2018			BC	339.04	7,669	2600098	OGPC & seal coat	11,437.5	155	17,72,813	7,36,284
12		Pendoni to Pendri Road	40/DL/2018-19	-12.68	12,31,616	DBM	868.75	6,640	5768500	BM	0	5,071	0	50,37,054
						BC	507.68	7,669	3893398	OGPC & seal coat	17,250	155	26,73,750	10,64,997
13	Sagar	Sagar Bypass road	60/2018-19	-15.03		DBM	7,433.77	6,557	48743230	DBM	5,445	6,557	3,57,02,865	1,10,80,398
14	Chhatarpur	NH75 to Kadri Padwan Purawa Gujratapurwa dalan road	06/2020-21	-22.79	17,85,843	DBM	1,453.5	6,557	9530600	BM	1,453.5	4,999	72,66,047	17,48,461
						BC	872.1	7,376	6432610	OGPC & seal coat	26,250	155	40,68,750	18,25,136
15	Satna	Jhukehi Railway station to Delha Road	66/Maihar/2018-19 dated 28.09.2018	-7.13	10,93,059	DBM	7,348.107	6,617	48622424	BM	0	5,071	0	4,51,55,645
						BC	4,408.875	7,669	33811662	OGPC & seal coat	1,46,962.5	155	2,27,79,188	1,02,45,859
16	Singrauli	Dhirauli to Purani Dhirauli approach road	58/DL/2018-19 dated 23.08.2018	-20.10		DBM	838.125	6,557	5495586	BM	838.125	4,999	41,89,787	10,43,333
						BC	502.875	7,376	3709206	OGPC & seal coat	16,762.5	155	25,98,188	8,87,704
17		Sarai Bypass Road	119/2019-20, Dated 15-11-2019	-10.02	15,54,915	DBM	3,742.51	6,640	24850266	BM	3,742.51	5,071	1,89,78,268	52,83,624
						BC	2,254.555	7,669	17290182	OGPC & seal coat	74,850	155	1,16,01,750	51,18,451
18	Jabalpur	Mukunwara Tikri Chargaon road	11/DL/2020-21 dated 02.06.2020	-23.51	10,93,059	DBM	1,478.537	6,557	9694767	BM	0	5,071	0	74,15,527
						BC	887.12	7,376	6543397	OGPC & seal coat	29,570.75	155	45,83,466	14,99,151
19		Badkheda-Khulari-Dudwara Road	36/DL/2020-21 dated 17.07.2020	-25.01	13,23,987	BM	1,478.537	6,557	9694767	BM	0	5,071	0	72,70,106
20	Alirajpur	Chandpur-Mordhi-Andharkanch Gujrat Border Road	10/A/2021-22 dated 01.12.2021	-19.61	6,61,994	DBM	1,247.689	6,557	8181097	BM	0	5,071	0	65,76,784
						BC	748.25	7,376	5519092	OGPC & seal coat	24,932.13	155	38,64,480	13,30,142
21		Behdwa Girdha to Malweli Tatiamba Road	30/A/2018-19 dated 23.07.2018	-14.10	6,92,784	DBM	1,204.035	6,557	7894857	BM	0	5,071	0	67,81,683
						BC	667.955	7,376	4926836	OGPC & seal coat	24,525	155	38,01,375	9,66,771
22	Indore	Samariya-Rau to Bhatkhedi Road	179/A/2018-19 dated 10.09.2018	-3.39	16,93,472	DBM	507.733	6,557	3329205	BM	507.733	5,071	25,74,714	7,28,914
						BC	304.656	7,376	2247143	OGPC & seal coat	10,155	155	15,74,025	6,50,299
Total													28,09,39,715	

Appendix 2.6

Statement showing avoidable extra cost due to execution of excess thickness of crust CRM/ WMM/ BC

Sl. No.	Name of Division/NDB II – Package No.	Name of road	Agt. No.	Design Traffic	Tender per cent	Composition of crust	Requirement of crust (mm)	Actually executed (mm)	Excess provision (mm)	Width (m)	Length Executed	Rate	Extra Amount
A	B	C	D	E		F	G	H	I=H-G	J	K	L	M=(I/1000)×J×K×L
1	Narmadapuram (NDB II - Package 14)	1. Babai Sirvada Furtala Sangakheda road 2. Semri Harchand To Paladevri Saini Mitha Dhapada Gajnai Bridge till Sankala road 3. Shobhapur To Bhatgaon road 4. Shobhapur To Rewawankhedi road 5. Shobhapur Macha Pachlawara road	53/NDB/Road-II/2018-19 dated 25-05-2019	< 2 MSA		CRM WMM	150 225	180 250	30 25	10 5.5	99,558 99,558	1,250 1,550	3,73,34,250 2,12,18,299
2	Khandawa (NDB II - Package 05)	1. Beed-Shelja-Selda-Sant Singaji Pul-Charkheda-Chanera-Bard-Piplani 2. Pandhana-Arud-Borgaon Road	45/NDB/Road-II/2018-19, Date: 09-01-2019	< 2 MSA		CRM WMM	150 225	180 250	30 25	10 5.5	49,495 49,495	1,271 1,478	1,88,72,444 1,00,58,621
3	Dewas	BT Renewal work of Vikas Nagar Chouraha to Rasulpur Chouraha Ola AB Road	81/2020-21	NA	-8.89	BC	30	40	10	17	3,800	6,987 ²	45,13,602
4	Gwalior (NDB-II, Package 09)	1. Panihar – Pagara Road 2. Nayagaon- Moch-Richor-Banvaar-Puravanvaar-Tekpur-Chinor Road 3. Karriya-Aron-Vyaha-Golarghati Road 4. Maharajpur – Shanichara and Old Jail to Shanichara Road	50/NDB/Roads-II/2018-19	< 2 MSA	-	CRM WMM BC OGPC+ Seal Coat	150 225 0 20	180 250 30 0	30 25 30 -20	5.50 5.50 5.50 5.50	81,825 81,825 81,825 81,825	1,000 1,390 8,831 151.73 ³	1,35,01,125 1,56,38,803 11,92,28,435 -13,65,684
5	Jabalpur (NDB-II, Package 15)	1. Bankhedi-Muraith-Lamkana-Paundai road Length 24.898 km (MP-MDR-37-09), 2. Jabalpur-Purena Road, Length 14.486 (MP-MDR-37-21) 3. Nankhedi-Bandarkudani Road, length 9.099 km (MP-MDR-37-30), 4. Bhedaghta -Udna Road, Length 15.181 km (MP-MDR-37-14),	07/NDB/Roads-II/2018	< 2 MSA	-	CRM WMM BC OGPC+ Seal Coat	150 225 0 20	180 250 30 0	30 25 30 -20	5.50 5.50 5.50 5.50	56,819 56,819 56,819 56,819	1,100 1,245 7,800 137 ⁴	1,03,12,649 97,26,703 7,31,26,053 -8,56,262

² ₹ 7,669 - 8.89 per cent

³ Rate of OGPC + Seal coat type B = (110+45) – 2.11 per cent = ₹ 151.73 per sqm

⁴ Rate of OGPC + Seal coat type B = (110+45) – 11.61 per cent = ₹ 137 per sqm

Sl. No.	Name of Division/NDB II – Package No.	Name of road	Agt. No.	Design Traffic	Tender per cent	Composition of crust	Requirement of crust (mm)	Actually executed (mm)	Excess provision (mm)	Width (m)	Length Executed	Rate	Extra Amount
A	B	C	D	E	F	G	H	I=H-G	J	K	L	M=(I/1000)×J×K×L	
		5. Shivni Tola-Ghat Pipariya Road, Length 7.641 km (MP-MDR-37-32).											
6	Ujjain	Jharda to Mahidpur road	81/2015-16, Dated: 01-10-2015	< 2 MSA	-13.13	CRM	150	215	65	3.75	23,040	1,171	65,76,336
										5.5	2,410	1,171	10,08,904
7	Sagar	Jamuniya-Kanera-Budon Road	28 DL/2017-18		-10.21	CRM	100	150	50	8.78	14,650	1,063	68,36,525
						WMM	250	250		3.75	12,880	1,401	33,83,415
8	Vidisha	NH-86 Dhaturiya Haveli to Dholkhedi Road	56 DL/2015-16	3 MSA	-11.65	CRM	180	230	50		9,300	1,181	58,17,930
						DBM	50	70	20		9,300	8,096	1,05,40,992
						BC	25	40	15			9,106	1,48,20,015
9	Betul	Berkhed – Hathnapur Road	28/DL/2018-19		-11.08	CRM	125	150	25	9.08 & 3.75	4,750		8,41,891
						WMM	150	225	75	3.75	4,750		17,55,244
10	Alirajpur	Thodsindhi-Malwai-Aali road	10 A/2013-14		-1.01	CRM	150	205	55	3.75	17,750	903	33,05,827
11	Chhatarpur	Naugaon-Baldevgarh Road	03/2018-19		-16.78	WMM	150	225	75	3.75	35,900	1,261	1,27,32,159
						Total							39,89,28,276

Appendix 2.7

Statement showing extra cost due to execution of excess thickness of PQC

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Thickness Executed (mm)	Thickness Required (mm)	Excess Thickness (mm)	Quantity Executed (cum)	Extra Quantity (₹)	Rate (₹ per cum)	Extra Cost (₹)
A	B	C	D	E	F	G	H=F-G	I	J=I×H/F	K	L=K×J±E
1	Narmdapuram	Itarsi-Rampur-Dumdum Maroda road Length 17.42 KM	25/DL/2016-17, dated 23-05-2016	-10.55	300	280	20	37,705.80	2,513.72	6,362	1,43,05,100
2	Dewas	6 lane road from Maxshi bypass chauraha to Bhopal chauraha under CRF	01/CRF/EPC/dewas 2021-22 dated 18.10.21	-18.18	300	280	20	19,320.00	1,288.00	5,153	54,30,446
3		Dewas to Vijayaganj Mandi road Length 30.60 KM	51/15-16, Dated: 04-09-2015	-19.1	270	250	20	46,215.96	3,423.40	6,362	1,76,19,777
4	Mandsaur	Bhaugarh-Dalanda-Sitamau Road 12.70 km under CRIF EPC contract	08/2016-17	-21.12	270	250	20	18,952.63	1,403.90	5,039	55,80,164
5		Ratlam Nasirabad Road (City Portion) four lane	13/2022-23	-11.11	300	250	50	14,561.88	2,426.98	5,153	1,11,16,786
6		Mandsaur to Sanjeet road (32.90 KM)	16/2015-16	-17.56	270	250	20	59,536.33	4,410.10	6,362	2,31,30,229
7		Bhaugarh - Dalanda- Sitamau Road 30.55 km under CRIF EPC contract	02/CRIF/EPC/Mandsaur 2021-22 dated 08.11.2021	-20.21	270	250	20	44,211.55	3,274.93	5,153	1,34,65,131
8	Bhopal	Shyama Prasad Mukarjee Nagar marg Kolar road length 15.10 km under NDB funding	401/NDB/Road – II/Kolar road/ 2022-23/1636/ 06.09.2022	0	300	270	30	53,922.75	5,392.28	5,400	2,91,18,285
9	Burhanpur	Upgradation of Siwal Kerpani Amulla Paretha Road (MP MDR 21-08) from ½ to 7/10 and 13/4 to 21/2= 15 km road including culverts from 1/2 to 25/2 =24.15 Km under Nepa Nagar	35/2017-18 CE (P) dated 06-12-2017	-6.78	300	280	20	19,385.29	1,292.35	5,153	62,07,980
10	Ratlam	Ratlam- Dhansuta road	27/2015-16 dated 01.09.2015	-19.15	270	250	20	39,498.06	2,925.78	6,362	1,50,49,279
11		Sailana-Shivgarh-Raoti-Ranisising Road	39/2015-16 dated 28.09.2015	-25.55	270	250	20	41,264.21	3,056.61	6,362	1,44,77,652
12		Khachrod to Batlawadi, Ringniya, Barbodana, Naamli, Dhamnodroad.(36KM) under CRF	07/2017-18	-14.43	270	250	20	37,050.75	2,744.50	5,030	1,18,12,797
13	Gwalior	Dabra – Jangipura Road length 16.22 km	33/ 2016-17	-16.64	280	260	20	30,739.47	2,195.68	6,362	1,16,44,470
14		Shivpuri Loop-Shitla Mata-Chinor-Dabra road length 53.20 km CRF	02/MDR/CRF/2016-17	0	280	260	20	85,039.90	6,074.28	5,250	3,18,89,963
15	Raisen	Strengthening and widening of Itkhedi-Ajeet Nagar Road length 17.00 km	60/2016-17	0	270	200	70	22,063.10	5,720.06	6,362	3,63,91,041
16		Sarra-Suwagarh Road to Suneti –Gajanda- Kalapatha-Ramgarh-Chikali-Barcheka-Gupti Hameerapur, Chingwada Kalan-Ushapur-Shajapur-Samnapur-Chingwada Kalan- Arjani Tiraha-Chingwada Khurd-Ucherha-Tulsipar-Arjani-Kashab Bamhori Road Length 44.80 KM	84/D/2018-19, Dt. 20-09-2018	-7.7	250	200	50	7,065.12	1,413.02	5,153	67,20,652

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Thickness Executed (mm)	Thickness Required (mm)	Excess Thickness (mm)	Quantity Executed (cum)	Extra Quantity (₹)	Rate (₹ per cum)	Extra Cost (₹)
A	B	C	D	E	F	G	H=F-G	I	J=I×H/F	K	L=K×J±E
17		1. Sallabarru Tola Silwani- Padan Mohalla-Kanchanpuri – Gaganwada – Rampura Tigaddaa: 12.80 km; 2. (ii) Nigari – Saikheda – Bardha – Saliya – Rampura Jod Road: 11.80 km	2/D/2019-20 Dated 18.06.2019	-12.6	250	200	50	8,318.75	1,663.75	4,803	69,84,126
18		Mangrol Bagalwada Road, Length 20.92 km	45/2016-17	0	270	200	70	31,051.6	8,050.41	5,036	4,05,41,889
19		Tada – Khamariya Road 20.60 km	66/2018-19/ 23.08.2018	-8.88	250	200	50	4,443.45	888.69	4,803	38,89,346
20		Manakwada Rimjha Pipliya Kewat Road	109/D/2017-18 Dated 30.12.2017	-6.66	250	200	50	3,518.89	703.78	4,803	31,55,121
21		Bariya-Marehati-Raypani Kakrua Narayanpur Samnapur Jauhar Length 19.60 KM	67/D/Dt. 23-08-2018	-8.21	250	200	50	6,459.67	1,291.93	4,803	56,95,715
22	Vidisha	Construction of NH-86 Dhaturiya Haveli to Sorai Amachhar Chakk Dholkhedi (SH-19) Ring Road Length, 9.70 km, Distt. Vidisha	56 DL/2015-1 Dt. 8.10.2015	-11.65	300	270	30	833.24	83.32	6,012	4,42,584
23	Sagar	Work of upgradation of Bina Aagasod Kanjiya Road Length 10.80 km	30/DL/2016-17	-9.99	300	260	40	23,225.62	3,096.75	6,362	1,77,33,337
24	Rewa	Upgradation of Raipur-Sitapur-Panni road length 54.20 km (MDR)	Agt.39 DL/2018-19 dated 1.5.2018	-9.1	300	270	30	95,655.3	9,565.53	5,153	4,48,05,679
25		Work of Construction of 11.46 Km CC road in the Rewa City Portion from Km 229/2 to 243/2 of Old NH no. 7 (MDR No. 10-20)	01/DL/G/CRF/2018-19 dated 10-09-2018	0	300	260	40	65,787.29	8,771.64	5,700	4,99,98,340
26		Work of upgradation of Baikunthpur Dewas Lalgaon road of Length 16.60 Km and Improvement of existing road surface in Baikunthpur (MDR)	110/ 2015-16	-9.99	270	250	20	25,501.57	1,889.01	6,362	1,08,17,268
27	Satna	Upgradation of Semariya Bankuiya Rewa road to Gajan Majhiyar Bakiya Lalauch Magarwar Bhatigaon Khamha Dhondi Kichwariya Itaur Mainpur Akauna Tikari Khamhariya Goraiya road length 46.70 Km.	03/CRF/2017-18	0	270	250	20	70,018.72	5,186.57	5,100	2,64,51,516
28		Strengthening of Amarpatan–Rampur Road length 25.60 km (Rigid Pavement)	Agt.232/2015-16 Dt. 11.01.2016	-17.2	270	250	20	37,912.43	2,808.33	6,362	1,47,93,531
29		Upgradation of Rampur Tapa Baghai Bairiha Jhanjhar Karmau Raghunathpur Ramnagar Ramnai Majhiyar Barti Gadwa Ghura Khohar Rehuta road length 34.30 Km.	01/DL/CRF/2017-18 Dt. 03.04.2017	0	270	250	20	49,976.24	3,701.94	5,500	2,03,60,690
Total									97,257.25		49,96,28,895

Appendix 2.8

Statement showing execution of PQC and DLC without fly-ash

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
1	Bhopal	41/2017-18 dated 31.07.2017	Gol Amrawat, Mandideep road via Pachama, Badhori road) (HM 36) (AENQ-460051)	180	28758.96	345	99.22	12,269.45	99	12.15	-10.35	99.84	NTPC Limited, Gadarwara
2	Bhopal	23/DL/2018-19 Dated 28-09-2015	Misrod Shiv Mandir GurarighatRatanpur Narela Hanumant Khandawadroad excludingGurarighat to Ratanpur) (HM 38)	166	20238.81	310	62.74	8,566.09	89	7.62	-11.55	62.24	NTPC Limited, Gadarwara
3	Bhopal	30/2018-19 dated 11.07.2018	(Kaliyashot dam to new Bypass road length 12.10 km) (HM-39)	175.8	31530.62	310	97.74	12,917.60	89	11.50	-15.03	92.82	NTPC Limited, Gadarwara
4	Bhopal	32/DL/2016-17 Dated 22-06-2016	Bangrasia Bilkhiria Amjhara Road MDR No. 23-25 Length- 20.10 Km (HM-46) (AENQ-464172)	166	20709.23	383	79.32	12832.13	110	14.12	-12.82	81.45	NTPC Limited, Gadarwara
5	Raisen	109/D/2017-18 Dated 30.12.2017	Manakwada Rimjha Pipliya		3,518.89	310	10.91	1,505.25	89	1.34	-6.60	11.44	Sarni TPP
6	Raisen	60/2016-17	Itkhedi-Ajeet Nagar	190	22063	383	84.50	9,758.00	110	10.73	0	95.24	Sarni TPP
7	Raisen	45/2016-17	Mangrol Bagalwada Road	188	31051.631	383	118.93	13,806.87	110	15.19	0	134.12	Sarni TPP
8	Budhni	22/2021-22, Dt. 01-12-2021	Itarsi to Chhipaner	172	21209.38	310	65.75	8,077.00	89	7.19	-21.43	57.31	Sarni TPP
9	Budhni	45/2021-22/31.03.22	Shahganj Baneta	230	8044.19	310	24.94	3090.75	89	2.75	-8.31	25.39	Singhajee TPP
10	Budhni	23/2017-18/24.07.17	Pandagaw on Jamoniya	160	37571	345	129.62	13837	99	13.70	-15.51	121.09	Singhajee TPP
11	Budhni	22 of 2018-19 Dated 21.06.2018	Salkanpur Devi Mandir Approach Road	130	1225.49	310	3.80	686	89	0.61	-11.06	3.92	Singhajee TPP
12	Budhni	33 of 2017-18 Dated 21.11.2017	Bhadkul to Sangoniya – Bhopal Main Road		5572.83	310	17.28	2285.26	89	2.03	-18.01	15.83	Singhajee TPP
13	Budhni	05/ 2018-19	Basaniya khurd	164	15203.2	310	47.13	6300.2	89	5.61	-1.08	52.17	Singhajee TPP
14	Budhni	09/ 2016-17	Chinch Kalwana Road	164	59014.21	383	226.02	22438.07	110	24.68	-21.20	197.56	Singhajee TPP

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
15	Jabalpur II	06/2016-17 dated 30.4.2016	Sehora- Gauraha- Khadra road	190	16,550.34	383	63.39	7772.41	110	8.55	-17.63	59.25	NTPC, Gadarwada Power Plants
16	Ujjain	78/2017-18	Maxshi-Tarana-Rupakhedi road	201	93996.471	310	291.39	33726.4	89	30.02	-9.10	292.16	Singaji TPP
17	Ujjain	03/CRF/2017-18/15.05.2017	Nagda Bercha Tal Road	265	51765	345	178.59	22642	99	22.42	-13.50	173.87	Singaji TPP
18	Ujjain	02/2015-16	Ignoria road over Bridge to Bypass	254	11,953.09	383	45.78	5127.635	110	5.64	0	51.42	Singaji TPP
19	Ujjain	63/SAC/2018-19 dated 23-08-2018	Kheda Khajuriya to Makla Fanta Road	238	3,454.02	310	10.71	1324.65	89	1.18	-18.69	9.66	Singaji TPP
20	Ujjain	28/2016-17	Mahidpur to Kachariya Road	240	1611.85	383	6.17	644.74	89	0.57	-18.17	5.52	Singaji TPP
21	Sagar	30/DL/2016-17	Bina-Aagasod-Kanjiya Road	100	23260.5	383	89.09	8833.5	110	9.72	-9.99	88.93	Bina Thermal Power Station, Bina
22	Ratlam	61/ 2017-18	Strengthening of CC pavement road Ratlam Bypass Road (Pratap Nagar Over Bridge to Sejawata Fanta)	200	4,907.31	310	15.21	2031.16	89	1.81	-17.72	14.00	Kalisingh TPP
23	Narmadapuram	53/NDB/Road-II/2018-19 Dated 25.05.19	All five road of NDB PKg-14		20836.82	248	51.68	7996.71	89	7.12	0	58.79	
24	Narmadapuram	05/CRF/2016-17 dated 25-05-2016	Bankhedi-Umardha –CRF road)	188	46952.92	383	179.83	19699.57	110	21.67	0	201.50	Satpura TPP
25	Narmadapuram	29/ 2018-19	Budhwada-Mudiykheda Road	97	26262.19	248	65.13	11622.182	89	10.35	-0.90	74.79	Singaji TPP
26	Narmadapuram	25/DL/2016-17, DT. 23-05-2016	Itarsi-Rampur-Dumdum Maroda	91	37,705.80	383	144.41	14244	110	15.67	-10.55	143.19	Sarni TPP
27	Narmadapuram	84/DL of 2018-19	Badodiya kala to Parradeh Road	110	1826.241	310	5.66	773.29	89	0.69	-2.22	6.21	Satpura TPP
28	Narmadapuram	41/DL of 2016-17	Itarsi Zamani Road	91	49007.994	383	187.70	20,288.39	110	22.32	-14.20	180.20	Satpura TPP
29	Narmadapuram	41/DL of 2017-18	Babai-Bagra-Nasirabad Road	150	47,122.43	345	162.57	18,385.33	99	18.20	-16	151.85	Satpura TPP
30	Narmadapuram	13/DL of 2018-19	Strengthening of Seoni-Malwa Bypass Road	150	3465	310	10.74	1320	89	1.17	-3.99	11.44	satpura TPP

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
31	Dewas	02/CRF/2016-17	Nagmaharaj Fanta	250	3837.97	383	14.70	1672.13	110	1.84	0	16.54	Shri Singajee TPP
32	Dewas	62/2021-22 Dated 15.03.2022	Kannod to Bahirawad Road	115	4989.06	310	15.47	2135.71	89	1.90	-27.96	12.51	Shri Singajee TPP
33	Dewas	02/2020-21 dated 08.05.2020	Siroliya Kelod Goga Road	200	1072.5	310	3.32	468	89	0.42	-21.21	2.95	Shri Singajee TPP
34	Dewas	51/15-16, Dated: 04-09-2015	Dewas to Vijayaganj Mandi road	165	46215.963	383	177.01	19273.243	110	21.20	-19.10	160.35	Shri Singajee TPP
35	Dewas	05/2017-18 Dated 20.06.2017	Gandharvpuri Pipalrawa Road	201	26969	345	93.04	10595.94	99	10.49	-16.80	86.14	Shri Singajee TPP
36	Gwalior	02/MDR/CRF/2016-17	Shivpuri Loop-Shitla Mata-Chinor-Dabra road length 53.20 km CRF	31	85,039.904	383	325.70	35,537.518	110	39.09	-19.28	294.46	Parichha TPP
37	Shivpuri	15/2016-17 dated 08.06.2016	Khaniyadhana Kadwaya Road	150	39,207.42	383	150.16	18,455.92	110	20.30	-15.64	143.81	Parichha TPP
38	Shivpuri	14/2016-17 Dated 08.06.2016	Mayapur Khaniyadhana Guddar Road	150	45,765.34	383	175.28	21,337.85	110	23.47	-16.64	165.68	Parichha TPP
39	Shivpuri	30/2016-17/14.07.16	Magroni Dholagad Dongari Road	128	13549.13	383	51.89	5524.44	110	6.08	-12.83	50.53	Parichha TPP
40	Satna	01/2016-17 dated 26-04-2016	Kripalpur Ramsthan Road		30331.79	383	116.17	17336.19	110	19.07	-13.69	116.73	Vindhychal Super Thermal Power Station
41	Satna	01/2016-17 dated 26-04-2016	Semariya Bankuiya Rewa road		30597.754	345	105.56	70018.716	99	69.32	0	174.88	Vindhychal Super Thermal Power Station
42	Satna	Agt.232/2015-16 Dt. 11.01.2016	Amarpatan – Rampur Road		37912.425	383	145.20	16462.182	110	18.11	0	163.31	Vindhychal Super Thermal Power Station
43	Satna	01/DL/CRF/2017-18 Dt. 03.04.2017	Rampur Tapa Baghai		49976.244	310	154.93	19829.615	89	17.65	0	172.57	Vindhychal Super Thermal Power Station

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
44	Narsinghpur	29/MDR/16-17	Narsinghpur-Kerpani-Sarsala road	43	33762.105	310	104.66	0	0	0.00	0	104.66	NTPC Limited, Gadarwara
45	Narsinghpur	23/DL/2017-18 Dt. 14.08.2017	Berman-Tendukheda CC Road	53	31347.661	345	108.15	13259.556	89	11.80	-13.72	103.49	NTPC Limited, Gadarwara
46	Narsinghpur	02/DL/2020-21 Dt. 27.05.2020	Narsinghpur-Sankal-Gotegaon Road	31	71001.25	310	220.10	32190.5	89	28.65	-4.59	237.34	NTPC Limited, Gadarwara
47	Narsinghpur	03 DL/2017-18	Kareli-Pipariya-Rankai road	70	2394.47	345	8.26	1007.72	89	0.90	-11.12	8.14	NTPC Limited, Gadarwara
48	Indore Dn.II	184/DL/2018-19 dated 14.09.2018	Chikhli to Nayagaon road	150	6368.605	310	19.74	2627.472	89	2.34	-8.87	20.12	Shri Singajee TPP
49	Indore Dn.II	232/17-18 dated 7.2.2018	Bicholi approach road	150	962.50	310	2.98	420.00	89	0.37	-19.13	2.72	Shri Singajee TPP
50	Burhanpur	17/ 17.01.2018	Asirghar-dhulkot-ghatakhedi-pandhana dulhar and dhulkot to kamal kheda road length 38.12 km	68	57733.17	310	178.97	24,255.40	89	21.59	-6.36	187.80	Satpura TPP, Sarni
51	Burhanpur	04/3.06.2016	Dariyapur-Ambada-Nepanagar road 22.055 km	63.7	32926.95	383	126.11	13,851.19	110	15.24	-15.01	120.13	Satpura TPP, Sarni
52	Burhanpur	05/DL/ 2017-18 dated 21.06.2017	Construction of Burhanpur Hathnoor Bahadarpur Biroda Padliya (Maharashtra Border) Road	63.7	21513.27	345	74.22	9,128.18	99	9.04	-10.35	74.64	Satpura TPP, Sarni
53	Burhanpur	01/DL/2020-21 dated 20.06.2020	Construction of Turakgurada to Samgrampur Road	63.3	1706.2	310	5.29	737.93	89	0.66	-9.09	5.41	Satpura TPP, Sarni
54	Burhanpur	09/DL/ 2018-19 dated 24.05.2018	Upgradation of Siwal Kerpani Amulla Paretha Road	65	19385.29	310	60.09	0	89	0.00	-6.78	56.02	Satpura TPP, Sarni
55	Burhanpur	21/DL/ 2020-21(B)	Construction of Mohad to Khamani road	169.4	7789.614	345	26.87	3,443.22	99	3.41	-14.28	25.96	Satpura TPP, Sarni
56	Burhanpur	08 DL / 30.08.2017	Sahpur - Phofnar - sangrampur road length 18 km (PQC road)	63.3	24898.16	345	85.90	10,737.47	99	10.63	-12.82	84.15	Satpura TPP, Sarni
57	Betul	04/DL/2016-17	Betul to Khandara Amla Bordehi Road	45	122334.23	345	422.05	50898.08	99	50.39	0	472.44	Satpura TPP, Sarni
58	Betul	126/2016-17 dated 14.10.2016	Adarsh Pipariya-Bakajan Road (AENQ-314883) (SOR 2016)	100	919.06	345	3.17	169.85	99	0.17	-19.89	2.67	Satpura TPP, Sarni

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
59	Betul	97/DL/2016-17	Chicholi-Bhimpur Road (SOR 2016)	100	2944.21	345	10.16	1288.7	99	1.28	-18.01	9.37	Satpura TPP, Sarni
60	Betul	10/2018-19 Dt. 18.7.2018	Ridhora-Sondiya Road (SOR 2017)	100	709.22	310	2.20	306.38	89	0.27	-11	2.20	Satpura TPP, Sarni
61	Sehore	60/2016-17	Maina to Kurwar Road	200	3255.578	345	11.23	1375.027	99	1.36	-16.86	10.47	Shri Singajee TPP
62	Sehore	58/2016-17 dated 04.10.2016	Kothari Mainakhedi to Parwagosai Road	200	2843.106	383	10.89	1154.155	110	1.27	-20.86	9.62	Shri Singajee TPP
63	Sehore	08/2016-17 Dt. 31-05-2016	Soya Chaupal to Housing Board Colony Road	200	33778.127	383	129.37	11543.704	110	12.92	-13.14	123.59	Shri Singajee TPP
64	Sehore	07/2016-17	Bhopal Naka – Jamonia Semaradangi	200	37741.32	383	144.55	15970.73	110	17.57	-14.20	139.10	Shri Singajee TPP
65	Sehore	45/2018-19 dated 6.9.2018	Heerapur to Kulas Khurd Road	200	309.32	383	1.18	159.69	110	0.18	-21.10	1.07	Shri Singajee TPP
66	Sehore	26/2018-19 Dated 30-07-2018	Jawar to Aroliya bypass road	200	827.50	345	2.85	342.51	99	0.34	-20.51	2.54	Shri Singajee TPP
67	Vidisha	17/NDB/Road-II/2018/	Devpur Mughalsaray Road, Lateri Mundela Najirabad, Kulhar via BhaalBamora To MandiBamora, Udaipur Bamora PathariUptoBina River, BerkhediShayarBamora Parasikham kheda (NDB Pkg- 12)	200	11767.31	248	29.18	3909.8	89	3.48	0	32.66	NTPC TPP
68	Vidisha	03/2021-22	Hasua - Katsara Road	200	673.75	310	2.56	269.50	89	0.32	-15.39	2.43	NTPC Limited, Gadwarwa
69	Vidisha	26/2018-19 Dated 30-07-2018	Udaygiri Dholkhedi & Baisnagar Bagri	200	13032.901	345	44.96	4937.977	99	4.89	-9	45.37	NTPC Limited, Gadwarwa
70	Vidisha	56 DL/2015-1 Dt. 8.10.2015	NH-86 Dhaturiya Haveli to Dholkhedi Road	200	833.24	383	3.19	271.18	110	0.30	-11.65	3.08	NTPC Limited, Gadwarwa
71	Vidisha	23 DL/2019-20 Dt. 8.10.2015	Lohara, Norja, Jhiriya Mandir, to Hardot road	200	3597.179	310	11.15	1520.32	89	1.35	-8.65	11.42	NTPC Limited, Gadwarwa
72	Khandwa	10 DL/2016-17, Date: 20-05-2016	Roshni-Ambada-Sawlikheda road		36060.785	345	124.41	16975.928	99	16.81	-15.01	120.02	Shree Singaji Thermal Power Station

Sl. No.	Name of Division	Agreement no.	Name of the road	Distance From Nearest TPP In km	Quantity of PQC used	Difference in Rate of PQC (with & without Fly ash) SOR	Extra cost in PQC (₹ in lakh)	Quantity of DLC used	Difference in Rate of DLC (with & without Fly ash) SOR	Extra Cost in DLC (₹ in lakh)	Tender per cent	Total Extra Cost (i/c tender) (₹ in lakh)	Name of Thermal Power Plant (TPP)
A	B	C	D	E	F	G	H=F×G	I	J	K=I×J	L	M=(H+K)±L	N
73	Khandwa	46DL/2018-19 dated 27.9.2018	Richfal to Indhawdi road	41	1389.82	248	3.45	602.54	89	0.54	-17.27	3.30	Shree Singaji Thermal Power Station
74	Khandwa	19 DL/2018-19 dated 23.7.2018	Amoda to Tanda (Atut) road		822.06	248	2.04	355.68	89	0.32	-11.27	2.09	Shree Singaji Thermal Power Station
75	Chhatarpur	08/EE/2016-17	Chowka-Isanagar Road	149	31222.772	383	119.58	13355.751	110	14.69	-17.86	110.29	Parichha TPP
76	Chhatarpur	14/2015-16 Dt. 31.07.2015	Chandla-Hathoha-Ajaygarh road	149	26217.585	383	100.41	10755.645	110	11.83	-7.77	103.52	Parichha TPP
77	Khargone	02/24.06.2016	Maheshwar-Jalkoti road	50	8435.71	383	32.31	3444.125	110	3.79	0	36.10	Khargone Super TPP
78	Khargone	33/2018-19 dated 16.08.2018	Bamanala to Kamodwada Road	130	1,285.16	310	3.98	607.53	89	0.54	0	4.52	Khargone Super TPP
79	Khargone	42/DL/2019-20 Dated 16-03-2020	Badgaon to Solana road under Sub Dn Khargone	130	479.75	310	1.49	0	0	0.00	0	1.49	Khargone Super TPP
80	Mandsaur	08/2016-17	Bhaugarh - Dalauda-Sitamau Road 12.70 km (HM 36)	103	18952.63	383	72.59	8,218.36	110	9.04	-21.12	64.39	Satpura TPP, Sarni
81	Mandsaur	16/2015-16	Construction of Mandsaur to Sanjeet road (32.90 KM) (HM 39)	156	59536.33	383	228.02	25,632.91	110	28.20	-17.56	211.23	Satpura TPP, Sarni
82	Singrauli	46/2016-17 dated 5.9.2016	Karthua- Chitrangi road	50	58153.552	383	222.73	24381.11	110	26.82	-13.50	215.86	NTPC Power Plant
23 division					19,51,765.37			8,53,554.91				6,905.08	

Appendix 2.9

Statement showing excess payment to the contractor due to non-regulation of rate despite use of fly ash in DLC and PQC

Sl. No.	Name of Division	Agreement No.	Name of Work	Quantity of PQC	Rate Difference	Amount (₹ in lakh)	Quantity of DLC	Rate Difference	Amount (₹ in lakh)	Tender per cent	Excess payment (₹ in lakh)	Provision made in estimate	Distance from nearest power plant (in KM)	Name of Thermal Power Plant (TPP)
1	Dewas	01/CRF/EPC/Dewas 2021-22 dated 18.10.21	Construction of 6 lane road from Maxshi bypass chauraha to Bhopal chauraha under CRF	19320.00	310	59.89	7118.00	89	6.34	-18.18	54.18695	No	163	Shri Singajee TPP
2	Mandsaur	08/2016-17	Construction of Balance work Bhaugarh - Dalauda-Sitamau Road 30.55 km	44211.60	310	137.06	19709.40	89	17.54	-20.21	123.3532	No	103	Satpura TPP, Sarni
3	Mandsaur	13/2022-23	Ratlam Nasirabad Road (City Portion) four lane (HM 39)	14561.90	310	45.14	5215.77	89	4.64	-11.11	44.25293	No	156	Satpura TPP, Sarni
4	Gwalior	98/SAC/2017-18, Dt. 03-02-2018	Behat to Malanpur	48907.00	310	151.61	22775.30	89	20.27	-15.4	145.4119	No	111	Parichha TPP
5	Betul	03/2016-17	Multai-Athner, Bhaisdehi Road Length 83 Km	121394.00	383	464.94	48253.90	110	53.08	Item rate	518.02	No	90	Satpura TPP, Sarni
6	Sagar	10 DL/2018-19	Construction of Old NH 26 to Sagar	36043.40	310	111.73	15335.70	89	13.65	-12.94	109.1587	No	100	Bina TPP, Bina
Total				2,84,437.90			1,18,408.10				994.38			

Appendix 2.10

Statement showing sub-standard provision and execution of Drainage Layer

Sl. No.	Name of the Division	Name of CC road	Agreement No.	Earthen Shoulder	Length of roads in meter	Width of CRM on either side	Quantity of CRM affected	Rate of CRM	Tender per cent	Amount affected (₹ in lakh)
A	B	C	D	E	F	G	H=F×G×0.1	I	J	K=H×I±J
1.	Mandsaur	Mandsaur to Sanjeet road	16/2015-16	Yes	32,900	10	32,900.00	1,171	-17.56	3,17,60,752
2.	Mandsaur	Ratlam Nasirabad Road (City Portion) four lane	13/2022-23	Yes	3,150	9.8	3,087.00	949	-11.11	26,04,089
3.	Mandsaur	Bhaugarh - Dalauda- Sitamau Road	2/CRIF/EPC/Mandsaur 2021-22	Yes	30,550	10	30,550.00	1,171	EPC	3,57,74,050
4.	Shivpuri	Karera to Bamorkala (CRF)	01/2018-19	Yes	68,920	10	68,920.00	957	Item rate	6,59,56,440
5.	Shivpuri	Tilau village to pichore dinara to gazora road	01/CRF/EPC 2020-21	Yes	14,484	10	14,484.00	957	EPC	1,38,61,188
6.	Chhatarpur	Chandla-Hathoha-Ajaygarh road	14/2015-16	Yes	21,800	10	21,800.00	1,181	-7.77	2,37,45,351
Total six works							1,71,741.00			17,37,01,870

Appendix 2.11

Statement showing substandard work due to delay in laying of bituminous courses

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	(Quantity in Cu. M. and Amount in ₹)								
					DBM			BC		Total			
A	B	C	D	E	Quantity	Rate	Amount	Delay in days	Quantity	Rate	Amount	Delay in days	Total
					F	G	H=F×G±E	I	J	K	L=J×K±E	M	N=H+L
1	Gwalior	Construction of MDR Rairu to Nayagaon AB Road	333 DL/2018-19	-22.04	6,230.00	6,557	3,18,46,746	3 to 10	-	-	-	-	3,18,46,746
2		BT Renewal on Susera Approach Road, Shakarpur Jigsoli Road & Kulaith Approach Road	01/TC/2019-20 dated 27.05.2019	-20.70	-	-	-	-	599.64	7,669	36,46,721	10 to 20 days	36,46,721
3		Construction of Gol Pahadiya to Gupteshwar Mandir to Motijheel Road	209/TC/2018-19 Dated 17.09.2018	-16.40	-	-	-	-	252.00	7,669	16,15,644	Tack Coat not provided ⁵	16,15,644
4	Shivpuri	Shivpuri- Jhansi Road 4-Lane	51/2018-19, DT. 18-01-2019	-13.12	992.20	6,557	56,52,287	2 to 15 days	-	-	-	-	56,52,287
					127.50	6,557	7,26,332	Tack Coat not provided			0		7,26,332
5	Ujjain	Construction of Rupakhedi Chirdi Mergarh, Lakhmankhedi, Badodiya, Bhundkhedi, Tanodiya Road	68/2018-19 Dated 06.09.2018	-19.58	1,630.75	6,640	87,08,022	4 to 6 days	2,267.17	7,669	1,39,82,536	Tack Coat not provided	2,26,90,558
Total					8,980.45				6,214				8,60,21,789

⁵ In second case, BC was executed with a delay of one week to three months without providing tack coat.

Appendix 2.12

Statement showing irregular provision and execution of additional Tack Coat

Sl. No.	Name of the Division	Name of the Road	Agreement Detail	Quantity of Additional tack Coat Executed (Sq. M.)	Rate (₹ per Sq. M.)	Amount (₹)
1.	Ratlam (NDB II–Package 3)	1. Ratlam-Morwani-Umar-Raoti-Bajna Road Length - 48.26 km 2. Gunawad-Barbodna-Raghunathgarh-Kerwasa Uplai-Bhuteda road length 16.275 km	63/NDB/Road-II/20119-20, dated 30.08.2019	3,47,547.83	11.00	38,23,026
2.	Khandwa (NDB II – Package 05)	1. Khandwa-Ahmadpur-Kalmukhi-Kelwa Road (MP-MDR-50-15) 2. Piploda- Kumtha-Bhilkhedhi-Saraya-Chamera-Dongergaon-Borgaon Road (MP-MDR-50-26) 3. Beed-Shelja-Selda-Sant Singaji Pul-Charkheda- Chanera-Bard-Piplani (MP-MDR-50-07) 4. Sulgaon-Nimar Kheri-Bangarda-Dhangaon-Kalmukhi Road (MP-MDR-50-03) 5. Pandhana-Arud-Borgaon Road (MP-MDR-50-24) 6. Pandhana-Nihal-Badi-Dabhi-West Nimar Border Road (MP-MDR-50-23) 7. Jalkuan-Bhagiyapura-semalia-Gudi Road (MP-MDR-50-21) 8. Bhawasa-Malveer-Naichandi- Jambupani (MP-MDR-51-17)	45/NDB/Road-II/2018-19, Date: 09-01-2019	7,15,209.54	12.00	85,82,514
3.	Khargone (NDB II – Package 06)	1. Badi–Khamkheda–Multhan–Gogawa–Mohammadpura-Ghugariya Khedi-Rupkheda Road 2. Rodiya–Umaria–Bangaon–Multhan–Borawa–Bither–Besarkund– Madaraniya – Khurampura 3. Khargone – Thikri Road (MP-MDR-49-13) Length 34.340 Km. 4. Khargone – Kumharkheda – Umarghali – Dhulkot Road (MP-MDR-49-15) Length 26.080 Km	401/NDB-54067/Package-06/2018-19	7,67,015.00	14.00	1,07,38,210
4.	Gwalior (NDB II – Package 09)	1. Panihar – Pagara Road Length 30.700 Km, 2. Nayagaon- Moch-Richor-Banvaar-Puravanvaar-Tekpur- Chinor Road Length 22.100 Km, 3. Karriya-Aron-Vyaha- Golarghati Road Length 15.225Km, 4. Maharajpur – Shanichara and Old Jail to Shanichara Road Length 16.000Km, 5. Rangawa- Devgarh-Gijorra- Jigniya Road Length 28.900Km	50/NDB/Roads-II /2018-19 Dated 07-03-2019	6,05,181.66	15.35	92,89,538
5.	Shivpuri (NDB II – Package 10)	1. Urban Portion of OLD NH-3 in Shivpuri Nagar- 13.543 Km 2. Mohna Pohri Road to AB Road – 25.70 Km 3. Narwar to Chitori Road -21.07 km 4. Guna Umri Sirsi Road- 54.5 Km	29/NDB/ Road-II/2018 dated 20-12-2018	7,54,966.023	13.20	99,65,552
6.	Vidisha (NDB-II) Package 12)	1 Lateri Mundela Najirabad road length 22.732 kms. 2.Kulhar via Bhaal Bamora to Mandi Bamora road length 21.280 Km. 3.DevpurMughalsaray road length 10.70 Km. 4.Udaipur Bamora Pathariupto Bina River length 28.10 Km. 5. 5.Barkhedhi Shayar Bamora parasi Khamkheda length 15.994 Km.,	17/NDB/Road-II/2018/Package No.- 12	4,87,999.290	13.86	67,63,670.
7.	Narmadapuram (NDB II – Package 14)	1. Babai Sirvada Furtala Sangakheda road (MP-MDR-33-11) length 16.503 Km. 2. Semri Harchand To Paladevri Saini Till Sankala road (MP-MDR-33-14) 3. Shobhapur To Bhatgaon road (MP-MDR-33-04) length 13.571 Km. 4. Shobhapur To Rewawankhedhi road (MP-MDR-33-03) length 15.056 Km	53/NDB/Road-II/2018-19 Dated 25.05.19	4,00,777.32	16.00	64,12,437

Sl. No.	Name of the Division	Name of the Road	Agreement Detail	Quantity of Additional tack Coat Executed (Sq. M.)	Rate (₹ per Sq. M.)	Amount (₹)
		5. Shobhapur Macha Pachlawara road (MP-MDR-33-05) length 19.928 km.				
8.	Jabalpur (NDB II – Package 15)	1. Bankhedi-Muraith-Lamkana-Paundai road Length 24.898 km (MP-MDR-37-09). 2. Jabalpur-Purena Road , Length 14.486 (MP-MDR-37-21) 3. Nankhedi-Bandarkudani Road , length 9.099 km (MP-MDR-37-30), 4. Bhedaghta -Udna Road, Length 15.181 km (MP-MDR-37-14), 5. Shivni Tola-Ghat Pipariya Road, Length 7.641 km (MP-MDR-37-32).	07/NDB/Roads-II /2018 Dated 11-09-2018	4,11,192.25	11.00	45,23,115
9.	Raisen	Raisen Tigadda to Gopalpur Tigadda	32/D/2020-21	93,676.45	14	10,39,996 ⁶
10.	Gwalior	Gol Pahadiya to Gupteshwar Mandir to Motijheel Road	209/TC/2018-19	1,64,650.00	14	19,27,064 ⁷
			Total	47,48,215.36		6,30,65,122

⁶ Including 20.70 per cent below tender per cent.

⁷ Including 16.40 per cent below tender per cent.

Appendix 2.13

Statement showing delayed completion of work due to failure to obtain necessary clearances from the Forest Department

Sl. No.	Name of Division	Name of road	Agreement No.	Delay in completion (Days)	Remarks
1.	Khandwa	Hanumantiya to Dharakwadi Gulgaon Raiyat Jamkota Bangrada Road length 16.20 km	19/2015-16	1,736	Work was foreclosed
2.	Raisen	Construction of two Roads in Silwani sub-division (i) Sallabarru Tola Silwani- Padan Mohalla- Kanchanpuri – Gaganwada – Rampura Tigaddaa: 12.80 km (ii) Nigari –Saikheda – Bardha – Saliya – Rampura Jod Road: 11.80 km	2/D/2019-20 Dt. 18.06.2019	576	Forest Permission
3.		Construction of Mangrol Bagalwada Road	45/2016-17	1,680	-
4.		Construction of Tada – Khamariya Road	66/2018-19 Dt. 23.08.2018	310	Forest Department did not allow to construct the road in full width of the carriageway in some length of the road
5.		Strengthening and widening of Itkhedi-Ajeet Nagar	60/2016-17	117	Forest Department did not allow to construct the road in full width of the carriageway in some length of the road
6.		Construction of roads from (1) Jaithari-Sarra-Chandpura-Meghgaon khurd road length 17.90 km (2) Padariya Kalan-Dungariya Khurd-Siyalwada-Kesli-Chor Pipaliya road length 12.80 km.	3/2021-22 Dt. 07.06.21	176 (Till 31-05-2023)	Work was ongoing
7.	Gwalior	Construction of MDR Rairu to Nayagaon AB Road	333 DL/2018-19	1,134 (Till 11-08-2023)	Work was ongoing
8.		Construction of Shivpuri Loop-Shitla Mata-Chinor-Dabra road (MDR) CRF	02/MDR/CRF/2016-17	278	BT portion of the road was executed in lesser width, in available ROW of 3.75 m
9.		Construction of Road Behat to Arora Gundhara Jakahara Supawali- Bilheti Parsen Bahadurpur Malanpur of length 40 KM (CC road)	98/SAC/2017-18, Dt. 03-02-2018	1,286 (Till 11-08-2023)	Work was ongoing
10.		Construction of Gol Pahadiya to Gupteshwar Mandir to Motijheel Road	209/TC/2018-19 Dated 17.09.2018	579	Hinderances and Encroachment
11.		Strengthening work of Nolakha-Sonsa Road	06/SAC/2018-19 dated 02.06.2018	1,532 (Till 11-08-2023)	Work was ongoing
12.		Construction of road from Dorar to Bhanwarpur road	196/DL of 2018-19	720	-
13.	Shivpuri	Construction of road from Tilau village to Pichore Dinara to Gajora road length 22.90 km under CRFI	01/CRF/EPC 2020-21 dated 04.07.2020	-	Incomplete finalise due to work abandoned due to involvement of forest land in road alignment
14.		Strengthening of roads under sub division no. 01- i. Nohaarikalan Approach Road (ODR) 1.73 km ii Bankade Hanuman Mandir Approach Road (MDR) 1.20 km iii Bairad Dhoriya Road (MDR) 4.00 km iv M.P. to A.B. Road (MDR) 1.00 kmft	11/2018-19 dated 23.07.2018	448	Passes through Madhav National Park in the reserve forest
15.		Construction of Magroni Dholagad Subhashpura Via Mohini Dongari Road	30/2016-17/14.07.16	963	Forest Permission
16.		Strengthening on Lohadevi to Galthuni Road	47/2017-18 dated 15.01.2018	1,189	Issue regarding possession of road
17.	Ujjain	Construction of Rupakhedi Chirdi Mergarh, Lakhmankhedi, Badodiya, Bhundkhedi, Tanodiya Road	68/2018-19 Dated 06.09.2018	465	-
18.		Construction of Kheda Khajuriya to Makla Fanta via Dhanodiya Padikheda Nipaniyaraju, Hanuman Chopai, Nagpua, Gelakhedi Zarda Road	63/SAC/2018-19 dated 23-08-2018	1,307 (Till 21-09-2023)	Work was ongoing. Non-availability of incumbrance free land
19.	Dewas	Construction of three roads under 1. CRF Bagh Jaleria Road length 12.00 km 2. Nagmaharaj Fanta Sumrakhedi-Bhourasa to Mirzapur .	02/CRF/2016-17	266	Encroachment of the villagers in road alignment

Sl. No.	Name of Division	Name of road	Agreement No.	Delay in completion (Days)	Remarks
		Bherukhakra Road 3. Bundangaon–Nousirabad Nanagarkhedi to Manoranjan 3. Dhaba length 7.28 km Bherukhakra Road length 4.94 kkm			
20.	Narsinghpur	Construction of Mahagawantala-Bhama road, Distt. Narsinghpur length 20.30 Km (NABARD)	135/2013-14 dated 2.8.2013	1,789	Issue of land acquisition on the road in the length of 14.21 km out of 20.30 km
21.	Alirajpur	Construction of Chandpur Mordhi Sorwa kel Chandarwali Andharkanch Gujrat Border Road length 7 km	10/A/2021-22 dated 01.12.2021	199	Private land falling on the road from chainage 00 to 105
22.		Construction of Behdwa Girdha to Malweli Tatiamba Road length 6.70 km	30/A/2018-19 dated 23.07.2018	914	Non-shifting of electric pole
23.		Construction of Mahendra to Dobaniya-Faliya Road Length 3.00 km	07/AJ/ 2020-21	262	126 days in Forest Permission. Permission for 5.5 m only, contractor was penalized for execution of culverts in 8-10 m. Stopped work for 136 days
24.	Jabalpur	Construction of Katangi Lami Road 1.80 km	53/2018-19 dated 01.09.2018	883	Demarcation was done with delay
25.		Construction of Thana to Chanderi Road, Length 3.70 Km	31/2020-21 dated 10.07.2020	425	Forest permission
26.		Construction of Badkheda-Khulari-Dudwara Road length 4.44 km	36/DL/2020-21 dated 17.07.2020	576	Foreclosed as Forest department did not give the permission for construction
27.	Singrauli	Construction of Piparakhand to Urti road length 5 km	30/DL/2016-17 dated 28.06.2016	488	Private Land
28.		Construction of Construction of Sarai Bypass Road, Length 16.80 km	119/2019-20, Dated 15-11-2019	766 (Till 20-12-2023)	Private Land Work was ongoing
29.		Construction of Myar river approach road from Ramdha Bais house to Sipahi Bahara length-4.70 km	67/2016-17	Total 1071/697 forest delay	Forest Permission
30.		Widening and reconstruction of Karthua-Chitrangi road length 36.02 Km (MDR)	46/2016-17 dated 5.9.2016	574	Forest Permission
31.	Satna	Construction of Jhukehi Railway station to Delha Road 43.27 km (VR)	66/Mailhar/2018-19 dated 28.09.2018	823	Forest Permission
32.	Vidisha	Upgradation and reconstruction of Major district roads in the State of Madhya Pradesh NDB-II (Package-12) Lateri Mundela Najirabad road length 22.732 kms., Kulhar via BhaalBamora to Mandi Bamora road length 21.280 Km., DevpurMughalsaray road length 10.70 Km., Udaipur BamoraPathariupto Bina River length 28.10 Km., Barkhedi Shayar Bamoraparasi Khamkheda length 15.994 Km., total length 98.806 Km.	17/NDB/Road-II/2018/Package No.- 12	851 (Till 23-06-2023)	Delayed Forest Permission
33.		Construction of Udaygiri Dholkhedi Bagri Road Length 7.28 km	16/2016-17	610	initiated the process of land acquisition after 14 months
34.		Strengthening of Dalpatpur-Barra Road	65/DL/2017-18 dated 23.12.2017	464	Delayed Forest Permission
35.		Construction of Amoda Nayagaon Pipaliya Road	59/2018-19 dated 13.08.2018	997	Delayed Land Acquisition
36.	Sehore	Construction of Kothari Mainakhedi to Parwagosai Road Length 4.80 Km of Sehore District.	58/2016-17 dated 04.10.2016	421	Due to Land dispute
37.	Chhatarpur	Construction of Bajna-Nayakheda-Jatashankar Road 16.99 km	71/2018-19 dated 04.10.2018	776	Delayed Forest Permission
38.		Strengthening of Naugaon-Baldevgarh Road 35.90 km	03/2018-19 dated 26.04.2018	547	Encroachment
39.		Construction of Chandla-Hathoha-Ajaygarh road, Chhatarpur	14/2015-16 Dt. 31.07.2015	942	Non-Provision of Land acquisition, non-clearance of alignment of Major Bridge and Delayed shifting of electrical pole.

Sl. No.	Name of Division	Name of road	Agreement No.	Delay in completion (Days)	Remarks
40.		Construction of Nainagiri-Majhgua Ghati Road 6.20 km	107/2017-18 dated 20.02.2018	845	Delayed Land acquisition
41.	Rewa	Upgrading of Harrai Pratap Singh approach Road 4 Km	286/DL/2018-19 dated 04.12.2012	1,838	Forest Permission
42.		Upgradation of Mauganj to Jail approach road	201 DL/2018-19 dated 29.1.2019	138	Land acquisition
43.	Betul	Construction of Pendoni to Pandhari Road Length 4.60 Km.	40/DL/2018-19	1,115	Delayed Forest Permission
44.		Construction of Betul to Khandara Amla Bordehi Baskhapa (Nagdev Mandir) length 72.50 km.	04/DL/2016-17	373	Missing link of 375 m as it could not be constructed
45.	Indore	Construction of Chikhli to Nayagaon Jagjivanram nagar Indra awas road	184/DL/2018-19 dated 14.09.2018	1,463	Delayed Forest Permission
46.	Budhni	Salkanpur Devi Mandir Approach Road	22/2018-19 Dated 21.06.2018	605	Delayed Forest Permission
47.		Gram Bhadkul to Sangoniya – Bhopal Main Road	33/2017-18	194	Hindrances due to local people, poles shifting, etc.
48.	Bhopal	Construction of Widening and Upgradation of road from Gol Amrawat, Mandideep road via Pachama, Badhori	41/2017-18 dated 31.07.2017	866	Encroachment, delayed removal of trees from the road alignment, pole shifting.

Appendix 3.1

Statement showing non-recovery of Mobilisation Advance

Sl. No.	Package No	Contract amount	Date of Commencement of work	Scheduled period of completion in days	30 per cent of time from the Date of Commencement of work	Status after 30 per cent of time from the Date of Commencement		Total Mobilization advance given	Mobilisation advance recovered	Amount of advance recoverable
						Value of work done	Financial Progress in percentage			
A	B	C	D	E	F	G	H	I	J	K
1	5	323.57	09-03-2019	730	14-10-2019	0	0	16.17	0	16.17
2	New Package	182.36	10-11-2022	365	22-02-2023	0	0	18.23	0	18.23
3	10	159.59	15-01-2019	730	22-08-2019	5.85	3.67	15.96	0	15.96
Total		665.52						50.36	0	50.36

Appendix 3.2

Statement showing delay in commencement of work

Sl. No.	Name of division	Agreement No.	Name of road	Date of agreement	Schedule date of completion	Date of work starting	Period of delay (in days)
1.	Sagar	59/2018-19 /13.08.2018	Amoda-Nayagaon-Pipaliya Road	13-08-2018	12-06-2019	31-01-2019	171
2.		92/DL/2017-18 /09.03.2018	Khurai-Nagna-Donga-Loharra Road	03-03-2018	08-07-2018	30-07-2021	1,245
3.	Chhatarpur	71/2018-19 /04.10.2018	Bajna-Nayakheda-Jatashankar Road	04-10-2018	03-02-2020	28-02-2019	147
4.		107/2017-18 /20.02.2018	Nainagiri-Majhgua Ghati Road	20-02-2018	19-02-2019	29-10-2018	251
5.		04/2018-19/ 18.5.2018	Bijawar Bajna Baxwaha road	18-05-2018	17-05-2019	25-02-2019	283
6.		06/2020-21	NH75 to Kadri Padwan Purawa Gujratapurwa dalan road	26-06-2020	25-06-2021	26-02-2021	245
7.	Rewa	104/DL/2014-15/ 05.09.2014	Manika Lakhwar Garhi road	05-09-2014	04-11-2015	10-01-2015	127
8.	Satna	46/2018-19 /07.08.2018	BhumkaharMudaha-Tumin Road	07-08-2018	06-08-2019	20-11-2018	105
9.		01/EE/2017-18 /01.04.2017	Jhinna-Maryadpur-Bhaisarha-Charki Ghati road	01-04-2017	30-05-2018	10-06-2017	70
10.		66/Maihar/2018-19 /28.09.2018	Jhukehi Railway station to Delha Road	28-09-2018	27-09-2020	25-01-2019	119
11.		41/2021-22 /27.09.2021	New Ramnagar Town to Hardua Ganjas Road	27-09-2021	26-01-2022	05.04.2022	191
12.		106/2021-22 /04.03.2022	Satna Semariya Road	04-03-2022	03-06-2022	08-11-2022	249

Sl. No.	Name of division	Agreement No.	Name of road	Date of agreement	Schedule date of completion	Date of work starting	Period of delay (in days)
13.	Singrauli	58/DL/2018-19 /23.08.2018	Dhirauli to Purani Dhirauli approach road	23-08-2018	23-05-2019	10-10-2018	48
14.		09/EE/2018-19 /13.04.2018	Kaira to Pondi Road, Dhani Village approach and Mudapali ghadi road	13-04-2018	12-08-2018	20-09-2020	891
15.		30/DL/2016-17 28.06.2016	Piparakhand to Urti road	28-06-2016	27-02-2017	10-11-2016	135
16.		13/DL/2020-21 /24.06.2020	Raila-Kanpura road	24-06-2020	23-09-2020	28-10-2020	155
17.		99/DL/2019-20 /30.10.2019	Mada to Majhauri road and Raila-Kanpura-Betariya road	30-10-2019	29-04-2020	07-01-2020	69
18.		115/2018-19	Dudhmaniya- Belganwa road	28-01-2019	27-10-2019	05-06-2019	128
19.		58/EE/2017-18 /19.12.2017	Gorbi main road to Muher approach road	19-12-2017	18-06-2018	20-05-2018	152
20.	Jabalpur 2	42/DL/2022-23 / 8.09.2022	Medical Colony campus road and NH-7 to Lamhetaghat- Meerganj road	08-09-2022	07-01-2023	02-05-2023	425
21.		159/EE/2015-16 /31.03.2016	Belkheda-Kataighat-Barmaan road	31-03-2016	30-05-2016	02-04-2018	732
22.		53/2018-19 /01.09.2018	Katangi Lami Road	01-09-2018	28-02-2019	12-01-2019	133
23.		31/2020-21 /10.07.2020	Thana to Chanderi Road	10-07-2020	09-07-2021	03.09.2020	55
24.		36/DL/2020-21 /17.07.2020	Badkheda-Khulari-Dudwara Road	17-07-2020	16-07-2021	14-10-2020	89
25.	Narsingpur	29/MDR/16-17	Narsinghpur-Kerpani-Sarsala road	03-06-2016	03-02-2018	17-10-2016	143
26.		02/DL/2020-21/ 27.05.2020	Narsingpur-Sankal-Gotegaon Road	27-05-2020	26-05-2023	20-01-2021	238
27.		135/2013-14/ 2.8.2013	Mahagawantala-Bhama road	02-08-2013	01-01-2015	16-02-2015	563
28.		24/DL/2019-20 /13.09.2019	Gotegaon-LathgaonDhuma road	13-09-2019	12-01-2020	10-11-2019	58
29.	Alirajpur	09/DL/2013-14 /01.06.2013	Amkhut-Kathiwada Road	01-06-2013	31-08-2014	03-12-2013	185
30.		10/A/2021-22 /01.12.2021	Chandpur-Mordhi-Andharkanch Gujrat Border Road	01-12-2021	30-11-2022	23-04-2022	143
31.		30/A/2018-19 /23.07.2018	Behdwa Girdha to Malweli Tatiamba Road	23-07-2018	22-07-2019	22-09-2018	61
32.	Indore 1	164/DL/2020-21 /15.01.2021	Hawa Bangla-CAT-Rau road	15-01-2021	14-01-2022	30-07-2021	196
33.		179/A/2018-19 /10.09.2018	Samariya-Rau to Bhatkhedi road	10-09-2018	10-05-2019	01-11-2019	417
34.		237/2016-17/ 03.03.2017	Simrol-Uday Nagar Road	03-03-2017	02-11-2017	08-08-2017	158
35.		232/17-18/ 7.2.2018	Bicholi approach road	07-02-2018	06-10-2018	14-01-2019	341

Appendix 3.3

Statement showing extra cost due to incorrect mode of execution of WMM

Sl. No.	Package No./ Division	WMM executed in Length	Offset Provided in execution of WMM (m)	Thickness (m)	Quantity (cum)	Rate (₹ per cum)	Extra Cost (₹)	
A	B	C	D	E	F	G	H	
1	01 / Ujjain	23,330	1 st Layer	0.285	0.125	831.13	1,120	9,30,867
			2 nd Layer	0.285	0.125	831.13	1,120	9,30,867
		38,510	1 st Layer	0.285	0.125	1,371.92	1,120	15,36,549
			2 nd Layer	0.285	0.125	1,371.92	1,120	15,36,549
		13,970	1 st Layer	0.420	0.125	733.43	1,120	8,21,436
			2 nd Layer	0.160	0.125	279.40	1,120	3,12,928
32,625	1 st Layer	0.225	0.125	917.58	1,120	10,27,688		
	2 nd Layer	0.100	0.125	407.81	1,120	4,56,750		
2	03 / Ratlam	61,710	1 st Layer	0.410	0.125	3,162.64	1,061	33,55,558
			2 nd Layer	0.160	0.125	1,234.20	1,061	13,09,486
3	05 / Khandwa	1,33,670	1 st Layer	0.410	0.125	6,105.41	1,478	90,23,796
			2 nd Layer	0.160	0.125	2,382.60	1,478	35,21,483
4	06 / Khargone	1,43,845	1 st Layer	0.410	0.125	7,372.06	1,025	75,56,358
			2 nd Layer	0.160	0.125	2,876.90	1,025	29,48,823
5	14 / Narmadapuram	74,490	1 st Layer	0.410	0.125	3,817.61	1,550	59,17,299
			2 nd Layer	0.160	0.125	1,489.80	1,550	23,09,190
6	15 / Jabalpur	71,305	1 st Layer	0.410	0.125	3,654.38	1,245	45,49,705
			2 nd Layer	0.160	0.125	1,426.10	1,245	17,75,495
Total							4,98,20,827	

Appendix 3.4

Statement showing incorrect provision of Bituminous Concrete in renewal of roads

Sl. No.	Name of Division	Name of road	Agt. No.	Tender per cent	Quantity of BC	Rate	Amount	Quantity of OGPC Seal Coat	Rate (OGPC+ Seal Coat)	Amount	Difference
A	B	C	D	E	F	G	H=F×G	I=F/0.03	J	K=I×J	L=H-K±E
1.	Khargone	BT Renewal Rodiya Shelda Road	77/2022-23 dated 06.03.2023	-16.6	1,814.40	9,482	1,72,04,141	60,480.00	166	1,00,39,680	59,75,160
2.		BT Renewal Katora - Shelda Road	76/2022-23 dated 06.03.2023	-17.58	1,684.20	9,482	1,59,69,584	56,140.00	166	93,19,240	54,81,214
3.	Narmadapuram	B.T. Renewal work of Residential & Non Residential Short circle Road, Raibhawan, Old hotel to VIP Circuit House. PWD Office road, Jai stambh to Gate no. 1, Church to Short circle road, Rustam cottage to Brigadier banglow, Petrol pump pandav cave section, Gerv yard, Chhindwada Bareli road to Tekapar road, Chhindwada bareli road to Chhirrai road, Singanama rest house app. road under sub division Pachmarhi.	32/DL of 2022-23 Dated 26.05.2022	4.91	1,384.98	9,482	1,31,32,380	46,166.00	166	76,63,556	57,37,344
4.		B.T. Renewal work of Residential & Non Residential section circle road, Nalanda school to Forest office and other roads under sub division Panchmarhi.	33/DL of 2022-23 Dated 26.05.2022	4.89	1,338.82	9,482	1,26,94,691	44,627.33	166	74,08,137	55,45,066
5.	Gwalior	BT Renewal work on Makoda to Tekanpur Road (Part of Old NH 75) under Dabra Sub-Division	Supplementary work under Agreement No. 397/TC/2018-19; dated 18.12.2018	-9.99	1,749.40	7,669	1,34,16,149	58,313.33	193	1,12,54,473	19,45,724
Total					7,971.80		7,24,16,945			4,56,85,086	2,46,84,508

Appendix 3.5

Statement showing undue benefit to the contractor through non-deployment of Slip Form Paver with Electronic Sensor

Sl. No.	Name of divisions	Name of roads	Agt. No	PQC quantity	Rate	Amount	DLC Qty.	Rate	Amount	Tender %	Amount (in lakh)
A	B	C	D	E	F	G=E×F	H	I	J=H×I	K	L
1	Maintenance Dn. II, Bhopal	Gol Amrawat, Mandideep road via Pachama, Badhori road	41/2017-18 dated 31.07.2017	28,758.96	350	1,00,65,636	12,269.45	150	18,40,418	-10.35	1,06,73,777
2	Raisen	Manakwada Rimjha Pipliya	109/D/2017-18 Dated 30.12.2017	3,518.89	350	12,31,612	1,505.25	150	2,25,788	-6.60	13,61,211
3	Raisen	Itkhedi-Ajeet Nagar	60/2016-17	22,063	350	77,22,050	9,758.68	150	14,63,802	0.00	91,85,852
4	Budhni	Bhadkul to Sangoniya – Bhopal Main Road	33 of 2017-18 Dated 21.11.2017	5,572.83	350	19,50,491	2,285.26	150	3,42,789	-18.01	18,80,260
5	Budhni	Basaniya khurd	05/ 2018-19	15,203.2	350	53,21,120	6,300.2	150	9,45,030	-1.08	61,98,476
6	Budhni	Chinch Kalwana Road	09/ 2016-17	59,014.21	350	2,06,54,974	22,438.07	150	33,65,711	-21.20	1,89,28,299
7	Alirajpur	Chandpur-Mordhi-Andharkanch Gujrat Border Road	10/A/2021-22 dated 01.12.2021	179.94	350	62,979	77.15	150	11,573	-19.61	59,932
8	Ujjain	Jharda to Mahidpur road	81/2015-16, Dated: 01-10-2015	4,102.25	350	14,35,788	1,757.84	150	2,63,676	-13.13	14,76,324
9	Ujjain	Ghatiya Jagoti Kanakhedi Road	50/2017-18 dated 10.08.2017	2,536.368	350	8,87,729	920.855	150	1,38,128	-21.56	8,04,682
10	Ujjain	Rupakhedi Chirdi Mergarh Road	68/2018-19 Dated 06.09.2018	445.101	350	1,55,785	163.09	150	24,464	-19.58	1,44,956
11	Ujjain	Kheda Khajuriya to Makla Fanta Road	63/SAC/2018-19 dated 23-08-2018	3,454.02	350	12,08,907	1,324.65	150	1,98,698	-18.69	11,44,923
12	Ujjain	Mahidpur to Kachariya Road	28/2016-17	1,611.85	350	5,64,148	644.74	150	96,711	-18.17	5,40,781
13	Ratlam	Strengthening of CC pavement road Ratlam Bypass Road (Pratap Nagar Over Bridge to Sejawata Fanta)	63/ 2017-18	4,907.31	350	17,17,559	2,031.16	150	3,04,674	-17.72	16,63,893
14	Ratlam	Mawta-Kaluakheda-Dhodhar-Kalaliya-Fanta-Ringnod-Hatpipaliya-Khajuriya-Badawada road length 47.50 KM	01/CRF/2018-19	2,683.94	350	9,39,379	0	150	0	-21.51	7,37,319
15	Narmadapuram	All five road of NDB PKg- 14	53/NDB/Road-II/2018-19 Dated 25.05.19	20,836.82	350	72,92,887	7,996.71	150	11,99,507	0.00	84,92,394
16	Narmadapuram	Bankhedi-Umartha –CRF road)	05/CRF/2016-17 dated 25-05-2016	46,952.92	350	1,64,33,522	19,699.57	150	29,54,936	0.00	1,93,88,458
17	Dewas	Chuabaradheera to Bairakhedi Phata road	01/2020-21, Date: 07-05-2020	2,034.737	350	7,12,158	0	150	0	-15.66	6,00,634
18	Gwalior	Dabra – Jangipura	33 DL/2018-19	2,968.61	350	10,39,014	1,950	150	2,92,500	-22.04	10,38,048
19	Gwalior	Shivpuri Loop-Shitla Mata-Chinor-Dabra	02/MDR/CRF/2016-17	85,039.904	350	2,97,63,966	35,537.518	150	53,30,628	-19.28	2,83,28,356
20	Gwalior	Mohana to Kaketo Dam road	138/2015-16	1,271.54	350	4,45,039	555.38	150	83,307	-12.81	4,60,665
21	Shivpuri	Magroni Dholagad Dongari Road	30/2016-17/14.07.16	8,927.73	350	31,24,706	5,524.44	150	8,28,666	-12.83	34,46,154
22	Betul	Pendonni to Pandhari Road	40/DL/2018-19	595.82	350	2,08,537	226.8	150	34,020	-12.68	2,11,801
23	Betul	Ridhora-Sondiya Road	10/2018-19 Dt. 18.7.2018	709.22	350	2,48,227	306.38	150	45,957	-11.00	2,61,790

Sl. No.	Name of divisions	Name of roads	Agt. No	PQC quantity	Rate	Amount	DLC Qty.	Rate	Amount	Tender %	Amount (in lakh)
A	B	C	D	E	F	G=E×F	H	I	J=H×I	K	L
24	Vidisha	Lateri Mundela Najirabad Road, Kulhar Via Bhaal Bamora to Mandi Bamora Road, Devpur Mughalsararay Road, Udaipur Bamora Pathari Upto Bina River, Berkhedhi Shayar Bamora Parasi Khamkheda	17/NDB/Road-II2018 dated 20.9.2018	10,282.15	350	35,98,753	3,418.21	150	5,12,732	-15.39	34,78,727
25	Vidisha	Tharr Nithari Bhadora Road	160/2012-13	1,069.3	350	3,74,255	534.65	150	80,198	-9.00	4,13,552
26	Khandwa	Roshni-Ambada-Sawlikhedha road	10 DL/2016-17, Date: 20-05-2016	36,062.5	350	1,26,21,875	16,975	150	25,46,250	-15.01	1,28,91,389
27	Khandwa	NDB Package 05 1. Khandwa-Ahmadpur-Kalmukhi-Kelwa Road (MP-MDR-50-15) 2. Piproda- Kumtha-Bhilkhedhi-Saraya-Chamera-Dongergaon-Borgaon Road (MP-MDR-50-26) 3. Beed-Shelja-Selda-Sant Singaji Pul-Charkhedha-Chanera-Bard-Piplani (MP-MDR-50-07) 4. Sulgaon-Nimar Kheri-Bangarda-Dhangaon-Kalmukhi Road (MP-MDR-50-03) 5. Pandhana-Arud-Borgaon Road (MP-MDR-50-24) 6. Pandhana-Nihal-Badi-Dabhi-West Nimar Border Road (MP-MDR-50-23) 7. Jalkuan-Bhagiyapura-semalia-Gudi Road (MP-MDR-50-21) 8. Bhawasa-Malveer-Naichandi- Jambupani (MP-MDR-51-17)	45/NDB/Road-II/2018-19, Date: 09-01-2019	15,099	350	52,84,650	0	150	0	0.00	52,84,650
28	Khargone	Maheshwar-Jalkoti road	02/ 24.06.2016	8,435.71	350	29,52,499	3,444.125	150	5,16,619	-18.21	28,37,391
29	Singrauli	NH-39 to industrial area Morwa	164/2022-23, Dated 02-03-2023	0	350	0	376.125	150	56,419	-12.76	49,220
30	Alirajpur	Mahendra to Dobaniya-Faliya Road	07/AJ/ 2020-21, Dt: 18-07-2020	0	350	0	802.09	150	1,20,314	-16.32	1,00,678
31	Alirajpur	Umralli-Chhaktla-Gujrat border road (AENQ-466284)	05/A/2018-19 dated 30.5.2018	903.718	350	3,16,301	425.04	150	63,756	-11.11	3,37,833
Total											14,24,22,425

Appendix 3.6

Statement showing undue benefit to the contractor in execution of Bituminous Concrete

(Amount in ₹)									
Sl. No.	Name of Division	Name of road	Agreement No.	Tender per cent	Rate of BC Using Batch Mix Plant	Rate of BC Using Drum Mix Plant	Rate Difference	Quantity Executed (Cu. M.)	Excess payment
A	B	C	D	E	F	G	H=F-G	I	J=I×H±E
1.	Gwalior	BT Renewal on Susera Approach Road	01/TC/2019-20 dated 27.05.2019	-20.70	7,669	7,376	293	1,954.48	4,54,121
2.		BT Renewal work on Makoda to Tekanpur Road	Supplementary work (28.09.2021) under Agreement No. 397/TC/2018-19; dated 18.12.2018	-9.99	7,669	7,376	293	1,749.40	4,61,368
3.		Vicky Factory Tiraha Road	112/SAC/2017-18, Dated: 20-03-2018	-17.98	7,669	7,376	293	1,429.19	3,43,461
4.	Ujjain	BT Renewal work of Panchkroshi Road	14/SAC/2022-23 dated 20-05-2022	-10.08	9,581	9,482	99	696.96	62,044
5.		Rupakhedi Chirdi Mergarh Road	68/2018-19 Dated 06.09.2018	-19.58	7,669	7,376	293	2,267.17	5,34,215
6.	Dewas	Construction of three roads under 1. CRF Bagh Jaleria Road length 12.00 km 2. Nagmaharaj Fanta Sumrakhedi-Bhourasa to Mirzapur . Bherukhakra Road 3. Bundangaon-Nousirabad Nanagarkhedi to Manoranjan 3. Dhaba length 7.28 km Bherukhakra Road length 4.94 kkm	02/CRF/2016-17	Item Rate	9,901	9,653	248	2,203.41	5,46,446
7.		Vikas Nagar Chouraha to Rasulpur Chouraha Ola AB Road, Dewas	81/2020-21	-8.89	7,669	7,376	293	1,882.64	5,02,575
8.	Rewa	BT renewal work of Padara Garhwa Road Length 9.80 Km	45/Rewa/2018-19 dated 18-05-2018	-13.25	7,669	7,376	293	1,569.66	3,98,972
Total								13,752.91	33,03,202

Appendix 3.7

Statement showing substandard execution of backfilling

(Amount in ₹)

Sl. No.	Name of Division	Name of road	Agreement No.	Tender per cent	Value of Backfilling executed	Value of Filter media executed	Weep holes executed	Total Amount
A	B	C	D	E	F	G	H	I=F+G+H±E
1	Narmadapuram	Construction of Bankhedi-Umardha-Mathai-Sandiya road length 33.80 km under CRF	05/CRF/2016-17 dated 25.05.2016	Item Rate	39,27,282	86,906	0	40,14,188
2	Gwalior	Construction of A.B. road from Mohana to Kaketo Dam road	139/DL of 2015-16	-12.81	3,41,811	0	0	2,98,025
3	Mandsaur	Construction of Guradiya Mata to Garoth via Dasoriya	38/2020-21 dated 11.11.2020	-21.77	4,43,942	0	1,05,253	4,29,635
4	Burhanpur	Dariyapur-Ambada-Nepanagar road 22.055 km (MDR)	04/03.06.2016	-15.01	7,77,236	0	30,989	6,86,910
5	Betul	Strengthening of Shahpur Bhayawadi road, Shahpur Mandi Approach road, Baspani Approach Road, Dhodramohar Railway feeder Road	05/2018-19	-17.89	2,26,116	0	21,175	2,03,051
Total								56,31,809

Appendix 3.8

Statement showing execution of below specification work of PQC due to non-execution of Tie Bars

Sl. No.	Name of Division	Name of road	Agreement No.	Tender per cent	Quantity of PQC executed without tie bar	Rate	Amount
A	B	C	D	E	F	G	H=F×G±E
1	Budhni	Strengthening and widening of Pandagaw on Jamoniya kala, Dholpur, Chorsakhedi, Ranipura, Cheepaner, Narayanpur, Sasli, Seegaon, Gopalpur Road	23/2017-18/24.07.17	-15.51	1,513.87	5,376	68,76,274
2		Widening of road from Salkanpur Devi Mandir Approach Road	22 of 2018-19 Dated 21.06.2018	-11.06	1,225.49	4,803	52,35,034
3	Gwalior	Construction of MDR Rairu to Nayagaon AB Road	333 DL/2018-19	-22.04	4,082.90	5,153	1,64,02,148
4		Construction of A.B. road from Mohana to Kaketo Dam road	196/DL of 2015-16	-12.81	587.8	6,362	32,60,543
5		Construction of Road Behat to Arora Gundhara Jakahara Supawali- Bilheti Parsen Bahadurpur Malanpur of length 40 KM (CC road)	98/SAC/2017-18, Dt. 03-02-2018	-15.4	3,740.00	5,153	1,63,04,298
6	Mandsaur	Construction of Kachnara Fanta to Nahargarh Billod Road	56/2020-21 dated 04.02.2021	-23.99	2,652.18	4,803	96,82,473
7	Ratlam	Construction of Bhesola to Karondi Nagda Road length 7.00 Km	37/DL/2019-20	-23.05	673.2	4,491	23,26,461
				Total	14475.44		6,00,87,231

Appendix 3.9

Statement showing execution of WMM contrary to the specification

Sl. No.	Name of Division	Name of road	Agreement No.	Tender per cent	Traffic (MSA)	Delay in execution of next overlay course after WMM	Quantity of WMM executed (Cu. M.)	Rate (₹ per Cu. M.)	Amount (₹)
A	B	C	D	E	F	G	H	I	J
1	Khandwa	Hanumantiya to Dharakwadi Gulgaon Raiyat Jamkota Bangrada Road	19/2015-16	-16.60	02	15-22 Days	4,556.30	1,547.23	58,79,403
2	Gwalior	Construction of Gol Pahadiya to Gupteshwar Mandir to Motijheel Road	209/TC/2018-19 Dated 17.09.2018	-16.40	10	9 to 24 months	20,659.50 ⁸	1,261.00	2,17,79,162
3	Shivpuri	Construction of road from Tilau village to Pichore Dinara to Gajora road length 22.90 km under CRFI	01/CRF/EPC 2020-21 dated 4.07.2020	EPC	6.74	40 days to 3.5 months	-	-	1,55,53,536 ⁹
4	Shivpuri	Strengthening on Lohadevi to Galthuni Road	47/2017-18 dated 15.01.2018	-8.50	NA	2 years and 8 months	3,265.72	1,261.00	37,68,037
5	Ratlam	Construction of Bhesola to Karondi Nagda Road length 7.00 Km	37/DL/2019-20	-23.05	2	20 to 63 days	1,068.80	1,261.00	10,37,099
Total							29,550.32		4,80,17,237

⁸ The contractor executed one layer of WMM in the entire road length. Thus, the quantity objected is half of the total quantity of WMM, i.e. half of 41,319.202 cum.

⁹ 10.38 km at the rate of ₹ 14,98,413.902 per km of WMM

Appendix 3.10

Statement showing substandard execution of DLC and PQC

(Quantity in Cu. M. and amount in ₹)

Sl. No.	Division	Name of Road	Agreement No.	Chainage (m)	DLC		PQC		Duration (Days)	Rate of DLC	Rate of PQC	Tender per cent	Amount
					Date of laying	Quantity	Date of laying	Quantity					
1	Narmadapuram	Sobhapur – Bhatgaon Road	53/NDB/Road-II/2018-19	0+500 to 0+750 (R/s)	29-01-2022	43.00	31-01-2022	218.75	0	2,443	5,725	Item Rate	13,57,393
				00+750 to 1+010 (R/s)	30-01-2022	44.72	30-01-2022	218.75	0				13,61,595
2		Itarsi Zamani Road	41/DL of 2016-17	23340 – 24240 (LHS)	16.03.2017	292.50	20.03.2017	693	4	2,714	6,362	-14.20	44,63,926
				26200–26850 (R.H.S)	12.09.2017	211.25	17.09.2017	500.5	5				32,23,947
3		Babai-Bagra-Nasirabad Road	41/DL of 2017-18	2067 – 2907 (LHS)	01.06.2018	275.62	01.06.2018	826.87	0	2,443	5,726	-16.00	45,42,718
				8500 – 9000	21.04.2018	313.50	23.04.2018	940.5	2				51,66,994
				9738-10800 (LHS)	15.04.2018	411.53	19.04.2018	1,086.53	4				60,70,544
				9220-9720	05.04.2018	137.50	10.04.2018	412.5	5				22,66,226
				6060-6660	09.03.2018	300.00	14.03.2018	412	5				25,97,290
				2060-2907	12.02.2018	359.63	17.02.2018	826.88	5				47,15,164
4	Shivpuri	Mayapur Khaniyadhana Guddar Road to Reddy Chauraha Road	14/2016-17	14300-12700	10.01.2019	1,040.00	14.01.2019	1,980.00	4	2,714	6,362	-16.64	1,16,57,688
				8200-15200	26.07.2017	2,177.50	30.07.2017	3,918.76	4				2,57,08,963
				18000– 22500	11.02.2017	1,300.00	17.02.2017	3,093.75	6				1,93,48,387
5		Magroni Dholagad Dongari Road	30/2016-17	14720–15300	08-08-2018	232.00	13.08.18	580	5	2,714	6,362	-12.83	37,65,402
				10600–11500	03-10-2018	360.00	05.10.18	900	2				58,42,866
				16747-16778 & 18452-18576	31-10-2020	62.00	31-10-2020	155	0				10,06,271
				5858-5952 & 8484-9600	12-09-2018	521.20	18-09-2018	1,303.00	6				84,59,171
6	Ujjain	Mahidpur to Kachariya Road	28/2016-17	0–42 ,120-178	05-01-2017	55.00	09-01-2017	137.5	4	2,714	5,977	-18.17	7,94,657
				501–515	27-06-2017	10.29	29-06-2017	25.73	2				1,48,698
				0-12 , 382-414	27-06-2017	21.75	31-10-2017	54.38	4				3,14,275
7	Singrauli	NH-39 to industrial area Morwa	164/2022-23	225-1370	26-03-2023	376.13	26-03-2023	1,201.66	0	2,767	6,103	-12.76	73,05,899
					Total	8,545.12	19,486.06						12,01,18,074

Appendix 3.11

Statement showing details of Sub-standard execution of WMM and Prime Coat

Sl. No.	Name of Division	Agreement No.	Name of work	Chainage	Date of WMM	Date of prime coat	Quantity of WMM	Rate of WMM	Amount of WMM	Page no. and MB no.
1	Indore Dn.1	179/A/2018-19 dated 10.09.2018	Samariya-Rau to Bhatkhedi road	510 to 750	20.12.2022	20.12.2022	202.5	1261	2,55,353	Page no. 109 & 110 mb no. 2045
2	Alirajpur	10/A/2021-22 dated 01.12.2021	Chandpur-Mordhi-Andharkanch Gujrat Border Road	2000 to 3000 800 to 2000	19.11.2022 25.11.2022	19.11.2022 25.11.2022	843.75 1012.5	1261 1261	10,36,968 12,76,763	Page no. 28 & 29 mb no. 550 Page no. 33 & 34 mb no. 550
3		30/A/2018-19 dated 23.07.2018	Behdwa Girdha to Malweli Tatiamba Road	0 to 700 4600 to 5450	03.03.2019 27.12.2020	03.03.2019 27.12.2020	590.625 969.16	1261 1261	7,44,778 12,22,111	Page no. 9 mb no. 476 Page no. 39 and 40 mb no. 476
4	Jabalpur Dn.2	159/EE/2015-16 dated 31.03.2016	Belkheda-Kataighat-Barmaan road	9000 to 8008 6500 to 5500 5500 to 4500 4500 to 3560	19.05.2018 06.05.2019 08.05.2019 10.05.2019	19.05.2018 06.05.2019 08.05.2019 10.05.2019	279 281.25 281.25 264.37	1261 1261 1261 1261	3,51,819 3,54,656 3,54,656 3,33,371	Page no. 56-57, mb no. 681 Page no. 68, mb no. 681 Page no. 69, mb no. 681 Page no. 71, mb no. 681
5	Singrauli	58/DL/2018-19 dated 23.08.2018	Dhirauli to Purani Dhirauli approach road	2370 to 4500 1500 to 2340	25.03.2019 11.09.2019	25.03.2019 11.09.2019	599.062 236.25	1261 1261	7,55,417 2,97,911	Page no. 21 mb no. 999 Page no. 21 mb no. 551
6		119/2019-20, Dated 15-11-2019	Sarai Bypass Road	10200 to 10700	23.02.2023	23.02.2023	206.25	1261	2,60,081	Page no. 26 mb no. 1218
7		67/2016-17	Construction of Myar river approach road from Ramdha Bais house to Sipahi Bahara	42 to 25.80	30.9.2020	30.9.2020	2534.770	1401	35,51,213	Page no. 23 mb no. 935
8	Chhatarpur	107/2017-18 dated 20.02.2018	Nainagiri-Majhgua Ghati Road	in 405 m length	11.06.2021	11.06.2021	348.889	1261	4,39,949	MB (page no. 74, MB no. 1671)
9		03/2018-19 dated 26.04.2018	Naugaon-Baldevgarh Road	Km 20 to 21	22.05.2018	22.05.2018	632.81	1261	7,97,973	MB (page no. 18, MB no. 29524)
10		04/2018-19 Dt. 18.5.2018	Bijawar Bajna Baxwaha road	Km 26 to 31/2,4	30.05.2020	30.05.2020	1732.5	1261	21,84,683	MB(Page 111-114) of 1661
11	Sagar	92/DL/2017-18 dated 03.03.2018	Khurai-Nagna-Donga-Loharra Road	Km 5/2 to 4/2 Km 2	16.12.2021 23.12.2021	16.12.2021 23.12.2021	618.75 450	1261 1261	7,80,244 5,67,450	MB (page no. 18 of MB no. 29524) MB (page no. 19, MB no. 3183).
12	Betul	28/DL/2018-19	Berkhed – Hathnapur Road	chainage 140-660 and 940-1600	17.02.2023	17.02.2023	624.37	1261	7,87,331	Page no. 66 to 67 of mb no. 6041
13	Vidisha	14/DL/2018-19	Grant Bala Berkhed road		14.02.2021	14.02.2021	1473.74	1261	18,58,386	Page no. 68, mb no. 2589 page no. 73 to 74 of mb no. 2589
				chainage 2525 to 2800	20.03.2021	20.03.2021	232.02	1261	2,92,577	Page no. 68, mb no. 2589 page no. 73 to 74 of mb no. 2589
14		42/DL/2020-21	Karariya-Shamshabad road	Km 01 to 04 Km 05 to 10 Km 14 to 15	01.03.2021 17.3.2021 4.4.2021	01.03.2021 17.3.2021 4.4.2021	223.515 167.214 65.08	1261 1261 1261	2,81,852 2,10,857 82,066	Page no. 02 to 04 mb no. 3183. Page no. 09 and 11 of mb no. 3183 Page no. 18 of mb no. 3183
15		56 DL/2015-1 Dt. 8.10.2015	NH-86 Dhaturiya Haveli to Dholkhedi Road	850 to 910, 1010 to 1080 and 2870 to 2930	17.5.2018	17.5.2018	775.24	1557	12,07,049	Pg.no.21 of MB No.2864
16	Schore	60/2016-17	Maina- Kurawar road	826.50 to 1327.50 11500 to 13434 and Culverts (Ch 11578, 8878, 9516, 9701, 10880, 11500, 12780 and 13053)	21.02.2018 16.12.2018	21.02.2018 16.12.2018	481.998 1731.22	1261 1261	6,07,799 21,83,068	Page no. 25 and 26 mb no. 728 Page no. 41 and 41 mb no. 728
Total							17,858.08		2,30,76,381	

Appendix 3.12

Details of sub-standard execution of Prime coat and Tack coat

Sl. No.	Division	Agreement No.		Name of work	Chainage	Date of prime coat	Date of tack coat	Page no. & MB no.
1	Sagar	68/DL/2021-22 22.03.2022	dated	Ghatampur-Bhaiswahi road	14 to 15 km	12.11.2022	12.11.2022	Page no. 07 to 10 mb no. Page no. 13 to 16, mb no. 29927
2	Chhatarpur	71/2018-19 04.10.2018	dated	Bajna-Nayakheda-Jatashankar Road	Km 12 to 13 08 to 17 km	16.11.2022 16.05.2020	16.11.2022 16.05.2020	Page no. 74 to 76 of MB no. 1655. Page no. 91 to 92 of MB no. 1655 and page no. 112 to 113 of MB no. 1655.
3		06/2020-21		Kadri Padwan Purawa Gujratapurwa dalam road	chainage 0 to 3400 Ch. 4862 to 4847 km	22.10.2022 16.03.2022	13.02.2022 16.03.2022	Page no. 14 to 15 of mb no. 1801
4		66/DL/2020-21		Matguwan Bijawar Road	19.04.2021 27.12.2021	19.04.2021 27.12.2021	19.04.2021 27.12.2021	Page no. 12 to 13 of MB no. 1887 Page no. 20 to 21 of MB no. 1887
5	Satna	46/2018-19 07.08.2018	dated	Bhumkahar-Mudaha-Tumin Road	chainage 5880 to 5961	10.02.2020	10.02.2020	page no. 15 to 16 of MB no. 132
6		66/Maihar/2018-19 dated 28.09.2018		Jhukehi Railway station to Delha Road	31750 to 33250 33250 to 34850 34850 to 36850 18900 to 22800 14550 to 18900	17.10.2021 19.10.2021 21.10.2021 15.11.2021 21.12.2021	17.10.2021 19.10.2021 21.10.2021 15.11.2021 21.12.2021	Page no. 12 mb no. 172 Page no. 13 mb no. 172 Page no. 14 mb no. 172 Page no. 23 mb no. 172 Page no. 31 mb no. 172
7	Singrauli	58/DL/2018-19 23.08.2018	dated	Dhirauli to Purani Dhirauli	1500 to 2340 m	11.09.2019	11.09.2019	Page no. 21 of mb no. 551
8		09/EE/2018-19 13.04.2018	dated	Kaira to Pondi Road, Dhani Village approach and Mudapali ghadi road	1/2 to 3/10 km	26.03.2022 02.07.2022	26.03.2022 02.07.2022	Page no. 13 to 14 of MB no. 1098 Page no. 27 of MB no. 1098
9	Narsinghpur	24/DL/2019-20 13.09.2019	dated	Gotegaon-Lathgaon-Dhuma road	Chainage 30900 to 47015 m	10.12.2019	10.12.2019	Page no. 21-29, 34-37, 54-57, 60-63, 76-77, 80-89, and 94- 99 of MB no. 2339

Appendix 3.13

Statement showing excess payment of price adjustment due to adoption of incorrect weightage

Sl. No.	Name of the Division	Name of the work	Agreement No.	Payment made by the department as per clause 26 of contract			Payment to be made		Excess Payment
				Escalation Component	Weightages (per cent)	Amount paid (₹)	Weightages ¹⁰ (per cent)	Amount (₹)	
A	B	C	D	E	F	G	H	I=G×H/F	J = G-I
1	Satna	Upgradation of Rampur Tapa Baghai Bairiha Jhanjhar Karmau Raghunathpur Ramnagar Ramnai Majhiyar Barti Gadwa Ghura Khohar Rehuta road length 34.30 Km.	01/DL/CRF/2017-18 Dt. 03.04.2017	Bitumen	10	1,45,82,677	0	00	1,45,82,677
				Other materials	45	1,15,54,741	55	1,41,22,461	-25,67,720
2	Narmadapuram	Construction of Bankhedi-Umardha-Mathai-Sandiyaroad length 33.80 km under CRF	05/2016-17	Bitumen	10	68,38,655	0	00	68,38,655
				Other materials	45	2,14,46,803	55	2,62,12,759	- 47,65,956
								Total	1,40,87,656

¹⁰ As per the letter issued (June 2014) by the MoRTH, if a cement concrete road is constructed, the bitumen component for calculation of price adjustment should not be taken separately but shall be added under the component "other materials". Therefore, the amount payable as per 55 per cent weightage paid and 45 per cent weightage deducted, hence the excess payment worked out as 10 per cent weightage in other component.

Appendix 3.14

Statement showing irregular final payment without no dues certificate from Mineral Resources Department

Sl. No.	Name of Division	Name of work	Agreement No.	Tender per cent	Name of contractor	Schedule period of completion	Final/last payment (₹ in lakh)
1	Sehore	Construction of Kajlas Pinjapura to Jolay Road	57/2016-17 Dt. 04-10-2016	-18.50	M/s Raja construction company, Dewas (B Class & Above)	15 months including rainy season	341.89
2	Sehore	construction of Jawar to Aroliya bypass road L-0.85 Km	26/2018-19 Dated 30-07-2018	-20.51	M/s Ganesh Construction	6 months including rainy season	54.02
3	Betul	Strengthening of Shahpur Bhayawadi road, Shahpur Mandi App rd, Baspani App Rd, Dhodramohar Railway feeder Road	05/2018-19	-17.89	BALAJI CONSTRUCTION COMPANY	10 months excluding rainy season	168.97
4	Rewa	BT renewal work of Padara Garhwa Road Length 9.80 Km	45/Rewa/2018-19 dated 18-05-2018	-13.25	M/s Classic Infrastructure Dist.- Rewa	08 months i/c rainy season	148
5	Rewa	Upgradation of Raipur-Sitapur-Panni road length 54.20 km (MDR)	Agt.39 DL/2018-19 dated 1.5.2018	-9.10	M/s ANS Constructions Pvt. Ltd., New Delhi	36 Months i/c rainy season	9,453.07
6	Rewa	Extension and Repair of Run way at Air Strip Chorahata Rewa	117/2017-18 dt. 13.12.2017	-11.70	M/s Aastha Construction, Rewa	06 months excluding rainy season	223.65
7	Rewa	Upgrading of Harrai Pratap Singh approach Road 4 Km	286/DL/2012-13 dated 04.12.2012	-11.90	Shri Triveni Prasad Mishra	06 Months including rainy season	307.23
8	Rewa	Upgrading of Manika Lakhwar Garhi road	104/DL/2014-15 dated 05.09.2014	+2.90	M/s Om Sairam Construction Co.	14 Months excluding rainy season	785.26
9	Rewa	Construction of Muretha to Majhigawan Road	146/DL/2018-19 dated 26.09.2018	-11.25	Shri Kausal Prasad Patel	12 Months including rainy season	359.67
10	Rewa	Upgradation of Mauganj to Jail approach road	201 DL/2018-19 dated 29.1.2019	-20.95	M/s Arjun Singh Construction and Supplier	12 Months i/c rainy season	237.2
11	Satna	Construction of Jhukehi Railway station to Delha Road 43.27 km (VR)	66/Maihar/2018-19 dated 28.09.2018	-7.13	M/s Shiv Shakti Construction	24 Months including rainy season	5,467.49
12	Satna	Construction of Kripalpur Ramsthan Babupur Road length 14.44 Km	01/ 2016-17 dated 26-04-2016	-13.69	M/s Shiv Shakti Construction, Kothi	18 months Including rainy season	2,970.24
13	Satna	Work of strengthening of Jhigodar to Karimati road length 2.40 km	44/Nagod/2018-19 dated 03-08-2018	-16.18	Shri Swapnil Singh, Satna	04 months including rainy season	89.63
14	Satna	Upgradation of Semariya Bankuiya Rewa road to Gajan Majhiyar Bakiya Lalauch Magarwar Bhatigaon Khamha Dhondi Kichwariya Itaur Mainpur Akauna Tikari Khamhariya Goraiya road length 46.70 Km.	03/CRF/2017-18	Item rate tender	M/s S. R. Constructions, Delhi	24 months	6,096.33
15	Satna	Construction of Jhinna-Maryadpur-Bhaisarha-Charki Ghati road 13.20 km (VR)	01/EE/2017-18 dated 01.04.2017	-15.91	M/s Jagdeep Singh & Co.	14 months including rainy season	512.36
16	Satna	Strengthening of Majhgawan-Patna-Pahadikheda Road 2.80 km	63/2017-18 dated 29.11.2017	-12.89	M/s Shivrath Associates	06 Months excluding rainy season	186.54
17	Satna	Construction of Bhumkahar Mudaha-Tumin Road, Length 6.40 Km.	46/2018-19 dated 07.08.2018	-20.73	M/s Sushil Kumar Sharma, Satna	12 Months including rainy season	347.09
18	Satna	BT Renewal on Satna Semariya Road from Km. 25/2 to 35/10 width 5.50 mtr. Under Sub Division Satna	106/2021-22 dated 04.03.2022	-21.21	M/s Rajesh Kumar Kaila, Satna	03 months excluding rainy season	151.09

Sl. No.	Name of Division	Name of work	Agreement No.	Tender per cent	Name of contractor	Schedule period of completion	Final/last payment
19	Satna	Balance work for Renewal of under Sub Division Amarpatan New Ramnagar Town to Hardua Ganjas Road km. 1 /2 to 4/4 = 3.36 km, New Ramnagar to Baramhanadi Road km. 1 /2 to 5/2= 4.10 km, Semariya to New Mirgauti Road km. 1 /2 to 3/10= 3.00km. Total length 10.40 km.	41/2021-22 dated 27.09.2021	-1.60	M/s Indraprasth Construction Company Rewa	04 months excluding rainy season	101.18
20	Satna	Strengthening of Amarpatan–Rampur Road length 25.60 km (Rigid Pavement)	Agt.232/2015-16 Dt. 11.01.2016	-17.20	M/s RPP Infra project limited	20 months i/c rainy season	3,074.74
21	Singrauli	Construction of Dhirauli to Purani Dhirauli via Huddhul Nadi approach road 4.5 Km	58/DL/2018-19 dated 23.08.2018	-20.10	M/s Vijay Shidhi Vinayak Enterprises	09 Months including rainy season	243.88
22	Singrauli	Construction of Dudhmaniya- Belganwa road length-04 km	115/2018-19	-18.40	M/s Akash Infrastructure, Singrauli	9 months i/c rainy season	116.35
23	Singrauli	Strengthening work of Gorbi main road to Muher approach road 7.00 km	58/EE/2017-18 dated 19.12.2017	-7.59	Shri U.C. Jaiswal, Singrauli	06 Months including rainy season	109.12
24	Singrauli	Widening and reconstruction of Karthua- Chitrangi road length 36.02 Km (MDR)	46/2016-17 dated 5.9.2016	-13.50	M/s Udit Infra works Pvt. Ltd. Rewa	24 months i/c rainy season	6,599.93
25	Singrauli	Construction of Myar river approach road from Ramdha Bais house to Sipahi Bahara length- 4.70 km	67/2016-17	-19.76	M/s National Prestige construction company, Singrauli	12 months i/c rainy season	199.66
26	Jabalpur	Construction of Thana to Chanderi Road, Length 3.70 Km	31/2020-21 dated 10.07.2020	-24.93	M/s H.P. Construction Comp. Jabalpur	12 Months including rainy season	158.64
27	Narsinghpur	Strengthening work on Karpgaon to Khamariya Amgaon road 6.30 km	04/EE/2018-19 dated 21.05.2018	-0.01	M/s Indrapal Singh Saggu	04 month including rainy season	121.48
28	Indore	B.T. Renewal on Devguradiya double chowki road via Kampel Pedmi Siwani Km 3/6 to 5/6, 6/8 to 7/10, 8/4 to 9/10, 10/4 to 13/10, 14/6 to 15/10, 21, 22, 23, 26/8 to 27/6, 28/2, 28/4, 30/2, 30/4, 32/2, 32/4, 33/4, 33/6 Total length =16.40 Km	161/2021-22 dated 25.10.2021	-11.07	M/s Yash Construction Indore	06 months excluding rainy season	307.9
						Total	38,933

Appendix 3.15

Details of Sub-standard soil utilised in Hard Shoulder

Sl. No.	Name of Division	Agreement No.	Name of Road Work	Tender per cent	Quantity	Rate (in ₹)	Amount
1	Schore	53/2017-18	Strengthening and renewal work in km 3/7 to 6/4 on Ashta City portion Road	-23.66	3,408	181	4,70,902
2		32/2018-19 Dt. 04-08-2018	BT Renewal in Km 1 to 7/2, 7/10 to 8/10,12/2 to 11/6 at Ichhawar Ramnagar road	-20.21	5,106	181	7,37,408
3	Betul	97/DL/2016-17	Chicholi Bhimpur Road	-18.01	2,953.28	201	4,86,700
4		05/2018-19	Shahpur-Bhayawadi road	-17.89	564.75	201	93,207
5	Rewa	146/DL/2018-19 dated 26.09.2018	Muretha to Majhigawan Road	-11.25	8,891.94	181	14,28,379
6		104/DL/2014-15 dated 05.09.2014	Manika Lakhwar Garhi road	-2.9	18,104.60	223	39,20,243
7		201 DL/2018-19 dated 29.1.2019	Mauganj to Jail approach road	-20.95	5,757.92	181	8,23,846
8		39 DL/2018-19 dated 1.5.2018	Raipur-Sitapur-Panni road	-9.1	1,14,207.06	181	1,87,90,373
9		117/2017-18 dt. 13.12.2017	Run way at Air Strip Chorahata Rewa	-11.7	6,663.19	181	10,64,931
10		40/2018-19 Dt. 03.05.2018	Sitapur to Bahera Dabar Road	-11.11	17,219.70	181	27,70,493
11		45/Rewa/2018-19 dated 18-05-2018	Padara Garhwa Road	-13.25	2,482.99	181	3,89,873
12	Satna	66/Maihar/2018-19 dated 28.09.2018	Jhukehi Railway station to Delha Road	-7.13	52,933.45	181	88,97,832
13		106/2021-22 dated 04.03.2022	Satna Semariya Road	-21.21	3,670.69	181	5,23,477
14		41/2021-22 dated 27.09.2021	New Ramnagar Town to Hardua Ganjas Road	-1.6	924.708	181	1,64,694
15		232/2015-16 Dt. 11.01.2016	Amarpatan – Rampur Road	-17.2	41,966	223	77,48,770
16		46/2018-19 dated 07.08.2018	Bhumkahar-Mudaha-Tumin Road	-20.73	7,589.83	181	10,88,979
17		01/ 2016-17 dated 26-04-2016	KripalpurRamsthan Road	-13.69	29,384.44	223	56,55,661
18		44/Nagod/2018-19 dated 03-08-2018	Jhigodar to Karimati road	-16.18	2,878	181	4,36,633
19		03/CRF/2017-18	Semariya Bankuiya Rewa road	0	85,412.25	160	1,36,65,960
20		01/DL/CRF/2017-18 Dt. 03.04.2017	Rampur Tapa Baghai	0	58,107.80	181	1,05,17,513
21	Singrauli	58/DL/2018-19 dated 23.08.2018	Dhirauli to Purani Dhirauli approach road	-20.1	5,375.05	181	7,77,334
22		09/EE/2018-19 dated 13.04.2018	Kaira to Pondi Road, Dhani Village approach and Mudapali ghadi road	-7.88	4,317.53	181	7,19,893
23		119/2019-20, Dated 15-11-2019	Sarai Bypass Road	-10.02	9,929.94	181	16,17,228
24		99/DL/2019-20 Dated: 30.10.2019	Mada to Majhauri road and Raila-Kanpura-Betariya road	-1.2	2,134.07	181	3,81,631
25		58/EE/2017-18 dated 19.12.2017	Gorbi main road to Muher approach road	-7.59	5,812.38	181	9,72,191
26		67/2016-17	Myar river approach road from Ramdha Bais house to Sipahi Bahara road	-19.76	3,359.70	181	4,87,944
27		46/2016-17 dated 5.9.2016	Karthua- Chitrangi road	-13.5	67,144.08	223	1,29,51,757
28	Jabalpur	31/2020-21 dated 10.07.2020	Thana to Chanderi Road	-24.93	5,146.43	181	6,99,280

Sl. No.	Name of Division	Agreement No.	Name of Road Work	Tender per cent	Quantity	Rate (in ₹)	Amount
29		53/2018-19 dated 01.09.2018	Construction of Katangi Lami Road	-3.7	1,459.24	181	2,54,350
30		12/DL/ 2020-21/02-06-2020	Ghughari Heerapur Nichi road	-22.51	9,811.69	181	13,76,157
31		42/DL/2022-23 Dated: 8.09.2022	Lamhetaghat- Bhedaghat Meerganj road	-11.12	2,322.36	223	4,60,297
32		85/2022-23 dated 01.02.2023	B.T. Renewal of Mankhedi Patan Road,	-15.12	1,749.14	223	3,31,081
33		159/EE/2015-16 dated 31.03.2016	Belkheda-Kataighat-Barmaan road	-6.11	6,258.53	223	13,10,378
34		06/2016-17 dated 30.4.2016	Sehora-Gauraha-Khadra road	-17.63	20,207.77	223	37,11,866
35		03/DL/ 2022-23, Date: 22-04-2022	Udhna-Sakra Road	-12.21	12,886.49	181	20,47,661
36		121/DL/ 2017-18/15-02-2018	Mahgaon-Pindrai Road	-8.87	6,521.23	181	10,75,645
37		11/DL/2020-21 dated 02.06.2020	Mukunwara Tikri Chargaon road	-23.51	9,219.40	181	12,76,397
38		36/DL/2020-21 dated 17.07.2020	Badkheda-Khulari-Dudwara Road	-25.01	4,183.10	181	5,67,780
Total					6,46,064.72		11,06,94,744.00

Appendix 3.16

Statement showing sub-standard compaction of Shoulder

Sl. No.	Name of Division	Name of the work	Agreement No.	Tender per cent	MB /Page no.	Thickness (mm)	Quantity (Cu. M.)	Rate (₹)	Amount (₹ in Lakh)
1	Budhni	Basaniya khurd	05/ 2018-19	-1.08	895/ 86	380	13,995	181	25,05,738
2		Chinch Kalwana Road	09/ 2016-17	-21.2	762/70 & 85	400	46,541.43	223	81,78,446
3	Ujjain	Nagda Bercha Tal Road	03/ CRF/2017-18/15.05.2017	-13.5	960/1-9	370	62,798.63	190	1,03,20,955
4		Lalpur Biaora road	96/2017-18 /23.02.2018	-13.03		295-345	4,982.62	181	7,84,343
5	Shivpuri	Magroni Dholagad Dongari Road, Shivpuri	30/2016-17/14.07.16	-12.83	3-2016/143	330-450	5,175.1	223	10,05,983
6	Khargone	Bamanala to Kamodwada Road	33/2018-19 /16.08.2018	-14.7	33/2018-19	350-355	8,290.53	181	12,79,999
7	Gwalior	Rairu to Nayagaon Road	333 DL/2018-19	-22.04	12277/21,30,37, 44 & 59	350-480	13,519.95	181	19,07,768
8		Nolakha-Sonsa Road	06/SAC/2018-19 /02.06.2018	-23.71	33,56,61 & 66	330-450	4,554.3	181	6,28,880
9		Mohana to Kaketo Dam road	196/DL of 2015-16	-12.81	44-45 & 50	345	2,705.5	223	5,26,040
10	Sehore	Kothari Mainakhedi to Parwagosai	58/2016-17 /04.10.2016	-20.86	-	350	4,044.67	201	6,43,391
11		Heerapur to Kulas Khurd Road	45/2018-19/6.9.2018	-21.36	-	350	3,560.2	181	5,06,753
12	Betul	Adarsh Pipariya-Bakajan Road	126/2016-17 /14.10.2016	-19.89	-	350	6,831.79	201	11,00,062
13	Ratlam	Ratlam Bypass Road	61/ 2017-18	-17.72	-	340	3,304.15	181	4,92,076
14	Burhanpur	Asirghar- dhulkot-ghatakhedhi-pandhana dulhar and dhulkot to kamal kheda road	17/ 17.01.2018	-6.36	-	380	41,273	181	69,95,295
15		Dariyapur-Ambada- Neapanagar road	04/3.06.2016	-15.01	-	350	37,286.04	223	70,66,737
16		Sahpur - Phofnar - sangrampur road length 18 km	08 DL / 30.08.2017	-11.14	-	300	22,001.82	201	39,29,714
								Total	4,78,72,180

Appendix 4.1

Statement showing details of procurement of bitumen from private vendors

Sl. No.	Name of Division	Name of road	Agt. No.	Quantity of Bitumen (MT)	Rate	Amount (₹)
A	B	C	D	E	F	G=E×F
1	Dewas	Construction of 6 lane road from Maxshi bypass chauraha to Bhopal chauraha under CRF	01/CRF/EPC/dewas 2021-22 dated 18.10.21	483.45	53,851	2,60,34,266
2	Ratlam	Construction of Bhesola to Karondi Nagda Road length 7.00 Km	37/DL/2019-20	24.96	38,250	9,54,720
3		BT Renewal on Jaora Kalukheda Dhodhar Road	09/2021-22	94.68	39,550	37,44,594
4	Khargone (NDB-II, Package 6)	i) Badi – Khamkheda – Multhan – Gogawa – Mohammadpura - Ghugariya Khedi - Rupkheda Road (MP-MDR-49-09) Length 29.675 Km. (ii) Rodiya – Umaria – Bangaon – Multhan – Borawa – Bither – Besarkund – Singun – Maltar – Madaraniya – Khurampura (MP-MDR-49-10) Length 63.820 Km. (iii) Khargone – Thikri Road (MP-MDR-49-13) Length 34.340 Km. (iv) Khargone – Kumharkheda – Umarkhali – Dhulkot Road (MP-MDR-49-15) Length 26.080 Km	401/NDB-54067/ Package-06/2018-19	3,751.90	26,200	9,82,99,780
Total				4,355		12,90,33,360

Appendix 4.2

Statement showing details of Laying of Uncertified Hume Pipe

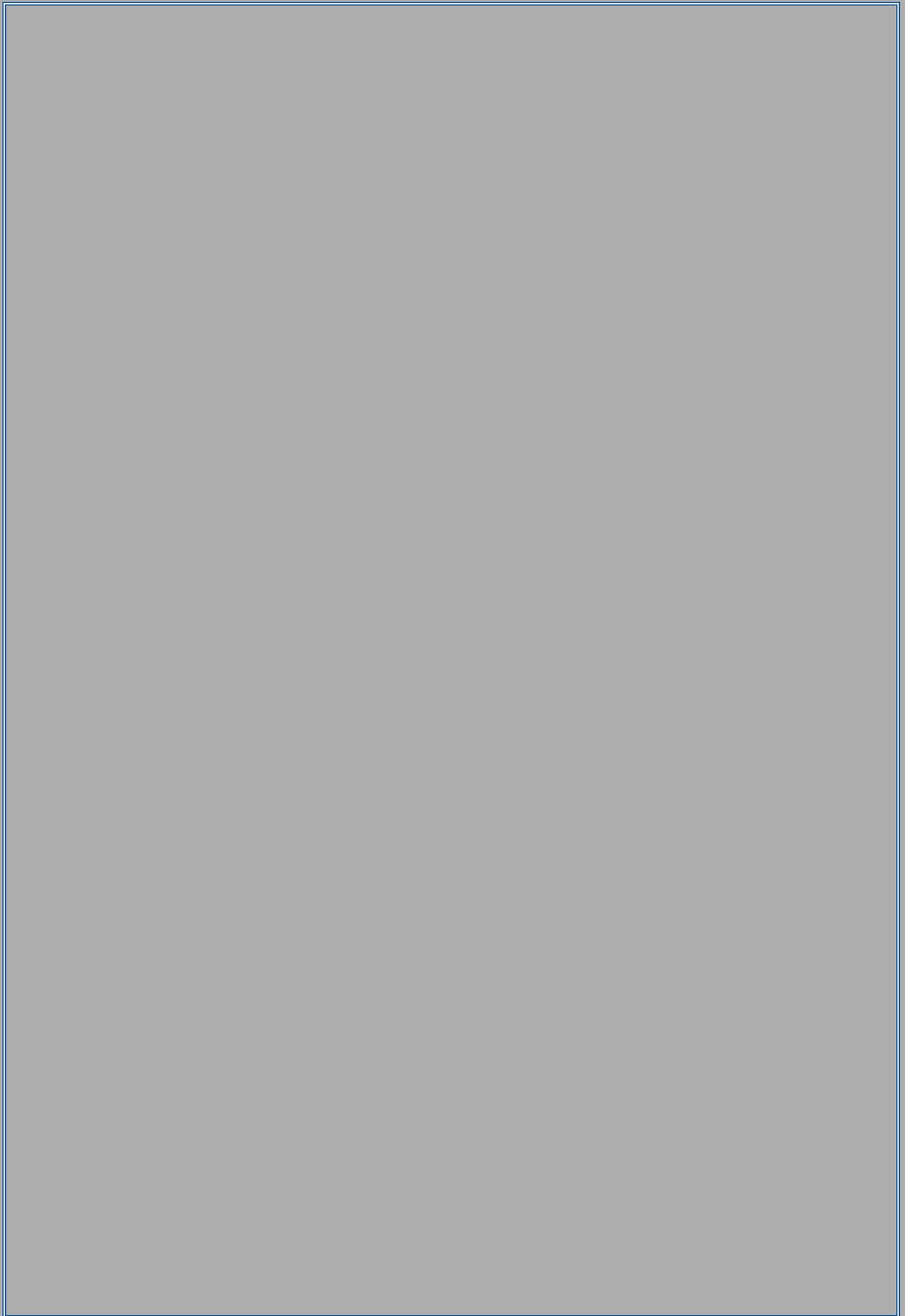
Name of division	Agreement No.	Name of work	Type of pipe	Dia of Pipe	Quantity executed in Running Meter	Rate	Amount Paid
Sehore	08/2016-17/ 31-05-2016	Construction of 4 lane CC Road of Soya Chaupal to Housing Board Colony Road in Sehore	22.5 RM single row	1000 mm	22.5 RM	6,998	1,57,455
			1070 RM	300 mm	1070 RM	880	9,41,600
	14/2022-23/ 18.8.2022	Construction of Amajhir to Dakpuliya Road, Sehore	10 RM single row	1000 mm	10 RM	7,012	70,120
			20 RM	1200 mm	20 RM	9,544	1,90,880
			10 RM	1200 mm	10 RM	19,242	1,92,420
			32.50 RM	1200 mm	32.50 RM	28,632	9,30,540
	45/2018-19 /6.9.2018	Heerapur- Kulas	25 RM	1200 mm	25 RM	9,338	2,33,450
			15 RM single row	1000 mm	15 RM	5,668	85,020
			7.5 RM double row	1000 mm	7.5 RM	11,453	85,898
	Vidisha	56 DL/2015-16/ 8.10.2015	NH-86 Dhaturiya Haveli to Dholkhedi Road	RCC pipe N4 Triple row	1000 mm	45 RM	28,253
RCC pipe N4 Double row				1000 mm	105 RM	14,139	14,84,555
RCC pipe N4 Single row				1000 mm	235 RM	6,998	16,44,530
RCC pipe N4				300 mm	700 RM	880	6,16,000
43/2018-19 dated 1.10.2018		Kurwai to Bamora Road	25 RM single row	1000 mm	37.50	5,668	1,41,700
			22.5 RM double row	1000 mm	22.50	11,453	2,57,692
23 DL/2019-20 Dt. 8.10.2015		Lohara, Norja, Jhiriya Mandir, to Hardot road	RCC pipe N4 Triple row	1000 mm	70 RM	17,005	11,90,350
			RCC pipe N4 Double row	1000 mm	70 RM	11,453	8,01,710
			RCC pipe N4 Single row	1000 mm	220 RM	5,668	12,46,960
			Tharr Nitari Bhadora Tilak Mundra Ahmadpur Road	52.5 RM Triple row	1000 mm	17,022	8,93,655
				80 RM Single row	1000 mm	5,571	4,45,680
				20 RM Double row	1000 mm	11,208	2,24,160
	single row			1000 mm	32.50 RM	6,298	2,04,685
Betul	97/DL/2016-17	Chicholi-Bhimpur Road					
Rewa	104/DL/2014-15/05.09.2014	Manika Lakhwar Garhi road	RCC pipe N4 Single row	1000 mm	250 RM	6,316	15,15,840
			RCC pipe N4 Double row	1000 mm	30 RM	12,741	3,82,230
			RCC pipe N4 Single row	1200 mm	30 RM	8,818	2,64,540
			RCC pipe N4 Tripple row	1200 mm	30 RM	26,454	7,93,620
	164 DL/2017-18 / 1.3.2018	Atraila Rambag Bagraiha road	RCC pipe N4 Single row	1000 mm	260 RM	5,668	14,73,680
			RCC pipe N4	1000 mm	10 RM	11,453	1,14,530
			RCC pipe N4	300 mm	57.50 RM	713	40,997
	39 DL/2018-19/ 1.5.2018	Raipur-Sitapur-Panni road	RCC pipe N4 Triple row	1200 mm	12.50 RM	23,138	2,89,225
			RCC pipe N4 Single row	1000 mm	25.00 RM	17,005	4,25,125
			RCC pipe N4 Double row	1000 mm	206.25RM	11,453	23,62,181
			RCC pipe N4 Single row	1000 mm	1232.50RM	5,668	69,85,810
	40/2018-19 /03.05.2018	Sitapur to Bahera Dabar Road	RCC pipe N4	300 mm	6775.00RM	713	48,30,575
			RCC pipe N4 single row	1000 mm	20.0 RM	5,668	1,57,455
			RCC pipe N4	300 mm	80 RM	713	57,040
Rewa City Portion of Old NH no. 7			RCC pipe NP4	1000 mm	25.00 RM	5,942.89	1,48,572
			Single row				

Name of division	Agreement No.	Name of work	Type of pipe	Dia of Pipe	Quantity executed in Running Meter	Rate	Amount Paid
			RCC pipe NP4 service duct	300 mm	60.00 RM	800	48,000
Satna	46/2018-19 /07.08.2018	Bhunkahar-Mudaha-Tumin Road	RCC pipe N4 Single row	1000 mm	82.50 RM	5,668	4,67,610
	232/2015-16 /11.01.2016	Amarpatan – Rampur Road	RCC pipe NP4 single row	1000 mm	75.00 RM	6,998	5,24,850
	01/ 2016-17 / 26-04-2016	KripalpurRamsthan Road	RCC pipe NP4 Double row	1200 mm	50.00 RM	19,198.00	9,59,900.00
			RCC pipe NP4 Double row	1000 mm	5.00 RM	14,139.00	70,695.00
			RCC pipe NP4 Triple row	1200 mm	25.00 RM	28,565.00	7,14,125.00
	03/CRF/2017-18	SemariyaBankuiya Rewa road	RCC pipe NP4 300 mm dia	300 mm	187.50 RM	880.00	1,65,000.00
			RCC pipe NP4 Single row	1000 mm	805.00 RM	5,260.00	42,34,300.00
			RCC pipe NP4 Double row	1000 mm	75.00 RM	650.00	48,750.00
			RCC pipe NP4 Triple row	1000 mm	262.50 RM	5,800.00	15,22,500.00
			RCC pipe NP4 300 mm dia	300 mm	3372.50 RM	1,280.00	43,16,800.00
	44/Nagod/2018-19/ 03-08-2018	Jhigodar to Karimati road	30 RM single row		30 RM	5,668	1,70,040
			10 RM triple row	1000 mm	10 RM	17,007	1,70,050
	01/DL/CRF/2017-18 03.04.2017	Dt. Rampur Tapa Baghai	RCC pipe N4 Single row	1000 mm	552.50 RM	5,000	27,62,500
			RCC pipe N4 Double row	1000 mm	87.50 RM	10,000	8,75,000
			RCC pipe N4 Triple row	1000 mm	115.00 RM	15,000	17,25,000
Singrauli	09/EE/2018-19 /13.04.2018	Kaira to Pondi Road, Dhani Village approach and Mudapali ghadi road	RCC pipe N4 Single row	1000 mm	50 RM	5,668	2,83,400
	58/DL/2018-19/23.08.2018	Dhirauli to Purani Dhirauli approach road	RCC pipe N4 Single row	1000 mm	110 RM	5,668	6,23,480
			RCC pipe N4 Double row	1000 mm	10 RM	11,453	1,14,530
	164/2022-23/02-03-2023	NH-39 to industrial area Morwa	RCC pipe N4 Single row	1000 mm	37.50 RM	7,012	2,62,950
	119/2019-20, /15-11-2019	Sarai Bypass Road	RCC pipe N4 Single row	1000 mm	62.50 RM	11,453	7,15,812
			RCC pipe N4 Single row	1000 mm	452.50 RM	5,668	25,64,770
	115/2018-19	Dudhmaniya- Belganwa road	RCC pipe N4 Single row	1000 mm	60 RM	5,668	3,40,080
	67/2016-17	Myar river approach road from Ramdha Bais house to Sipahi Bahara road	RCC pipe N4 Single row	1000 mm	90 RM	6,298	5,66,820
			RCC pipe N4 Tripple row	1000 mm	7.50 RM	25,428	1,90,710
			RCC pipe N4	1000 mm	7.50 RM	6,227	46,702
	46/2016-17/ 5.9.2016	Karthua- Chitrangi road	RCC pipe N4 Double row	1200 mm	60 RM	19,198	11,51,880
			RCC pipe N4 Double row	1000 mm	2.50 RM	14,139	35,347
			RCC pipe N4	300 mm	1497.900	880	13,17,800
Jabalpur 2	53/2018-19 dated 01.09.2018	Katangi Lami Road	RCC pipe N4 Single row	1000 mm	70.00 RM	5,668	3,96,760
			RCC pipe N4 Tripple row	1000 mm	10.00 RM	17,005	1,70,050
	11/DL/2020-21 /02.06.2020	Mukunwara Tikri Chargaon road	RCC pipe N4 Single row	1000 mm	62.5 RM	5,668	3,54,250
			RCC pipe N4 Double row	1000 mm	90 RM	11,453	10,30,770
			RCC pipe N4 triple row	1200 mm	30 RM	23,138	6,94,140
	31/2020-21 dated 10.07.2020	Thana to Chanderi Road	RCC pipe N4 Single row	1000 mm	125.00 RM	5,668	7,08,500
			RCC pipe N4 Double row	1000 mm	10.00 RM	11,453	1,14,530

Name of division	Agreement No.	Name of work	Type of pipe	Dia of Pipe	Quantity executed in Running Meter	Rate	Amount Paid
			RCC pipe N4 Tripple row	1200 mm	7.50 RM	23,138	1,73,535
	12/DL/ 2020-21/02-06-2020	Ghughari Heerapur Nichi road	RCC pipe N4 Single row	1000 mm	80 meters	5,668	4,53,440
	06/2016-17 dated 30.4.2016	Sehora- Gauraha- Khadra road	RCC pipe N4 Single row	1000mm	35 RM	6,908	2,44,930
			RCC pipe N4 Singhle row	1200 mm	25 RM	9,522	2,38,050
			RCC pipe N4 Triple row	1000 mm	2.50 RM	23,253	58,133
			RCC pipe N4 Triple row	1200 mm	2.50 RM	28,556	71,412
			RCC pipe N4	300mm	697.50	880	6,13,810
	03/DL/ 2022-23, /22-04-2022	Udhna-Sakra Road	9.2, Single Row Hume pipe	1000 mm	160 RM	5,668	9,06,880
	121/DL/ 2017-18/15-02-2018	Mahgaon-Pindrai Road	9.2, Single Row Hume pipe	1000 mm	50 RM	5,668	2,83,400
			9.3, Double Row Hume pipe	1000 mm	7.5 RM	11,453	85,898
	36/DL/2020-21 dated 17.07.2020	Badkheda-Khulari-Dudwara Road	RCC pipe N4 Single row	1000 mm	70 RM	5,668	3,96,760
			RCC pipe N4 Double row	1000 mm	20 RM	11,453	2,29,060
Indore 1	177/ 2018-19/10-09-2018	Mhow Berchha Road	9.2, Single Row Hume pipe	1000 mm	57.50 RM	5,668	3,25,910.00
	179/A/2018-19/ 10.09.2018	Samariya-Rau to Bhatkhedi road	RCC pipe N4 Single row	1000 mm	40 RM	5,668	2,26,720.00
			RCC pipe N4 Double row	1000 mm	25 RM	11,453	2,86,325.00
	164/DL/2020-21 /15.01.2021	Hawa Bangla Rau road	RCC pipe N4 Single row	1000 mm	137 RM	5,668	7,76,516.00
	184/DL/2018-19 dated 14.09.2018	Chikhli to Nayagaon road	RCC pipe N4 Single row	1000 mm	70 RM	5,668	3,96,760.00
			RCC pipe N4 Double row	1000 mm	17.50 RM	11,453	2,00,428.00
	77/ 2018-19, Date: 27-04-2018	Neuguradiya to Bhagora Road	9.2, Single Row Hume pipe	1000 mm	57.50 RM	5,668	3,25,910.00
			9.3, Double Row Hume pipe	1000 mm	13.50 RM	11,453	1,64,616.00
	237/2016-17/ 03.03.2017	Simrol-Uday Nagar Road	9.2, Single Row Hume pipe single row	1000 mm	20.00 RM	6,298	1,25,960.00
	232/17-18/ 7.2.2018	Bicholi approach road	RCC pipe N4 double row	1000mm	7.50	5,668	42,510.00
	188/ 2018-19/ 20-09-2018	Bicholi Mardana to Ambamoliya Road	9.2, Single Row Hume pipe	1000 mm	37.50	5,668	2,12,550.00
			9.3, Double Row Hume pipe	1000 mm	42.50	11,453	4,86,753.00
Ratlam	61/ 2017-18	Ratlam bypass road	Triple Row	1200 mm	150	23,138	3,47,000
Shivpuri	14/2016-17 Dated 08.06.2016	Mayapur Khaniya Dhana Guddar road	Single Row	1000 mm	397.50	6,998	27,81,705
			Double Row	1000 mm	87.50	14,139	12,37,163
			Triple Row	100 mm	35.00	28,253	9,88,854
Raisen	109/D/2017-18/ 30.12.2017	Manakwada Rimjha Pipliya	-	-	100	5,668	5,66,800
					77.50	11,453	8,87,608
					210	713	1,49,730
					20	17,005	3,40,100
	2/D/2019-20/ 18.06.2019	Sallabarru Tola & Nigari –Saikheda	-	-	310	713	2,21,030
					280	5,668	15,87,040
					150	11,453	17,17,950

Name of division	Agreement No.	Name of work	Type of pipe	Dia of Pipe	Quantity executed in Running Meter	Rate	Amount Paid
					252	17,005	42,93,763
					240	5,604	13,44,960
60/2016-17		Itkhedi-Ajeet Nagar	single row	1000 mm	135 RM	6,998	9,44,730
			triple row	1000 mm	110 RM	28,253	31,07,830
			add. row	1000 mm	55	6,919	3,80,545
				300 mm	660 RM	880	5,80,800
						Total	9,25,41,678

Glossary



GLOSSARY OF ABBREVIATIONS

ADB	Asian Development Bank
BBD	Benkelman Beam Deflection
BC	Bituminous Concrete
BG	Bank Guarantee
BOQ	Bill of Quantities
BUSG	Built-up Spray Grout
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CBR	California Bearing Ratio
CC	Cement Concrete
CE	Chief Engineer
CPM	Critical Path Method
CPWA	Central Public Works Account
CRF	Central Road Fund
CRIF	Central Road and Infrastructure Fund
CRM	Crusher Run Macadam
CSC	Construction Supervision Consultant
Cu m	Cubic Meter
CVC	Central Vigilance Commission
CVPD	Commercial Vehicle Per Day
DBM	Dense Graded Bituminous Macadam
DLC	Dry Lean Concrete
DPR	Detailed Project Report
EE	Executive Engineer
E-in-C	Engineer-in-Chief
EMD	Earnest Money Deposit
EOT	Extension of Time
EPC	Engineering Procurement and Construction
FIDIC	Fédération Internationale des Ingénieurs-Conseils, which is French for "The International Federation of Consulting Engineers"
FSI	Free Swelling Index
GCC	General Conditions of Contract
GoMP	Government of Madhya Pradesh
GST	Goods and Services Tax
HFL	Highest Flood Level
HSD	High Speed Diesel
IPC	Interim Payment Certificate
IRC	Indian Road Congress
IS Codes	Indian Standard Codes
ISI	Indian Standards Institution
ITB	Instructions to Bidders
JPI	Joint Physical Inspection

GLOSSARY OF ABBREVIATIONS

JV	Joint Venture
KM	Kilometer
L1	Lowest Bidder
L2	Next Lowest Bidder
MB	Measurement Book
MDR	Major District Roads
mm	Mili Meter
MoEFCC	Ministry of Environment, Forest and Climate Change of India
MoRTH	Ministry of Road Transport and Highways of India
MP	Madhya Pradesh
MPPWD	Madhya Pradesh Public Works Department
MPR	Monthly Progress Report
MPRDC	Madhya Pradesh Road Development Corporation Limited
MPWD	Madhya Pradesh Works Department
MSA	Million Standard Axles
MT	Metric Ton
MUSD	Million United States Dollars
NABARD	National Bank for Agriculture & Rural Development
NABL	National Accreditation Board for Testing and Calibration Laboratories
NDB	New Development Bank
NDC	No Dues Certificate
NIT	Notice Inviting Tender
ODR	Other District Roads
OGL	Original Ground Level
OGPC	Open Graded Premix Carpet
PA	Performance Audit
PAC	Probable Amount of Contract
PCC	Plain Cement Concrete
PCC	Particular Conditions of Contract
PCU	Passenger Car Unit
PERT	Project Evaluation and Reviewing Technique
PG	Performance Guarantee
PIA	Project Implementation Agency
PMB	Polymer Modified Bitumen
PMB (E)	Polymer Modified Bitumen (Elastomeric Thermoplastics Based)
PPC	Portland Pozzolana Cement
PQC	Pavement Quality Concrete
PS	Principal Secretary
PTR	Pneumatic Tyre Roller
PWD (B&R)	Public Works Department (Buildings and Roads)
RA	Running Account

GLOSSARY OF ABBREVIATIONS

RAMS	Road Asset Management System
RCC	Reinforced Cement Concrete
RFP	Request For Proposal
ROBs	Railway Overbridges
ROW	Right of Way
SBD	Standard Bid Documents
SDO	Sub-Divisional Officers
SE	Superintending Engineer
SH	State Highway
SOR	Schedule of Rates
TE	Time Extension
TS	Technical Sanction
VDF	Vehicle Damage Factor
VG	Viscosity Grade
WBM	Water Bound Macadam
WMM	Wet Mix Macadam
WPI	Wholesale Price Index
WRD	Water Resources Department

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