



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय)

National Highways Authority of India

(Ministry of Road Transport and Highways)

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NHAI/CG/Urga-Pathalgaon/NH-130A/2021/efile-80388

Dated: 31.01.2022

OFFICE MEMORANDUM

Sub: Construction of Four Lane Urga - Pathalgaon section of NH-130A from design Ch. 70+200 to Ch. 157+745, (from Bhaisma village to Taruama village) under Bharatmala Pariyojana (Raipur - Dhanbad economic corridor) in the State of Chhattisgarh on Hybrid Annuity Mode

The subject project was appraised by the Project Appraisal and Technical Scrutiny committee (PATSC), NHAI in its meeting held on 17.01.2022. A copy of approved minutes of meeting is enclosed herewith.


Encl : As above.

 31/1/2022

(Kamal Kant Mishra)
General Manager (Tech.)-CG

To:

- (i) Sh. R.K.Pandey, Member (P) - In Chair;
- (ii) Sh. Mahabir Singh, Member (T);
- (iii) Sh. S. K. Mishra, CGM (T);
- (iv) Sh H.M. Naqvi, CGM (T);
- (v) Sh. B.M.Rao, CGM (F);
- (vi) Sh. R. K. Singh, Advisor (T);
- (vii) Sh. Suvid Kapoor, NITI Aayog (Email : suvid.kapoor@gov.in)


महाप्रबंधक (तक.)/परियोजना निदेशक
भा.रा.रा.प्र., प.का.ई.-कोरबा (छ.ग.)
General Manager (Tech.)/Project Director
NHAI, PIU-Korba (C.G.)

NATIONAL HIGHWAYS AUTHORITY OF INDIA
(CHHATTISGARH DIVISION)

Sub: Construction of Four Lane Urga - Pathalgaon section of NH-130A from design Ch. 70+200 to Ch. 157+745, (from Bhaisma village to Taruama village) under Bharatmala Pariyojana (Lot-3/Chhattisgarh/Package-1, Raipur - Dhanbad economic corridor) in the State of Chhattisgarh on HAM Mode- Project Appraisal and Technical Scrutiny Committee (PATSC) Minutes of Meeting reg.

The meeting of Project Appraisal and Technical Scrutiny Committee (PATSC) under the Chairmanship of Member (P)- Sh R. K. Pandey was held on 17.01.2022 at 04:00 pm at NHAI HQ.

2. As per NHAI Policy No. 3.6.3 dated 20.07.2018 PATSC Committee-III have been re-constituted with following members:

- i) Shri R.K. Pandey, Member (P)
- ii) Shri B.M. Rao, CGM (Finance)
- iii) Shri S.K. Mishra, CGM (T)
- iv) Shri H.M. Naqvi, CGM (CG)
- v) Shri, R.K. Singh, Advisor (T)
- vi) Shri Suvid Kapoor, NITI Aayog

The list of participants is placed at Annexure-1


3. CGM (T) informed that LA Committee in its 5th LAC meeting dated 27.12.2019 has deliberated the project alignment along with other project features and approved the alignment and subsequent amendment on 11.05.2021, has approved the LA plan with 60m ROW and with varying ROW of 30 to 65m in forest area based upon site requirement and MOEF approval. GM (T)-CG made a detailed presentation elaborating the various aspects of the projects as under:

3.1 The project finds place in the list of work identified under Bharatmala Pariyojana at S.No.-7 of Annexure - II (a) (as per revised SOP dated 21.12.2017) and at s.no. 165 of OM of Ministry RW/NH-37011/37/2018-PPP(Part) dated 30.11.2018 with implementing agency mentioned as NHAI.

3.2 Ministry vide Office Memorandum dated 30.11.2018 issued the Minutes of Meeting held on 14.11.2018 wherein optimization of Bharatmala Pariyojana network & prioritization of projects to be implemented by NHAI, were discussed and finalised. In the above meeting, 4-laning of Urga-Pathalgaon section of NH-130A in the State of Chhattisgarh, has been considered under "Medium Priority" category.

3.3 Status of Raipur-Dhanbad Economic Corridor in the state of Chhattisgarh:

S.no	Stretch	Length in Km	Status
1.	Raipur-Bilaspur	127	Completed
2.	Bilaspur-Urga	70	Project awarded



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3.	Urga-Pathalgaon	87	Present Proposal
4.	Pathalgaon-Kunkuri (JH/CG Border)	100	LA Committee has approved the Alignment Plan project to be awarded in FY 2022-23

3.4 Salient features of the project:

Sr. No.	Project Features	Details
(i)	Length (km)	87.545 Km (Design Length)
(ii)	Type of Pavement (Rigid/Flexible)	Main Carriageway- Flexible pavement with CTSB Layer Service / Slip Road- Flexible Pavement and Toll plaza and its approaches - with rigid pavement.
(iii)	Major bridge (No.)	06 Nos. Details:- i. Reconstruction: 0 ii. New construction: 06 nos. iii. Retain & New Construction: 0
(iv)	Minor Bridges on Main Carriageway	21 Nos. Details:- i. Reconstruction: 0 ii. New construction: 21 nos. iii. Retain & Widening: 0
(v)	Minor bridge on Service Road (No.)	Nil
(vi)	Flyover (No.)	01 no.at km. 118+058 .
(vii)	Overpass (No)	02
(viii)	VUP (No.)	11 nos.
(ix)	LVUP / SVUP (No.)	LVUP - 6 nos.. & SVUP - 18 nos.
(x)	EUP/EOP (No.)	EUP - 11 nos. and EOP - 1 no.
(xi)	ROB (No.)	Railway has planned a new railway line Dharamjaigarh - Durgapur mine feeder route for which DPR is in progress. ROB at km. 111+589. is proposed to be constructed as per requirement of railway.
(xii)	Culvert (No.)	159 nos. Box main carriageway and 69 nos. box culvert for cross roads
(xiii)	Service/Slip/Connecting Road (Km.)	12.84 LHS/ 9.65 (RHS) = 22.49 km
(xiv)	Major junctions (No.)	03 Nos.
(xv)	Minor junctions (No.)	36 Nos.
(xvi)	Bus Bay/ Bus Shelter (No.)	nil
(xvii)	Truck lay bye (No.)	04 Nos.
(xviii)	Wayside amenities (No.)	02 nos.


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(xix)	Toll Plaza (No. and the location)	Toll plaza on entry/exit (2 lanes) - 10 nos. Toll plaza on entry/exit (3 lanes) - 8 nos.
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3.5 Status of Pre-Construction activities:

Forest Proposal	The proposed project involves diversion of about 169 Hectares of forests land. Application for obtaining forest clearance has already been submitted on 26.07.2021 proposal is under process.
Land Acquisition	Total Land Required : 516.92 Ha Land Available : 8.52 Ha Diversion of Forest Land : 168.99 Ha (RF / PF-37.825 Ha) Land to be Acquired : 508.96 Ha Government Land : 178.88 Ha Private Land to be Acquired : 291.70 Ha 3(A) : 100% - Completed 3(D) : 86% Notified (412.617 Ha)
Environmental Clearances	Proposal No. / Application no. IA/CG/MIS/110767/2019 [F. no. 10-33/2019-IA.III] submitted online proposal on 11th Jul. 2019. TOR for the Project was accorded vide letter dated 13 Aug 2019 by MOEF& CC. Amended TOR has been received vide MOM dated 28 Dec 2020 regarding ROW in forest area varies from 30m to 70m as per site condition. Draft EIA submitted 26.11.2021 after finalization of EUP/EOP. Public hearing is in progress.
Shifting of utilities	Joint site visit has completed with utility owning agency. Estimates received from PHE department & CSPDCL Dharamjaigarh, Pathalgaon and Korba. Estimate are pending with CSPTCL (Korba) , Power grid (Korba).
GAD Approval of ROB	Railway has planned a new railway line Dharamjaigarh - Durgapur mine feeder route for which DPR is in progress. ROB at km. 111+589. is proposed to be constructed as per requirement of railway.
Wild life clearance	Not Applicable

3.6 Pavement Design:

3.6.1 Details of Flexible Pavement Composition on main carriageway are as given below:

- Bituminous Concrete (BC) = 40 mm
- Dense Bituminous Macadam (DBM) = 120 mm


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- (iii) Wet Mix Macadam (WMM) = 150 mm
- (iv) Cement Treated Granular Sub Base (CTGSB) = 200 mm

3.6.2 Toll Plaza

- (i) Pavement Quality Concrete (PQC) - 280 mm
- (ii) Dry Lean Concrete (DLC) - 150 mm
- (iii) Granular Sub Base (GSB) - 150 mm

3.6.3 Service/Slip Road

- (i) Bituminous Concrete (BC) = 30 mm
- (ii) Dense Bituminous Macadam (DBM) = 50 mm
- (iii) Wet Mix Macadam (WMM) = 250 mm
- (iv) Granular Sub Base (GSB) - 200 mm


3.6.4 Service road in lieu of existing NH-130A

- (i) Bituminous Concrete (BC) = 40 mm
- (ii) Dense Bituminous Macadam (DBM) = 80mm
- (iii) Wet Mix Macadam (WMM) = 150 mm
- (iv) Cement Treated Granular Sub Base (CTGSB) = 200 mm

Pavement Section	MSA	CBR %	Minimum Pavement Crust Composition (in MM)			
			CTGSB	WMM	DBM	BC
Main Carriageway	150	10	200	150	120	40
Service road in lieu of existing NH-130A	60		200	150	80	40
Service Road/Slip road	10		GSB	WMM	DBM	BC
			200	250	50	30
Toll Plaza on entry/exit	-		GSB		DLC	PQC
			150		150	280


3.7 The General Abstract of Cost Estimate: RO Chhattisgarh informed that the Cost Estimate is prepared on the rates of SOR of PWD Chhattisgarh for the year 2021-2022. The breakup of Cost of the project is as under:

S. No.	Item of works	Cost (Rs. Crores)	% of Civil Cost
A	Highways		
1	Site Clearances	3.78	0.24%
2	Earthwork	262.09	16.47%
3	Granular Sub-Base & Base Courses	148.89	9.36%
4	Flexible pavement (Bituminous courses)	259.91	16.33%
5	Drain Works	40.20	2.53%
6	Protection Works	203.16	12.77%


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7	Traffic Signs, Markings & Road Appurtenances	111.18	6.99%
8	Miscellaneous works	44.97	2.83%
9	Toll plaza including Rigid Pavement on its approaches	23.88	1.50%
	Subtotal (A)	1098.07	69.01%
B	Structures		
10	Culverts		
10.a	Box Culverts for junctions	2.84	0.18%
10.b	Box culverts	80.16	5.04%
11	Minor Bridges	65.90	4.14%
12	Major bridges	117.08	7.36%
13	SVUP	14.20	0.89%
14	LVUP	7.97	0.50%
15	VUP	33.29	2.09%
16	EUP	117.30	7.37%
17	VUP/Flyovers	24.35	1.53%
18	ROB	30.08	1.89%
	Subtotal (B)	493.18	30.99%

C	Cost of Civil Works (in Crores) (A+B)		1591.24	100.00%
D	Utility shifting cost		70.88	
E	Civil Construction Cost (in Crores) (C+D)		1662.12	
F	IC/Pre-operative expenses @ 1% of (E)	1%	16.621	
G	Financing charges		5.966	
H	IDC (Interest During Construction)		54.60	
I	Estimated Project Cost as on Bid Date (E+F+G+H)		1739.31	
J	Contingencies @ 1% on cost of Civil Works (C)	1%	15.91	
K	GST Charge @ 12% of Civil Construction Cost (C)	12%	190.95	
L	Supervision charges @ 2.5% on Cost of Shifting of Utilities (D)	2.5%	1.772	
M	Land Acquisition Cost (including R&R Cost)		267.13	
N	Environmental Cost		46.22	
O	Total Capital Cost (I+J+K+L+M+N)		2,261.30	
	Length of the project road		87.545	
	Civil Cost per km. length (in Crores)		18.18	
	Total Project Cost per km. (in Crores)		25.83	
	Project IRR with LA		7.97%	
	Project IRR without LA		10.08%	


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3.8 **Traffic:** DPR Consultant has submitted that as per traffic survey conducted in August 2018 total traffic in terms of AADT is 14771 PCU.

Total AADT on project road		Total Tollable traffic		Total Non-Tollable traffic	
In no. of Vehicle	In no. of PCU	In no. of Vehicle	In no. of PCU	In no. of Vehicle	In no. of PCU
7978	14771	5514	13393	2464	1377

3.9 DPR Consultant vide has indicated year-wise outputs/deliverables for the project in a tabular form:

Activities	Year 1		Year 2		Year 3		Total	
	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
Progress	30%	20%	50%	60%	20%	20%	100%	100%

Development of this section of NH-130A will further improve connectivity in terms of achieving smooth and safe traffic flow and improve level of service. In addition to above, substantial economic gain in terms of reduced Vehicle Operating Cost (VOC) and reduced travel time will be achieved. The project will have multiple benefits. It will reduce the travel time substantially between Urga and Pathalgaon. In addition, the improved road will provide other benefits like:


- Fast and safe connectivity resulting in savings in fuel, travel time and total transportation cost to the society
- Development of quality to existing tourism and pilgrimage
- Reduction in road accidents and pollution
- Reduction in traffic congestion
- Development in Industrial sector because of safe and fast transportation facilities
- The project would improve connectivity to Urga, Hati, Dharmjaygarh, Pathalgaon and numerous hamlets in between.

3.10 Mode of the implementation of subject project is proposed as Hybrid Annuity.

4. Deliberations during meeting:

4.1 Advisor (T) mentioned that as per Bharatmala Circular dt. 30.10.2019 since this subject project is a Economic Corridor so 4 lane highway with 6 lane structure with paved shoulder of 1.5 m and Earthen shoulder of 2.0m should have been adopted instead of 4-lane Highway with 4-lane structure and paved shoulder of 2.5m in present proposal. The matter was deliberated and CGM (T) apprised the Committee that present configuration of 4-lane Highway with 4-lane structure and paved shoulder of 2.5 m is adopted keeping in view that similar cross section has been adopted in preceeding Bilaspur-Urga Package. Member (P) directed that specific approval of concerned Member i.e. Member (T) shall be taken by

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Technical Division for configuration of 4-lane Highway with 4-lane structure and paved shoulder of 2.5 m. In this regard it is submitted that specific approval of Member (T) has been taken for configuration of 4-lane Highway with 4-lane structure and paved shoulder of 2.5 m vide e-file 80388 note # 83 .

4.2 Member (P) asked Technical Division about need of 50 Grade Separated Structure in Highway length of 87.54 Km and directed that Technical Division should justify the need and take approval of Member (T). In this regard it is submitted that in Order to provide access control, the lateral roads are provided with SUVP (18 Nos.), LVUP (06 Nos.), VUP (11 Nos.), Flyover (01 No.) & Overpasses (02 Nos). Apart from above 12 Nos of Elephant Underpass are also provided as a Mitigation measures for movement of elephant in forest area as per requirement of forest department. The lateral roads with BT Surface connecting important towns/villages has been provided with underpasses for access control project highway. Further, there are many cross roads (08 Nos.) connecting various villages and towns passing through forest area are provided with grade separated. Therefore, the underpasses proposed in the project highway (50 Nos) for project length 87.545 Km. is minimum and as per actual requirement. Specific approval of Member (T) regarding need of 50 Grade Separated Structures has been taken vide e-file 80388 note # 83.

4.3 Regarding span of Major Bridge 11m x 30 m, Member (P) asked why 30 m span is taken and directed DPR Consultant to submit detailed calculation regarding most economical span. DPR Consultant has submitted calculation regarding most economical span which is enclosed at Annexure-II.

4.4 Member (P) directed to ensure provision of Deck Continuity should be incorporated in schedule. Provision of Deck Continuity has been inserted in Schedule-B. Revised Technical Schedule is enclosed at Annexure-III.

4.5 Regarding electrical utility estimates, Member (P) asked whether Advisor (Electrical)-JBG has examined the same. CGM(T)-CG informed that Advisor (Electrical) has verified the electrical utility estimates.

4.6 **Crust Composition:** Member (P) enquired whether the crust composition has been mentioned in Schedule-B. It was apprised that crust composition has not been mentioned and instead only minimum MSA and maximum CBR have been indicated in Schedule-B It was deliberated that with the use of suitable specialised soil improvement techniques the CBR value can be increased substantially, hence, maximum CBR shall be capped only without soil improvement. Hence, it should also indicated in the Schedules appropriately that maximum CBR shall be adhered unless specialised soil stabilization techniques is adopted by the selected bidder/Concessionaire during construction in consultation with independent Engineer.

5. The compliance to the comments of Advisor (T) is at Annexure-IV. Compliance to comments of NITI Aayog is at Annexure-V.

6. After detailed deliberations, the PATSC appraised and recommended the proposal for instant project for 4-laning of Urga-Pathalgaon Section of NH-130A from design Ch. 70+200 to Ch. 157+745, (from Bhaisma village to Taruama village) under Bharatmala Pariyojana (Raipur - Dhanbad economic corridor) in the State of Chhattisgarh on HAM Mode for pre-appraisal of SFC, MoRTH as per following details:

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Sr. No.	Project	Length	Civil Construction Cost (Rs in Cr.)	Estimated Project Cost excluding GST (Rs in Cr.)	Total Capital Cost (Rs in Cr.)
(i)	4-laning of Urga-Pathalgaon Section of NH-130A from design Ch. 70+200 to Ch. 157+745, (from Bhaisma village to Taruama village) under Bharatmala Pariyojana (Raipur - Dhanbad economic corridor) in the State of Chhattisgarh on HAM Mode	87.545 Km.	1662.12	1739.31	2261.30

7. Meeting concluded with vote of thanks to the Chair.

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