पर्यावरण, वन एवं जलवायु परिवर्तन विभाग कार्यालय, वन प्रमंडल पदाधिकारी, भागलपुर वन प्रमण्डल, भागलपुर सुन्दरवन, हनुमान घाट, बरारी रोड, भागलपुर पिन – 812003

ई-मेल - dfobhagalpur@gmail.com

पत्रांक : - <u>96</u>5

प्रेषक,

भरत चिन्तपिलल "भा०व०से०" वन प्रमंडल पदाधिकारी, भागलपुर वन प्रमंडल, भागलपुर |

सेवा में,

अपर प्रधान मुख्य वन संरक्षक (कैम्पा), बिहार, पटना ।

भागलपुर जिलान्तर्गत NH-80 भागलपुर – कहलगाँव – मिर्जाचौकी (132.895 – 190.150 कि०मी०) पथांश विषय:-चौड़ीकरण एवं सुदृढ़ीकरण हेतु वन (संरक्षण) अधिनियम, 1980 के तहत् 41.559 हे० वन भूमि अपयोजन प्रस्ताव पर पृच्छा के संबंध में |

भवदीय पत्रांक - 583 दिनांक - 30/06/2022 एवं कार्यपालक अभियंता राष्ट्रीय उच्च पथ प्रमंडल पथ प्रसंग:-निर्माण विभाग भागलपुर के पत्रांक - 677(अनु०), दिनांक - 04/07/2022

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र द्वारा माँगी गई प्रतिवेदन में पृच्छाओं का निराकरण निम्नवत् है : -

1	Details and girth – wise abstract of the tree – enumeration for the trees that are likely to be affected in proposed forest land by the project.	प्रयोक्ता एजेंसी द्वारा समर्पित प्रतिवेदन संलग्न ।
2	Locations of the land identified (kml format also) for translocation as well as detailed Tree – translocation plan needs to be submitted.	KML File संलग्न है
3	Cost Benefit analysis of the proposed project.	प्रयोक्ता एजेंसी द्वारा समर्पित प्रतिवेदन संलग्न
4	Upload topo-sheet map of the proposed CA land is apparently incorrect. So corrected toposheet in fine resolution clearly depicting the proposed CA land needs to be uploaded.	प्रधान मुख्य वन संरक्षक, बिहार, पटना (कैम्पा एवं वन संभाग) के पत्रांक – व.सं./56/2021-393 दिनांक - 13/04/2021 में दिए गए निदेशानुसार Topo-Sheet map of proposed CA land का प्रस्ताव मुंगेर वन प्रमंडल मुंगेर से संबंधित है
5	Proposed forest land for diversion is 41.559 ha but as per GIS analysis, total proposed forest land is 40.286 ha (base on uploaded kml file). So it may be Clearfield.	प्रयोक्ता एजेंसी के द्वारा समर्पित पत्र के अनुसार संशोधित GIS Map को परिवेश पोर्टल पर अपलोड कर दिया गया है

सूचनार्थ समर्पित।

अन्०: - यथोक्त।

भागलपुर वन प्रमंडल, भागलपुर।

ज्ञापांक:- 965 दिनांक 5/2122 प्रतिलिपि:- वन संरक्षक भागलपुर अंचल , भागलपुर को सूचनार्थ्य खं आवश्यक कार्यवाही हेतु भागलपुर वन प्रमंडल, भागलपुर | ज्ञापांक:- 965 - दिनांक S12122 प्रतिलिपि:- क्षेत्रीय मुख्य वन संरक्षक, भागलपुर को सूचनार्थ एवं आवश्यक कोर्प्वाही हेतु प्रेषित। भागलपुर वन प्रमंडल, भागलपुर। ज्ञापांक:- 965 दिनांक *5/3/22* प्रतिलिपि:- वन प्रमंडल पदाधिकारी मुंगेर को सूचनार्थ एवं आवश्यक कार्यवाही बेतु प्रेषित। भागलपुर वन प्रमंडल, भागलपुर। ज्ञापांक:- <u>965</u> दिनांक <u>\$/7/22</u> प्रतिलिपि:- कार्यपाल अभियंता राष्ट्रीय उच्च पथ प्रमंडल, पथ निर्माण विश्वाग, भागलपुर को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित। भागलपुर वन प्रमंडल, भागलपुर |

कार्यपालक अभियंता का कार्यालय

राष्ट्रीय उच्च पथ प्रमंडल, पथ निर्माण विभाग, भागलपुर।

Email id: eenhbhagalpurl@gmail.com

पत्रांक:- 677 (अनु०)

भागलपुर

दिनांक:- 4/7/2022

प्रेषक :-

कार्यपालक अभियंता, राष्ट्रीय उच्च पथ प्रमंडल, पथ निर्माण विभाग, भागलपुर।

सेवा में,

वन प्रमंडल पदाधिकारी, भागलपुर।

विषय:-

भागलपुर जिलान्तर्गत NH-80 भागलपुर— कहलंगॉव—मिर्जाचौकी (132.895—190.150 कि0मी0) पथांश चौड़ीकरण एवं सुदृढ़ीकरण हेतु वन (संरक्षण) अधिनियम, 1980 के तहत् 41.559 हे0 वन भूमि अपयोजन प्रस्ताव पर पृच्छा के संबंध में।

प्रसंग:-

श्री नन्द कुमार मांझी, उप वन संरक्षक का पत्रांक व.स./52/2021—583 दिनांक 30.06.2022

महाशय,

भारत सरकार प्रयावरण, वन एवं जलवायु परिवर्तन मंत्रालय, क्षेत्रीय कार्यालय राँची

द्वारा विषयांकित पृच्छा का उत्तर कंडिकावार निम्नवत दी जा रही है :-

(i) परियोजना के कारण / पातित होने वाले पृक्षों की गणना का सार मुटाई के अनुसार तालिकाबद्ध कर Parivesh Portal पर Upload कर दिया गया है। (सुलभ प्रसंग हेतु प्रति संलग्न)

1092 (ग्रें क्छा वन एवं पर्यावरण विभाग से संबंधित है।

Cost – Benefit Ratio (EIRR) Parivesh Portal पर Upload कर दिया गया है।

🔊 पृच्छा वन एवं पर्यावरण विभाग से संबंधित है।

संशोधित GIS Map को Parivesh Portal पर Upload किया जा चुका है। Uploaded Map के अनुसार क्षेत्रफल 41.5108 हे0 है जबकि प्रस्तावित क्षेत्रफल 41.559 हे0 है। यह ममूली अंतर है और GPS accuracy error के रूप में स्वीकार किया जा सकता है।

अन्0-यथोक्त।

विश्वासभाजन

कार्यपालक अभियंता,

रां 0 उ 0 प प्रमंडल, प 0 नि 0 वि 0, भागलपुर।

Styles

	Ÿ	Abstract	of trees that a	are likely to be affec A 132.895 to 190.150	be affected in 190.150	Abstract of trees that are likely to be affected in NH-80 from KM 132.895 to 190.150		
A			7	Abstract of tre	Abstract of tree to be cutting			
SI.No.	Girth Size	0 - 30 ст	31 - 60cm	61 - 90cm	91 - 120cm	121 - 150 cm	>150 cm	Total
1	LHS	09	224	283	513	389	466	1935
2	RHS	51	187	306	504	310	379	1737
	Total	1111	411	589	1017	669	845	3672
В			Abstract 0	of tree to be translocate	ranslocate			
SI.No.	Girth Size	0 - 30 cm	31 - 60cm	61 - 90cm	91 - 120cm	121 - 150cm	>150 cm	Total
-	SHT	167	964	462	0	1		1595
2	RHS	171	763	362	0	0	0	1296
	Total	338	1727	824	0	1	-	2891

Total nos. of trees that are likely to be affected in NH-80 = A+B

= 1687 +

Executive Engineer N.H. Division, R.C.D., Bhagalpur.

Abstract of tree Counting in NH-80 From Km 132.895 (Zeromile Bhagalpur) to Km 190.150 (Mirzachouki)

S.No	Particulars	Trees in LHS	Trees in RHS	Total No of Trees
1	Cutting (C)	1935	1737	3672 4
2	Translocation(T	1595	1296 J	2891 1
3	Total no of Trees	3530	3033	6563

11.1.22 11.1.22 Aldi 12022 14/01/2022 Tool of

A Productive State

Divisional Forest Officer
Enagaipur Forest Division

Rehabilitation and Widening work for 2- Lane with Paved Shouldering of Existing National Highway 80 Alignment from Km. 132.895 to Km. 190.150 Bhagalpur – Kahalgaon – Mirzachowki Section of Length 57.255 Km. in the State of Bihar.

Cost Benefit Analysis

Content

	SI. No.	Description
1.1	(s)(2)(2)(1)(man)(1)(man)	Approach and Methodology
1.2		Definition of "Without Project" and "With Project" Situation
-	1.2.1	HDM Model Input Data
	1.2.2	Project Cost and Scheduling
- S DOM	1.2.3	Project Cost
	1.2.4	Homogeneous Section Based On Traffic Survey Data
	1.2.5	Road Condition and Pavement Design
1.3		Economic Cost of Vehicle Parameters
1.4		Construction Package wise Economic Internal Rate of Return
1.5		Sensitivity Analysis
1.6		Conclusion
Tabl	es	i m (Q i navyavyiga)
	1.1	Homogenous sections (Pavement Carriageway wise)
	1.2	Estimated Cost for Construction
	1.3	Homogeneous Traffic Sections
	1.4	Percentage Composition of Fast Vehicles
-	1.5	Percentage Composition of Slow Vehicles
	1.6	Summary of Traffic Growth Rate in % (Fast Moving Vehicle)
	1.7	Summary of Traffic Growth Rate in % (Slow Moving Vehicle)
	1.8	Details of existing Pavement Conditions
	1.9	Speed Flow Relationship Data
	1.10	Summary of Economic Cost of Vehicle Data
	1.11	Construction Package wise Result of Economic Evaluation
	1.12	Construction Package wise Sensitivity Analysis Results

1.0 Cost Benefit Analysis

1.1 Approach & Methodology

The objective of the economic evaluation is to enable Government authorities to determine whether the project is economically worthwhile investment proposal and whether it should be taken up at all. This is done by identification of the potential benefits expected to accrue to the community and comparison with the economic costs of the project.

Economic viability of the project has been assessed within the broad framework of the costbenefit analysis technique, which is widely used in the appraisal of public investment projects. Economic analysis involves comparison of cost and benefit streams under both the "without" and "with" project conditions, over a fixed analysis period.

The "without project" situation is the base case option or the "do-minimum" case where the project road is a Intermediate Lane/2-lane National Highway. In the "with project" situation, it is upgraded to a 2-lane highway with paved shoulders. All costs and benefits considered in the study have been valued in monetary terms and expressed in economic prices to reflect the true resource cost to the economy.

The economic analysis has been carried out using the HDM IV Model.

The results have been expressed in terms of Economic Internal Rate of Return (EIRR) and Net Present Value (NPV) of the project at 12 percent discount rate. These are calculated using discounted cash flow methods since costs are incurred and benefits accrue at different dates. The feasibility of the project is determined by comparing the EIRR with the current accounting rate of 12%. This represents the opportunity cost of capital and is considered the appropriate minimum criterion for economic viability by Government Agencies as well as Funding Agencies.

The project is further subjected to sensitivity analysis by varying the project costs and benefits by 15% and the effect on the EIRR reviewed. This helps to gauge the economic strength of the project to withstand future risks and uncertainties.

The analysis has been carried out for each homogenous section and for the total project road. These are given in the Table

Table 1.1: Homogenous sections

Sl. No.	Section Details / Chainage	Section Name	Length in Km.	Carriageway Including Paved Shoulder in m
Construct	ion Package-1 : Km. 13	2.895 to Km. 190.150		
Section-1	132.895 to 135.000	Baghalpur Built-up Section	2.105	10.00
Section-2	135.000 to 138.000	Prem Nagar, Sabour & Khankitta Built-up Zone	3.00	7.00
Section-3	138.000 to 152.000	Khankitta - Pakkisarai	14.00	5.50
Section-4	152.000 to 190.150	Pakkisarai – Kahalgaon – Pirpanti - Mirzachowki	38.150	7.00

1.2 Definition of "Without Project" and "With Project" Situation

The HDM-IV model, Version 1.3 is used for the analysis of the data

The HDM-IV analytical framework is based on the concept of pavement life cycle analysis. This predicts the life cycle pavement conditions and costs over a specified analysis period under a user-specified scenario of circumstances. This is applied to predict pavement deterioration arising from traffic loading, environmental, weathering and effect of inadequate drainage systems over the life cycle of a road pavement

Technical analysis within HDM is undertaken using four sets of models:

- RD (Road Deterioration) predicts pavement deterioration
- WE (Works Effects) simulates the effects of road works on pavement condition and determines the corresponding costs
- RUE (Road User Effects) determines costs of vehicle operation, road accidents and travel time
- SEE (Social and Environmental Effects) determines the effects of vehicle emissions and energy consumption

The Model simulates, for each road section, year-by-year, the road condition and resources used for maintenance under each strategy as well as the vehicle speeds and physical resources consumed by vehicle operation. After physical quantities involved in construction, road works and vehicle operation are estimated, user-specified prices and unit costs are applied to determine financial and economic costs. Relative benefits are then calculated for different alternatives, followed by present value and rate of return computations.

The costs considered comprise agency costs and costs to road users as follows.

Road Agency costs

- Construction Cost
- Maintenance Cost

Road Users Costs

- -Vehicle Operating Cost
- -Travel Time Costs

Road users experience different costs in the "With Project" and "Without Project" conditions. The benefits to road users are constituted by the savings in costs. Increasing traffic volumes as a result of the project implies more vehicle kilometers and hence more vehicle operating costs and, possibly showing more saving in with project conditions viz. benefits as a result of the project.

Based on traffic, Road network and Socio-economic characteristics of the project road, two different improvement options(with project) have been considered by the consultants with two different combination of proposed up-gradation/ improvement Options (Bypasses / without Bypasses) of the project road. The Economic analysis is carried out for the following improvement options

- 1. "Without project/ Do minimum" No Improvement of the existing road
- 2. "With Project"- Widening of the Project road to 2 Lane with Paved shoulder.

HDM Model Input Data 1.2.1

The basic input data used for the application of HDM-4have been grouped into following categories:

- General
- Traffic
- Road Condition and Pavement design

The analysis period is from year 2021 to 2050. The base year for traffic and cost estimates is 2020. A 24 months construction period from 2021 to 2023 and benefit period of 30 years from year of opening i.e. 2024 have been considered.

Project Cost and Scheduling 1.2.2

Rigid Pavement have been Proposed for Two lane Pavement Option shoulder + configuration of existing Intermediate / 2-lane roads

Construction period for the project has been assumed as 24 months i.e. March 2021 to March 2023. Construction Period

For construction period, the distribution of cost for each year is given as below: Investment Schedule

1st Year - 40 % 2nd Year - 60 %

30 years (2021 - 2050) Analysis Period

12% Discount rate

15% Salvage Value

PROJECT COST 1.2.3

Estimated cost for project option is as given in Table 1.2 below.

Table 1.2: Estimated Cost for Construction

Construction Package-1: Km. 132.895 to Km. 190.150	Construction Cost (Rs. in million)
New Two lane carriageway with Paved shoulder configuration + Earthen shoulders of Intermediate / Two Lanes (Total Project Cost = Civil Cost + R&R costs + Environment cost + Shifting of utilities + Forest Clearance Cost + Land Acquisition Cost + Centages)	5843

The foreign exchange component in the total capital cost is insignificant and has been considered to be zero, as all material, machinery and labour are available in India. Standard Conversion factor of 0.85 has been used for converting market prices of road construction and maintenance inputs into economic costs.

Maintenance Cost

Maintenance Cost

For Intermediate lane road

Periodic maintenance cost

Routine maintenance cost -

Rs. 5.00 lakhs per km per year

Rs 1870 per sq.m (Cost of 40mm BC

overlay at 5 year interval)

Maintenance Cost

For Two lane highway

Routine maintenance cost Periodic maintenance cost Rs. 7.00 lakhs per km per year

Rs 2250 per sq.m (Cost of 40 mm BC

overlay at 5 year interval)

1.2.4HOMOGENEOUS BASED ON TRAFFIC SURVEY DATA

Based on the data of the traffic surveys conducted by the consultants in November 2020, the project road has been divided into Single homogeneous traffic sections. The Average Daily Traffic (ADT) are shown in **Table 1.3**. Homogeneous sections based on carriageway type are furnished in **Table 1.1**.

Table 1.3: Homogeneous Traffic Sections

		Length	AADT (2020) (Numbers)		
Section	Chainage (km)*	(km)	Fast	Slow	Total
1	Km. 132.895 – 190.150)	57.255	10275	2657	12950

Note: * Surveyed Chainage

Table: 1.4 Table Percentage Composition of Fast Vehicles

Type of Vehicle	Section-1
Two-wheeler	17.21
Car/Jeep/Auto/Tempo	14.68
Bus/Mini Bus	5.90
2-Axle Trucks	2.61
M-Axle Truck	40.19
LCV	2.61
Tractors With Trailor	2.57

Table 1.5: Table Percentage Composition of Slow Vehicles

Type of Vehicle	Section-1
Cycle	88.40
Cycle Rickshaw & Other	11.60

Table 1.6: Summary of Traffic Growth Rate in % (Fast Moving Vehicle)

Table 1.0. Same	ary of Traffic Growth Rate		2030-2035	Beyond 2035
EVahicle	2020-2025		7.74	7.24
Type of Vehicle	8.74	8.24	6.97	6.47
Two-wheeler	7.97	7.47	the project of the second seco	4.88
Auto/Tempo/Car/Jeep	6.38	5.88	5.38 7.08	6.58
Bus	8.08	7.58	7.08	6.58
2-Axle Trucks	8.08	7.58	7.08	6.58
M-Axle Truck	8.08	7.58	7.08	6.58
LCV Tractors With Trailor	2.00	7.58	in % (Slow Mov	

Table 1.7: Summary of Traffic Growth Rate in % (Slow Moving Vehicle)

Table 1.7: Sur	nmary of Traffic	2020	2030-2035	Beyond 2035
Type of Vehicle	2020-2025	2025-2030	1	1
	2	2	1	11
Cycle Rickshaw	2			

1.2.5ROAD CONDITION AND PAVEMENT DESIGN

Road and pavement characteristics obtained from t he Road Inventory Survey have been used as Model input. These include road length, carriageway width, width of paved shoulders, existing pavement composition, sub-grade CBR, roughness of the existing road (IRI), structural number, BBD and cracking area.

	Table 1.8: Detail	s of existing Pavement Co Section Name	Length in Km.	Carriageway Including Paved
Sl. No.	Chainage			Shoulder in m
	1 77-10	32 895 to Km. 190.150		10.00
Constructi	on Package-1 : Km.	32.895 to Km. 190.150 Baghalpur Built-up	2.105	10.00
Section-1	132.895 to 135.000	Section	3.00	7.00
Section-2	135.000 to 138.000	Prem Nagar, Sabour &Khankitta Built-up		
. Journal		7000	14.00	5.50
Section-3	138.000 to 152.000	Khankitta - Pakkisarai Pakkisarai - Kahalgaon -		7.00
Section-4	152.000 to 190.150	Pirpanti - Mirzachowki		

Construction Package: Km. 132.895 to Km. 190.150

Construction Package: Kin. 1021		w	Section 4	
	Section 1	Section 2	Section 3	
Description of Item	132.895 to	135.000 to	138.000 to 152.000	152.000 to 190.150
	135.000	138.000	5.50	7.00
Carriageway Width	10	7	2.0+2.0	2+2
Existing) Soft Shoulder	2+2	1.5+1.5 2.85	12.261	8.65
Rise and fall	1.65			

Description of Item	Section 1	Section 2	Section 3	Section 4
rtem -	132.895 to 135.000	135.000 to 138.000	138.000 to 152.000	152.000 to 190.150
Curvature (deg/Km)	149	264	126	134
Existing Pavement Thickness	620	660	640	640
BC	40	40	40	40
BM / DBM	145	140	110	110
WBM/WMM	300	280	290	275
GSB	200	200	190	180
Avg IRI (m/km)	7.4	9.15	13.29	10.205
Avg area of cracks (%)	6.10	11.45	18.65	12.40
Avg Potholes (No/Km)	3	9	34	12
Avg Ravelled (%)	2.26	7.32	32.65	12.75
Avg Rut Depth mm	50	65	160	96
Deflection (mm)	2.14	2.67	// I=2900	2.90
CBR (%)	5	5	5	5

Table 1.9: Speed Flow Relationship Data

Project Option	Capacity	Jam Speed	Speed Limit
Existing Intermediate Lane	1200 PCSE/lane/hr	15 Kmph	40 Kmph
Widening to 2 Lane	1400 PCSE/lane/hr	20 Kmph	80 Kmph

1.3 ECONOMIC COST OF VEHICLE PARAMETERS

The economic cost of vehicle parameters like new vehicle cost, new tyre cost, fuel cost, lubricating oil cost, time value cost and cargo cost taken from Manual on Economic Evaluation of Highway Projects in India after converting it to present day Market Rate. The summary of these values is furnished in Table 1.10.

Table 1.10: Summary of Economic Cost of Vehicle Data

	/	New	New Tyre	Fuel Cos	t (Rs/Lit)	Engine	Time	Cargo Cost
S. No.	Vehicle Type	Vehicle Cost (Rs)	Cost (Rs)	Petrol	Diesel	Oil (Rs/Lit)	Value (Rs/Hr)	(Rs/Hr)
1	Car/ Jeep/Van	6,75,950	5,000	84.00		380.00	52.5	•
2	Mini bus	18,08,250	7,020	-	75.00	380.00	14.5	-
3	Bus	34,21,050	11,525		75.00	380.00	14.5	18.5
4	3 W	2,10,000	400	-	23.75	80.00	30.0	-

s.	Vehicle	New	New Tyre	Fuel Cos	t (Rs/Lit)	Engine	Time	Cargo
No.	Туре	Vehicle Cost (Rs)	Cost (Rs)	Petrol	Diesel	Oil (Rs/Lit)	Value (Rs/Hr)	Cost (Rs/Hr)
5	2 W	75,380	650	27.00	-	80.00	22.0	•
6	LCV	14,26,900	3,020	-	23.75	80.00	-	5.00
7	2 A	32,46,800	6,120	- 15	23.75	80.00	- 1	15.00
8	MAV	40,42,325	6,120	-	23.75	80.00	-	25.00

1.4 Economic Internal Rate of Return (EIRR)

Table 1.11: Result of Economic Evaluation

Option	IRR (%)	NPV (Rs. Million)
Road Widening to two lane highway with Paved Shoulder in Built-up Section (With Time Saving)	26.90	6764

1.5 Sensitivity Analysis

Sensitivity Analysis has been carried out as per described in TOR, to examine the effect on economic viability of the project due to change in the level of the key input factors, including construction cost, variation in traffic etc. The sensitivity of the IRR and NPV has been studied under the following change in conditions.

Scenario - I : Base Costs and Base Benefits.

Scenario - II : Base Costs plus 15 % and Base Benefits.

Scenario - III : Base Costs and Base Benefits minus 15%.

Scenario - IV : Combination of Scenario II and III

The sensitivity analysis results of above scenarios are given in Table 1.12

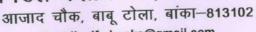
Table 1.12: Sensitivity Analysis Results

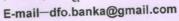
Scenario	IRR (%)
I.	26.90 %
II.	22.64 %
III.	23.17 %
IV.	19.84 %

1.6 CONCLUSION

From the above results of the economic analysis including sensitivity analysis, it can be seen that for all the scenarios, the EIRR is getting higher than the accepted value of 12% for given project. So that, it can be concluded that economically it is beneficial to road users by this improvement.

कार्यालय, वन प्रमंडल पदाधिकारी, बांका वन प्रमंडल, बांका





पत्रांक- 1023

प्रेषक.

अभिषेक कुमार सिंह,(भा०व०से०) वन प्रमंडल पदाधिकारी, बांका वन प्रमंडल, बांका।

सेवा में.

अपर प्रधान मुख्य वन संरक्षक (कैम्पा) —सह— नोडल पदाधिकारी (वन संरक्षण), बिहार, पटना।

बांका, दिनांक-०5. /०)... / २००५

विषय:— भागलपुर जिलान्तर्गत NH-80 भागलपुर—कहलगांव—मिर्जाचौकी (132.895—190.150 कि0मी0) पथांश चौड़ीकरण एवं सुदृढ़ीकरण हेतु वन (संरक्षण) अधिनियम—1980 के तहत 41.559 हे0 वनभूमि अपयोजन प्रस्ताव पर पृच्छा के संबंध में।

प्रसंग :- भवदीय ज्ञापांक-व0स0 / 56 / 2021-583 दिनांक-30-06-2022

महाशय, उपर्युक्त विषयक प्रसांगिक पत्र के संबंध में सूचित करना है कि, विषय से संबंधित मांगी गई भारत सरकार, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, क्षेत्रीय कार्यालय, राँची के पत्रांक—FP/BR/Road/125806/2021/362 दिनांक—27—06—2022 से कंडिका संख्या—4 का अनुपालन प्रतिवेदन पत्र के साथ संलग्न कर भेजी जा रही है।

सूचनार्थ एवं अग्रेतर कार्रवाई हेतु समर्पित।

अनु0—यथोक्त।

वन प्रमंडल जैवाधिकारी, बांका वन प्रमंडल, बांका। विहार RIHAR

FIRST EDITION

No. 72 5 Magnetic Variation from True North about 1 West in 1975. BHAGALPUR AND (Decreasing by about 2 amsually). MUNGER DISTRICTS. Surveyed 1976-77. 86 45 Dense mixed jungle Moltandiya Open mixed jungle moinly sal Dense mixed jungle Gangalyādīha BADUA RESERVOIR Gobardaha . Kolkhariya Pahai Paprowakhar Pahar Kharwara 4234. Open scrub Hathi yapothan Burhikhār Dispensary Bhīkha Pahār Bhusio Bocky knobs a s Bhikha PiproBo a Open mixed jungle Bela gooting on Bornguniya Rocky, knobel and Bhelwa Kessikre - = Ba Galgala jarudan a Bary Fairly dense mixed Jungle 86 30 E. of GREENWICH. PRINTED AT THE 102(PLO:PRINT NO GROUP OF SCRUCT OF INDI REG No 4695 D'80 (E. C. 2-1:33,333) - 700 '82 - 13416' 94. भारत के महामवेशक मेजर-जनरस कियारा साल खायता है विरक्ष में वधायत Administrative ladex Fuhlished under the direction of Maux-General Kishuti Lal Risc to Towns or Villages: inhabited:deserted fort Index to Sheets 170V unmetalled, do. de bridge ... ==== ===== Temple. Chitatri. Church. Mosque İdşah. Tomb Graves . A & A & $72\frac{K}{6}$ $12\frac{K}{12}$ $72\frac{K}{16}$ 1:50,000 Cart-track Pack-track and pass, foot-path with bridge. Lighthouse. Lightship. Buoys: lighted: unlighted. Anchorage... I & & A. 500 m to 1 cm Mine. Vine on trellis. Grass. Scrub M: tres 1000 500 0 1 Streams: with track in bed: undefined. Canal. . . . Festive paintyratouren Frantain. Control Bamboo Other trees. V 17 7 Daws masonry or rock filled: aarthwork Wolf.... HEIGHTS & CONTOURS IN METRES River banks shelving: steep. 3 to 6 metres; over 6 metres. ., State: domarcated: undemarcated CONTOUR INTERVAL TO METRES dry with water channel; with island & rocks. Tidal river. .. V district; subdivn.,tahsil or taluk; forest Concess are approximate *Water features are shown in blue where Submarged rocks Shoal Jwamp. Reeds : 6006 4000 Boundary pillars: surveyed, unlocated: village trijunction ... I MUNGER. A returne height, dr. represents the they generally contain water. Heights.triangulated station, point: approximate A 200 approximate height, in metres between the "Cultivated areas are coloured yellow. .BM 63-3 .8M 63-3 .6 Bench-mark: geodetic: tertiary: canal top and bottom of a steep slope. The exterior boundaries of areas of Post office Telegraph office Combined office Police station PO 10 Wooded areas are coloured green. Scattered Reserved or Protected Forests are shown by other gauges do ; do with distance stone; do ######## trees and other vegetation are in green, but green ribancs. Spaced names: administrative: locality or tribal. Circuit house. Camping ground. Forest: reserved. protected . CH CG prominent surveyed trees are in black Contours with sub-features. Rocky slopes. Cliffs. All unmetalled roads along canals are motorable in dry season whereas the cartifucial are jeepable in dry season. Permission to use these is season to use these is a relative height season. A relative height season to use these is season. Sand features filliat (2) sand hills and dunes (surveyed)(3) shifting dunes GOVERNMENT OF INDIA COPYRIGHT, 1980. 1st Edition 1980 (Previous Edition on 1-inch scale: 1923 / 1st 1945). required from the Irrigation authorities A relative height, e.g., or marker along a canal, indicates the leight of the top of the canal embankment above the adjacent country. Tanks, shown dry, in this area usually contain water from July to November. Forest boundaries have not been shown for want of reliable information REFER TO THIS MAP AS :- 1:50.000 SHEET 72 L/9 FIRST EDITION INDIA भारत