

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार)

National Highways Authority of India

(Ministry of Road Transport & Highways, Govt. of India)

परियोजना कार्यान्वयन ईकाई—वसन्त विहार। Project Implementation Unit-Vasant Vihar

मकान सं0 171, फेज- ।, वसन्त विहार, देहरादून – 248006 House no.171, Phase-I, Vasant Vihar, Dehradun - 248006 दूरभाष/Phone: 0135-2760001 ई—मेल/E-mail: piuvasantvihar@nhai.org वेब/Web:www.nhai.gov.in

NHAI/PIU/VV/2023/Jajhra-Asharori/Forest/ 6011

Dt.02.02.2024

To,

Divisional Forest Officer

Dehradun. Forest Division

Dehradun.

Sub: Consultancy Services for Feasibility Study/Detailed Project Report for Development of 4-lane Greenfield road connecting NH-7 (old NH-72) near Jhajhra to Delhi-Dehradun Expressway NH-307 (old NH-72A) at Asharori from Km. 0.000 to Km. 12.000 in the State of Uttarakhand - Forest Clearance – EDS Reply (Proposal No. FP/UK/ROAD/140350/2021).

सन्दर्भः भारत सरकार पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, देहरादून के पत्र सं08बी / यू.सी.पी / 06 / 67 / 2023 / एफ0सी0 / 929 दिनांक 16 / 10 / 2023

Sir,

The proposals for the forest clearance were submitted through MOEF&CC web portal on 14.09.2023 by the State Government, Uttarakhand to the Regional Office, Uttarakhand. The Regional office, MoEF&CC Uttrakahand has raised an EDS dated 16th October, 2023. The point wise compliance of EDS is as below:

Uttrak	cahand has raised an EDS dated 16" October, 2023. The	ne point wise compliance of EDS is as below:
Sl. No.	Observations	Reply by User Agency
i.	According to the DSS analysis of the CA area, a KML file of 53.25 ha area was uploaded instead of the correct 40.1698 ha area, which appears to be incorrect. The State Government is requested to upload the revised/corrected KML file	KML file corrected and to be uploaded by concerned Forest Division.
ii.	The DSS analysis of the CA area indicates that 6 ha area is designated as Very Dense Forest (VDF) and 9 ha as Moderately Dense Forest (MDF), proposed on degraded forest land. The State Government is requested to choose an alternative area instead of the one falling within VDF and MDF.	Kudog 21patch is replaced by Kudog 20b. Accordingly KML file and CA Map are corrected and to be uploaded by concerned Forest Division.
iii.	The Sol Toposheet and digital map of the CA area, as mentioned in para 13 of Part II, have not been uploaded. The State Government is requested to upload the Sol Toposheet and digital map of the CA area at para 13 in Part II of the proposal.	Toposheet and digital Map to be uploaded by concerned Forest Division.
iv.	The muck disposal plan states that the complete muck will be consumed. The State Government is requested to submit the muck disposal plan duly authenticated by the concerned DFO.	Muck disposal Plan is placed as प्रारूप-49 duly authenticated by DFO copy is attached as Annexure-1.
V.	The proposed width is up to 45 meters, which seems to be on the higher side. The State Government is requested to submit a copy of MoRTH norms regarding width in hilly areas.	In forest area a ROW of only 30 m has been proposed in most of length. The ROW of 45 is proposed in private land areas only in 426 m length due to following constraints: In km 2.260 to 2.444 there is deep cutting of 8-12 m and in km 4.815 to 5.057 the Service roads on either side (2x2 Lane are also to be accommodated along with 2x2 Lane main highway, being close to interchange. The project road is falling plain and rolling terrain. The recommended ROW for 4-Lane Highways is as below: 45m as per IRC:73-2023 Geomatric Design Standards for Non-Urban Road-Para 4.1, Table 4.1 (copy attached as Annexure-2A) 60 as per IRC:SP-84-2019, Mannual for four laning
		highways –Para 2.3 (copy attached as Annexure–2B)

Contd. ...2

मुख्यालय : प्लाट सं० जी—5 एवं ६, सैक्टर—10, द्वारका, नई दिल्ली—110075, दूरभाष : 91—11—25074100/200 Head Office : Plot No. G-5 & 6, Sector-10, Dwarka, New Delhi – 110075, Phone: 91-11-25074100/200

:: 2 ::

vi.	In the SIR of DFO, the entire area is mentioned to be in the reserve forest, and in para 2 of Part II. However, in the land schedule, 0.3877 ha area is marked as civil soyam land. The State Government is requested to	It is clarified that out of a total 20.0849 Ha proposed for diversion, 0.3877 Ha is Section 4 Land. Hence included under area of Forest Diversion.
vii.	clarify this discrepancy. The proposed road is affecting 6574 trees. The State Government is requested to submit details of the alternatives examined and the reasons for their rejection.	Best efforts were made to minimize the no. of trees as well as forest land proposed for diversion and alternatives is also examined but selected route is most viable with minimum tree involvement. The details of alternatives considered along with their merits and demerits
viii.	The State Government is requested to clarify the necessity of cutting all the 6574 trees in the Right of Way (Row considering the area is almost flat. Additionally, re-examine the situation and submit details of the trees that are actually required to be felled.	are attached as Annexure-3 The top width for a 4-lane divided highway with a minimum 2.5 m of median works out to be 23.5 m in plain and rolling terrain. The ground is not exactly flat and is undulating in which cutting and fillings are required in most of length. Even with 1 m fill the toe line width works out to 27.5 m leaving no space for trees. Therefore all the trees coming in the proposed ROW have to be cut. It may however be mentioned that out of 6574 trees 2118 are saplings, which can be transplanted in the nearby forest.
ix.	The State Government is requested to re-examine the fact that the project does not affect wildlife and submit their comments accordingly.	The proposed alignment in forest land runs very close to the forest boundary having urban settlement in the vicinity. Hence there is no question of cross-movement of wildlife in this area. Accordingly, NOC was accorded by CWLW, Uttarakhand vide their letter no.455 dt.11.08.2021 enclosed as Annexure-4.

An early action in this regard is highly solicited please.

Thanking you.

Encl.:

- 1. A copy of Time Line
- 2. EDS dated 16.10.2023
- 3. Annexure-1- Muck disposal plan
- 4. Annexure-2A- IRC:73-2023
- 5. Annexure-2B IRC:SP:84-2019.
- 6. Annexure-3 Alternate alignments
- 7. Annexure-4 CWLW, Uttarakhand NOC letter no.455 dt.11.08.2021.

Yours sincerely

(Pankaj Kumar Mourya) GM (Tech) cum Project Director PIU-Vasant Vihar (Dehardun)

Copy to: TL, M/s Yongma Engg. Co., Dehradun.

TimeLine Details

Proposal received date at each stage of flow.

A. General Details

(i). Proposal No.: FP/UK/ROAD/140350/2021

(ii). Name of Project for which Forest Land is required: Development of 4-lane Greenfield road connecting NH-7 (old NH-72) (near Jhajhra) to Delhi-Dehradun Expressway NH-307 (old NH-72A) at Asharori Section from Km. 0.000 to Km. 12.000 in the State of Uttar (iii). Short narrative of the proposal and Project/scheme for which the forest land is required: Development of 4-lane Greenfieldroad connecting NH-7 (old NH-72) (near Jhajhra) to Delhi-Dehradun Expressway NH-307 (old NH-72A) at Asharori Section from Km. 0.000 to Km. 12.000 in the State of Uttarakhand.

(iv). State: Uttarakhand

(v). Category of the Project: Road

(vi). Shape of forest land proposed to be diverted : Linear

(vii). Area of forest land proposed for diversion(in ha.): 20.0849

B. Time Line

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Proposal No.	Submitter by User Agency	Submitted Query for Resubmission Nodal U.A. Shortcoming(ifof Proposal Officer for rece any) by Nodal by User Submitting rece Agency Agency Hard from Copies DC	Resubmission of Proposal by User Agency	Query by Uploading Nodal Copies of Officer for receipt submitting received Hard from DFO Copies DC	ading(by	Division Circle		Nodal Strice Office	State Region Government Office	lal	Stage- Stage-II ApprovalApprova	Stage-l Stage-ll ApprovalApproval on
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C. Essential Details Sought History 5

		Communication between	Division & User Agency	
		Communication between	Circle & Division	
		Communication between	Nodal Officer & Circle	
	Communication between	State Government & Nodal	Officer	
Commission Labor	Communication between	Regional Office & State	Government	

परियोजना निर्देशक / Project Director भारतीय राष्ट्रीय राजमार्ग प्राधिकरण National Highways Authority of India (सड़क परिवहन राजमार्ग मंत्रालय, भारत सरकार) Ministry of Road Transport & Highways पीठआई०यृ०-वसन्त विहार, वेहरादून

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Query raised by Circle (Shivalik) on: 06/06/2023	Replied by DFO (Dehradun) on:23/06/2023	Query raised by Circle (Shivalik) on: 23/06/2023	Replied by DFO (Dehradun) on:23/06/2023	Query raised by Circle (Shivalik) on: 22/07/2023	Replied by DFO (Dehradun) on:14/08/2023	Query raised by Circle (Shivalik) on:20/10/2023	Replied by DFO () on:			- evenoushed type over		
Query raised by Nodal Officer (Uttarakhand) on:02/06/2023	Replied by Cirde(Shivalik) on: 28/06/2023	Query raised by Nodal Officer (Uttarakhand) on:21/07/2023	Replied by Cirde(Shivalik) on: 14/08/2023	Query raised by Nodal Officer (Uttarakhand) on:19/10/2023	Replied by Circle() on:							
Query raised by State Government (Uttarakhand)												
Query raised by Regional Office (Dehradun) on:16/10/2023										म्मा निरेशक	Project Di जनमानं जाव जनमानं जाव अर्ड Authori भागं मंत्रालन,	rector करण क्रिए India
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NOTE:- Proposal is pending at DEO due to EDS raised by Regional Office.



भारतसरकार / GOVERNMENT OF INDIA पर्यावरण, वनएवंजलवायुपरिवर्तनमंत्रालय / Ministry of Environment, Forest & Climate Change क्षेत्रीयकार्यालय, देहरादून /

Regional Office, Dehradun

25 सुभावरोड, देहरादून-248001/25 SUBHASH ROAD, DEHRADUN-248001 दूरभाष/PHONE-0135-2650809, ईमेल/ E-mall-moef.ddn@gov.in

पत्रसं0 8बी/यू.सी.पी./06/67/2023/एफ.सी. / 929 सेवा में

दिनांक: 16/10/2023

अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी वन संरक्षण, इन्दिरानगर फारेस्ट कालोनी. उत्तराखण्ड, देहरादुन।

विषय:- उत्तराखण्ड राज्य में राष्ट्रीय राजमार्ग-72 ((झाझराके पास) दिल्ली-देहरादून एक्सप्रैस वे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड का विकास किमी 0 0.000 से किमी 0 12.00 तक निर्माण हेतु 20.0849 है0 वन भूमि का गैर वानिकी कार्यों हेतु भारतीय राष्ट्रीय राजमार्ग प्राधिकरण को प्रत्यावर्तन।(Online Proposal No. FP/UK/ROAD/140350/2021)

सन्दर्भ:- कार्यालय- अपरप्रमुख वन संरक्षक एवं नोडल अधिकारी,वन संरक्षण,उत्तराखण्ड का पत्रांक -321/12-1 दिनांक14.08.2023(received online on 14.09.2023)

महोदय.

उपर्युक्त प्रस्ताव पर ध्यानपूर्वक विचार करने के उपरान्त मुझे आपको यह सूचित करने का निर्देश हुआ है कि विषयांकित प्रस्ताव में निम्नलिखित त्रुटियाँ पाई गयी है । राज्य सरकार निम्नलिखित बिन्दुओं पर आवश्यक सूचनायें प्रेषित करने का कष्ट करें, ताकि अग्रिम कार्यवाही सुनिश्चित की जा सके:-

i. According to the DSS analysis of the CA area, a KML file of 53.25 ha area was uploaded instead of the correct 40.1698 ha area, which appears to be incorrect. The State Government is requested to upload the revised/corrected KML file.

ii. The DSS analysis of the CA area indicates that 6 ha area is designated as Very Dense Forest (VDF) and 9 ha as Moderately Dense Forest (MDF), proposed on degraded forest land. The State Government is requested to choose an alternative area instead of the one falling within VDF and MDF.

iii. The Sol Toposheet and digital map of the CA area, as mentioned in para 13 of Part II, have not been uploaded. The State Government is requested to upload the Sol Toposheet and digital map of the CA area at para 13 in Part II of the proposal.

> परियोजना निहेशक/Polect Director भारतीय राष्ट्रीय राजमार्ग प्राधिकरण भारताय राष्ट्राय राजमाग ग्राधकरण National Highways Authority of India (सड़क परिवहन राजमार्ग मंत्रात्य, भारत (सड़क परिवहन राजमार्ग मंत्रात्य, & Highways Ministry of Road Transport & Highways प्राठमार्थकर्युठ-वसन्त विहार, देहराडून

iv. The muck disposal plan states that the complete muck will be consumed. The State Government is requested to submit the muck disposal plan duly authenticated by the concerned DFO.

v. The proposed width is up to 45 meters, which seems to be on the higher side. The State Government is requested to submit a copy of MoRTH norms regarding width in hilly areas.

vi. In the SIR of DFO, the entire area is mentioned to be in the reserve forest, and in para 2 of Part II. However, in the land schedule, 0.3877 ha area is marked as civil soyam land. The State Government is requested to clarify this discrepancy.

vii. The proposed road is affecting 6574 trees. The State Government is requested to submit details of the alternatives examined and the reasons for their rejection.

viii. The State Government is requested to clarify the necessity of cutting all the 6574 trees in the Right of Way (RoW) considering the area is almost flat. Additionally, re-examine the situation and submit details of the trees that are actually required to be felled.

ix. The State Government is requested to re-examine the fact that the project does not affect wildlife and submit their comments accordingly.

उपरोक्त के क्रम में जवाब प्राप्ति के उपरांत ही प्रस्ताव पर अग्रिम कार्यवाही की जा सकेगी।

(सन्नी गोयल)

तकनीकी अधिकारी (वानिकी)

प्रतिलिपि सूचनार्थ एवं आवश्यक कार्यवाही हेतु:-

1. अपर मुख्य सचिव (वन) उत्तराखण्ड शासन, सुभाष रोड़, देहरादून।

(सन्नी गोयल) तकनीकी अधिकारी (वानिकी)

परियोजना निर्देशक / Project Director भारतीय राष्ट्रीय राजमार्ग प्राधिकरण भारतीय राष्ट्रीय राजमार्ग प्राधिकरण National Highways Authority of India (सङ्क परिवहन राजमार्ग मंजालय, भारत (सङ्क परिवहन राजमार्ग मंजालय, भारत सङ्क परिवहन राजमार्ग पंजालय, देहरावून भागां प्राध्नाव प्राध

IRC:73-2023

GEOMETRIC DESIGN STANDARDS FOR NON-URBAN ROADS

(First Revision)



परियोजना प्राप्त /Project Director आरतीय गुणिल राजमाने प्राधिकरण National Highways Authority of India
(सङ्क परिवर्षन राजमान मंत्रालन, भारत सरकार)

INDIAN ROADS CONGRESS (अक्षाविक्य राजमार्ग मंत्रालय, भारत सरकार) (सङ्क परिवर्धन राजमार्ग मंत्रालय, भारत सरकार) 2023

distance of an object stereoscopically and its speed are important to the road user. Older drivers have special needs that should be considered in roadway design and traffic control.

Hearing is an aid to the road user which can at times be very vital. The sound of a horn or the sound of the nearby vehicle itself can alert a pedestrian to safely cross or doing other manoeuvre. Elderly persons with poor eyesight can perceive better through hearing than through seeing.

The important psychological characteristics of road user include perception, intellection, emotion and volition, abbreviated as PIEV and the time taken for these processes is known as PIEV time. Perception is the process of perceiving the sensations received through the eyes, ears, nervous system and brain. Intellection is the identification of the stimuli by the development of new thoughts and ideas. Emotion is the personal trait of the individual that governs his decision-making process, after the perception and intellection of the stimuli. Volition is the will to react to a situation. This PIEV time is used in the calculation of sight distance. According to AASHTO Green book, average PIEV time ranges from 0.6 seconds to 2 seconds when an event is expected, and it increases by 35 percent in case of unexpected events. Thus, for a simple, unexpected decision and action, some drivers may take as long as 2.7 seconds to respond. A complex decision with several alternatives may take several seconds longer than a simple decision. In India, a design value of 2.5 seconds is taken for calculating the required stopping sight distance and 2.0 seconds for calculating the required overtaking sight distance.

3.3.4 Traffic

The volume and characteristics of traffic should be considered for the design of a roadway. Traffic volumes for an interval of time shorter than a day more appropriately reflect the operating conditions that should be used for the design and mostly, in all the cases, adequate time period is considered to be one hour. Due to the changing traffic pattern during the various hours of the day, a key decision is involved in determining the appropriate hourly volumes for design. It would be uneconomical if maximum peak-hour traffic during a year is used for design and if average hourly traffic is used, it would lead to inadequacy. So, always a reasonable value of traffic is considered for the geometric design. The traffic characteristics include directional distribution, composition and speed of traffic which are necessary to be considered for the geometric design.

3.3.5 Environment and Economy

The term environment includes human, animal, and plant communities and the forces acting on all the three. The roadway design should be in such a way that it would not affect the sustenance and quality of human life. The design developed considering all the above factors should be economical and must be within the allocated budget for the construction and maintenance of roadways.

The roadway geometric design should be in such a way that the overall aesthetics of the environment is not affected.

4. CROSS-SECTIONAL ELEMENTS

4.1

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nd its nd Road land width (also termed the Right-of-Way) is the land acquired for rolling का प्राप्त का अपने का अपने का प्राप्त का अपने का प्राप्त का अपने का अ

for accommodating cross sections, improvement of geometrics, realignment, junctions, bypasses etc., should be acquired by the authority. A minimum ROW to be available for development of highways is given in **Table 4.1**. Desirable land widths for other classes of roads are indicated in **Table 4.2**.

Table 4.1 Recommended Right-of-Way for Highways and Expressways

S. No.	Road Classification	Minimum Right of Way
1	2- lane Highways	30 m
2	4- lane Highways	45 m
3	6- lane Highways	60 m
4	8- lane Highways	120 m
5	Expressways	90-120 m
6	2- lane Highways with Bypasses	45-60 m
7	2- Iane Highways in Open Areas** (Mountainous and steep terrain)	24 m 18 m (Exceptional)
8	2- Iane Highways in Built-up Areas** (Mountainous and steep terrain)	20 m 18 m (Exceptional)

Note: The ROW width must include the 2 m wide strip on either side reserved for placement of utilities outside the fencing.

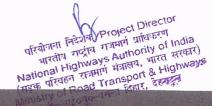
Table 4.2 Recommended Right-of-Way for Other Classes of Roads (in m)

S.	Road	Pla	in and Ro	olling Terr	ain	Mountainous and Steep Terrain			
No.	Classification	Open	Areas	Built-up	Areas	Ope	n Areas**	Built-	up Areas**
1401	Old Don to de l'Oli	Normal	Range	Normal	Range	Normal	Exceptional	Normal	Exceptional
1	Major District Roads	25	25-30	20	15-25	18	15	15	12
2	Other District Roads	15	15-25	15	15-20	15	12	12	9
3	Village Roads	12	12-18	10	10-15	9	9	9	9

^{**}In order to ensure proper sight distance and for the circumstances given below in notes, it will be necessary to acquire additional right of way over that indicated in Table 4.1 and Table 4.2

Notes

- 1. Right of way shall be enough to ensure minimum setback of 5 m for building line from edge of road land boundary.
- 2. Additional land is required at locations involving deep cuts to maintain stability of slopes, high fills and unstable/land slide area.
- 3. If the road is planned to be upgraded in the future, land width shall correspond to higher class of road.
- 4. Keeping in view the fast pace of ribbon development of habitation along the roads in hilly/ mountainous region, encumbrance free future expansion and safety of road users, minimum two-lane carriage way road as per national highway standard shall be planned and the land width shall be planned accordingly.
- 5. In case of village roads where initially it is decided to construct single lane carriage way due to low volume of traffic, the width of the land to be acquired shall be planned for two lane road as per national highway standards in the beginning for safety of road users and to take care of encumbrance free future expansion on account of ribbon development along right of way.



IRC:SP:84-2019

MANUAL OF SPECIFICATIONS AND STANDARDS FOR FOUR LANING OF HIGHWAYS

(Second Revision)



विश्वीजना निर्मेक /Project Director भारतीय नीजीय गणभागे प्राधिकरण भारतीय नीजीय गणभागे प्राधिकरण National Highways Authority of India श्रम्था गण्यहेन राजभागे मंत्रालय, भारत सरकार) (सङ्क गण्यहेन राजभागे मंत्रालय, श्रम्था स्माधिक स्

INDIAN ROADS CONGRESS 2019

Table 2.1 Design Speed

Nature of Terrain	Cross Slope of the	Design	Speed (km/h)
	Ground	Ruling	Minimum
Plain and Rolling	Up to 25 percent	100	80
Mountainous and Steep	More than 25 percent	60	40

Short stretches (say less than 1 km) of varying terrain met with on the road stretch shall not be taken into consideration while deciding the terrain classification for a given section of Project Highway.

2.2.2 In general, the ruling design speed shall be adopted for the various geometric design features of the road. Minimum design speed shall be adopted only where site conditions are restrictive and adequate land width is not available. Such stretches where design speed other than ruling speed is to be adopted shall be as indicated as deviation in **Schedule 'D'** of the Concession Agreement.

2.3 Right-of-Way

A minimum Right of Way (ROW) of 60 m should be available for development of a 4-lane highway. The Authority would acquire the additional land required, if any. The land to be acquired shall be indicated in **Schedule** 'B'of the Concession Agreement. The consideration for planning, design and construction described in Para 1.13 shall apply.

2.4 Lane Width of Carriageway

The standard lane width of project highway shall be 3.5 m.

2.5 Median

2.5.1 The median shall be either raised or depressed. The width of median is the distance between inside edges of carriageway. The type of median shall depend upon the availability of Right of Way. The minimum width of median, subject to availability of Right of Way, for various locations shall be as in **Table 2.2**.

Table 2.2 Width of Median

	Mi	nimum Width of Media	n (m)
Type of Section	Plain and	Rolling Terrain	Mountainous and Steep Terrain
	Raised*	Depressed Median	Raised*
Open country with isolated built-up area	5.0	7.0	2.5
Built up area	2.5	Not Applicable	2.5
Approach to grade separated structures	5.0	Not Applicable	2.5

^{*} Including Kerb shyness of 0.50 m on either side. In the existing 4-lane reaches also, the minimum kerb shyness of 0.5 m shall be maintained. This additional width for kerb shyness shall be catered by augmenting the carriageways toward the shoulder side. The type and widths of median in various stretches of Project Highway shall be as indicated in **Schedule 'B**'.

परियोजना निर्देशम्/Project Director भारतीय मर्प्ट्रीय मजमार्ग प्राधिकरण National Highways Authority of India (सङ्क परिवहन राजमार्ग मंत्रालय, भारत सरकार) Ministry of Road Transport & Highways गीठआई०यु०-वसन्त विहार, देहराहून

Alternative Alignments

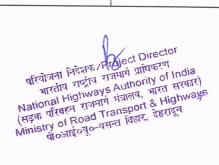
Three (3) alignments were considered as shown in Fig 1. A comparative statement showing their merits and demerits are given in Table 1. Out of these, alignment No. 2 was considered most appropriate. Alignment 3) in which forest length is less, but, it was not preferred on account of the following:

- i) Social impact is high (91) houses are affected.
- ii) Overall project cost is high.

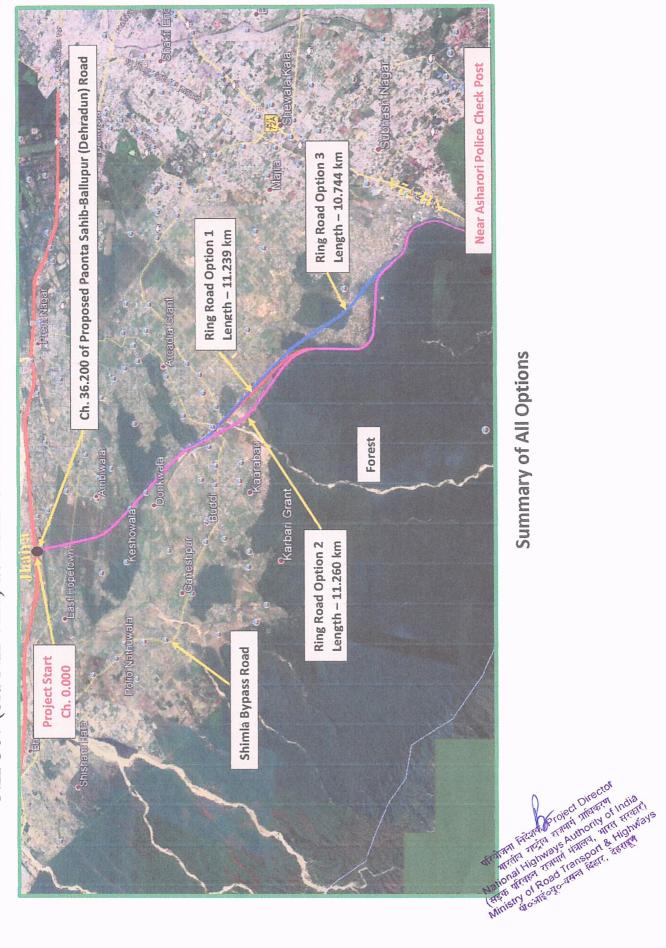
परियोजना नियान /Project Director
परियोजना नियान /Project Director
भागतीय मार्थ्य राजमार्ग प्राधिकरण
भागतीय मार्थ्य राजमार्ग प्राधिकरण
National Highways Authority of Road Transport & Highways
Ministry of Road Transport के स्वाधिकर प्राधिकरण विश्वार स्वाधिकर स्वाधि

Table 1: Comparative Statement of Alternate Alignments

Sl. No. 1 2 3 4	Features Total Length Greenfield Length Terrain Speed, Kmph	Option - 1 11.239 km 11.239 km	Option - 2 11.260 km	Option - 3 10.744 km
3 4	Greenfield Length Terrain	11.239 km		10.744 KM
3 4	Terrain		11 260 Irms	1
4		D = 111 m = /TT!11		10.744 km
	Speed, Kmph	Rolling/Hilly	Rolling/Hilly	Rolling/Hilly
5		80	80	80
	Geometrics	4 curves with radius less than 400m.	4 curves with radius less than 400m.	2 curves with radius less than 400m.
6	Features	Passes through, forest, Built-up, agriculture land	Passes through, forest, Built-up, agriculture land	Passes through, forest, Built-up, agriculture land
7	ROW	30m / 45 m	30m / 45 m	30m / 45 m
	Number of	Major bridges 1	2	1
8	Structures	Minor bridges 13	12	12
		VUP/VOP 5	5	7
9	Houses affected	37 Nos.	23 Nos.	91 Nos.
10	Forest Length	5589 m	6660 m	3444 m
11	Area Required for LA (Hectares)	27.23 На.	20.18 На.	32.18 ha
12	Forest Land	18.99 На	22.21 Ha	12.56 На
13	Number of Tree to be cut	6550	6500	5200
14	Cost			
	Land Acquisition Cost (Rs. in Cr.)	286.56	215.88	365.76
	Forest Land CA Cost (Rs. in Cr.)	2.100	2.456	1.389
Marriago Parla e consuma popular	R & R Cost (Rs. in Cr.)	4.442	4.905	12.355
	Total Cost LA + R& R (Rs. in Cr.) (LA+R&R+Forest CA)	293.10	223.24	379.50
	Utility shifting cost	2	2	5
	Civil Cost	240	250	260
	Total capital Cost	535.10	475.24	644,50
13	Social	social Impact will be Medium	Social Impact will be least	social Impact will be highest
14	Economical	High social and structure cost	Minimum social and structure cost	High social and structure cost
Rec	commendation	No	Yes	No



Connecting NH-7 (old NH-72) (near Jhajhra) to Delhi-Dehradun Expressway NH-307 (old NH-72A) at Asharori Section from Km. 0.000 to Km. 12.000



परियोजना का नाम:— उत्तराखण्ड राज्य में रा०रा०-72 (झाझरा के पास) को दिल्ली-देहरादून एक्सप्रेसवे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड का विकास कि०मी० ०.००० रो कि०मी० 12.000 तक निर्माण के सम्बन्ध में।

मुख्य वन संरक्षक, अनुश्रवण, गूल्यांकन, आई०टी० एवं आधुनिकीकरण द्वारा उत्तराखण्ड राज्य में रा०रा०—72 (झाझरा के पास) को दिल्ली—देहरादून एक्सप्रेसचे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड का विकास कि०मी० 0.000 से कि०मी० 12.000 तक निर्माण हेतु याचित वन भूमि की राजाजी टाइगर रिजर्व की सीमा से हवाई दूरी 1.2 कि०मी० सिन्तकट आंकलित की गयी है। प्रस्तावित परियोजना / कार्यस्थल राष्ट्रीय पार्क / वन्यजीव विहार के अन्तर्गत स्थित नहीं है। इस परियोजना के निर्माण से वन्यजीवों पर कोई विपरीत प्रभाव पड़ने की सम्भावना नहीं है। भारत सरकार का पत्रांक 6-60/2020 WL दिनांक 16 जुलाई 2020 के अनुसार उक्त प्रकरण में किसी प्रकार की पर्यावरणीय रवीकृत की आवश्यकता नहीं है।

अतः उक्त परियोजना निर्माण हेतु जनहित में सहमति व्यक्त की जाती है।

(जे भ्रति सुहाग) मुख्यवन्य जीव प्रतिपालक, उत्तराखण्ड।

कार्यालय मुख्य वन्यजीव प्रतिपालक, उत्तराखण्ड

85-राजपुर रोड, देहरादून (जलराखण्ड), फोन न0-0135-2742884 फेक्स-2745691 ई-मेल-<u>cwlwua@yahbo co.in</u>

पत्रांक 455 /12-1 देहरादून

दिनांक

) अगस्त, 2021

प्रतिलिपि निम्नलिखित को आवश्यक कार्यवाही हेतु प्रेषित -

1. प्रभागीय वनाधिकारी, देहरादून वन प्रभाग, देहरादून।

2. मै0 योंग्मा इन्जीनियरिंग को० लि०।

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(जे०एस० सुहाग) मुख्यवन्य जीव प्रतिपालक, उत्तराखण्ड।

परियोजना निरंशिक Project Director भारतीय राष्ट्रीय राजमार्ग ग्राधिकरण National Highways Authority of India (सङ्क परिवर्षन राजमार्ग मंत्रालय, भारत सरकार) (सङ्क परिवर्षन राजमार्ग मंत्रालय, & Highways Ministry of Road Transport & Highways पाठआई०यू०-वसन्त विहार, वेहराहून

प्रारूप-49

Muck Disposal Plan

Name of Project:-"Development of 4-lane Greenfield road connecting NH-7 (old NH-72) (near Jhajhra) to Delhi-Dehradun Expressway NH-307 (old NH-72A) at Asharori Section from Km. 0.000 to Km. 12.000 in the State of Uttarkhand."

Proposal No.: FP/UK/ROAD/140350/2021

Date of Proposal: 01/04/2021

INTRODUCTION

Muck generation is considered a significant impact on land environment and the excavation shall result in large quantity of excavated material i.e. muck which shall have to be excavated and disposed of in a planned manner so that it takes a least possible space and is not hazardous to the environment. The muck disposal sites cause increased sedimentation in the rivers (though insignificant compared to natural sedimentation) and totally spoils the visual aesthetics of the area. It is of prime importance that these sites will have to be rehabilitated as soon as the disposal sites are full.

QUANTITY OF MUCK TO BE GENERATED

In the forest portion of the project highway, cutting is involved in the development of the road. The cutting material comprises soil, boulders, rock and vegetation. It is observed that the volume of cutting is very small as compared to the volume of earth required in the construction of the embankment. Thus entire earth in cutting will be utilised in embankment construction for the same project, partly in the forest portion and partly outside the forest. The boulders will be used in slope pitching as erosion control, and as bed protection work for culverts and bridges. The vegetation cover generated will be stored and used for reapplication on earthen slopes. Thus the entire quantity of excavated material will be utilised in the construction of the project road and no dumping site is required for muck. The details are as under.

MCUK GENERATION FROM PROJECT COMPONENTS AND UTILIZATION

SI. No.	Project Component	Muck Generation Quantity (Cum)	Project Component	Muck utilization Quantity (Cum)
1	Road cutting	443,408	Road raising	530,582
	Total	443,408		530,582
	Excess Quantity req Disposed	uired to	(-) 87,174	

The total quantity of generated muck to be disposed of is nil.

मागीय वसाधिकारी

परियोजना निवेशक / Project Director भारतीय गर्द्राय राजमार्ग ग्राधिकरण भारतीय राज्द्राय राजमार्ग ग्राधिकरण National Highways Authority of Road Transport & Highways (सङ्क परिवहन राजमार्ग मंत्रालय, देहराहून प्रांतिकाई) प्रांतिकाई व्युठ-वसन्त विहार, देहराहून

परियोजना निर्देशक /Project Director भारतीय राष्ट्रीय राजधार्ग प्राधिकरण National Highways Authority of India (सङ्क परियहन राजधार्ग पंजालय, भारत सरकार) Ministry of Road Transport & Highways पाठजाई०यु०-यसन्त विहार, वेहरादून

Page 1 of 3

DISPOSAL OF MUCK

As detailed above total quantity of muck likely to be generated is 443,408 Cum. The entire quantity will be utilized in the project work itself.

As muck is property of the Forest Department royalty will be paid as per prevailing norms.

Sl. No.	Particulars	Remarks
1	Calculation of muck to be generated. Swell factor to be applied.	Total quantity of generated muck is 443,408 Cum
2	Quantity of muck to be utilized in the project activities	530,582 Cum
3	Balance quantity of muck which requires disposal/management plan.	Nil
4	Carriage of muck from the muck generation site to the dumping site.	As per contract conditions muck will be carried by contractors at their own cost which will be included in the civil cost.
5	Ownership of land and the consent of landowners in case muck disposal is proposed on non-forest land.	Since entire muck generated will be utilised in the road construction on the acquired land, no consent of land owners is required.
6	Carrying capacity of proposed dumping site (Muck disposal site)	No dumping site is required.
7	Development of dumping site construction of retaining walls and other structure as per requirement of the site. The objective is to completely stop rolling down of the muck.	Not applicable, due to the reasons given against item 5 and 6.
8	Rehabilitation of dumping site like levelling, planting of grass, shrubs and tree species.	Not applicable, due to the reasons given against item 5 and 6.

Note: Cost to be incurred on the above activities has to be given component-wise under civil cost.

Details of dumping site including length, width, and height of structures to be erected must be mentioned – The cost is included in civil cost in Bill No. 1, 2, 3, 5, 6, 7 and 8.

परियोजना निवेशक Project Director ग्राग्सीय राज्येन राजमार्थ प्राधिकरण National Highways Authority of India (सड़क परिवाहन राजमार्थ प्रशास्त्र, भारत सरकार) Ministry of Road Transport & Highways प्राधानार्थकाल्यान विस्तर, वेहराडून विशोजना निरंपे अपूर्ण Project Director अपूर्ण नार्याच्या प्राप्त प्र प्राप्त प्र प्राप्त प्र प्राप्त प्र प्राप्त प्र प्राप्त प्र प्राप्त प्र

Bill No.	Description	Item Price (Rupees) 1,996,667	
1	Site Clearance		
2	Earthworks	149,960,588	
3	Sub-base and Base Courses	355,911,201	
4	Flexible Pavement	213,168,032	
5	Culverts	160,034,815	
6	Bridges and grade separated structures	1,613,917,699	
7	RE Wall	377,510,017,	
8	Drainage and protection works	305,771,252	

Undertaking by user agency has to be given to the effect that:

1. Muck management plan will be implemented by user agency and in case of implementation of plan, they will be liable to penalty/action at their cost – Agreed

2. The proposed dumping site is located away from river/stream/Nala - No dumping site is required.

Date: 18.07.2022

10

Project Director

NHAI, PIU, Vasant Vihar, Dehradun

Place: Dehradun

परियोजना निर्देशक / Project Director भारतीय राष्ट्रीय राजमार्ग प्राधिकरण National Highways Authority of Inc

भारताय गण्ट्राय रागमाग प्राधकरण National Highways Authority of India (सड़क परिवहन राजमार्ग मंत्रालय, भारत सरकार) Ministry of Road Transport & Highways पंराजसंदर्भक व्यक्त विहार, वेहरादून

परियोगना निरंदाक / Project Director
परियोगना निरंदाक / मर्गांवर गार्मांग ग्राविकरण
भारतीय राष्ट्रीय रागमांग ग्राविकरण
भारतीय राष्ट्रीय रागमांग भारत सरकार)
भारतीय परिवास सम्मार्ग भारत स्र साधारी
National Highways Authority of Road Transport & सहस्र (सहक परिवास स्वाप्त विकार, देहराहुन Ministry of Road Transport के देहराहुन आinistry के उन्हर्ण के समार्थिक परिवास के स्वाप्त विकार, के स्वाप्त विकार समार्थिक परिवास के स्वाप्त विकार समार्थिक परिवास के स्वाप्त विकार समार्थिक स्वाप्त विकार समार्थिक स्वाप्त विकार समार्थिक समार्थिक स्वाप्त विकार समार्थिक स



कार्यालय प्रभागीय वनाधिकारी, चकराता वन प्रभाग, कालसी

पंत्राक-2745/12-1

दिनांक,

चकराता

12 जनवरी 2024

सेवा में

प्रभागीय वनाधिकारी.

देहरादून वन प्रभाग, देहरादून।

विषय-

उत्तराखण्ड राज्य में रा०रा0-72 (झाझरा) को दिल्ली-देहरादून एक्सप्रेस (आशारोड़ी सैक्सन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड़ का विकास किमी० 0 से 12 किमी० के निर्माण के सम्बन्ध में।

संदर्भ :-

आपका पत्रांक-3923 / 12-1 दि० 02.12.2023

महोदय,

उपरोक्त विषयक अवगत कराना है कि संदर्भित पत्र में उल्लेखित बिन्दु सं0-1, 2 व 3 में से बिन्दु सं0-2, जो इस वन प्रभाग से सम्बन्धित है, के कम में इस कार्यालय की पत्र संख्या-407/12-1 दिनॉक 02.08.2022 से विषयक मोटर मार्ग निर्माण के सापेक्ष रिखनाड़ राजि के अन्तर्गत कुडोग क0सं0-21 (10.00 है0) में क्षतिपूरक वृक्षारोपण हेतु स्थल चयन कर जी०पी०एस० कोर्डिनेट्स प्रेषित किये गये थे। कुडोग-21 (10.00 है0) भूमि मे से 3.00 है0 में भारत सरकार द्वारा बहुत घने वन (VDF) के रूप में निर्दिष्ट किया गया है।

अतः वन क्षेत्राधिकारी रिखनां राजि का पत्रांक—560 / 12 दिनॉक 29.12.2023 एवं उप प्रभागीय वनाधिकारी, कालसी के पत्रांक—457 / 12 दिनॉक 01.01.2024 की रिपोर्ट के अनुसार उक्त VDF के अन्तर्गत आने वाले क्षेत्र कुडोग—21 के स्थान पर कुडोग—20बी (10.00 है0) क्षतिपूरक वृक्षारोपण हेतु अवनत भूमि, जो वृक्षारोपण हेतु उपयुक्त है, का चयन किया गया। प्रस्तावित क्षेत्र के कुछ हिस्सें में झाड़िया विद्यमान है (उपयुक्तता प्रमाण—पत्र संलग्न है)। उक्त क्षेत्र की डी०एस०एस० रिपोर्ट संलग्न एवं जी०पी०एस० कोर्डिनेट्स

रिपोर्ट निम्नानुसार प्रेषित है-

क्र0	रेंज का नाम	वृक्षारोपण हेतु	क्षेत्रफल	जी०पी०एस०	
सं0		प्रस्तावित क्षेत्र	(है0 में)	अक्षांश	देशान्तर
1	रिखनाड़ रेंज	कुडोग क0सं0—20बी	10 ਵੈ0	N-30° 46' 54.21"	E- 78° 01' 43.63"
2			7	N-30° 46' 52.10"	E- 78° 01' 44.99"
3				N-30° 46' 40.71"	E- 78° 01' 24.67"
4				N-30° 46' 45.48"	E- 78° 01' 22.58"
5				N-30° 46' 48.76"	E- 78° 01' 24.03"
6				N-30° 46' 50.50"	E- 78° 01' 27.92"

अतः तद्नुसार आवश्यक कार्यवाही करने का कष्ट करें।

संलग्नक:-उपरोक्तानुसार

भवदीय

(मर्यक शेखर झा)

प्रभागीय वनाधिकारी,

चकराता वन प्रभाग, कालस्

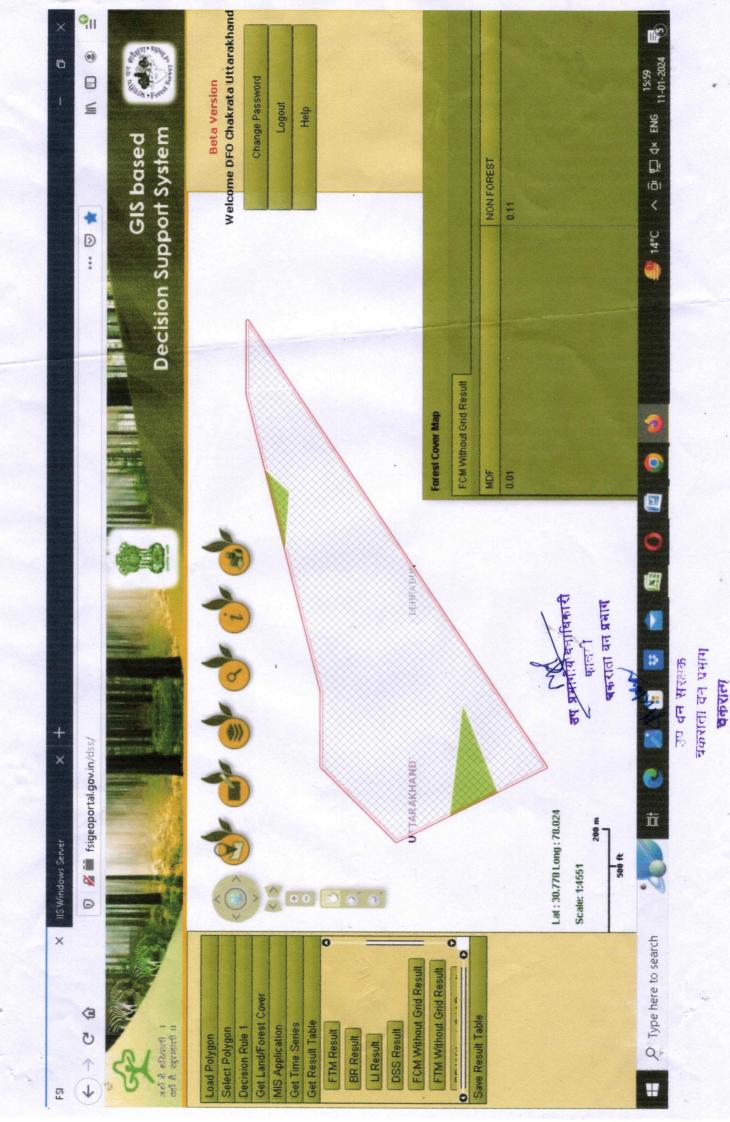
संख्या एवं दिनाक उपरोक्तानुसार

प्रतिलिपि—महाप्रबन्धक (तक०), सह परियोजना निदेशक, प०का०ई०—बसन्त विहार, देहरादून को उनके पत्र संख्या—NHAI/PIU/VV/2023/Jhajra-Ashorori/Forest/5568 दिनॉक 02.11,2023 के कम में सूचनार्थ।

५५ मॅग्रॅंक शेखर झा) प्रभागीय वनाधिकारी,

चकराता वन प्रभाग, चकरात



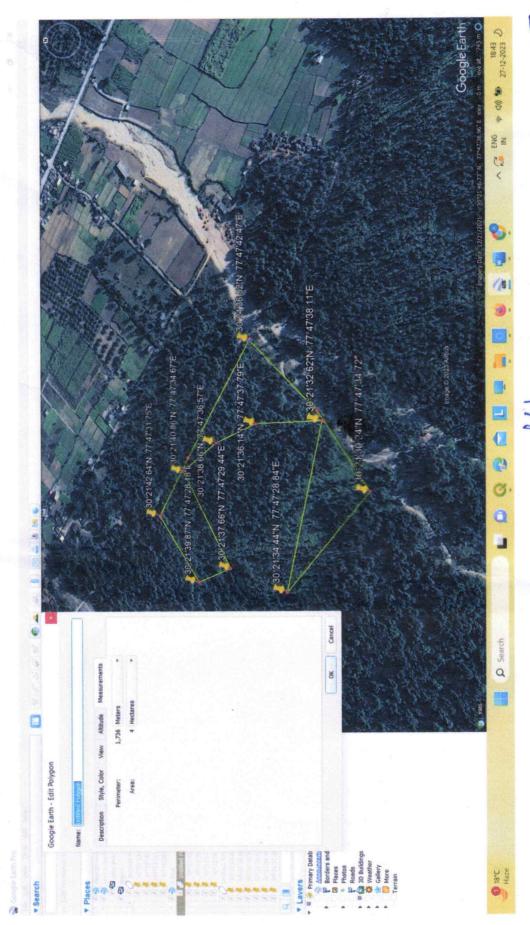


स्थल उपयुक्तता प्रमाण-पत्र

प्रमाणित किया जाता है कि जनपद देहरादून में उत्तराखण्ड राज्य में रा०रा०—72 (झाझरा) को दिल्ली—देहरादून एक्सप्रेस (आशारोड़ी सैक्सन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड़ का विकास किमी— 0 से 12 किमी० के निर्माण के वन भूमि हस्तान्तरण प्रस्ताव के सापेक्ष कुडोग—20बी (10 है0) क्षतिपूरक वृक्षारोपण हेतु प्रस्तावित किया जा रहा है। उक्त स्थल क्षतिपूरक वृक्षारोपण हेतु उपयुक्त है तथा कक्ष में वनीकरण हेतु प्रस्तावित स्थल का घनत्व 0.4 से कम है तथा उक्त स्थल में किसी भी परियोजना के अन्तर्गत वनीकरण कार्य नहीं किया गया है।

उप वन सरक्षक चकराता वन प्रभाग चकराता हुए मनामिल दं तिकारी कानती बकराता वन प्रभाग राष्ट्रीय राजमार्ग एन०एच० 72 आशारोड़ी से झाझरा कि0मी० 0.000 से कि0मी० 12.000 के ऐवज में क्षतिपूरक वृक्षारोपण हेतु संहसरा क0सं0 1बी में 4.00 है0 क्षेत्र में क्षतिपूरक वृक्षारोपण प्रस्तावित क्षेत्र।

शुद्ध क्षेत्रफल



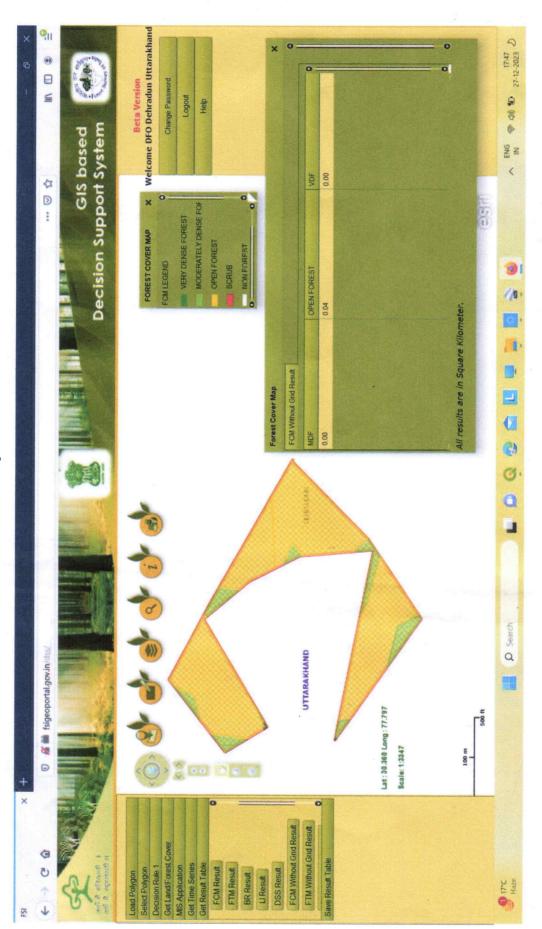
Mensy In 18 13

अमावाचा हम्स

कन्द्राय रेज (स्प्रावाला)

मानीय विमाधिकारी

देहरावन वन प्रभाग



वन नेत्राधिकार

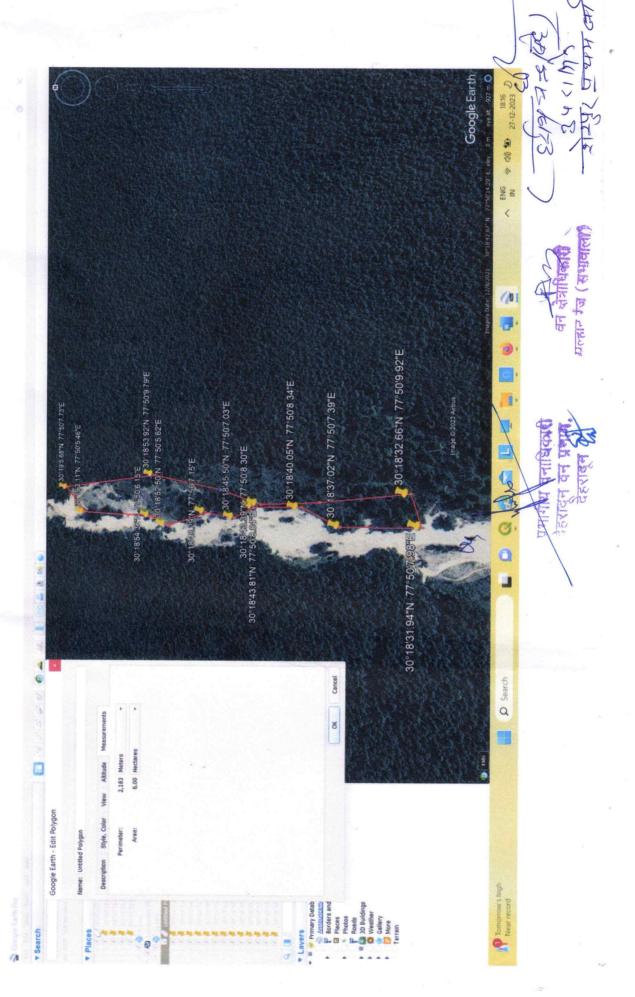
कतार गेज (सभावाता)

समावात्ता क्षानुड

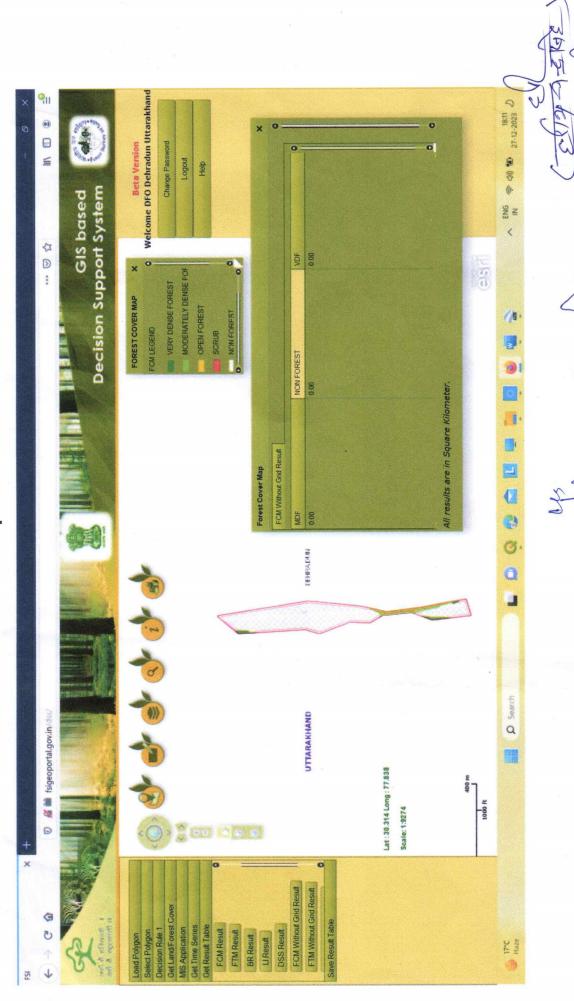
वेहणदम वन प्रमा

राष्ट्रीय राजमार्ग एन०एच० 72 आशारोड़ी से झाझरा कि0मी० 0.000 से कि0मी० 12.000 के ऐवज में क्षतिपूरक वृक्षारोपण हेतु

शेरपुर प्रथम बीट के अन्तर्गत कालूवाला क0सं0 8ए में 6.00 है0 क्षेत्र में क्षतिपूरक वृक्षारोपण प्रस्तावित क्षेत्र। = 6.00शुद्ध क्षेत्रफल



DSS Report



STAY (Yangar)

244190

प्रत्यान रेख (स्पावाला) वन सेत्राधिकार

प्रमागाम वनाधिकाए। वेहणदम वन प्रमाग.

कार्यालय प्रभागीय वनाधिकारी, नरेन्द्रनगर वन प्रभाग, मुनिकीरेती

E-mail: dfonnagar-forest-uk@nic.in

Telefax- 0135-2442052

पत्रांक सं0:

1393 /12-1

दिनांक 29 /11/2023

सेवा में.

महाप्रबन्धक (तक०) सह परियोजना निदेशक, भारतीय राष्ट्रीय राजमार्ग प्राधिकरण प०का०ई०—वसन्त विहार (देहरादून)

विषय :- उत्तराखण्ड राज्य में रा0रा0-72 (झाझरा के पास) को दिल्ली-देहरादून एक्सप्रेसवे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड का विकास कि0मी0 0.050 से कि0मी0 12.220 तक निर्माण के सम्बन्ध में ऑनलाईन वन भूमि हस्तांतरण प्रस्ताव संख्या FP/UK/ROAD/140350/2021 के संबन्ध में।

सन्दर्भ :- आपका पत्रांक NHAI/PIU/VV/2023/Jajhra-Asharori/Forest/5568 दिनांक 02.11.2023 महोदय.

उपरोक्त विषयक संदर्भित पत्र के क्रम में अवगत कराना है कि उत्तराखण्ड राज्य में राष्ट्रीय राजमार्ग संख्या—72 (झाझरा के पास) को दिल्ली—देहरादून एक्सप्रेसवे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड़ का विकास कि0मी0 0.000 से कि0मी0 12.00 तक निर्माण हेतु 20.0849 हे0 वन भूमि का गैर वानिकी कार्यों हेतु भारतीय राष्ट्रीय राजमार्ग प्राधिकरण को प्रत्यावर्तन के फलस्वरूप क्षतिपूरक वनीकरण हेतु राजि के अन्तर्गत कोलीगाड़ कक्ष सं0—04 में कुल 10.0 हे0 भूमि का चयन किया गया था, उक्त क्षेत्र का घनत्व अधिक होने के फलस्वरूप क्षतिपूरक वनीकरण हेतु अन्य स्थल चयन करने हेतु उच्चस्तर से निर्देशित किया गया है। जिसके अनुपालन में क्षतिपूरक वनीकरण हेतु चयनित भूमि का स्थलीय निरीक्षण किया गया,स्थलीय निरीक्षण के दौरान संज्ञान में आया है कि प्रस्तावित क्षतीपूरक वनीकरण स्थल कोलीगाड़ कक्ष सं0—04 का प्रभाग की प्रचलित कार्यायोजना वर्ष—2013—14 से वर्ष—2022—23 के कक्ष इतिहास में औसत घनत्व 0.30—0.40 दर्शाया गया है। जिसके अनुसार क्षतिपूरक वनीकरण स्थल उपयुक्तता प्रमाण—पत्र में घनत्व का उल्लेख पूर्व में 0.30—0.40 किया गया है। तथा प्रस्तावित 10.0 हे0 क्षेत्रफल में, झाड़ियाँ तथा हरी घास विद्यमान होने के कारण घनत्व अधिक प्रतीत हो रहा हैं, जबिक क्षेत्र की वास्तविक स्थित के अनुसार वानस्पतिक घनत्व 0.30 से कम है तथा उक्त स्थल क्षतिपूरक वृक्षारोण हेतु सर्वथा उपयुक्त है। (प्रमाण—पत्र संलग्न)

अतःवाछित सूचना अग्रेत्तर कार्यवाही हेतु प्रेषित की जा रही है।

संलग्न-यथोपरि।

प्रभागीय वनाधिकारी, नरेन्द्रनगर वन् प्रभाग, मुनिकीरेती।

संख्या:- 1393 / 12- | दिनांकित।

प्रतिलिपि :- अपर प्रमुख वन संरक्षक, एवं नोडल अधिकारी, वन संरक्षण, उत्तराखण्ड, देहरादून की सेवा में सादर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित। प्रतिलिपि :- -प्रभागीय वनाधिकारी, देहरादून वन प्रभाग, देहरादून को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

> प्रभागीय वनाधिकारी, नरेन्द्रनगर वुन प्रभाग, मुनिकीरेती।

—:: स्थल उपयुक्तता प्रमाण पत्र ::—

प्रमाणित किया जाता है कि, उत्तराखण्ड राज्य में राष्ट्रीय राजमार्ग संख्या—72 (झाझरा के पास) को दिल्ली—देहरादून एक्सप्रेसवे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन ग्रीनफील्ड रोड़ का विकास कि0मी0 0.000 से कि0मी0 12.00 तक निर्माण हेतु 20.0849 हे0 वन भूमि का गैर वानिकी कार्यों हेतु भारतीय राष्ट्रीय राजमार्ग प्राधिकरण को प्रत्यावर्तन के फलस्वरूप क्षतिपूरक वनीकरण हेतु राजि के अन्तर्गत कोलीगाड कक्ष सं0—04 में प्रस्तावित 10.0 हे0 क्षतिपूरक वनीकरण हेतु प्रस्तावित किया जा रहा है, उक्त स्थल क्षतिपूरक वनीकरण हेतु उपयुक्त है तथा वनीकरण हेतु प्रस्तावित स्थल का घनत्व 0.30 से कम है।

उप प्रभागीय बनाधकारी

प्रभागीय वनाधिकारी नरेन्द्रनगर वन प्रभाग मुनि-की-रेती

जियोरेफेरेन्स मैप:--उत्तराखण्ड राज्य में रा०रा०-72 (झाझरा के पास) को दिल्ली-देहरादून एक्सप्रेसवे (आशारोड़ी सेक्शन के पास) से जोड़ने वाले चार लेन N ग्रीनफील्ड रोड के निर्माण कार्य हेत् वृक्षारोपण स्थल (कुल क्षेत्रफल 40.1698 है0) Scale-1:10,000 77°49'50"E 77°50'0"E 77°50'10"E 77°50'20"E 77°47'20"E 77°47'30"E 77°47'40"E 30°21'50"N 30°19'0"N 30°19'0"N 30°18'50"N Sherpur 1, comp no. 8A Area 6 ha Sehensara 1b Area 4 ha (सभावाला) 77°49'50"E 77°50'0"E 77°50'20"E 77°50'10"E 47'20"E 77°47'30"E 77°47'40"E 77°47'50"E 78°1'20"E 78°29'10"E 78°29'20"E 78°29'30"E 78°1'30"E 78°29'40"E 78°1'40"E 78°1'50"E 30047'0"N 30046'50 Kudog 20b Area 10 ha Maniknath 4 क्षेत्राधिकारी प्रभागीय वनाधिकारी Area 10 ha ाणिकनाथ राजि नरेन्द्रनगर वन प्रभाग वनाधिकार सभागीय रेन्द्रनगरं वन प्रभाग म्नि-की-रेती 78°29'10"E 78°29'20"E 78°29'30"E - 117 78929'40"E 78°1'20"E 78°1'30"E 77°56'20"E 77°56'50"E Co-ordinates of Plantation Site 18 78° 29' 30.63" E 30° 6' 40.97" N 19 78° 29' 24.7"E 30° 6' 35.08" N Longitude Latitude 20 78° 29' 21.76" E 30° 6' 32.26" N 1 77° 50' 5.55" E 30° 19' 3.39" N 21 78° 29' 16.32" E 30° 6' 30.75" N 2 77° 50' 6.09" E 30° 18' 54.38" N 22 78° 29' 14.48" E 30° 6' 36" N चलरात्नेष्ठ 3 77° 50′ 6.99" E 30° 18' 45.71" N 23 78° 29' 20.94" E 30° 6' 41.34" N 4 77° 50' 7.96" E 30° 18' 32.1" N 24 78° 1' 43.6" E 30° 46' 54.19" N रखनाड़ राजि 30° 18' 32.73" N 5 77° 50' 9.99" E 25 78° 1' 44.98" E 30° 46' 52 13" N नाडा 6 77° 50' 8.52" E 30° 18' 44.53" N 26 78° 1' 24.65" E 30° 46' 40.74" N 27 78° 1' 22.54"E 30° 46' 45 49" N 7 77° 50' 9.77" E 30° 18' 53.97" N 28 78° 1' 24.01"E 30° 46' 48.72" N 8 77° 50' 7.8" E 30° 19' 6.11" N 29 78° 1' 33 7" E 30° 46' 51.84" N 77° 47' 28.16" E 30° 21' 39.83" N 30 77° 56' 28.76" E 30° 48' 36.62" N 10 77° 47' 31.7" E 30° 21' 42.58" N 31 77° 56' 40.8"E 30° 48' 39.19" N 11 77° 47' 42.52" E 30° 21' 36.6" N Rikhnad 20 परियोजना निर्मात राजमार्ग प्राधिय 32 77° 56' 46.62" E 30° 48' 30.3" N Area 10.1698 ha भारतीय सम्बंध Authority 33 77° 56' 38.37" E 30° 48' 25.8" N 12 77° 47' 34.73" E 30° 21' 30.31" N of In National Highways Authority (सङ्क परिवहन राजमार्ग मंत्रालय, अ चक्का77° 47′ 28.78″ E 30° 21' 34.49" N Right 77° 47' 38.12" E 30° 21' 32.64" N Legend ry of Road Transport **GPS** Coordinates पा त्या मानाइम्या विहार, पा जीवना व्यस्त विहार, 15 77° 47' 34.67" E 30° 21' 40.9" N CA Land 16 77° 47' 29.4" E 30° 21' 37.8" N 77°56'40'E 77°56'20"E 77°56'30"E 17 78° 29' 28.19" E 30° 6' 47.33" N Prepared by: ITGC, PCCF Office, Dehradu

भारतीय राष्ट्रीय राजमार्ग प्राधिषक्कणः 0"E National Highways Authority of India (सड़क परिवहन राजमार्ग मंत्रालय, भारत धरकार)

Ministry of Road Transport & Highways

नरेन्द्रनगर वन प्रभाग

Profiles by Chi GCVPCCF Office, Dehradun

30°19'20"N

Range Boundary

Division Boundary

Plantation Site

Reserve Forest Area

णिकनाथ राजि