

✓ No. F.8031(F)/PWD/WD XV(NH)/ASW/20-21/272
Government of Goa,
Office of the Executive Engineer,
Works Division XV(NH), PWD,
Ponda – Goa.
Dated : 15 / 12 /2020

To
The Dy. Conservator of Forests,
North Goa Division,
Ponda, Goa.

Subject : Diversion of 31.53 ha. Of forest land for four laning of existing Goa/Karnataka border – Panaji Section of NH-4A from Km. 97.000 to Km. 153.075 in the state of Goa on BOT(Toll) basis under the NHDP-III (Anmod to Panaji section) in favour of the Executive Engineer, WD XV(NH), Public Works Department, Ponda- Reg.

Ref : F.No 4-GOC 1239/2020-BAN/69 dated. 12.05.2020

Sir,

In connection with above subject matter and letter cited at reference above, the para wise clarification to the points raised by the Regional Office of MOEF&CC (Bangalore) are as under :

1. **The status of land acquisition in non forest portion of the road may be furnished. If the land acquisition is not yet started, the time line required by the User Agency for completing the same be furnished.**
- The process of land acquisition in non forest land portion has already been initiated. It will take approximately 4 to 6 months to complete the process.
2. **The existing road already supports heavy traffic and double laning of railway line is also in the pipeline. Therefore, feasibility of restricting the road to existing width or atleast minimising the requirement of widening in western ghat portion may be considered. Accordingly, what would be the forest land required ?**

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- As the existing road is 2 lane configuration with two way traffic, the movement of the vehicles is slow. Thus leading to higher vehicular emissions and noise pollution in the forest region, which will have adverse impact on the wildlife.
 - As the road is only two lane configuration, it is not able to meet the present day traffic needs as well as it is a hindrance to future traffic movement.
 - In order to accommodate the future traffic, to reduce the vehicle emissions and number of accidents, the project needs to be widened to four lane.
 - However, as per the Indian Roads Congress standards of clause No. 2.3 of SP 84-2014 minimum Right of Way(RoW) of 60m should be available for development of a lane highway. In this proposal Right of Way considered is 30 to 45m only.
3. **The User agency has submitted another proposal for diversion of 32.085Ha of forest land for four lanning of existing Goa/Karnataka Boarder(Anmod)-Mollem section of NH - 4A from Km 84.133 to Km. 97.000 in the state of Goa in favour of the Executive Engineer WD XV (NH) Public Works Department, Ponda justification for submitting separate proposal for the same road may be furnished.**
- Two separate proposals for forest area involving wildlife sanctuary and forest area without the wildlife area are submitted. This is to enable the construction of widening of the existing road outside the wildlife sanctuary even if the clearance from NBWL takes more time. Even in the present context the widening of the NH-4A is considered in the stretches wherever it is required.
4. **Why non forest land is not being proposed as the project is being implemented by the State authority.**
- This is a Government of India Project Under the Ministry of Road Transportation and Highways.
 - The role of the State government in this project is only implementation in nature.
 - As per the provisions of the Forest Conservation Act - 1980, central government organizations are exempted from providing non- forest land to compensate the forest land diverted for non forestry purpose. But the cost of the Compensatory Afforestation has to be borne by the User Agency. Please refer to the attached letter from MoRTH approving the alignment of the project (**Appendix-I**)

5. **Details of the area and cost of structures coming in the alignment of the road(Departmental structures) may be given.**
 - May please be provided by the concerned DCF.
6. **Cost Benefit Ration analysis may be done as per the guidelines issued under the Forest(Conservation) Act 1980 (Annexure III of the Comprehensive Guidelines).**
 - Enclosed as Appendix-II
7. **In Part II of the proforma proposal, the number of trees to be felled is mentioned as 'Nil' whereas the proposal involves felling of 8102 trees. Therefore, the same may also be incorporated in the Part-II of the proforma proposal, including girth wise details.**
 - The concerned DCF shall make necessary corrections.
8. **Duration of the project may be informed.**
 - Two years.
9. **PCCF has proposed 3% additional amount of the project cost from the User Agency. Comments of the State Government and User Agency as the guidelines issued under the Forest Conservation Act 1980 restrict levying on such additional amount. The state may also elaborate on the activities propped with the amount.**
 - May please be provided by the PCCF and the State government
10. **With regard to the widening of 4A in the State of Karnataka the Honble High Court of Karnataka has observed that the length of the widening of NH - 4A which is being taken up may be more than 100km stretch over Karnataka and Goa and has raised the issue of requirement of Environmental Clearance for the project, clarification in this regard may be provided by the User Agency.**

- The entire length of the NH - 4A is 153 Km connecting NH-17 near Panjim with the NH - 4 near Belgaum. However, the length of NH-4A in the state of Goa is 69 Km and that too only 53Km is to be upgraded since 16 Km. of stretch is already upgraded and put in use.
- In the present context the widening of the NH - 4A is considered in the stretches where ever it is required.
- The proposed widening is less than 40m considering the eco - sensitivity of the region.
- Whatever widening is being proposed is the bearest minimum required for easy passage of traffic in the region.

11. Mitigation measure as approved by the Chief Wildlife Warden for the portion of land in Eco - Sensitive Zone to Protected area.

- The User Agency undertakes to comply with all mitigation measures approved by Chief Wildlife Warden.

Yours faithfully,

Executive Engineer,
Works Division XV(NH),
Ponda - Goa

Encl:

1. Alignment approval letter
2. Cost Benefit Analysis

Copy to :-

1. The Chief Engineer (NH, R&B), Altinho, Panaji - Goa for information please.
2. The Superintending Engineer, C.O IX(NH), PWD, Altinho, Panaji - Goa for information please.
3. The Dy. Conservator of forest, Monitoring & Evaluation, Goa Van Bhavan, Panaji for information please.
4. The Assistant Engineer, SDI, WDXV(NH), PWD, Ponda - Goa for information please.
5. M/s Aarvee Associates, Architects, Engineers & Consultants Pvt. Ltd.

COST BENEFITS ANALYSIS

Name of the Project: Diversion of 31.53 ha. Of Forest land for Four Laning of existing Goa/Karnakata Border Panaji Section of NH-4A from Km. 97.000 to Km. 153.075 in the state of Goa (Mollem to Panaji section)

Name of the Proposal: Diversion of 31.53 Ha. Forest land under FCA, 1980 for road widening.

Purpose: The Cost of Benefit Analysis is undertaken for proposed diversion of Forest land.

Division- wise Area Proposed for Diversion:

Name of the Forest Division	Name of the Reserve Forest	Area (Ha.)
North Goa division		31.53 ha.

TABLE-A: Cases under which a Cost- Benefit Analysis for Forest Diversion is Required.

S No	Nature of Proposal	Applicable / Not Applicable	Remarks
1	All categories of proposals involving forest land up to 20 hectare in plains and up to 5 hectare in hills.	Applicable	Diversion in plains > 20 Ha. (31.53 ha)
2	Proposal for defence installation purposes and oil prospecting (prospecting only).	Not Applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not Applicable	
4	All other proposals involving forest land more than 20 Ha. In plains and more than 5 Ha. In hills including roads, transmission lines, minor, medium and major irrigation projects, hydro projects, mining activity, railway lines, locations specific installations, like micro-wave stations, auto repeater centres, TV towers etc	Applicable	More than 20 Ha. is to be diverted for Road widening.

TABLE-B: Estimate of Cost of Forest Diversion

S No	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion.	NPV = 9.39 Lakh per Ha. = 31.53*9.39 = 296.067 lakh
2	Loss of animal husbandry productivity, including loss of fodder.	Loss = 5ton/Ha./year@ INR 100/- per tonne.

S No	Parameters	Remarks
		$=5*31.53*100$ $=15,765*50$ (for 50 years) $=78.8250$ lakh OR $=10\%$ of environment costs (NPV) $=(10/100)*296.067$ $=29.6067$ lakh
3	Cost of human settlement	No human settlement is found
4	Loss of public facilities and administrative infrastructure (Roads, Buildings, Schools, Dispensaries, electric lines, railways etc.) on forest land, which would require forest land if these facilities were diverted due to project.	No such loss
5	Possession value of forest land diverted.	Per hectare rate along highway = 55 lakh For 31.53 Ha. $=55*31.53$ $=1734.15$ lakh OR $=30\%$ of environment costs (NPV) $=(30/100)*296.067$ $=88.8201$ lakh Considering INR 1734.15 Lakh
6	Cost of suffering to oustees.	Not Applicable
7	Habitat Fragmentation Cost	$=50\%$ of NPV applicable as thumb rule $=(50/100)*296.067$ $=148.0335$ lakh
8	Compensatory afforestation and soil & moisture conservation cost.	Approximate CA cost per hectare with 10 years maintenance considering cost escalation is $=\text{INR } 9.2$ lakhs CA cost $=9.2 \text{ lakh} * (31.53*2)$ $=580.152$ lakh

Total Cost (Environment Loss) (A) = 2837.2275 lakh

TABLE-C: Existing Guidelines for Estimating Benefits of Forest Diversion in CBA


S No	Parameters	Remarks
1	Increase in productively attribute to the specific project.	During construction period, temporary employment generation = 500 people for 3 years- 547500 man-days. During operation period (including

S No	Parameters	Remarks
		toll) for 25 years, permanent employment for 100 people would be generated.
2	Benefits to economy due to the specific project.	Economic benefit in terms of increase in trade in saving vehicular operation and maintenance and saving travel time. However they have not been quantified as it will be a function of various government policy variables.
3	Number of population benefited due to specific project	Proposed project connects NH-4 at Balgaum in the state of Karnataka with NH-17 at Panaji in the state of Goa. thus it serves the needs of approximately 20.50.000 population. In addition, to local commuters/freight from Mollem to Panaji and vice-versa gets facilitated.
4	Economic benefits due to of direct and indirect employment due to the project.	Benefit due to temporary employment = INR 500 per day $= 500 \times 547500 \text{ man days}$ $= 2737.50 \text{ lakh}$ Assuming 50% of labour in construction period as locals, utilities cost per day per person, assuming, INR 25 Total cost = $25 \times 250 \times 1095$ $= 68.43750 \text{ lakh}$ Benefit due to permanent employment with approx. annual income 2.8 lakh $= 100 \times 2.8 \times 25$ $= 7000.00 \text{ lakh}$
5	Economic benefits due to compensatory afforestation	CA will be taken up in 63.06 Ha. Having a minimum density of 0.7 The ecological value for 50 years period for the density of 1.0 is INR 126.74 lakh per hectare as per Forest © Act 1980. Therefore ecological gain would be $= 7992.2244 \text{ lakh}$

Total Benefit (B) = 17798.1619 lakh

Benefit to Cost Ratio = (B) / (A)
= 17798.1619 / 2837.2275
= 6.27(>1)

The Benefit to cost ratio being greater than 1 (i.e. 6.27) the project is found viable as per the analysis/described criteria.



Signature
Shashikant Dessai
Executive Engineer, W.D XV
PWD(NH), Ponda - Goa

Place: Ponda

Date :

GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
(NHDP-IV A)

Transport Bhawan,
No.1, Parliament Street
New Delhi-110001.
Date: 26th February, 2016

No. RW/NH/37015/14/2016/NHDP-IV A

To

The Chief Engineer (NH),
National Highway Zone,
P.W.D. Altinho, Panaji Goa

Sub: - Four-Lanning of existing Goa/Karnataka Border - Panaji Goa Section of NH-4A from Km 84.000 to Km 153.075 in the state of Goa on BOT (Toll) basis under NHDP-III (Anmod to Panaji Section). -Submission of Alignment plan of NH-4A.

Please refer to your letter no. GOA/PWD/CE(NH,R&B)/F. MORTH/2015-16/207 dated 05.02.2016 regarding alignment proposal for Anmod to Panaji section of NH-4A in the state of Goa.

2. As per discussions and presentation made in the Ministry on 02.02.2016, competent authority has approved the proposed alignment for the section of NH-4A from Km 84.000 to Km 153.075 in the state of Goa on BOT (Toll) basis under NHDP-III (Anmod to Panaji Section) as per details given below:-

- (i) From Km 84.000 to Km 96.000: Widening on valley side with improvement of the existing alignment with alternative-III as proposed by consultant and recommended by CE(NH) Goa.
- (ii) From Km 96.00 to Km 118.00 & from Km 125.00 to Km 143.400: The proposed alignment is almost following the existing alignment with minor curve improvements and the same is accepted.

The stretch from km 118.000 to km 125.000 and from km 143.400 to km 153.075 has not been included because the work of 4-laning on these stretches have been already been taken up.

Yours faithfully,



(Nakul Prakash Verma)
AEE-NHDP-IV A

For Director General (RD) &SS

Copy to:-

1. The Regional Officer, MoRT&H, Mumbai.