



कार्यालय  
अधिशाली अभियन्ता,  
राष्ट्रीय मार्ग खण्ड, लो0नि0वि0,  
बड़कोट (उत्तरकाशी)।



Website- <http://pwd.uk.gov.in>

e-mail:- [eenhpwdbarkot@gmail.com](mailto:eenhpwdbarkot@gmail.com)  
दूरभाष/फैक्स नं0 01375-224426

पत्रांक 744 /04 भू 0अ0

दिनांक 15 / 07 /2020

सेवा में

प्रभागीय वनाधिकारी  
उत्तरकाशी वन प्रभाग  
कोटबंगला, उत्तरकाशी।

विषय:- चार धाम परियोजना(ऑल वेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग संख्या-94 (134) के कि0मी0 0.00 से कि0मी0 24.300 (धरासू बैण्ड से सिलक्यारा बैण्ड) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए 5.969 है0 वन भूमि प्रस्ताव में लगी आपत्तियों के निराकरण के सम्बन्ध में। चतुर्वेस छव.(छव.36902ध2018द्व)

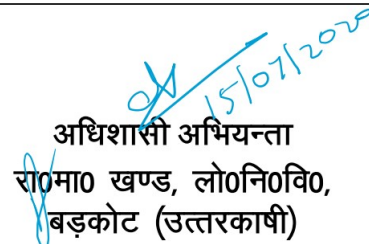
सन्दर्भ:- कार्यालय पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय क्षेत्रीय कार्यालय (उत्तर केंद्रीय क्षेत्र) देहरादून के पत्र संख्या:- 8बी/यू.सी.पी./06/155/2019/एफ.सी./498 दिनांक 30-06-2020 एवं प्रभागीय वनाधिकारी उत्तरकाशी वन प्रभाग उत्तरकाशी का EDS dated-06.07.2020.

महोदय,

उपरोक्त विषयक सन्दर्भित पत्र के क्रम में अवगत कराना है कि आपके द्वारा उक्त वन भूमि प्रस्ताव पर लगाई गयी आपत्तियों का निम्नानुसार निराकरण कर वन भूमि प्रस्ताव पुनः अग्रिम आवश्यक कार्यवाही हेतु प्रेषित है।

क्रम सं0	आपत्ति	निराकरण
1	The detail of related proposal neither mentioned at Para B in Part-1 nor described in proposal. Hence the state govt. may fill the detail of related proposal at Para B in Part-1 and also submit the details of related proposal separately.	Details of related proposal (24549) seeking prior approval of Central Government under the Act for diversion of forest land for the Project already submitted in the past has already been rectified and submitted by user agency vide letter no. 2282/04 भू.अ.,dt.14/11/2018 in Form-A Part-1 additional information detail. Details of related approved proposal no 24549 also added in Form-A Part-1 Section A.1 short narrative. Details of related approved proposal no 24549 cannot be mentioned in Part-1 Para-B-1 due to unavailability of option to add any detail online. Details of related proposal (24549) already uploaded online.
2	Details of area proposed for muck disposal and landslide treatment is required to be mentioned by the state government separately at Para B 2.4.	Details of muck disposal and landslide treatment have been mentioned separately in Section-B-2.4 Form-A, Part-I, and rectified online.
3	State govt. may upload the C/B analysis in new format.	Cost benefit analysis certificate has been prepared in new format and uploaded online at Form-A Part-1 G.
4	State govt. may mention the date on FRA certificate of DM.	Date on FRA has been mentioned and uploaded online at Form-A Part-1 K.
5	Geologist report found uploaded for widening of related proposal no 24063 and not for this proposal.	Geologist report for this proposal no.36902 has been prepared separately and uploaded online at Form-A Part-1 additional information detail.
6	Area mentioned in NPV calculation sheet is 5.566 ha instead of 5.969 ha area.	NPV calculation sheet has been corrected accordingly and uploaded online Form-A Part-1 additional information detail.
7	Capacity of the muck dumping area is mentioned as 35406 cum and the total muck to be disposed off is 209398 cum but the reason of having excess area not submitted. The origin of generation of 209398 cum muck also not described. It is not clear from the muck disposal plan that whether the 209398 cum muck generation from the land slide treatment or part of the	Capacity of muck dumping area is wrongly understood as 35406cum in observation-07 vide letter under reference by RO MoEF&. But actual capacity of muck dumping area is clearly mentioned as 3,54,506.66cum. Clarification regarding origin of muck generated has been

	related proposal no. 24549?	mentioned in new muck disposal plan (MDP). New muck disposal plan has been attached and uploaded online at Form-A Part-1 additional information detail.
8	State govt. may upload the administrative approval and areal distance certificate in online portal.	Administrative approval has been already uploaded. Areal distance certificate has been uploaded now at Form-A Part-1 additional information detail..
9	In the inspection report, DFO mentioned that the area contains the habitat of some important species and wildlife management plan of Rs. 1,68,47,250.00 has been prepared. In this context, state govt. is requested to submit a detailed wildlife management plan based on scientific basis duly approved by the CWLW only.	Compliance of observation -9 vide letter under reference shall be made from Divisional Forest Office Uttarkashi.
10	DFO has mentioned in his site inspection report that the user agency has not taken into account the swell factor while calculating muck generation. However, DFO has authenticated the muck disposal plan which is contradictory, DFO is required to get the correct muck disposal plan from user agency before recommended the proposal to higher authority.	Corrected muck disposal plan which include 40% swell factor has been uploaded at Form-A Part-1 additional information detail.
11	As per DSS analysis, 2 ha area comes under MDF proposal on RF area. Hence, the state govt. may submit another 2ha area suitable for plantation.	Appropriate corrections have been made in digital map of CA land. Another 2ha. area suitable for plantation has been added. Therefore digital map and geo reference map consisting total area 14ha. for CA land has been attached and uploaded online at Form-A Part-1 additional information detail.
12	The location of CA site is mentioned in Nagungad compartment no. 3b in Para-13(i) of Part-II but the location appear to be in compartment no. 4b in the sol toposheet map uploaded at Para (iv) of Part-II.	Appropriate corrections have been made. 14ha CA land lies in compartment no.-4b (Nagungad) of Dharasu Range. CA site suitability certificate in this regard has been attached and uploaded online at Form-A Part-1 additional information detail.
13	CA site suitability certificate uploaded at Para-13 (v) of Part-II has not been signed by DFO.	CA site suitability certificate duly signed by DFO and has been attached and uploaded online at Form-A Part-1 additional information detail.
14	In Para-4(i) of Part-II, density is mentioned as 0.4 but 26 trees per ha do not account for 0.4 density. Hence the state govt. is required to review the density and NVP cost, if required.	Compliance of observation -14 vide letter under reference shall be made from Divisional Forest Office Uttarkashi.
15	It is seen from the data given in Para-14 that the CA stipulated (2350.58 ha) is not commensurate to the area of forest land diverted (1540.68 ha) and the progress of CA (2563.75 ha) is more than the CA stipulated.	Compliance of observation -15 vide letter under reference shall be made from Divisional Forest Office Uttarkashi.
16	DFO has not given any comment against Para-5.5 of site inspection report and recommendation is also sketchy. Hence the state govt. may submit the revised site inspection report to this office.	Compliance of observation -16 vide letter under reference shall be made from Divisional Forest Office Uttarkashi.

  
 अधिशासी अभियन्ता  
 रा0मा0 खण्ड, लो0नि0वि0,  
 बड़कोट (उत्तरकाशी)

कार्यालय  
अधिशाली अभियन्ता  
रा०मा० खण्ड लो०नि०वि,  
बड़कोट (उत्तरकाशी)

Website - <http://pwd.uk.gov.in>

email :- [cenhpwdbarkot@gmail.com](mailto:cenhpwdbarkot@gmail.com)  
Telephone/Fax No. : 013575-224426

पत्रांक 2282/ 04 अ० अ०

दिनांक 14/11/2018

सेवा में,

अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी,  
वन संरक्षण, इन्दिरा नगर,  
फोरेस्ट कॉलोनी, उत्तराखण्ड,  
देहरादून।

विषय :- चार घाम परियोजना (ऑल वेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग संख्या-94 (134) के कि०मी० 0.00 से कि०मी० 24.300 ( धरासू बैंड से सिलक्यारा बैंड) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लेण्ड स्लाईड जोन के उपचार के लिए 5.566 हे० वन भूमि प्रस्ताव में लगी आपत्तियों के निराकरण के सम्बन्ध में।  
(FP/UK/ROAD/36902/2018)

महोदय,

उपरोक्त विषयक वन भूमि प्रस्ताव पर इस खण्ड द्वारा खण्डीय आई०डी० के माध्यम से पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय की वेब साइट पर अपलोड किया गया था कार्यालय अपर प्रमुख वन संरक्षक एवं नोडल अधिकारी द्वारा वन भूमि प्रस्ताव का निरीक्षण कर कुछ आपत्तियां लगायी गयी थी। जिनका निम्नवत निराकरण कर वन भूमि प्रस्ताव पुनः अग्रिम आवश्यक कार्यवाही हेतु प्रेषित है।

1. भूस्खलन क्षेत्र के उपचार एवं अतिरिक्त डम्पिंग क्षेत्र हेतु अतिरिक्त वन भूमि की आवश्यकता को शॉर्ट नेरेटिव में अंकित कर दिया गया है।
2. पूर्व स्वीकृत वन भूमि प्रस्ताव सं०-24549 मात्र 18.00 मी० चौड़ाई में मार्ग निर्माण हेतु भूमि अध्याप्ति एवं मार्ग निर्माण से उत्सर्जित मलबे की डम्पिंग हेतु किया गया था। वर्तमान में मार्ग निर्माण के दौरान कुछ भूस्खलन क्षेत्र बने हैं जिनका स्लोप प्रोटेक्शन आवश्यक है। जिस हेतु अतिरिक्त वन भूमि की आवश्यकता है। जिस हेतु यह अतिरिक्त वन भूमि प्रस्ताव गठित किया गया है। पूर्व में स्वीकृत वन भूमि प्रस्ताव का विवरण भी संलग्न कर प्रेषित किया जा रहा है।
3. उक्त कार्य हेतु प्रस्तावित भूस्खलन क्षेत्र एवं डम्पिंग क्षेत्र की के०एम०एल० फाईल संलग्न कर दी गयी है।

अधिशाली अभियन्ता

रा०मा० खण्ड, लो०नि०वि,

बड़कोट (उत्तरकाशी)

दिनांक / /2018

पत्रांक /

प्रतिलिपि :-

1. प्रभागीय वनाधिकारी, उत्तरकाशी वन प्रभाग, उत्तरकाशी को सूचनार्थ प्रेषित।

अधिशाली अभियन्ता

रा०मा० खण्ड, लो०नि०वि,

बड़कोट (उत्तरकाशी)



प्रारूप- 29

परियोजना का नाम:-

चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (घरासू बैड़ से सिलक्यारा बैड़) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

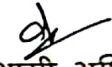
लम्बाई:-

24.300 कि०मी०

**लागत लाभ विश्लेषण की सूचना**

प्रस्तावित परियोजना से होने वाले आर्थिक, सामाजिक एवं पारिस्थिकीय संतुलन का आंकलन लागत लाभ विश्लेषण की सूचना भारत सरकार द्वारा निर्धारित प्रपत्रों में सलग्न है।

  
सहायक अभियंता  
रामखण्ड, लोप्रमि.वि.  
NH, Div. P.W.D.  
बड़कोट, उत्तराखण्ड  
Barkot Uttarakhand (U.K.)

  
अधिशायी अभियंता  
Executive Engineer  
रा.स.खण्ड, लोप्रमि.वि.  
NH, Div. P.W.D.  
बड़कोट, उत्तराखण्ड  
Barkot Uttarakhand (U.K.)

# **COST BENEFIT ANALYSIS**

(As per MoEF & CC guideline. 7-69/2011-FC (Pt.) dated 1<sup>st</sup> August, 2017)

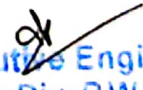
**Name of the Project:** Rehabilitation and up-gradation to 2 lane/2 lane with paved shoulder configuration & strengthening of NH-94 from Km 0.000 (Dharasu Bend) to Km 24.300 (Silkyara Bend)

**Block** : Dunda, Uttarkashi  
**Road Length** : 24.300 km  
**Forest Land** : 5.969 ha  
**Population** : 8000

**Table-A: Cases under which a cost-benefit analysis for forest diversion is required**

No.	Nature of Proposal	Applicable/Not Applicable	Remarks
1	All categories of proposals involving forest land upto 20 hectares in plains and upto 5 hectare in hills	Not Applicable	
2	Proposal for defense installation purposes and oil prospecting (prospecting only) Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	

  
**Assistant Engineer**  
NH. Div. P.W.D.  
Barkot Uttarkashi (U.K.)

  
**Executive Engineer**  
NH. Div. P.W.D.  
Barkot Uttarkashi (U.K.)

**Table-B: Estimation of cost of forest diversion**


S. No.	Parameters	Estimated Cost	Details/Remarks
1	Ecosystem services losses due to proposed forest diversion	Rs. NPV: 39,21,633.00 Or 39.22 lac	Economic value of loss of eco-system services due to diversion of forests shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF& CC). Note: In case of National Parks the NPV shall be ten (10) times the normal NPV and in case of Wildlife Sanctuary the NPV shall be five (5) times the normal NPV or otherwise prescribed by the ministry or any other competent authority.
2	Loss of animal husbandry productivity, including loss of fodder.	3.92 Lac	To be quantified and expressed in monetary terms of 10% of NPV
3	Cost of human resettlement	Since no residential village is getting affected due to diversion of 5.969 ha. Forest land for proposed 3 nos. additional dumping zones and treatment of 3 nos landslide zones. Therefore there will be no human resettlement cost	To be quantified and expressed in monetary terms as per approved ToR.
4	Loss of public facilities and administrative infrastructure (Roads, Building, Schools, Dispensaries, Electric lines, Railways etc.) on forest land, which would require forest land if these facilities were diverted due to this project	Nil	Since no utility shifting is required. There are no utilities present in proposed 3 nos. additional dumping zones and 3 nos landslide zones.
5	Possession value of forest land diverted	Rs 11,76,489.90 or 11.76 lac	30% of NPV
6	Cost of suffering to oustees	NIL	The cost of rehabilitation of oustees be worked as 1.5 times of what oustees should have earned in two years had not been shifted. Since no residential village is getting affected due to diversion of 5.969 ha. Forest land for proposed 3 nos. additional dumping zones and treatment of 3 nos landslide zones. Therefore there will be no

  
**Assistant Engineer**  
 NH. Div. P.W.D.  
 Barkot Uttarkashi (U.K.)

  
**Executive Engineer**  
 NH. Div. P.W.D.  
 Barkot Uttarkashi (U.K.)



			human resettlement and rehabilitation of oustees cost.
7	Habitat Fragmentation Cost	Rs 19,60,816.50 or <b>19.61 lac</b>	50% of NPV
8	Compensatory afforestation and soil & moisture conservation cost	{(5.969 ha x 2)=11.94 ha} {(11.94 ha x 2,78,665.00)= 33,27,260.00} Or <b>33.27 Lac.</b>	The actual cost of compensatory afforestation and soil moisture conservation and its maintenance in future at Present discounted value
	<b>Total Cost</b>	<b>107.78 Lac</b>	

  
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 NH. Div. P.W.D.  
 Barkot Uttarkashi (U.K.)

  
 Executive Engineer  
 NH. Div. P.W.D.  
 Barkot Uttarkashi (U.K.)

**Table-C: Existing guidelines for estimating benefits of forest-diversion in CBA**

S. No.	Parameters	Estimated Cost	Remarks
1	Increase in productively attribute to the specific project	Mobility is difficult and time taking in mountainous region. Due to up gradation and widening of existing road traffic movement will be smoother and safer. The productivity of the commercial and industrial activities for which transportation shall take place. Besides it will increase the tourism as this route NH-94(134) is the main route to visit world famous Yamunotri and Gangotri Dham of Uttarakhand.	
2	Benefits to economy due to the specific project	Market development taking 24 new shops to be established after the construction of project road Taking minimum benefit per sop per day @ 250 per day Benefits per month: $24 \times 30 \times 250 = \text{Rs. } 1,80,000.00$ Benefits for 24 shops for 1 year $= 12 \times 1,80,000.00 = \text{Rs. } 21,60,000.00$ Benefits for 50 years $= 50 \times 21,60,000.00 = \text{Rs. } 108,00,000.00$ or <b>1080.00 Lacs</b> Saving in vehicle operating (VOP) cost Present vehicle operating cost: 3000 and after the improvement it will be 1500 per vehicle Saving in VOC for 50 years: $100 \times 1500 \times 12 \times 50 = 900.00 \text{ lacs}$	The project will yield significant economic benefit to the state. Construction o road will lead to much better connectivity, which will play significant role in improving the socio-economic condition of the people of the state in any folds.
3	No. of population benefited due to specific project	8,000	
4	Employment potential	About 200 labors will be employed during construction stage. Average salary will be Rs 500/- per day means $200 \times 500 \times 30 \times 24 = 7,20,00,000.00 = 720.00 \text{ lac}$	Temporary employment will be generated for the construction period of 24months.
5	Ecological benefits due to compensatory afforestation	In Lieu of total forest land to be affected it is proposed to be undertaken in twice of the affected forest land as Compensatory Afforestation as per Forest (Conservation) Act 1980. Thus Compensatory Afforestation will be done in 11.94 Ha of degraded forest land which would be having a density of minimum 0.10 (assuming 50% servility of the plants in the compensatory afforestation). Ecological benefits in 11.94 ha land @ 657000 per hectare would be $= 78,44,580.00 = (78.44 \text{ Lacs})$	
		<b>2778.44 lacs</b>	

Cost Benefit Ratio = Total Benefit/Total Loss =  $2778.44 / 107.78 = 25.77$  which is  $>1$ , so project is found valuable based on given/above described criteria.

  
Assistant Engineer  
NH. Div. P.W.D.  
Barkot Uttarkashi (U.K.)

  
Executive Engineer  
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Barkot Uttarkashi (U.K.)



परियोजना का नाम:- चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (धरासू बैड से सिलक्यारा बैड) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

परियोजना के निर्माण हेतु भू-वैज्ञानिक की आख्या

प्रमाणित किया जाता है कि प्रस्तावित परियोजना की भू-वैज्ञानिक आख्या संलग्न है।

21/11/14  
21/3/15

*[Signature]*  
11/07/10

*[Signature]*  
अधिसाशी अभियंता  
रा०मा०खण्ड, लो०नि०वि०  
बड़कोट, उत्तरकाशी

कार्यालय प्रमुख अभियन्ता एवं विभागाध्यक्ष  
उत्तराखण्ड लोक निर्माण विभाग,  
देहरादून

भू-गर्भीय निरीक्षण आख्या ए0जी0- 308 सड़क/पुल/सम्प्रेषण/उत्तराखण्ड/गढ़वाल-2020

**Geological assessment of the site proposed for the suitable  
location of additional dumping zone in Char Dham Highway  
development project (All weather road) over HN-134  
(old no. 94), in Dunda block, distt. Uttarkashi.**

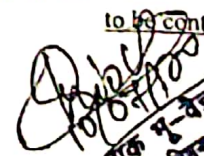
10 जुलाई 2020

**Geological assessment of the site proposed for the suitable location of additional dumping zone in Char Dham Highway development project (All weather road) over HN-134 (old no. 94), in Dunda block, distt. Uttarkashi.**

**Shiv Kumar Rai**

**10-07-2020**

- 1. Introduction:-** The work of Char Dham Highway development project (All weather road) over NH-134 is in progress where 3 sites were proposed for additional dumping zone. With reference to the letter no. 710/Chardham dated 06.07.2020, Er. Navneet Pandey, Executive Engineer requested to the undersigned for the geological assessment of the above mentioned dumping yards/zone in response to which I carried out the same on 07.07.2020 in the presence of Er.G.S. Reddy, Project Manager and Shri. K.S Negi, Surveyor engaged in the work of the above mentioned Project.
- 2. Location:-** The proposed site is located at km 13.90, km 13.150 and km 2.850 of Dharasu – Yamnoutri (NH-134) motor road, in Dunda Block, distt. Uttarkashi.
- 3. Geological/ Geotechnical Assessment:-** Geologically, the site proposed for the muck disposal site and its environs lies in the Inner Lands of Lesser Himalayan Belt. The entire basement area and its environs is occupied by the rocks of Jaunsar Group which is bounded by the North Almora Thrust (NAT) and Main Central Thrust (MCT) from south and north direction respectively. The rock type exposed here at the basement are mostly dolomite with intercalation of slate in between. The topography of the area is moderately steep comes under forest but somewhere have civil lands. There is thin cover of overburden cover over the in-situ basement outcrop with cover of pines tree over the hill slope at all the 3 location.
  - (i) **At km 13.90 over Dharasu-Yamnoutri motor road (NH134)-** Over this location, there is moderately steep slope having Sukha nala below it. There is not even monsoon discharge from the back few years with stable hill slope and free from any landslide/mass wasting activity. There is in-situ intact bedrocks are erected with slope angle varying from  $35^{\circ}$ - $40^{\circ}$ .
  - (ii) **At km 13.150 over Dharasu-Yamnoutri motor road (NH-134)-** Also, at the above mentioned point, there is intact-insitu erect outcrop with moderate topography have a seasonal discharge gadera in monsoon below. The slope angle varies from 35-45 with stable ground covered by thin cover of overburden material. Therefore, it is essential to channelize the discharge of seasonal gadera with cylindrical/rectangular pipes to avoid the saturation condition or underground erosion of material.
  - (iii) **At km 2.580 over Dharasu-Yamnoutri motor road (NH-134)-** At this location also, there is gentle hill slope with stable ground. Over this location, there is stable ground with stable slope with no seasonal gadera nearby to it. No terrace like cultivated land below or any residence which can be affected by the dumping. There is not even monsoon discharge from above the road with stable hill slope and free from any landslide/mass wasting activity. There is in-situ intact bedrocks are erected with slope angle varying from  $30^{\circ}$ - $35^{\circ}$ .

to be continued....  
  
सहायक प्र-वेज्ञानिक  
ग्रामीण मृदा अभियांत्रिकी विभाग  
ले. प्र. वि. देवादा



4. **Conclusion:-**On the basis of the above studies carried out at the site, the proposed additional dumping zone was geologically found suitable for the construction in Char Dham Highway development project (All weather road) over NH-134 at km 13.90, km 13.150 and km 2.850 of Dharasu –Yamnoutri (NH-134) motor road, in Dunda Block, distt. Uttarkashi.



(Shiv Kumar Rai)

Assistant Geologist

Office of the Engineer in Chief,

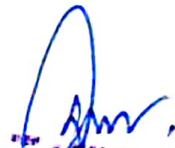
PWD Dehradun

परियोजना का नाम:- चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (घरासू बैड से सिलक्यारा बैड) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

### एन०पी०वी० की धनराशि का आंकलन

प्रमाणित किया जाता है की भारत सरकार, पर्यावरण एवं वन मंत्रालय, नई दिल्ली के आदेश संख्या 5-3/2007 एफ० सी० दिनांक 05-02-2009 में उल्लिखित व्यवस्था के अनुसार आवेदित वन भूमि हेतु एन० पी वी के देयता निम्नानुसार है :-

1. ईको-क्लास श्रेणी - V
2. हरियाली का घनत्व - 0.10
3. एन पी वी की दर प्रति हे० - Rs. 6,57,000 /-
4. आवेदित वन भूमि का क्षेत्रफल - 5.969 हेक्ट.
5. कुल देय एन.पी.वी की धनराशि - Rs. 39,21,633.00 /-

  
प्रभागीय वन्यधिकारिकारी  
उत्तरकाशी वन प्रभाग  
उत्तरकाशी

## Muck Disposal Index

Muck Disposal Plan for Up-gradation to two lane with paved shoulders from Km 0.000 (Dharasu) to Km 24.300 (Silkyara bend) section of NH-94 under EPC Mode.

- Calculation of Muck quantity and available dumping Yards
- Nature of Land choosen for Muck Disposal
- Cross section of Muck Disposal Plan

रिजिंग  
रिजिंग  
Jag  
11/10/2018

✓  
अधिशारी अभियन्ता  
रा०मा० खण्ड, लो०नि०वि०  
बड़कोट (उत्तरकाशी)



## Muck Disposal Plan

### A. Detail as per old proposal no.- 24549

S. No.	Particulars	Quantity (Cum)	Remark
1	Total muck generated for old proposal no. 24549 (NH-134 Km 0.00 to 24.30) as per original muck dumping plan along with 40% swell factor	1196079.50	
2	Total muck to be disposed for proposal no. 24549 (NH-134 Km 0.00 to 24.30) as per original muck dumping plan considering 20% reuse of material	956863.60	
3	Capacity of 6 nos available dumping zones (only 6 nos dumping were available for dumping out of 7 nos approved in old proposal no.- 24549)	1170250.00	
4	Muck already disposed in 6 nos available dumping zones	1170250.00	630033.65 cum muck from hill side cutting in 16km length and 540216.35 cum muck from slip clearance.
5	Already reused material for construction of road (@ 20% of muck generated from hill side cutting)	157508.41	
6	Balance undisposed muck remaining from old proposal no. 24549 (as hill side cutting is remaining in 8.3Km length.)	408537.43	Considering swell factor @ 40%

### B. Detail as per new proposal no.- 36902

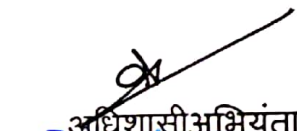
S. No.	Particulars	Quantity (Cum)	Remark
1	Balance undisposed muck from remaining hill side cutting of 8.3km length.	408537.43	Considering swell factor @ 40%.
2	Reuse of material for construction of road	81707.48	
3	Total quantity of muck to be dumped in proposed 3 nos dumping zones as per new proposal no. 36902	326829.95	

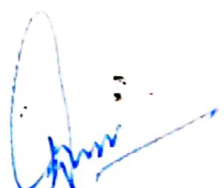
**Location and Capacity of Dumping Yards**

Sr. No.	Location	Size	Type of Land	Capacity of Dumping Yard (Cum)
1	Km 2	(105m x 116m x 60m) x 1/3	Reserve Forest	243600.00
2	Km 14	(71.50m x 77m x 40m) x 1/3	Reserve Forest, Civil land, Nap Land	73406.66
3	Km 14	(50m x 90m x 25m) x 1/3	Civil Land , Nap Land	37500.00
	<b>Total</b>			<b>354506.66</b>

Sr. No.	Total Remaining Debris	Reuse material for road construction	Total disposal in Dumping Zone	Capacity of the Dumping Zone	Balance Debris
1	408537.43	81707.48	326829.95	354506.66	(-) 27676.71

**❖ The Total Muck generated is less than the capacity of Dumping Yards Proposed.**

  
अधिसासी अभियंता  
Executive Engineer  
एन. एच. पी. डिवीजन  
बड़वोद, उत्तराखण्ड (U.K.)


  
प्रधान सचिव अधिकारी  
उत्तराखण्ड वन प्रभाग  
उत्तराखण्ड

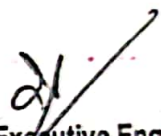
## ABSTRACT OF COST

**NAME OF WORK – REHABILITATION AND UPGRADATION 2-LANE/2-LANE WITH  
PAVED SHOULDER CONFIGURATION & STRENGTHENING OF NATIONAL HIGHWAYS  
NO. 94 FROM KM 0.00 (DHARASU BAND) TO KM 24.300(SILKYARA BAND) IN THE  
STATE OF UTTARAKHAND.**

SL NO.	ITEM OF WORK	AMOUNT
1	2	3
1	REHABILITATION AND UPGRADATION 2-LANE/2-LANE WITH PAVED SHOULDER CONFIGURATION & STRENGTHENING OF NATIONAL HIGHWAYS NO. 94	Rs. 7676108.80
	Add 12 % G.S.T on item No-1	921133.06
	<b>Total</b>	<b>Rs. 8597241.86</b>

  
Junior Engineer

  
Assistant Engineer  
N. H. Division , P.W.D.  
Barkot (Uttarkashi)

  
Executive Engineer  
N. H. Division , P.W.D.  
Barkot (Uttarkashi)




## BILL OF QUANTITY

**NAME OF WORK - REHABILITATION AND UPGRADATION 2-LANE/2-LANE  
WITH PAVED SHOULDER CONFIGURATION & STRENGTHENING OF  
NATIONAL HIGHWAYS NO. 94 FROM KM 0.00 (DHARASU BAND) TO KM  
24.300(SILKYARA BAND) IN THE STATE OF UTTARAKHAND.**

Sl. No.	ITEMS OF WORK	QTY.	UNIT	RATE	UNIT	AMOUNT
1	2	3	4	5	6	7
1	Providing and Laying of Mechanically Woven Double Twisted Hexagonal shaped Gabions of galvanized steel, of size 3mX1mX1m with two diaphragms at 1m interval, having mesh opening 100mmx120 mm, mesh wire diameter 3 mm for gabions, edge/selvedge wire diameter 3.9 mm and lacing wire diameter 2.2 mm. (The work includes filling boulders in the gabions).					
		1013.00	Nos	7577.60	Nos	7676108.80
				<b>Total</b>		<b>7676108.80</b>

  
JE


  
AE

  
EE

## DETAIL OF MEASUREMENT

**NAME OF WORK - REHABILITATION AND UPGRADATION 2-LANE/2-LANE WITH PAVED SHOULDER CONFIGURATION & STRENGTHENING OF NATIONAL HIGHWAYS NO. 94 FROM KM 0.00 (DHARASU BAND) TO KM 24.300(SILKYARA BAND) IN THE STATE OF UTTARAKHAND.**

Sl. No	Item of Work	No.	Length	Width	Hight/Depth	Qty.	Unit
1	2	3	4	5	6		
1	Providing and Laying of Mechanically Woven Double Twisted Hexagonal shaped Gabions of galvanized steel, of size 3mX1mX1m with two diaphragms at 1m interval, having mesh opening 100mmx120 mm, mesh wire diameter 3 mm for gabions, edge/selvedge wire diameter 3.9 mm and lacing wire diameter 2.2 mm. (The work includes filling boulders in the gabions).						
	Gabions for protection of Dumping yard						
	Chainage- 2+00 (105.00 m)	1x5	105			525.00	Nos
	Chainage- 13+530 (72.00 m)	1x4	72			288.00	Nos
	Chainage- 13+730 (50.00 m)	1x4	50			200.00	Nos
				<b>TOTAL</b>		<b>1013.00</b>	<b>Nos</b>

  
JE

  
AE



PWD UTTARAKHAND  
SCHEDULE OF RATES

SOR :- MISCELLANEOUS  
For Block 04 Dunda

Year :- FY. 2018-19  
Effective From:-01-May-2018

Sl. No.	Description	Rate	Unit
1-7	Providing and laying of wire crates 3.00x1.50x1.50 in size with GI wire conforming to IS: 280 & IS:4826 in 150mm x 150mm mesh laid with stone boulders. as per direction of Engineer-in- charge. (As per PWD Uttarakhand specifications)		
1-7-1	GI wire 10 gauge BWG	1,508.10	Cum
1-7-2	GI wire 8 gauge BWG	1,689.90	Cum
1-8	Providing and Laying of Mechanically Woven Double Twisted Hexagonal shaped Gabions (Zinc plus PVC coated), of size 3mX1mX1m with two diaphragms at 1m interval, having mesh opening 100mmx120 mm, mesh wire diameter 2.7mm/3.7mm, edge/selvedge wire diameter 3.4/4.4 mm and lacing wire diameter 2.2/3.2 mm. (The work includes filling boulders in the gabions).	7,395.80	No.
1-9	Providing and Laying of Mechanically Woven Double Twisted Hexagonal shaped Gabions of galvanized steel, of size 3mX1mX1m with two diaphragms at 1m interval, having mesh opening 100mmx120 mm, mesh wire diameter 3 mm for gabions, edge/selvedge wire diameter 3.9 mm and lacing wire diameter 2.2 mm. (The work includes filling boulders in the gabions).	<u>7,577.60</u>	No. ✓
1-10	Clearance of land slides (Slip Clearance)		
1-10-1	Clearance of land slides in soil and ordinary rock by a bull-dozer D 80 A-12, 180 HP and disposal of the same on the valley side complete as directed by the Engineer-in-charge.	69.40	Cum
1-10-2	Clearing of land slide in hard rock requiring blasting for 50 per cent of the boulders and disposal of the same on the valley side (Using bull-dozer) complete as directed by the Engineer-in-charge.	111.60	Cum
1-10-3	Slip clearance (by manual means) of loose earth and other small loose materials including disposal complete as directed by the Engineer-in-charge.	183.50	Cum
1-10-4	Slip clearance (by manual means) of earth and boulders including disposal complete as directed by the Engineer-in-charge.	184.20	Cum
1-10-5	Slip clearance (by manual means) of boulders only including disposal complete as directed by the Engineer-in-charge.	197.20	Cum
1-11	Setting Out (Construction of Reference Pillars, Back Pillars and Job Pillars)		
1-11-1	Construction of reference pillars with RR 1:6 stone masonry and Plastered with 1:4 Mortar, (totally under ground) of length 200mm, width 200mm and height 300mm) as per Fig. 1600.1 (b) and Technical Specification Clause 1602.1 of MORD specifications.	53.70	No.

RD/499  
JE



KM-2

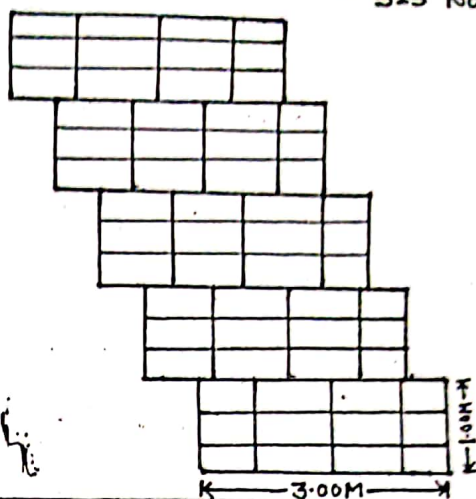
HILL SIDE

ROAD

60 M

HEIGHT OF GABION  
INCREASES AS PER  
HEIGHT OF DUMPPING  
QUANTITIES AND PLANED  
AT OPEN FACE OF DUMPING  
MATERIALS

LENGTH - 105 MT  
IN ONE ROW - 105 MT  
1 MT  
- 105 NO  
SO IN 5 ROW -  $5 \times 105$   
- 525 NOS



KM (13+530)

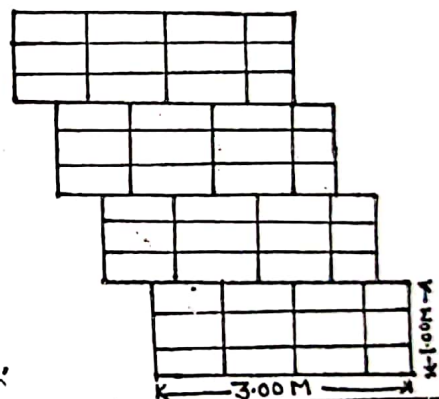
HILL SIDE

ROAD

40 M

HEIGHT OF GABION  
INCREASES AS PER  
HEIGHT OF DUMPPING  
QUANTITIES AND PLACED  
AT OPEN FACE OF DUMPING  
MATERIALS

LENGTH - 72 MT  
IN ONE ROW - 72 MT  
1 MT  
- 72 NO  
SO IN 4 ROW -  $4 \times 72$   
- 288 NOS



(13+730)

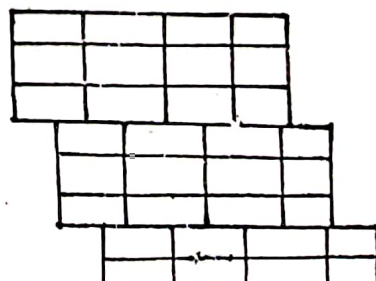
HILL SIDE

ROAD

25 M

HEIGHT OF GABION  
INCREASES AS PER  
HEIGHT OF DUMPPING  
QUANTITIES AND PLACED  
AT OPEN FACE OF DUMPING  
MATERIALS

LENGTH - 50 MT  
IN ONE ROW - 50 MT  
1 MT  
- 50 NO  
SO IN 4 ROW -  $4 \times 50$   
- 200 NOS



**कार्यालय**  
मुख्य वन संरक्षक, अनुश्रवण, मूल्यांकन, आईटी एवं आधुनिकीकरण।  
वन भवन, 85/87, राजपुर रोड, उत्तराखण्ड, देहरादून।

"उत्तराखण्ड वन-सदैव आपके संग"

पत्रांक- 150 / 32-1-2(जी.आई.एस.) दिनांक: देहरादून, 15 जुलाई 2020

सेवा में,

अधिसासी अभियन्ता  
राष्ट्रीय मार्ग खण्ड, लो0नि0वि0,  
बड़कोट (उत्तरकाशी)।

**विषय :-** चारधाम परियोजना पैकेज-5 के अन्तर्गत एन0एच0-134 (पुराना नं0-94) के धरासु बैंड किमी0 122 से सिल्क्यारा बैंड किमी0 24.300 (डिजाइन चैनज 0 से 24.300) तक के मध्य भूस्खलन उपचार एवं अतिरिक्त मक डंपिंग स्थल की RO MoEF की दिनांक 30.06.2020 द्वारा की गयी आपत्तियों के निस्तारण हेतु अतिरिक्त 2 हे0 CA Land की KML File, Topo Sheet, Digital Map एवं Aerial Distance प्रदान किये जाने के सम्बन्ध में।

**सन्दर्भ :-** आपका कार्यालय पत्रांक 728 / चारधाम दिनांक 09.07.2020।

महोदय,

उपरोक्त विषयक सन्दर्भित पत्र के क्रम में चारधाम परियोजना पैकेज-5 के अन्तर्गत एन0एच0-134 (पुराना नं0-94) के धरासु बैंड किमी0 122 से सिल्क्यारा बैंड किमी0 24.300 (डिजाइन चैनज 0 से 24.300) तक के मध्य भूस्खलन उपचार एवं अतिरिक्त मक डंपिंग स्थल हेतु प्रस्तावित स्थल की डंपिंग यार्ड से एवं भूस्खलन भाग से मसूरी वन्यजीव अभ्यारण्य की निकटतम सीमा से हवाई दूरी क्रमशः 23.8 किमी0, 23.9 किमी0 GIS तकनीकी द्वारा आपके माध्यम से दी गई KML file से सन्निकट आंकलित की गई है।

उक्त परियोजना के क्षतिपूरक वृक्षारोपण हेतु मानचित्र को तैयार कर सी0डी0/ई-मेल के माध्यम से प्रेषित किया जा रहा है।

संलग्नक:- सी0डी0।

भवदीय,

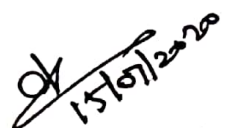
05/07/2020  
उप वन संरक्षक,  
अनुश्रवण, मूल्यांकन, आईटी एवं आधुनिकीकरण  
उत्तराखण्ड, देहरादून।

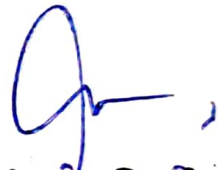
परियोजना का नाम:- चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (धरासू बैड से सिलक्यारा बैड) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

प्रारूप - 8.1

परियोजना स्थल किसी राष्ट्रीय पार्क / वन्य जीव अभयारण्य का हिस्सा न होने व प्रस्तावित स्थल की राष्ट्रीय पार्क से दूरी का प्रमाण पत्र

मुख्य वन संरक्षक अनुश्रवण मूल्यांकन आई०टी० एवं आधुनिकीकरण के पत्र संख्या-100 / 32-1-2 (जी०आई०एस०, दिनांक-15.07.2020 के अनुसार प्रमाणित किया जाता है कि प्रश्नगत परियोजना के निर्माण हेतु आवेदित वन भूमि किसी राष्ट्रीय पार्क / वन्य जीव अभयारण्य का हिस्सा नहीं है प्रस्तावित स्थल डंपिंग यार्ड एवं भूस्खलन भाग की समीपस्थ राष्ट्रीय पार्क से वन्य जीव अभयारण्य की सीमा से दूरी कमशः 23.80 कि० मी०, 23.90 कि०मी० है।

  
आदेशासी, अभियंता  
Executive Engineer  
एनएचडीवीएल  
Bardoli, उत्तराखण्ड (U.K.)

  
प्रभारी, वन अधिकारी  
उत्तराखण्ड वन प्रभाग  
उत्तराखण्ड



परियोजना का नाम:-

चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (धरासू बेंड़ से सिलक्यारा बैड) तक दो लेन चौडीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

क्षतिपूरक वृक्षारोपण स्थल उपयुक्तता प्रमाण पत्र

प्रमाणित किया जाता है कि चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94 (134) कि०मी० 0.00 से 24.300 (धरासू बेंड़ से सिलक्यारा बैड) तक दो लेन चौडीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि दो गुने क्षेत्रफल 11.94 हे. वनभूमि क्षतिपूरक वृक्षारोपण हेतु लिया गया था, भारत सरकार के EDS दिनांक - 30.06.2020 दवार आपत्ति संख्या-11 के अनुसार 2 हे. MDF में होने के कारण 2 हे. अतिरिक्त क्षेत्रफल लेते हुए क्षतिपूरक वृक्षारोपण हेतु कुल क्षेत्रफल 13.94 हे. अर्थात् 14 हे. लिया गया है। उक्त क्षेत्र वृक्षारोपण हेतु उपयुक्त है।

अधिशाली अभियंता  
Executive Engineer  
एन. एच. पी. डिवीजन  
NH. Div. P.W.D.  
बाँकेट, उत्तराखण्ड (U.K.)

प्रभारित वन अधिकारी  
उत्तरकाशी वन प्रभाग  
उत्तरकाशी



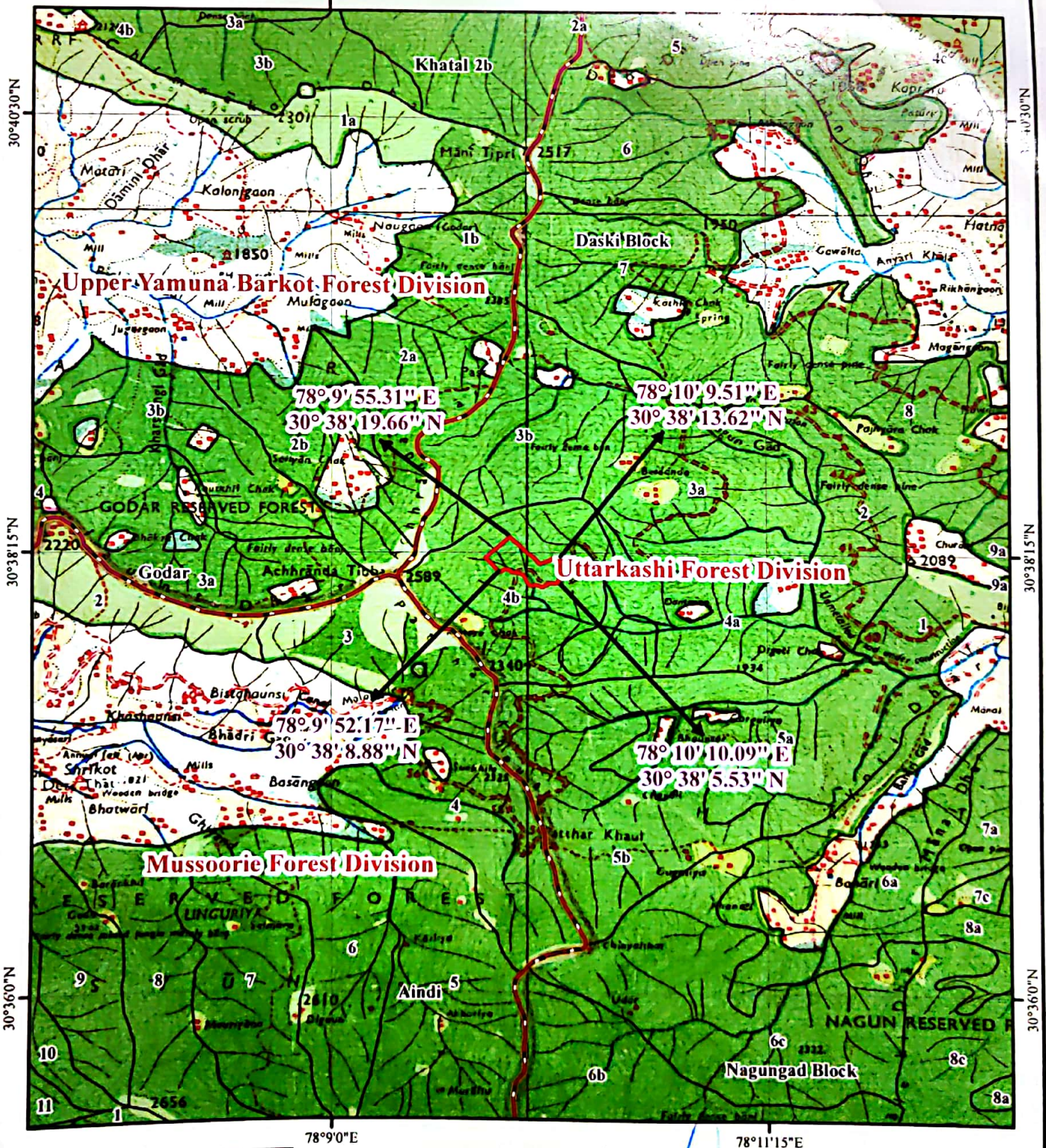
डिजिटल मैप:-चारधाम परियोजना के अंतर्गत रा0रा0 संख्या 94(134) के मध्य डंपिंग यार्ड एवं भूस्खलन भाग के उपचार कार्य हेतु वृक्षारोपण स्थल (क्षेत्रफल 14.00 है0)

Toposheet No: 53J/02



78°9'0"E

78°11'15"E



### Legend

- Range Boundary
- Reserve Forest Area
- Division Boundary
- Proposed CA Land

Assistant Engineer  
NH. Div. P.W.D.  
Barkot Uttarkashi (U.K.)

Executive Engineer  
NH. Div. P.W.D.  
Barkot Uttarkashi (U.K.)

प्रमुख वन अधिकारी  
उत्तरकाशी वन प्रभाग  
उत्तरकाशी

विलाधिकारी

उत्तरकाशी

0 0.25 0.45 0.9 1.35 1.8 Km

1:50,000

Prepared by: ITGC, PCCF Office, Dehradun

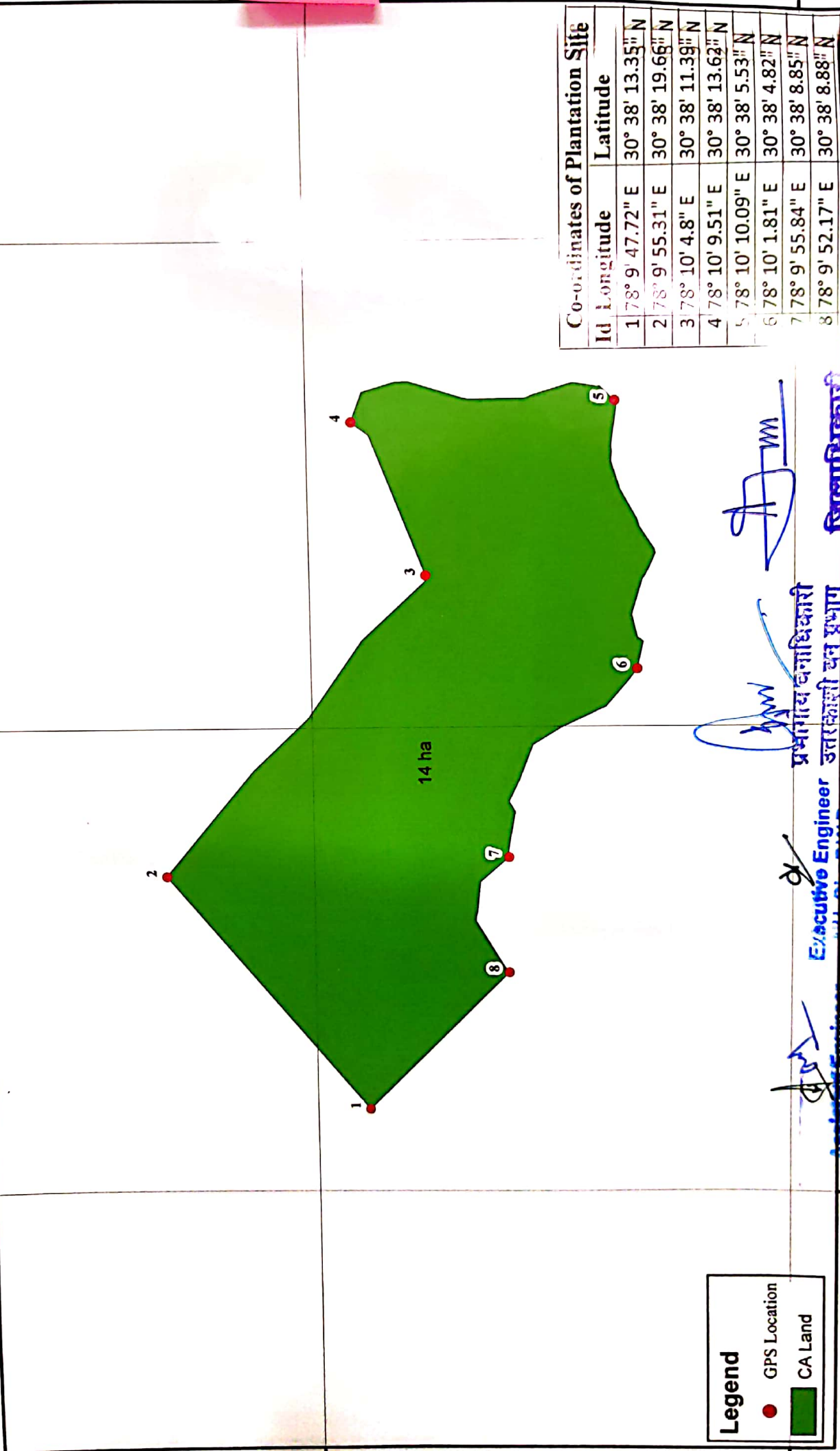


जियोरेफरेन्स मैप-चारधाम परियोजना के अंतर्गत रा0रा0 संख्या 94(134) के मध्य डपिंग यार्ड एवं भूस्खलन भाग के उपचार कार्य हेतु वृक्षारोपण स्थल (क्षेत्रफल 14.00 हे0)

78°10'15"E

78°10'0"E

78°9'45"E



30°38'15"N

30°38'0"N

Co-ordinates of Plantation Site	
Id	Latitude
1	78° 9' 47.72" E 30° 38' 13.35" N
2	78° 9' 55.31" E 30° 38' 19.66" N
3	78° 10' 4.8" E 30° 38' 11.39" N
4	78° 10' 9.51" E 30° 38' 13.62" N
5	78° 10' 10.09" E 30° 38' 5.53" N
6	78° 10' 1.81" E 30° 38' 4.82" N
7	78° 9' 55.84" E 30° 38' 8.85" N
8	78° 9' 52.17" E 30° 38' 8.88" N

78°10'15"E

Prepared by: ITGC, PCCF Office, Dehradun

प्रभागिय वनाधिकारी  
उत्तरकाशी  
उत्तरकाशी

Executive Engineer  
NH, Div. P.W.D., Uttarakashi (U.K.)

Assistant Engineer  
NH, Div. P.W.D., Uttarakashi (U.K.)

Scale: 1:5,000  
0 0.05 0.1 0.2 km