



कार्यालय अधिशासी अभियन्ता
निर्माण खण्ड, लोक निर्माण विभाग थराली



OFFICE OF THE EXECUTIVE ENGINEER, CON. DIV. PWD THARALI

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पत्रांक 1722 / 36C

दिनांक 8/9/2023

सेवा में,

प्रभागीय वनाधिकारी
बद्रीनाथ वन प्रभाग
गोपेश्वर चमोली।

विशय:- परखाल डुग्री मोटर मार्ग के किमी 8.00 से रा0इ0का0 पैतोली राजकीय उद्यान विभाग पैतोली होते हुए स्थान पैतोली तक मोटर मार्ग के निर्माण हेतु 1.471 हे0 वन भूमि हस्तान्तरण प्रस्ताव।

सन्दर्भ- आपके ऑनलाइन पोर्टल पर क्रम सं0 11 दिनांक 27.08.2023।

महोदय,

उपरोक्त विषयक सन्दर्भित पत्र के अनुपालन में उपरोक्त विषयक वन भूमि प्रस्ताव में लगाई गई आपत्तियों के निराकरण के सम्बन्ध में।

1	It is seen that the proposed beneficiary villages are already well connected with the motot road. The construction of another road through deep inside the village fragrningent the forest land and with couneration of 102 trees including 69 banj trees appers not justification State Govt may submit the detailed justification in this regard.	वैकल्पिक समरेखण में 0-10 व्यास के वृक्षों की गणना पुनः किए जाने पर मोटर मार्ग पर कुल 215 वृक्ष जिसमें बांज के 115 वृक्ष प्रभावित हो रहे हैं सूची संलग्न है।
2	Details of sapiings area not submitted/ uploaded State Govt may upload/ submitted the details of the saplings standing in the area proposed for diversion.	वन भूमि में आ रहे 0-10 व्यास वृक्षों की गणना सूची संलग्न पत्र सं0- 1566 / 36 सी0 दिनांक 22.08.2023 द्वारा पूर्व में निराकरण सहित प्रेषित।
3	It is seen that the name of the CA area in not metlioned in the CA scheme. State Govt may submit/ upload the CA sheme mentioning the name of the CA area.	क्षतिपूर्ति वृक्षारोपण का प्रकलन वित्तीय 2022-23 के अनुसार बनाकर संलग्न पत्र सं0- 1566 / 36 सी0 दिनांक 22.08.2023 द्वारा पूर्व में निराकरण सहित प्रेषित।
4	It is green that the NPV is upload for old Rates. State Govt may sumbit/ upload NPV calculation sheet as per new rates.	एन0पी0वी0 आंकलन नये दरों पर गठित कर संलग्न पत्र सं0- 1566 / 36 सी0 दिनांक 22.08.2023 द्वारा पूर्व में निराकरण सहित प्रेषित।
5	It is seen that the estimate of Rs 2512913/- is also proposed for plantation of 1020 tress spaces other than the CA scheme. It is to inform that only CA scheme is applicable.	प्रस्ताव में ऑनलाइन पार्ट 1 के Additional information से 100 वृक्षों का प्राकलन रू0 2512913/- को हटाया दिया गया है। पत्र सं0- 1566 / 36 सी0 दिनांक 22.08.2023 द्वारा पूर्व में निराकरण सहित प्रेषित।

6	As per the muck disposal total muck remained after deducting the quantity of the utilized muck is 21204 cum but capacity of two muck dumping sites as mentioned is only for 12320 cum. State Govt may submit the cleatification and provide the cotted Muck Disposal Plan.	चयनित मक डम्पिंग स्थल के क्षेत्र का वन क्षेत्राधिकारी पश्चिमी पिण्डर रैज के साथ स्थलीय निरीक्षण कर लिया गया है। मक डिस्पोजल योजना की प्रति संलग्न पत्र सं०- 1566 / 36 सी० दिनांक 22.08.2023 द्वारा पूर्व में निराकरण सहित प्रेषित कि जा चुकी है।
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7- KML file uploading कर दी गयी है।

संलग्न:- वैकल्पिक संमरेखण की वृक्षों की सूची व मार्ग का प्लान व वन भूमि प्रस्ताव निराकरण की बिन्दु सं० 1 का 5 न० प्रतियो में प्रषित।

① 14-9-23
अधिशारी अभियन्ता
निर्माण खण्ड लो०नि०वि०
थराली चमोली।

पत्रांक /

दिनांकित।

प्रतिलिपि:- सहायक अभियन्ता पंचम निर्माण खण्ड लो०नि०वि० थराली।

प्रतिलिपि:- खण्डीय अमीन/कनिष्ठ अभियन्ता को आवश्यक कार्यवाही हेतु प्रेषित।

/
अधिशारी अभियन्ता
निर्माण खण्ड लो०नि०वि०
थराली चमोली।

वैकल्पिक समरेखण में प्रभावित होने वाले वृक्षों का विवरण

परियोजना का नाम

परखाल-डुंग्री मोटर मार्ग के किमी 0 8 से रा0इ0का0 पैतौली, राजकीय उद्यान विभाग पैतौली होते हुए सीन पैतौली तक मोटर मार्ग के निर्माण हेतु 1.471 हे0 सिविल कुल 1.471 हे0 वन भूमि का लोक निर्माण विभाग को हस्तान्तरण प्रस्ताव।

प्रश्नगत परियोजना के निर्माण हेतु दिनांक 31-5-2023 को किये गये संयुक्त निरीक्षण के अनुसार आवेदित वन भूमि तथा नाप भूमि पर प्रभावित होने वाले वृक्षों की गणना की गई व निरीक्षण के दौरान प्रभावित होने वाले वृक्षों की निम्नानुसार गणना की गई:-

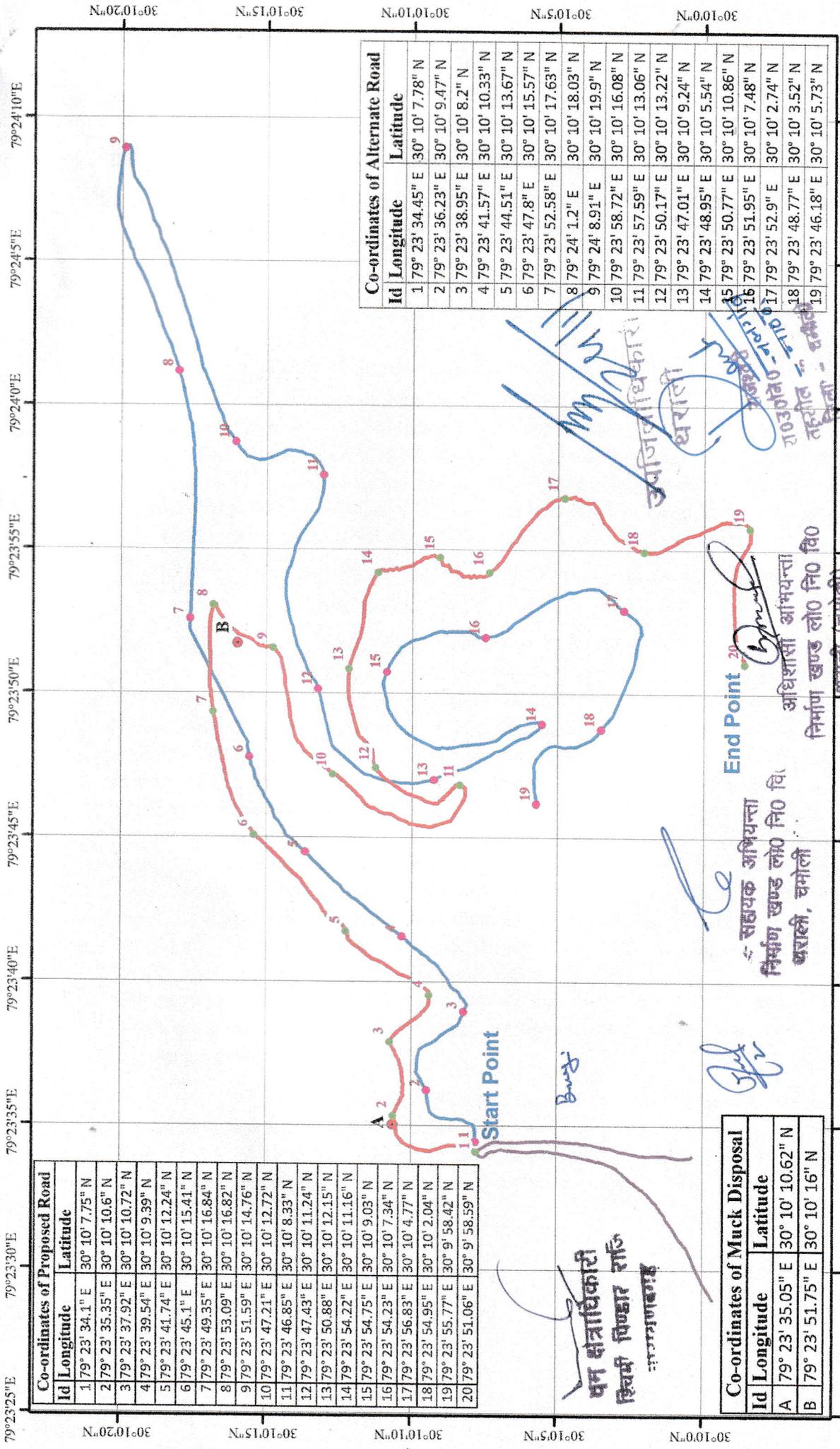
प्रस्तावित वन भूमि पर प्रभावित होने वाले वृक्षों का भूमिवार/प्रजातिवार/व्यास वार विवरण

क्र. सं.	भूमि की श्रेणी	वन ब्लाक/कम्पाटमेन्ट/खसरा सं0	प्रजाति	वैज्ञानिक नाम	व्यास वर्ग									योग	
					0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90		90 से अधिक
1	सिविल सोयम		तिमला	Adromeda	2	3			1						6
2	सिविल सोयम		देवदार	Cedrus deodara	1		1								2
3	सिविल सोयम		बांज	Querus leucotrichophora	39	40	31	5							115
4	सिविल सोयम		बुरास	Querus lanuginosa Rhododendron	4	7	5	2							18
5	सिविल सोयम		मेहल	Adromeda	4	6	4	1							15
6	सिविल सोयम		अखरोट	Juglens regia				1							1
7	सिविल सोयम		पौपलर	Adromeda	7	1	1	3							12
8	सिविल सोयम		पदम	Adromeda		2									2
9	सिविल सोयम		चीड़	Pinns roxbugii	4	1									5
	योग A				61	60	42	12	1						176
	नाप भूमि		सेब		15										15
	नाप भूमि		अखरोट	Juglens regia	4										4
	नाप भूमि		सेब		2										2
	नाप भूमि		आड़ू		18										18
	योग B				39										39
	कुल योग A+B				139	60	42	12	1						215

वन अधिकारी,
पश्चिमी पिण्डर रेंज, नारायणबगड़,
बद्रीनाथ वन प्रभाग, गोपेश्वर।

प्रभारी वन अधिकारी
बद्रीनाथ वन प्रभाग
गोपेश्वर

जियोरेफरेन्स मैप:-परखाल-डुग्री मोटर मार्ग के किमी 0 8 से राई0का पैतौली राजकीय उद्यान विभाग पैतौली होते हुए स्थान पैतौली तक मोटर मार्ग के निर्माण हेतु



Co-ordinates of Proposed Road	
Id	Latitude
1	79° 23' 34.1" E 30° 10' 7.75" N
2	79° 23' 35.35" E 30° 10' 10.6" N
3	79° 23' 37.92" E 30° 10' 10.72" N
4	79° 23' 39.54" E 30° 10' 9.39" N
5	79° 23' 41.74" E 30° 10' 12.24" N
6	79° 23' 45.1" E 30° 10' 15.41" N
7	79° 23' 49.35" E 30° 10' 16.84" N
8	79° 23' 53.09" E 30° 10' 16.82" N
9	79° 23' 51.59" E 30° 10' 14.76" N
10	79° 23' 47.21" E 30° 10' 12.72" N
11	79° 23' 46.85" E 30° 10' 8.33" N
12	79° 23' 47.43" E 30° 10' 11.24" N
13	79° 23' 50.88" E 30° 10' 12.15" N
14	79° 23' 54.22" E 30° 10' 11.16" N
15	79° 23' 54.75" E 30° 10' 9.03" N
16	79° 23' 54.23" E 30° 10' 7.34" N
17	79° 23' 56.83" E 30° 10' 4.77" N
18	79° 23' 54.95" E 30° 10' 2.04" N
19	79° 23' 55.77" E 30° 9' 58.42" N
20	79° 23' 51.06" E 30° 9' 58.59" N

Co-ordinates of Alternate Road	
Id	Latitude
1	79° 23' 34.45" E 30° 10' 7.78" N
2	79° 23' 36.23" E 30° 10' 9.47" N
3	79° 23' 38.95" E 30° 10' 8.2" N
4	79° 23' 41.57" E 30° 10' 10.33" N
5	79° 23' 44.51" E 30° 10' 13.67" N
6	79° 23' 47.8" E 30° 10' 15.57" N
7	79° 23' 52.58" E 30° 10' 17.63" N
8	79° 24' 1.2" E 30° 10' 18.03" N
9	79° 24' 8.91" E 30° 10' 19.9" N
10	79° 23' 58.72" E 30° 10' 16.08" N
11	79° 23' 57.59" E 30° 10' 13.06" N
12	79° 23' 50.17" E 30° 10' 13.22" N
13	79° 23' 47.01" E 30° 10' 9.24" N
14	79° 23' 48.95" E 30° 10' 5.54" N
15	79° 23' 50.77" E 30° 10' 10.86" N
16	79° 23' 51.95" E 30° 10' 7.48" N
17	79° 23' 52.9" E 30° 10' 2.74" N
18	79° 23' 48.77" E 30° 10' 3.52" N
19	79° 23' 46.18" E 30° 10' 5.73" N

Co-ordinates of Muck Disposal	
Id	Latitude
A	79° 23' 35.05" E 30° 10' 10.62" N
B	79° 23' 51.75" E 30° 10' 16" N

Legend

- Muck disposal Sites
- Alternate Road
- Proposed Road
- Existing Road
- GPS Coordinates of Proposed Road
- GPS Coordinates of Alternate Road

सहायक अभियन्ता
निर्माण खण्ड लो 0 नि 0 वि
कराली, चमोली

अधिसारी अभियन्ता
निर्माण खण्ड लो 0 नि 0 वि 0

वन क्षेत्राधिकारी
स्वामी पिन्डार राऊ
परखाल

प्रभागीय चनाधिकारी
बदीनाथ वन प्रभाग, गोपेश्वरा

तहसीलदार
कराली

1:5,500
0 0.025 0.05 0.1 0.15 0.2

**Geological assessment of the alignment corridor proposed for
Km. 8 of Parkhal-Dungri motor road to Paintoli and Paintoli
Udhyan motor road, Distt. Chamoli**

Vijay Dangwal

22.12.2014

- 1- Introduction**:- The Temporary Division, Public works Department Tharali has been entrusted for the construction of 2 km long motor road i.e, Parkhal dungri motor road Km. 8 to Pintoli Udhyan motor road in Tharali Block ,Distt.Chamoli. Consequent upon the request made by Shri Dhan Singh Kutiyal, Executive Engineer for carrying out the geological assessment of the proposed alignment of the above said road ,a joint visit to the site was made on 13.12.2014. Er.D.K.Loshli, Astd. Engineer and Er. Prasoon Nautiyal, Jr.Engineer, and Er. Jagmohan Singh Mehra, Jr. Engineer, PWD, Tharali also accompanied the site visit.
- 2- Location**:- The alignment corridor proposed for the construction of above said road falls within the boundry of Tharali Block, Distt. Chamoli.
- 3- Geological Assessment**:- Located in the inner belt of Garhwal Lesser Himalaya the area around Parkhal,Narayanabagar including the alignment corridor are mostly comprised of the quartzites of Garhwal Group which are thrust under the rocks belonging to Almora Group along the South Almora Thrust. The quartzites exposed in the area of this alignment are thinly foliated ,fresh hard and compact in nature and are exposed only in the small section i.e.from CH.00 to CH.0/4 .Most of this alignment is covered by the thick envelope of overburden material comprised of the composite soils i.e. rock fragments of varying sizes embedded in the clayey matrix. The cross slopes of the alignment are inclined at very steep angle for 100m reach only which abruptly becomes low to very low for the remaining part. It passes through the close upslopes of Primary School and GIC Paintoli. Most of this alignment passes across the ground comprised of residual soils which has been altered in the form of stepped like fields near Paintoli Udhyan.The cross slopes of the alignment corridor bear a general orientation towards the northwest direction. The rock mass exposed at the begning of this alignment before Primary School are thinly bedded and moderately weathered in nature and it has been dissected by many prominent linear discontinuities which are given in the following table.

The land form of the cross slopes along the alignment corridor is mostly formed of terrace like slopes.The soils comprising the ground are almost residual soils which contains very high percentage of plastic clays. It has been observed that the soils deposited on the alignment slopes are stiff and hard under dry state and these are naturally well compacted and moderately dense in nature. As the slope

forming soils contain high percentage of clay minerals which are highly susceptible for water absorption, adequate arrangements for rainwater run off needs to be made along and across of this proposed road.

By and large the alignment slopes are stable and free from any mass waisting activities.

On the basis of the geological / geotechnical studies carried at the site and the facts mentioned above the following recommendations are being made for the construction of the proposed bridge failing to these this report will be automatically treated as cancelled.

3- Recommendations:-

- 1- Construct the road by half cut and half fill techniques and compact the fill material properly by dynamic compaction.
- 2- Excavate the starting 100 m rocky part of the road manually. Any type of blasting in this section will generate slope failure.
- 3- The hill side slopes of the entire road must be protected by suitably designed retaining walls/ breast walls, this work shall be carried out simultaneously with the advancement of the road cutting. This is very important for the stability of the hill side slopes.
- 4- The entire road must be formed by cement concrete and the surface of the road from outer edge to inner edge must be sealed immediately after the excavation.
- 5- Construct extra large lined drain all along the hill side of the road and make adequate cross drainage arrangements. The rain water run-off from the upslope catchment should not allow to flow on or along any weak strata, otherwise it must be disposed on the safe/ stable ground. Please note that the soils nearby Paintoli Udhyan are dispersive and easily erodible.
- 6- Do not dispose the excavated waste on the lower hill slopes otherwise it will threat the safety of villages located between the road.
- 7- Protect the either side slopes of the road by bio-engineering methods especially by plantation of eco-friendly plants.
- 8- All the construction activity must be carried out as per the standard codes of practice laid by the BIS and MORTH.

4- Conclusion:- On the basis of the geological / geotechnical studies carried at the site and with the above recommendations, the site was found geologically suitable for the construction of 8 to pintoli Udhyan 2 km long motor road in Tharali Block , mDistt.Chamoli.

Photocopy Attested

सहायक अभियन्ता लीय
क्र. ४० लो.नि.वि.३ वराहा (पन्तोली)

V. Dangwal
22/12/14
(Vijay Dangwal)
Sr. Geologist

Office of the Engineer in Chief,
PWD, Dehradun.

Task Force Certificate

- (i) Lay out of the Land-be followed as far as possible.
- (ii) Heavy cutting/filling be avoided-as far as possible. The technology of cut and fill method is to be adopted. Steep hill slopes also to be avoided.
- (iii) Unstable/Slide-prone areas to be avoided. For identifying such areas the advice of Geotechnical engineers and geologists to be taken during the survey for alignment.
- (iv) Comparison of various possible alignments with reference to erosion potential be made and the alignment involving minimum erosion risks be preferred.

Apart form the stage of planning the road alignment, effective steps are also required to be taken by ground engineer during the process of road construction for minimized ecological disturbance to the hill roads Broadly the measures to be taken have been identified as :-

- (i) Cut and fill method to be adopted while excavating for road formation and heavy earth cutting is to be avoided Box cutting is to be avoided to the extent possible.
- (ii) Blasting by explosives is to be restricted to the minimum. Lay out of holes to be drilled for blasting is to be planned keeping is view the line of least resistance and the existence of joints Controlled blasting should be repeated using low charge and care be taken to avoid activating slide zones or widening fissures and cracks in rock. Use of delay detonators in large scale blasting work is toe be made for anaoline dispersion of chock waves, so that minimum disturbance is caused to the rock stratum as a result of the blasting process.
- (iii) All cut slopes, unusable hill side and slide prone erosion prone areas are to be provided with suitable correction measures by using one or the other of the techniques developed by CRRI. Several techniques have been sponsored by CRRI. like simple vegetative turning, bitumen much treatment and slide treatment by jute netting coir netting of these simple vegetative turning seems to be the most appropriate preventive measure in many situations. This should be established in the denuded slopes immediately after the excavation is made.
- (iv) Adequate drainage measures and protective structures like intercepting catch water drains, longitudinal drains/culverts, breast walls, retaining and the walls are provided for purposes of establishing the slips Growth vegetative cover is stimulated in the disturbed hill slops above the road level by planting suitable fast growing shrubs and plants. In certain selected unstable areas terraced afforestation has also been plasticized as a stabilizing measure with good results.
- (v) Over the past few years the roads wing of the Ministry of Shipping and transport has issued instruction laying down broad guidelines and check list of the preparation of road construction projects which provide and inbuilt mechanism of tacking land slides/erosion control for the guidance and follow up action by engineers of state 'PWD' Border Roads Organization and other engaged in construction of hill roads these should be observed.

प्रमाणित किया जाता है कि योजना आयोग द्वारा गठित टास्क फोर्स द्वारा प्रदत्त उक्त संस्तुतियाँ का परियोजना के निर्माण के दौरान अनुपालन सुनिश्चित किया जायेगा

B
खण्डीय अमीन

JH
कनिष्ठ अभियन्ता

सहायक अभियन्ता
निर्माण खण्ड लो० नि० वि०
थराली (चमौली)

अधिसमसी अभियन्ता
निर्माण खण्ड लो० नि० वि०
थराली, (चमौली)

Task Force Certificate

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खण्डीय अमीन


कनिष्ठ अभियन्ता


सहायक अभियन्ता
निर्माण खण्ड लो० नि० वि०
थराली (चमोली)


अधिसमसी अभियन्ता
निर्माण खण्ड लो० नि० वि०
थराली, (चमोली)