

राष्ट्रीय राजमार्ग एवं अवसंरचना विकास निगम लिमिटेड

सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार  
तीसरी मंजिल, पीटीआई बिल्डिंग, 4-संसद मार्ग, नई दिल्ली-110001

**National Highways & Infrastructure Development Corporation Limited**

Ministry of Road Transport & Highways, Govt. of India  
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(भारत सरकार का उद्यम)

(A Government of India Enterprise)

NHIDCL/TECHNICAL ISSUES/2022/19

Date : 23.11.2022

To,

**The Director,  
National Institute of Technology Uttarakhand  
NH 58, Srinagar, Uttarakhand 246174**

**Sub: MoU between NHIDCL and NIT, Uttarakhand dated 31.10.2022-Imparting Knowledge and innovative ideas/technologies to NHIDCL-reg.**

Sir,

NHIDCL is executing road and infrastructure projects in the North-Eastern States, Uttarakhand, J&K and Andaman & Nicobar Islands. Construction of highways in hilly terrain imposes new challenges in terms of stability of mountain slopes during and after construction. In addition, heavy and long duration rainy season further compounding the difficulties for construction & safety of the structures being built or already existing on numerous rivers/streams flowing in these regions due to changes in water level.

2. Unstable slopes and collapsing/damaging of structures creates disruptions in traffic movement which affects the normal traffic flow of common citizen as well as the army convoy heading towards sensitive international borders.

3. In order to share the resourceful knowledge of NIT Uttarakhand and in the true spirit of MoU signed, NHIDCL wishes to assign some project sites in Uttarakhand (List & description enclosed as Annexure-A & Annexure-B) for investigations and to suggest mitigation measures as a permanent solution to these sliding/sinking zone.

4. NIT Uttarakhand is requested to submit their proposal along with time schedule & financial implication within 10 days from the receipt of this letter.

With regards,

Encl: As stated above

Yours Sincerely,

*DRC / copy D. B Singh for pres release  
2/12/22*

*dep.*  
(Rajendra Singh Yadav)  
Executive Director (T)

Technical Issues in projects of NHIDCL in the state of Uttarakhand, to be referred to  
 NIT Uttarakhand Annexure-A

<b>Name of work</b>	Construction and Up-gradation of existing road to 2-lane with paved shoulder from km 368+000 (Lameri, Rudraprayag) to km 468+000 (Helong) under Chardham Pariyojana on EPC Basis in the state of Uttarakhand
<b>Location Chainage @</b>	<b>Refer Annexure-A (land slide locations)</b>
<b>Brief detail of Issue faced**</b>	<ul style="list-style-type: none"> <li>(i) During and after rains side slopes substantially slides with trees and required frequent clearance for traffic flow.</li> <li>(ii) The road has been widened to 2 lane and as per site requirement breast wall also constructed.</li> <li>(iii) Height to slide was approx. 50 to 60 m.</li> <li>(iv) Approximate length affected 1365 m along the highway at several locations.</li> </ul>
<b>Earlier condition</b>	The road was widened to 2 lane by hill cutting.
<b>Present condition of Highway stretch bridge</b>	The slide material has been removed at most of the locations, but at some locations the slide are laid at single lane as there is probability of further slide, if the slide will removed.
<b>Desired Solution</b>	How to protect the side slopes to restrict further sliding.
**Photographs depicting the issue at the project location.	

*GD*



Technical Issues in projects of NHIDCL in the state of Uttarakhand, to be referred to  
NIT Utrrakhand Annexure-A

A.11	Photographs	
		 <p>08-01-2021 18:07 Time zone: GMT+05:30 Note: Muck clearance on carriageway at ch.447.350</p>
		 <p>08-01-2021 18:07 Time zone: GMT+05:30 Note: Muck clearance on carriageway at ch.447.350</p>
		 <p>07-23-2022 11:05 Time zone: GMT+05:30 Note: ch.448.200 length: 20 to 25 mtrs new Slide</p>

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Technical Issues in projects of NHIDCL in the state of Uttarakhand, to be referred to  
NIT Uttarakhand Annexure-A

<b>Name of work</b>	Construction and Up-gradation of existing road to 2-lane with paved shoulder from km 368+000 (Lameri, Rudraprayag) to km 468+000 (Helong) under Chardham Pariyojana on EPC Basis in the state of Uttarakhand
<b>Location Chainage @</b>	Refer Annexure-B (Sinking Zone locations)
<b>Brief detail of Issueface</b>	<ol style="list-style-type: none"> <li>1. Approxiamtely 1.04Km of the project highway in between Km 385 to Km 456 falls under the Sinking Zone.</li> <li>2. At some stretches the road work was completed upto DBM level.</li> <li>3. Substantial sinking observed at several stretches as per Annexure-B enclosed location in which the road was constructed.</li> <li>4. The sinking at the enclosed locations continuous in nature.</li> <li>5. Even after restoration work ,the said location continuously sinking. The nature of sinking seem to be continuous.</li> <li>6. It seems that the hillor land is moving towards valley. It is difficult to identify exact starting and ending point of sinking as river Alaknanda is flowing valley side.</li> <li>7. It is observed that in some stretches the surface of road has been settled by an average of 10 to 30 cm in a year.</li> </ol>
<b>Earlier condition</b>	Sinking at the referred locations did not identified at the time of preparation of DPR.
<b>Present condition of Highway stretch/ bridge</b>	Sinking is still continuing even after several times restoration of the same.
<b>Desired Solututon</b>	How to protect these referred sinking zone to avoid further sinking.





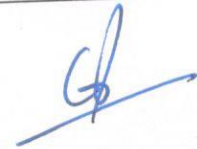
Technical Issues in projects of NHIDCL in the state of Uttarakhand, to be referred to  
NIT Uttarakhand Annexure-A

A.12	Photographs	 <p>The first photograph shows a wide, unpaved dirt road under construction on a rocky hillside. A person stands on the road, and a dog is visible in the distance. Metadata: Latitude: 30.286353, Longitude: 79.13739, Accuracy: 700.0 m, Time: 07-05-2022 17:27.</p> <p>The second photograph shows a dirt road curving through a green, rocky landscape. Metadata: Time: 07-08-2022 10:36, Note: 384.400.</p> <p>The third photograph shows a paved road with a silver car and several large rocks in the middle of the road. Metadata: Time: 17-08-2022 12:07, Powered by NoteCam.</p>
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Technical issues in Projects of NHIDCL in the state of Uttarakhand, to be referred to NIT  
Uttarakhand Annexure-B

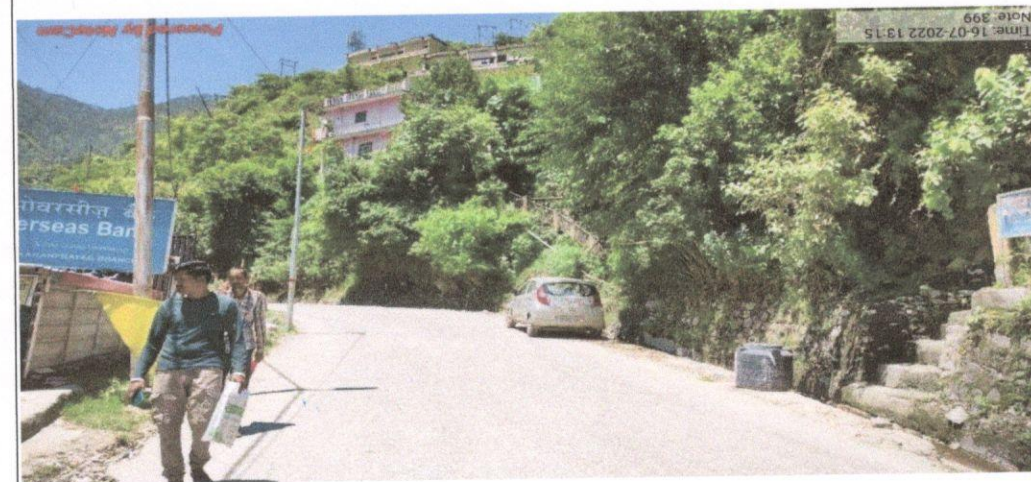
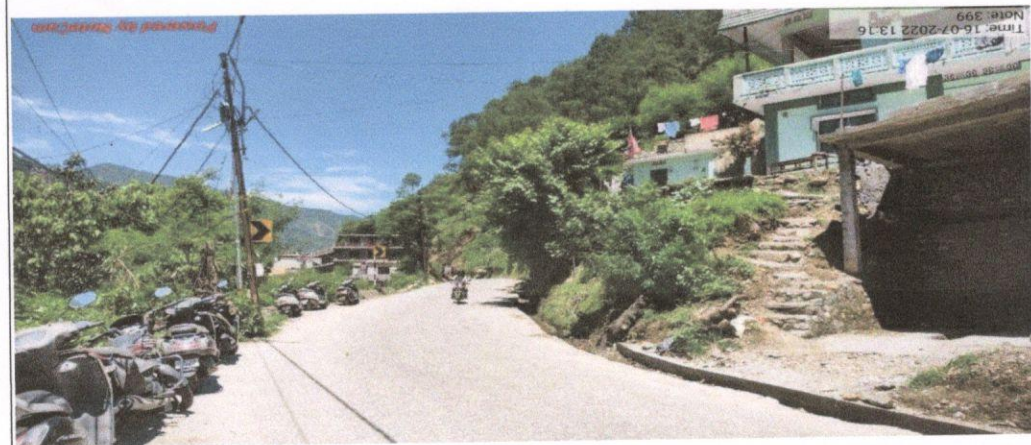
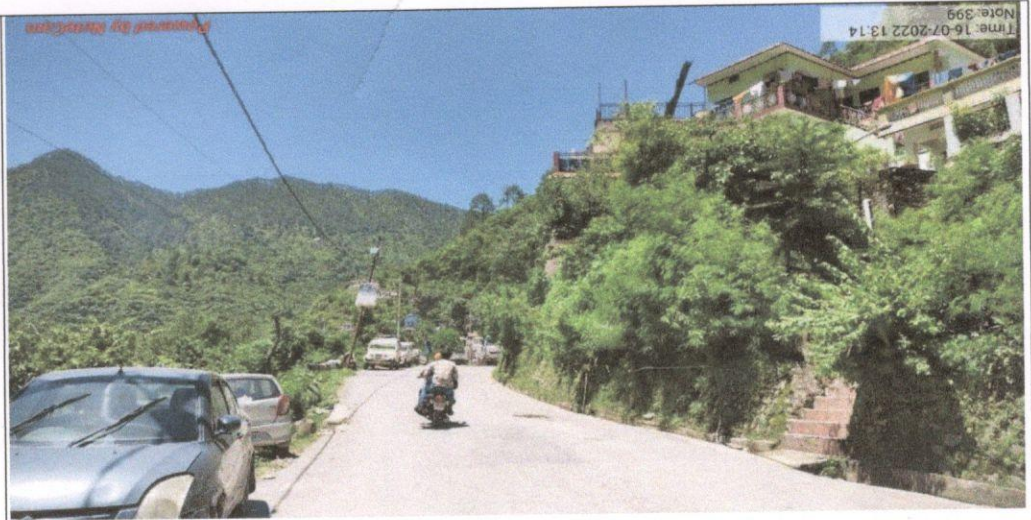
<b>Name of work</b>	Construction and up-gradation of existing road to 2-lane with paved shoulder from Km.368.000 Rudraprayag (Lameri) to Km.468.000 (Helong) of NH-07 (old NH-58) under Chardham Pariyojna on EPC basis in the state of Uttarakhand
<b>Location Chainage @</b>	Karanprayag Bypass from km 398+300 to Km 399+800
<b>Brief detail of Issue faced**</b>	(i) Appx.1.5km length of project highway is affecting due landslide and properties damaged beyond ROW in Karanprayag Town.  (ii) Present carriageway is appx. 5 to 6m.  (iii) Proposal carriageway under 12m ROW. (iv) Length affected 1.5km
<b>Earlier condition</b>	Contractor has started widening in last year, however, due to land slide and properties damage beyond ROW, contractor has stopped the widening works and engaged the Geologist for his comments. Further, after detailed investigation of site, contractor has submitted the report of Geologists. According to Geologists report any disturbance to existing surface may cause unknown damages. This may also be hazardous for existing habitation at unknown extent.
<b>Present condition of Highway stretch/bridge</b>	The present carriageway at said stretch is 5 to 6 m under 8 to 10m ROW. As per schedule-B of Contract Agreement widening is proposed for 7m carriageway under 12 m ROW.
<b>Desired Solution</b>	Suitable proposal for widening of existing lane or Bypass to Karanpraag town.
**Photographs depicting the project location.	





Technical issues in Projects of NHIDCL in the state of Uttarakhand, to be referred to NIT Uttarakhand  
Annexure-B

A.11 Photographs



Construction and up gradation of existing road to 2-lane with paved shoulder from Km.368.000 Rudraprayag (Lameri) to Km.468.000 (Helong) of NH-07 (old NH-58) under Chardham Pariyojna on EPC basis in the state of Uttarakhand

Landslide Location under RO - Dehradun						
Sr. No.	Location	Chainage	Length	NH	Type of Location	Remarks
1	Sumerpur	Km. 371+375 to Km 371+410	35 m	NH-68 (New NH-07)	Land slide Zone	(i) Frequent Land slide occurs at these location during rainy/monsoon period. (ii) Action taken as per the Contract Agreement to restore the same by providing breast wall, however the same is not successful.
2	Sumerpur	Km. 371+490 to Km 371+520	30 m			
3	Sumerpur	Km. 376+370 to Km 376+470	100 m			
4	Shivnandi	Km. 377+800 to Km 377+850	50 m			
5	Gauchar	Km. 387+270 to Km 387+300	30 m			
6	Gauchar	Km. 387+350 to Km 387+390	40 m			
7	Dharinagar, Gauchar	Km. 391+790 to Km 391+890	100 m			
8	Chatwapeepal	Km. 393+170 to Km 393+230	60 m			
9	Langasu	Km. 406+300 to Km 406+330	30 m			
10	Nandprayag	Km. 418+450 to Km 418+500	50 m			
11	Nandprayag	Km. 419+050 to Km 419+150	100 m			
12	Banjbagar	Km. 424+520 to Km 424+550	30 m			
13	Kuhed	Km. 424+890 to Km 424+990	100 m			
14	Banerpani	Km. 445+550 to Km 445+720	170 m			
16	Pakhi	Km. 453+270 to Km 453+360	90 m			
16	Garud Ganga	Km. 448+200 to Km 448+210	10 m			
17	Tanrimalla	Km. 455+080 to Km 455+110	30 m			
18	Nauligawad	Km. 457+050 to Km 457+100	50 m			
19	Gulabkoti	Km. 460+720 to Km 460+920	200 m			
20	Gulabkoti	Km. 460+550 to Km 460+720	170 m			