



Environmental Monitoring Report

Project Number: 47229-001
October 2015

Period: July 2014 – December 2014

IND: Uttarakhand Emergency Assistance Project (UEAP)

Submitted by

Project implementation Unit –UEAP (Roads and Bridges), Dehradun

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Asian Development Bank



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Letter No **1400/02/UEAP/PWD/2015**

Dated : **26 / 09/2015**

To,

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Asian Development Bank
South Asia Department
India Resident Mission
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Subject: ADB Loan 3055 IND-UEAP(R&B)-Semi-Annual Environment Monitoring Report (Jul 2014-December 2014)

Madam,

Reference to subject matter, please find enclosed the hard copy and c-drive of Semi-Annual Environment Monitoring Report (July 2014-December 2014).

Enclosure : As above

26/09/15
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Semi-Annual Environmental Monitoring Report **(July 2014-December 2014)**

Loan Number: 3055-INDIA
Month Year: December 2014

IND: Uttarakhand Emergency Assistance Program (Road & Bridge Sector Subprojects)

Prepared by:- State Disaster Management Authority, Government of Uttarakhand, for
the Asian Development Bank

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ABBREVIATIONS

ADB	-	Asian Development Bank
ASI	-	Archaeological Survey of India
BOQ	-	Bill of Quantity
CTE	-	Consent to Establish
CTO	-	Consent to Operate
DFO	-	Divisional Forest Officer
DSC	-	Design and Supervision Consultancy
DOT	-	Department of Tourism
CPCB	-	Central Pollution Control Board
EA	-	Executing Agency
EAC	-	Expert Appraisal Committee
EARF	-	Environment Assessment and Review Framework
EC	-	Environmental Clearance
EIA	-	Environmental Impact Assessment
EMMP	-	Environment Management and Monitoring Plan
GMVN	-	Garhwal Mandal Vikas Nigam
Gol	-	Government of India
GRM	-	Grievance Redressal Mechanism
IA	-	Implementing Agency
IEE	-	Initial Environmental Examination
IST	-	Indian Standard Time
KMVN	-	Kumaun Mandal Vikas Nigam
LPG	-	Liquid Petroleum Gas
MDR	-	Major District Road
MoEF&CC	-	Ministry of Environment Forests and Climate Change
NAAQS	-	National Ambient Air Quality Standards
NDBR	-	Nanda Devi Biosphere Reserve
NDNP	-	Nanda Devi National Park
NH	-	National Highway
ODR	-	Other District Road
OM	-	Operations Manual
PIU	-	Project Implementation Unit
PMU	-	Project Management Unit
PWD	-	Public Works Department
REA	-	Rapid Environmental Assessment
RSPM	-	Respirable Suspended Particulate Matter
SDMA	-	State Disaster Management Authority
SH	-	State Highway
SPCB	-	State Pollution Control Board
SPM	-	Suspended Particulate Matter
SPS	-	Safeguards Policy Statement
SRTC	-	State Road Transport Corporation
UCADA	-	Uttarakhand Civil Aviation Development Authority
UEAP	-	Uttarakhand Emergency Assistance Project
UEPPCB	-	Uttarakhand Environment Protection and Pollution Control Board
UJS	-	Uttarakhand Jal Sansthan
VR	-	Village Road

I. INTRODUCTION

A. Background

1. Uttarakhand being a tourist and pilgrimage State attracts a large number of tourist and pilgrims. A major disaster during 15-17th June 2013 resulted in severe damages in several parts of Uttarakhand, which has a mountainous terrain and a fragile geology. Several towns have been washed away by the unprecedented flash floods and landslides, and a large number of houses, public buildings, roads, bridges, urban, rural, and tourism infrastructure, power generation and distribution facilities have been damaged. The impact on the affected population due to the loss of connectivity has been manifold.
2. Based on the request of India, a Rapid Joint Damage and Needs Assessment (RJDNA) was undertaken by Asian Development Bank (ADB) and the World Bank. ADB agreed to assist the Government of India (GOI) with reconstruction and rehabilitation efforts for which the Uttarakhand Emergency Assistance (Sector) Project (UEASP) has been formulated as a multi-sector emergency loan in sector loan modality. The executing agency (EA) for the UEASP (R&B Sector) is Government of Uttarakhand (GOU) and State Disaster Management Authority (SDMA). The primary implementing agencies is PWD for Road & Bridge.
3. Under Road & Bridge sub project restoration/redevelopment of affected road infrastructure in the 6 disaster affected districts (Chamoli, Rudraprayag, Pauri, Tehri, Uttarkashi and Dehradun) of Garhwal Region and in 5 districts (Nainital, Bageshwar, Almora, Pithoragar and UdhamSingh Nagar) of Kumoan region were undertaken in the state. The roads subsector in the State comprises of road infrastructure, which is primarily administered by the Public Works Department (PWD); and transport services, which are overseen by the Transport Department. The PWD is responsible for planning, financing, constructing, and maintaining roads, bridges, and related government buildings.

B. Project Objectives:

4. Roads are the lifeline of the hilly State due to its tough geographical settings. However, quality of the road network in Uttarakhand is comparatively poor and constraints the economy of the State. In addition, Road sector was worst hit in the state with destruction of infrastructure on one hand and loss of livelihoods on the other due to heavy rains in June, 2013. The objective of the project is to restore the damaged infrastructure, disaster preparedness, project management and institutional effectiveness improvement. The design and construction standards for the physical infrastructure will be raised to an appropriate level and the focus will be to build back the same or better. Geotechnical studies will be undertaken and slope stabilization measures considered for slide zones, wherever applicable.
5. Roads and Bridges component rehabilitation and reconstruction of about 1,800 kilometres of State highways (SH) and major district roads (MDR) including about 16 damaged bridges on the SH and MDR affected under the emergency.

In addition, rehabilitation and reconstruction of about 600 km of road section on ongoing ADB assisted projects in the State (ADB Loans 2308, and 2458) that have been destroyed under the Emergency.

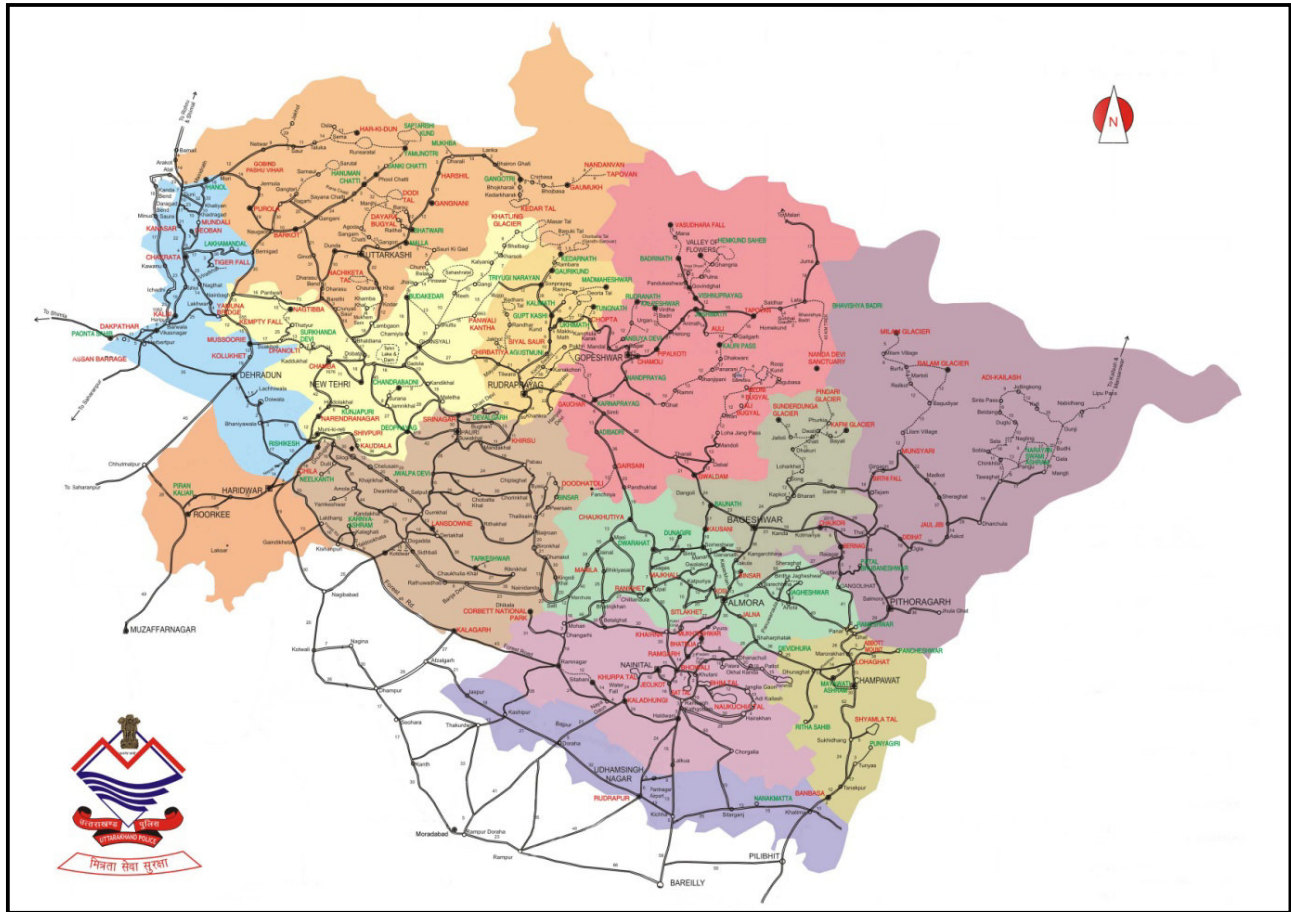


Figure 1. District of Uttarakhand depicting in Garhwal and Kumaon regions

C. Project Purpose

6. A major disaster during 15-17 June 2013 resulted in severe damages in several parts of Uttarakhand, which has a mountainous terrain and a fragile geology. Several towns have been washed away by the unprecedented flash floods and landslides, and a large number of houses, public buildings, roads, bridges, urban, rural, and tourism infrastructure, power generation and distribution facilities have been damaged. The impact on the affected population due to the loss of connectivity has been manifold. The State machinery is currently focused on emergency restoration and connectivity works. The affected regions are susceptible to further damages during the on-going rainy season.
7. The project will rehabilitate and reconstruct about 1,800 km of state highways (SH) and major district roads (MDR) affected by the disaster and rehabilitate

and reconstruct about 16 damaged bridges on SH and MDR. In addition, the project will rehabilitate and reconstruct about 600 km of road section on ADB assisted projects in Uttarakhand, which have been damaged by the disaster. To restore minimum functional connectivity, fast-track rehabilitation works will be undertaken immediately after the rainy season ends in September 2013 and remaining rehabilitation works will be taken-up during the implementation period.

8. The nature of the sub-projects may change during their subsequent development, particularly during detailed design. This report is the Environmental Monitoring Report (EMR) for Road and Bridge sector project to describe the implementation of the mitigation measures and monitoring recommended in the IEE and summary Initial Environmental Examination (SIEE) for the period of July-December 2014.

D. Project Profile

9. At the end of December, 2014 the status, implementation schedule and physical progress of all the packages given below in table 1 & 2.

Table 1: Status of Sub-project Implementation under UEAP- Road & Bridges Subprojects (Upto 31st December 2014)

Locations	Package Code	Sub-project	Physical progress
Almora	C-2	C-2A Restoration Work of Almora Bageshwar Road	Work not started
		C-2B Restoration Work of Ranikhet Mohan Road	Work not started
	C-6	Restoration Work of NTD Kafarkhan-Dhaulichina Road	Retaining wall, Hume pipe culvert, causeway in progress
	C-16	Reconstruction of internal road of Nagar Panchayat Almora	Work not started
	C-17A	Reconstruction of internal road of Nagar Panchayat Ranikhet	Work not started
	C-48	Restoration of Jalikhan-Nobra Road	Work not started
	C-60	Restoration of Kosi-Daulaghat Motor Road (1km to 36)	Work not awarded
		Restoration of Dwarhat-Binta Someshwer Motor Road (km 17 to 32)	
	C-61	Restoration of Bhatrojkan Bhikiyasain Chokhutiya Moto Road	Work not awarded
		Restoration of Bhikiyasain Deghat Bungidhar Bachuwaban Mehalchori Chaukhutia Motor Road	
	C-62	Restoration of Ganai-Jorasi Motor Road (Km 1 to 24)	Work not awarded
	C-63	Restoration of Artoal Jageshwer Naini Motor Road (Km 6 to 20)	Work not awarded
	C-64	Restoration of Khairna Ranikhet Motor Road (Km 1 to 26)	Work not awarded

Locations	Package Code	Sub-project	Physical progress
Bageshwar	C-18	Reconstruction of Internal road of Bageshwar Nagar Palika	Work not started
	C-19	Reconstruction of Internal Road of Nagar Panchayat Kafkot	Work not started
	C-26	Restoration of Bageshwar-Kapkot-Sama-Tejam Motor Road	Work not started
	C-47	Restoration of Kalnabend-Udiyari bend Motor Road	Work not started
Restoration of Baijnath-Gwaldam Motor Road			
Nainital	C-1	Restoration of Kaladhungi-Kotabagh-Belpadav Road	SDBC in progress
		Restoration of Nainital-Kaladhungi-Bajpur Doraha Road	SDBC, B. Wall in progress
	C-3	Restoration of Betalghat-Bhatroj Khan Road	Work not awarded
		Restoration of Nathuwakhan-Suyalbari Motor Road	
	C-73	Restoration of Ratighat-Betalghat Motor Road (Km 1 & 16 to 33)	Work not awarded
C-74	Restoration of Ranibagh-Bhimtal-Khutani-Padampuri-Motiyapathar-Lohaghat Motor Road (Km 7 & 12 to 33)	Work not awarded	
Pithoragarh	C-12	Restoration of Satsiling Thal Motor Road	R. Wall and causeway
		Reconstruction of internal road of Nagar Panchayat, Dharchula	K.C. Drain
	C-15	Reconstruction of internal road of Nagar Panchayat, Didihaat	Work not started
	C-28	Reconstruction of internal road of Nagar Panchayat, Berinag	Work not started
U.S. Nagar	C-4	Reconstruction of Jaspur-Dhanpur Motor Road	WBM (G1, G2, G3) on (0.120, 0.160, 0.090 Km resp.) has been done yet. RW/BW of 0.117 Km has been constructed.
Chamoli	C-7	Nandprayag-Ghat Motor Road	WBM (G1, G2, G3) on (0.120, 0.160, 0.090 Km resp.) has been done yet. RW/BW of 0.117 Km has been constructed.
		Rudraprayag-Pokhari-Karanprayag	No construction activity/work initiated at the site.
	C-8	Chamoli – Kund	RW/BW of 0.117 Km has been constructed.
	C-20	Joshimath-Auli under Nagar Palika Joshimath	No construction activity/work initiated at the site.
	C-21	Narshing Mandir Approach Road Joshimath	No construction activity/work initiated at the site.

Locations	Package Code	Sub-project	Physical progress
		Internal Road of Nagar Panchayat Karanprayag	No construction activity/work initiated at the site.
	C-32	Rudraprayag-Pokhari-Karanprayag	No construction activity/work initiated at the site.
	C-33	Tharali Dewal Mundoli	No construction activity/work initiated at the site.
	C-34	Internal Road of Nagar Palika Gopeshwar	No construction activity/work initiated at the site.
	C-49	Karanprayag-Nauti-Paithani	Under Bidding process
		Gauchar – Sidholi Road	Under Bidding process
	C-50	Karanprayag-Nainisen	Under Bidding process
	C-51	Pokhari Gopeshwar	Under Bidding process
Rudra prayag	C-9	Guptkashi Kalimath Kotma Jaal Chaumasi	Work not started
	C-22	Reconstruction of New Bus stand road under Nagar Palika Rudraprayag	Work not started
	C-29	Khirsu-Khedakhal-Kandai-Khankra	Work not started
	C-30	SonprayagTriyginarayan	No construction activity/work initiated at the site.
	C-31	Makku Pahunch Marg to Paldwari	No construction activity/work initiated at the site.
Pauri	C-5	Pauri-Khirsu-Srinagar Road	WBM(G1, G2, G3) on (0.115, 0.105, 0.105 km resp.), PC Seal Coat on 0.770, BM on 0.210km, SDBC 1.8km, RW/BW 0.021, Culvert 3 Nos, Pacca Drain 0.30 km and Kaccha drain 4 km has been constructed
	C-35	Buakhal-Pauri-Devprayag-Gaja-Jajal Motor Road	No construction activity/work initiated at the site.
	C-40	Khanda Sumari Bhugani	No construction activity/work initiated at the site.
	C-65	Khirsu Musagali Damdeval	Under Bidding process
		Bughani Devalgarh Chamdhar	Under Bidding process
	C-66	Riknikhal Bironkhal Motor Road	Under Bidding process
	C71	Lakshman Jhoola-Rathuwadhab-Dhumakot Road	Under Bidding process
	C72	Thailisain-Bungidhar-Deghat Motor Road	Under Bidding process
Tehri Garhwal	C-13	Pilkhi-Gadoliya Motor Road	Slip Clearance, Boundary Wall, Block wire creates, Parapet, Base course (0.38 to 1.549) (0.40 to 1.80), BM (2.08), SDBC (5.35)
		Reconstruction of Inspection House Approach Road Under Nagar Panchayat Devprayag	No construction activity/work initiated at the site.
	C-39	Gaza-Nakot	Slip Clearances, wire Creates, SDBC (11 km)
Dehradun	C-23	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	Slip Clearances, Retaining Wall, RCC Slab

Locations	Package Code	Sub-project	Physical progress
	C-24	Kalsi-Bairatkhai	Slip Clearances, Retaining Wall
	C-38	Ichari-Kwano-Meenus	Slip Clearances, Retaining Wall
Uttarkashi	C-11	Naugaon-Purola*	The contract was terminated
		Kalsi-Chakrata Road*	Work not started
	C-14	Kuwa-Kafnaul Rahdi Motor Road	Slip Clearances, Wire Creates

Table 2: Details and status of the work

Locations	Sub-projects components (Package No.)	Expected Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress		
Almora	C-2	C-2A Restoration Work of Almora Bageshwar Road	17.12.14	15 months	16.03.16	0%	
		C-2B Restoration Work of Ranikhet Mohan Road					
		Restoration Work of NTD Kafarkhan-Dhaulichina Road C-6	17.06.14	15 months	16.09.15	1%	
		Reconstruction of internal road of Nagar Panchayat Almora C-16	16.12.14	18 months	15.06.16	0%	
		Reconstruction of internal road of Nagar Panchayat Ranikhet C-17A	16.12.14	18 months	15.06.16	0%	
		Restoration of Jalikhan-Nobra Road C-48	17.12.14	12 months	16.12.15	0%	
		C-60 Restoration of Kosi-Daulaghat Motor Road (1km to 36) Restoration of Dwarhat-Binta Someshwer Motor Road (km 17 to 32)	Under Bidding process	-	-	0%	
	Under Bidding process		-	-	0%		
		C-61	Restoration of Bhatrojkan Bhikiyasain Chokhutiya Moto Road	Under Bidding process	-	-	0%
			Restoration of Bhikiyasain Deghat Bungidhar Bachuwaban Mehalchori Chaukhutia Motor Road	Under Bidding process	-	-	0%
		Restoration of Ganai-Jorasi Motor Road (Km 1 to 24) C-62	Under Bidding process	-	-	0%	
		Restoration of Artoal Jageshwer Naini Motor Road (Km 6 to 20) C-63	Under Bidding process	-	-	0%	

Locations	Sub-projects components (Package No.)	Expected Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress	
	Restoration of Khairna Ranikhet Motor Road (Km 1 to 26) C-64	Under Bidding process	-	-	0%	
Bageshwar	Reconstruction of Internal road of Bageshwar Nagar Palika C-18	10.11.14	18 months	09.05.16	0%	
	Reconstruction of Internal Road of Nagar Panchayat Kapkot C-19	08.10.14	18 months	07.01.16	0%	
	Restoration of Bageshwar-Kapkot-Sama-Tejam Motor Road C-26	08.10.14	118 months	07.04.16	0%	
	C-47 Restoration of Kalnabend-Udiyari bend Motor Road Restoration of Baijnath-Gwaldam Motor Road	20.11.14	12 months	09.11.15	0%	
Nainital	C-1 Restoration of Kaladhungi-Kotabagh-Belpadav Road Restoration of Nainital-Kaladhungi-Bajpur Doraha Road	16.06.14	15 months	18.09.15	25%	
	C-3 Restoration of Betalghat-Bhatroj Khan Road Restoration of Nathuwakhan-Suyalbari Motor Road	04.01.15	15 months	03.04.16	0%	
	Restoration of Ratighat-Betalghat Motor Road (Km 1 & 16 to 33) C-73	Under bidding process	-	-	0%	
	Restoration of Ranibagh-Bhimtal-Khutani-Padampuri-Motiyapathar-Lohaghat Motor Road (Km7 & 12 to 33) C-74	Under bidding process	-	-	0%	
	Pithoragarh	Restoration of Satsiling Thal Motor Road C-12	05.08.14	18 months	04.02.16	10%
	Reconstruction of internal road of Nagar Panchayat, Didihaat C-15	05.08.14	18 months	04.02.16	0%	
	Reconstruction of internal road of Nagar Panchayat, Berinag C-28	17.09.14	18 months	16.03.16	0%	
U.S. Nagar	Reconstruction of Jaspur-Dhanpur Motor Road C-4	14.06.14	15 months	13.09.15	14%	
Chamoli	C-7 C-7a. Nandprayag- Ghat Motor Road	08.08.2014	15 months	07.11.2015	6.70%	

Locations	Sub-projects components (Package No.)	Expected Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress
	C-7b. Rudraprayag-Pokhari-Karanprayag				
	UEAP/PWD/C-8 Chamoli – Kund	08.08.2014	18 months	07.02.2016	0.07%
	UEAP/PWD/C-20 Joshimath-Auli under Nagar Palika Joshimath	09.12.2014	18months	08.06.2016	
	C-21	C-21a. Narshing Mandir Approach Road Joshimath	09.12.2014	18	08.06.2016
		C-21b. Internal Road of Nagar Panchayat Karanprayag			
	UEAP/PWD/C-32 Rudraprayag-Pokhari-Karanprayag	09.12.2014	18	08.06.2016	
	UEAP/PWD/C-33 Tharali Dewal Mundoli	21.10.2014	18	20.04.2016	
	UEAP/PWD/C-34 Internal Road of Nagar Palika Gopeshwar	10.12.2014		09.03.2016	
	UEAP/PWD/C-49 Karanprayag-Nauti-Paithani Gauchar - Sidholi	NA	-	-	
	UEAP/PWD/C-50 Karanprayag-Nainisen	NA	-	-	
	UEAP/PWD/C-51 Pokhari Gopeshwar	NA	-	-	
Rudraprayag	UEAP/PWD/C-9 Guptkashi Kalimath Kotma Jaal Chaumasi	08.08.2014	18	07.02.2016	
	UEAP/PWD/C-22 New Bus stand road under Nagar Palika Rudraprayag	05.11.2014	12	04.11.2015	
	UEAP/PWD/C-29 Khirshu-Khedakhal-Kandai-Khankra	20.10.2014	18	19.04.2016	
	UEAP/PWD/C-30 SonprayagTriyginarayan	10.12.2014	18	09.06.2016	
	UEAP/PWD/C-31 Makku Pahunch Marg to Paldwari	09.12.2014	18	08.06.2016	
Pauri	UEAP/PWD/C-5 Pauri-Khirsu-Srinagar	17.06.2014	15	16.09.2015	7.98%
	UEAP/PWD/C-35 Buakhal-Pauri-Devprayag-Gaja-Jajal Motor Road	20.10.2014	18	19.04.2016	
	UEAP/PWD/C-40 Khanda Sumari Bhugani	01.12.2014	18	31.05.2016	

Locations	Sub-projects components (Package No.)	Expected Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress
	UEAP/PWD/C-65 Khirsu Musagali Damdeval Bughani Devalgarh Chamdhar	NA	-	-	
	UEAP/PWD/C-66 Riknikhal Bironkhal Motor Road	NA	-	-	
	UEAP/PWD C71 Lakshman Jhoola-Rathuwadhab- Dhumakot Road	NA	-	-	
	UEAP/PWD C72 Thailisain-Bungidhar-Deghat Motor Road	NA	-	-	
Tehri Garhwal	UEAP/PWD/C-13 Pilkhi-Gadoliya Motor Road	07-11- 2014	18 Months	06-05-2016	11%
	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	07-11- 2014	18 Months	06-05-2016	
	UEAP/PWD /C-39 Gaza-Nakot	10-11- 2014	18 Months	09-05-2016	30%
Dehradun	UEAP/PWD /C-23 Tyuni-Chakrata-Mussoorie-Chamba- Kirtinagar	17-09- 2014	19 Month	16-03-2016	5%
	UEAP/PWD /C-24 Kalsi-Bairatkhai	10-11- 2014	22 Months	09-05-2016	6%
	UEAP/PWD /C-38 Ichari-Kwano-Meenus	30-06- 2014	17 Months	26-09-2015	3%
Uttarkashi	UEAP/PWD /C-11 Naugaon-Purola* Kalsi-Chakrata Road*	30-06- 2014	17 Months	26-09-2015	-
	UEAP/PWD /C-14 Kuwa-Kafnaul Rahdi Motor Road	29-07- 2014	15 Months	28-10-2015	12%

II. IMPLEMENTATION PROGRESS

E. Major Works and Progress

Under R&B sector till December, 2014, details of the work being carried out during this period have shown in table 3 along with the scope of work.

Table 3: Major Works under Sub project and Progress (As on December 2014)

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Almora	Restoration Work of Almora Bageshwar Road C-2A	Site clearance and dismantling No. 1 chainage Km 73, Bridge, Excavation and earthwork 60m/1 No. Km 73 Bridge, Sub base and base courses No. 4 Km 73, 19, 24 & Bridge, new bridge No.1, protection work,		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	C-2 Restoration Work of Ranikhet Mohan Road C-2B	R. wall & B. wall 221 m, slip zone, G1 0.045 km, G2 0.229 km, G3 0.229 km, Bm 0.272 km, SDBC 0.272, Causeway 10 no., Kaccha drain 30 km. K.C. drain 5.1. km.				
	Restoration Work of NTD Kafarkhan-Dhaulichina Road C-6	R. wall & B. wall 463 km., G2 0.13 km, G3 0.45 km, BM 1.2 km SDBC 8 KM Causeway 10 No., Scupper 20 no. K.C. drain 10 km. ,parapet 500 no.and Crash barrier 2.225 km.	R.Wall & B. Wall, G1, G2, G3, BM, causeway, crash barrier	At this stage no changes are expected	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
				from the approved scope.		
	Reconstruction of internal road of Nagar Panchayat Almora C-16	R. wall & B. wall 200 m ,G1 1.11 G2 1.11,G3 1.82 km, PC seal coat 2.22 km BM 4.21 km SDBC 8.38 km, causeway 5 no. Scupper 2 no. KC type drain 4.38 km and crash barrier 4 km.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Reconstruction of internal road of Nagar Panchayat Ranikhet C-17A	R. wall & B. wall 50 m., G1 3.65 G2 3.65,G3 3.65 km, BM 0.2 km SDBC 2 km, Scupper 1 no. KC type drain 5.15 km, Crash barrier 0.82 km.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Restoration of Jalikhan-Nobra Road C-48	R. wall & B. wall 321 m., G1 0.07 , G2 0.07,G3 0.125 km, PC Seal coat 0.14 km Scupper 5 no., and parapet 660 no.		At this stage no changes are expected from the approved	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives-Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
				scope.		
	C-60	Restoration of Kosi-Daulaghat Motor Road (1km to 36)	Under bidding process			
		Restoration of Dwarhat-Binta Someshwer Motor Road (km 17 to 32)				
	C-61	Restoration of Bhatrojkhani Bhikiyasain Chokhutiya Moto Road	Under bidding process			
		Restoration of Bhikiyasain Deghat Bungidhar Bachuwaban Mehalchori Chaukhutia Motor Road				
	C-62	Restoration of Ganai-Jorasi Motor Road (Km 1 to 24)	Under bidding process			
		Restoration of Artoal Jageshwer Naini Motor	Under bidding process			

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	Road (Km 6 to 20) C-63					
	Restoration of Khairna Ranikhet Motor Road (Km 1 to 26) C-64	Work not awarded		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Bageshwar	Reconstruction of Internal road of Bageshwar Nagar Palika C-18	G1 5.6, G2 5.6, G3 3.9 km, PC seal coat 3.9 km ,BM 7.7 km SDBC 9.4 km, Scupper 1 no. kachha drain 2.7 km KC type drain 3.56 km and Crash barrier 0.7 km		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Reconstruction of Internal Road of Nagar Panchayat Kapkot C-19	G1 0.248 G2 0.248 ,G3 1.158 km, PC Seal coat 7.6 km ,BM 7.16 km SDBC 7.6 km, Causeway 2 no., Kachha drain 2 km,. KC type drain 5.25 km.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Restoration of	R.Wall & B.Wall 300 m. G1 2 km G2 2		At this	Strict application of	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	Bageshwar-Kapkot-Sama-Tejam Motor Road C-26	km ,G3 6.8 km, PC Seal coat 1.43 km ,BM 6 km SDBC 17 km, Causeway 6 no., Scupper 3 no and KC type drain 0.5 km.		stage no changes are expected from the approved scope.	mitigation measures	
	C-47	Restoration of Kalnabend-Udiyaribend Motor Road	R.Wall & B.Wall 176 m., Causeway 1 no.,	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
		Restoration of Baijnath-Gwaldam Motor Road	Excavation in foundation for retaining and breast wall, providing concrete for plain/reinforcement concrete in open foundation, stone masonry, parapets, scupper etc.	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	C-1	Restoration of Kaladhungi-Kotabagh-Belpadav	BM 0.35 km SDBC 6 km, Causeway 6 no., Scupper 2 no	BM, SDBC, Scupper	At this stage no changes	Strict application of mitigation

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives-Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Nainital	Road			are expected from the approved scope.	measures	
	Restoration of Nainital-Kaladhungi-Bajpur Doraha Road	R.Wall & B.Wall 2633 m, BM 1.17 km SDBC 15.58 km, Causeway 6 no., Scupper 5 no and KC type drain 15.49 km.	R.Wall, B. Wall, BM, SDBC.	are expected from the approved scope.	measures	
	Restoration of Betalghat-Bhatrojkhana Road	Work not awarded		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Restoration of Nathuwakhan-Suyalbari Motor Road			At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Restoration of Ratighat-Betalghat Motor Road (Km 1 & 16 to 33) UEAP/PWD/C-73	Pavement Damage Surface work 19300m, retaining wall 381 m, breast wall 1492.5m, kerb stone drain 6847m, crush barrier 2282m, slip 655.17m, RCC slab culvert 26No, scuppers 25 No, causeways 10 No etc.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Restoration of Ranibagh-Bhimtal-Khutani-Padampuri-Motiyapathar-Lohaghat Motor Road (Km7 & 12)	Site clearance, Earthwork, subbase/base course, bituminous pavement course/ cement concrete course, causeway, drainage & protective work etc.		At this stage no changes are expected	Strict application of mitigation measures		

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	to 33) UEAP/PWD/C-74			from the approved scope.		
Pithoragarh	Restoration of Satsiling Thal Motor Road UEAP/PWD/C-12	R.Wall & B.Wall 0.125 m, G3 4.28 km , PC seal 4.28 km., Causeway 3 no., Scupper 5 no .	R.Wall, B. Wall, G3, PC seal coat, causeway.	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Reconstruction of internal road of Nagar Panchayat, Didihaat UEAP/PWD/C-15	G1 1 km , G2 1 km G3 8.36 km ,BM 8.36 KM ,SDBC 8.36 KM Culvert 19 no.KC type drain 1.29 km , crash barrier 0.41 km, parapet 250 no.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	Reconstruction of internal road of Nagar Panchayat, Berinag UEAP/PWD/C-28	km G3 0.564 km ,BM 2.821 KM ,SDBC 7.82 KM, Culvert 20 no.KC type drain 1.13 km , crash barrier 0.42 km, parapet 5 no.	.	At this stage no changes are expected from the approved	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
				scope.		
U.S. Nagar	Reconstruction of Jaspur-Dhanpur Motor Road UEAP/PWD/C-4	G1 0.75 km , G2 0.75 km G3 0.750 km ,BM 3.030 KM ,SDBC 4.5 KM Culvert 3 no., KC type drain 1.95 km .	G3, KC type drain	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Chamoli	Nandprayag-Ghat Motor Road UEAP/PWD/C-7	The restoration work of damaged portion of road i.e. Slip clearance in Km 3 to 9, Km 12, Km 13 & Km 16, reconstruction of damaged retaining wall and breast wall in Km 5, Km 6, Km 9, Km 10, Km 11, Km 15 & Km 16, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 1 to 19, Repair of damaged Causeways Km 3 to 6, Km 12 & Km 18, WBM (G1,G2,G3) in Subsidence portion of Km 1 to 19, Road surface damaged (ruts & pot holes) by BM & SDBC in Km 1 to 19, BM & SDBC in heavily damaged black top portion of road from Km 1 to Km 19, restoration of Traffic sign, markings & appurtenances.	WBM (G1, G2, G3) on (0.120, 0.160, 0.090 Km resp.) has been done yet. RW/BW of 0.117 Km has been constructed .	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Rudraprayag-Pokhari-Karanprayag UEAP/PWD/C-7	The restoration work of damaged portion of road i.e. Slip clearance in Km 51, Km 52, Km 54 & Km 59, reconstruction of damaged retaining wall and breast wall in Km 49 & Km 53 to Km 55, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 44 to Km 59, Repair of damaged Causeways Km 44, Km 45 & Km 53 to Km 55, WBM (G1,G2,G3) in Subsidence portion of Km 45 to 59, Road surface damaged (ruts & pot holes) by BM & SDBC in Km 45 to 59, BM & SDBC in heavily damaged black top portion of road from Km 45 to Km 59, restoration of Traffic sign, markings & appurtenances.	No construction activity/work initiated at the site.	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Chamoli – Kund UEAP/PWD/C-8	The restoration work of damaged portion of road i.e. Slip clearance in Km 70, Km 71, Km 74, Km 75, Km 76, Km 77, Km 80, Km 82 to Km 85, reconstruction of damaged retaining wall and breast wall in Km 1, Km 3, Km 4, Km 6, Km 15, Km 16, Km 18, Km 21, Km 33, Km 34, Km 37 to Km 41, Km 65, Km 74, Km 78, Km 80, Km 82, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 26, Km 31, Km 41, Km 70, Km 71, Km 74, Km 75, Km 78, Km 81, Km 82, Km 84 & Km 85, Repair of damaged Causeways Km 26, Km 37, Km 41 & Km 78, WBM (G1,G2,G3) in Subsidence portion of Km 1 to 11, Km 31, Km 36 to 41, Km 70, Km 71, Km 74 to 78 & Km 80 to 85, Road surface damaged (ruts & pot holes) by BM & SDBC in Km 1 to 11, Km 31, Km 70, Km 71, Km 74 to 78 & Km 80 to 85, BM & SDBC in heavily damaged black top portion of road from Km 36 to Km 41, restoration of Traffic sign, markings & appurtenances.	RW/BW of 0.117 Km has been constructed .	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Joshimath-Auli under Nagar Palika Joshimath UEAP/PWD/C-20	The restoration work of damaged portion of road includes earth filling in parties from Km 3 to Km 12, Reconstruction of damaged retaining wall and breast wall in Km 7, Km 8 & Km 10, Reconstruction of Cross drainage works damaged in Km 7, Km 8 & Km 10, Repair of damaged Causeways Km 7 & Km 10, Reconstruction of KC drain in Km 3 to Km 12, WBM (G1, G2, G3) in damaged portion from Km 3 to Km 12, Profile correction by BM & SDBC for surface dressing in heavily damaged black top portion of road from Km 3 to Km 12, Restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Narshing Mandir Approach Road Joshimath UEAP/PWD/C-21	The restoration work of damaged portion of road including earth filling in patries from Km 1 to Km 4, Reconstruction of damaged retaining wall and breast wall in Km 1 & Km 2, Reconstruction of Cross drainage works damaged from Km 1 to Km 3, Repair of damaged Causeways in Km 1, Reconstruction of KC drain from Km 1 to Km 4, WBM (G1, G2, G3) in damaged portion from Km 1 to Km 4, BM as profile correction & SDBC as surface dressing in heavily damaged black top portion of road from Km 1 to Km 4, Restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Internal Road of Nagar Panchayat Karanprayag UEAP/PWD/C-21	The restoration work of damaged portion of roads consist (1) Panchpuliya to Main Bazar motor road (Length-1.044 Km), (2) Panchpuliya to Upper Bazar motor road (Length-1.250 Km), (3) Panchpuliya to Bus Station (Towards Gauchar side & Gopeshwar side) motor road (Length-0.180+0.200= 0.380 Km), (4) Karnprayag-Nauti-Paithani motor road (Length-2.100 Km). Restoration work of Internal motor roads includes reconstruction of KC drain, Repair of damaged Causeways, BM as profile correction & SDBC as surface dressing in heavily damaged black top portion of road, Restoration of Traffic sign, markings & appurtenances		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives-Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Rudraprayag-Pokhari-Karanprayag UEAP/PWD/C-32	The restoration work of damaged portion of road includes Slip clearance in Km 61, Km 62, Km 64, Km 65, Km 68, Km 69 & Km 72, Reconstruction of damaged retaining wall and breast wall in Km 69, Km 70, Km 73 & Km 75, Reconstruction of drain, Reconstruction of Cross drainage works damaged in Km 43, Km 44, Km 59 to Km 76, Repair of damaged Causeways Km 69, Km 71 & Km 74, WBM (G1,G2,G3) in Km 43, Km 44, Km 46, Km 47, Km 59 to 75, Repair of pot holes by BM & SDBC in Km 46, Km 47, Km 59 to 75, Resurfacing by BM & SDBC in heavily damaged black top portion of road in Km 43, Km 44, Km 46, Km 47, Km 59 to 75, Restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Tharali Dewal Mundoli UEAP/PWD/C-33	The restoration work of damaged portion of road includes Reconstruction of damaged retaining wall and breast wall in Km 1 to Km 9, Km 11 to Km 13, Km 16, Km 18 to Km 20, Km 22, Km 25, Km 26 & Km 33 to Km 36, Reconstruction of drain, Reconstruction of Cross drainage works damaged in Km 4, Km 5, Km 9, Km 10, Km 15 to Km 19, Km 27 & Km 33 to Km 37, WBM (G1,G2,G3) in Km 1 to Km 3, Km 14, Km 16, Km 17, Km 20, Km 22, Km 24, Km 25, Km 29, Km 34 & Km 35, Resurfacing with Premix Carpet & Seal Coat in heavily damaged black top portion of road in Km 1 to Km 3, Km 14, Km 16 to Km 18, Km 20, Km 22, Km 24, Km 25, Km 29, Km 34 & Km 35, Restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Chamoli	Internal Road of Nagar Palika Gopeshwar UEAP/PWD/C-34	The restoration work of damaged portion of road includes WBM (G3), Profile Correction by BM, and Resurfacing by SDBC in heavily damaged black top portion of road, restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Chamoli	Karanprayag-Nauti-Paithani UEAP/PWD/C-49	Under Bidding Process	-	-		
	Gauchar - Sidholi (Km 1 To 24) UEAP/PWD/C-49	Under Bidding Process	-	-		
Chamoli	Karanprayag-Nainisen Km 1 To 26) UEAP/PWD/C-50	Under Bidding Process	-	-		
Chamoli	Pokhari Gopeshwar UEAP/PWD/C-51	Under Bidding Process	-	-		

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Rudraprayag	Guptkashi Kalimath Kotma Jaal Chaumasi UEAP/PWD/C-9	The restoration work of damaged portion of road i.e. Slip clearance in Km 2 to Km 22, reconstruction of damaged retaining wall and breast wall in Km 11 to Km 25, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 4,10 to 22 Repair of damaged Causeways Km 6 to 9, 12, 17 to 19, WBM (G1,G2,G3) in Subsidence portion of Km 1,3,5,8to11,16,17, Road surface damaged (ruts & pot holes) by PC & Seal Coat in Km 1,3,5,8 to11,16 to 19, restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Rudraprayag	Reconstruction of New Bus stand road under Nagar Palika Rudraprayag UEAP/PWD/C-22	The restoration work of damaged portion of road consist of reconstruction of drain, reconstruction of Cross drainage works damaged in Km 1, relaying of WBM (G1,G2,G3) in Subsidence portion of Km in1, profile correction coat of BM due to ruts, pot holes, camber and super elevation correction in existing road including resurfacing by SDBC, restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumption s and risks that affect attainment of the objectives
Rudraprayag	Khirshu-Khedakhal-Kandai-Khankra UEAP/PWD/C-29	The restoration work of damaged portion of road consist of Slip clearance in Km 18 to Km 20, Km 30 to 39, reconstruction of damaged retaining wall and breast wall in Km 12, 14, 15, 17-19, 22-24, 30 to Km 37, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 5,17, 20, 21, 26, 30-32, 35, 37 Repair of damaged Causeways Km 26, 29, 30 to 37 , WBM (G1,G2,G3) in Subsidence portion of Km 10to12, 17, 19, 20to39, resurfacing damaged (ruts & patches) before providing profile correction with BM through SDBC IN km 1 to 39, restoration of Traffic sign, markings & appurtenances.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Rudraprayag	SonprayagTriyginarayana UEAP/PWD/C-30	The restoration work of damaged portion of road consist of reconstruction of damaged retaining wall and breast wall in Km 1 to Km 12.35, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 8,9,10 to12 Repair of damaged Causeways Km 1, WBM (G1,G2,G3) in Subsidence portion of Km 1 to Km 12.35, resurfacing of damaged (ruts & patches) before providing profile correction with BM through SDBC Km 1 to Km 12.35, restoration of Traffic sign, markings & appurtenances.	No construction activity/work initiated at the site.	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Rudraprayag	Makku Pahunch Marg to Paldwari UEAP/PWD/C-31	The restoration work of damaged portion of road consist of reconstruction of damaged retaining wall and breast wall in Km 7.40 to Km 23, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 7.40 to 23 Repair of damaged Causeways Km 7.40 to Km 23, WBM (G1,G2,G3) in Subsidence portion of Km 7.40 to Km 23, resurfacing of damaged (ruts & patches) before providing profile correction with BM through SDBC in Km 7.40 to Km 23, restoration of Traffic sign, markings & appurtenances.	No construction activity/work initiated at the site.	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Pauri	Pauri-Khirsu-Srinagar Road UEAP/PWD/C-5	The restoration work includes site clearance, earthwork, road cutting for widening of roads, sub base and base course of WBM providing BM/BC or surface Dressing and SDBC for resurfacing of the existing roads, cross drainage works, construction and rehabilitation of bridges, drainage and protection work, slope stabilisation, river training works, road marking and road signs	WBM(G1, G2, G3) on (0.115, 0.105, 0.105 km resp.), PC Seal Coat on 0.770, BM on 0.210km, SDBC 1.8km, RW/BW 0.021, Culvert 3 Nos, Pacca Drain 0.30 km and Kaccha drain 4 km has been constructed	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Pauri	Buakhal-Pauri-Devprayag-Gaja-Jajal Motor Road UEAP/PWD/C-35	The restoration work of damaged portion of road at km 8, 12,18,19,31 to 49,84 86 94 98 95,119 for SDBC. Breast wall and retaining walls are taken at Km 8,10,15 27,33,35,40,41,43,47,48,53,54,55,56,64,65,68,78,,82,83,84,85,86,87,88, 89,91,92,96, 99,100, 103,110,115,117,119. Pucca and kutcha scuppers are takenatKm25,34,51,53,55,56,58,60,65, 68,70,78,89,94,96,100, 114,117,&119.Carsh barrier are taken at km ,32, 33, 36,37,38,42,43,44,45,46,74,95,104,106 ,110,112,113,117,118,&119. The main outcome of this project would be restoration of the road to its original shape with the clearance of slip and construction of Retaining & Breast Wall, Drains, Crash Barriers and improvement of riding surface by resurfacing through Cement Concrete and BM/SDBC.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Pauri	Khanda Sumari Bhugani UEAP/PWD/C-40	The restoration work of damaged portion of road at km 1 to 17.5 for SDBC. Breast wall and retaining walls are taken at Km 1,2,3,4,7,8,12,16,17. Pucca and kutcha scuppers are taken at Km2,3,4,7,8. Carsh barrier are taken at km 1,2,3,4,6,7,8,9,12,14,15,16,17. The main outcome of this project would be restoration of the road to its original shape with the clearance of slip and construction of Retaining & Breast Wall, Drains, Crash Barriers and improvement of riding surface by resurfacing through Cement Concrete and BM/SDBC.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
Pauri	Khirsu Musagali Damdeval UEAP/PWD/C-65	Under Bidding process	-	-		
	Bughani Devalgarh Chamdhar	Under Bidding process	-	-		

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Pauri	Riknikhal Bironkhal Motor Road UEAP/PWD/C-66	Under Bidding process	-	-	-	-
Pauri	Lakshman Jhoola-Rathuwadhab-Dhumakot Road UEAP/PWD C71	Under Bidding process	-	-	-	-
Pauri	Thailisain-Bungidhar-Deghat Motor Road UEAP/PWD C72	Under Bidding process	-	-	-	-
Tehri Garhwal	UEAP/PWD/C-13 Pilkhi-Gadoliya Motor Road	The restoration work of damaged portion of road i.e. Slip clearances, reconstruction of damaged retaining wall and breast wall, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 1 to 12, Repair of damaged Causeways Km 1, 2 & 3, WBM (G1, G2) in Subsidence portion of Km 5 & 11, Road surface damaged (ruts & pot holes) by BM & SDBC in Km 2,3,5,7,8,9,10,11 and 12, restoration of traffic sign, markings & appurtenances.	Slip Clearances and reconstruction of damaged retaining wall	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	The restoration work of damaged portion of road i.e. Slip clearances, reconstruction of damaged retaining wall and breast wall, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 1, WBM (G1, G2) in subsidence portion of Km. 1, road surface damaged (ruts & pot holes) in total length i.e. 1.00 km. hence resurfacing is proposed by SDBC in Km1, restoration of traffic sign, Markings & appurtenance.		At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	UEAP/PWD /C-39 Gaza-Nakot	The restoration work of damaged portion of road i.e. Slip clearance, reconstruction of damaged retaining wall and breast wall, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 1 to 21, restoration of Traffic sign, markings & appurtenances.	Slip Clearances , wire Creates, SDBC (11 km)	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Dehradun	UEAP/PWD /C-23 Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	The restoration work of damaged portion of road i.e. Slip clearance, reconstruction of damaged retaining wall and breast wall, reconstruction of drain, reconstruction of Cross drainage works damaged in Km 2 to 18 & Km 34 to 47, restoration of Traffic sign, markings & appurtenances.	Slip clearance, reconstruction of damaged retaining wall and breast wall	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	
	UEAP/PWD /C-24 Kalsi-Bairatkhai	The nature of work proposed is the reconstruction work of damaged portion of road around 23.50 km Most of the Road Section Surface in each Km are damaged by the heavy rain during the said disaster, therefore resurfacing with SDBC is proposed for the entire length of the road. Reconstruction of Causeway is proposed at Km 5. Culvert repair, reconstruction of KC drain, Retaining/Breast Wall repair is proposed. Crash Barriers of length around 4700m are proposed at danger points.	Culvert repair, reconstruction of KC drain, Retaining/Breast Wall	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	UEAP/PWD /C-38 Ichari-Kwano-Meenus	The nature of work proposed is the reconstruction of damaged portion of the road from Km 31 to Km 55 totaling around 25.00 Km in length Around 375 nos of Wire-Crates are proposed at the road. To incorporate safety concerns, 1250m of Crash-Barriers and 1013 Qub. Parapets construction is also proposed in the affected length of road. The main outcome of this project would be restoration of the road to its original shape with the clearance of slip and construction of Retaining & Breast Wall, Drains, Crash Barriers, and improvement of riding surface by resurfacing through Cement Concrete and BM/SDBC.	construction of Retaining & Breast Wall	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Uttarkashi	UEAP/PWD /C-11 Naugaon-Purola* Kalsi-Chakrata Road*	Under proposed work, Resurfacing (sub base, base coarse and bituminous pavement work) length 6.4 Km, chainage (2,3,4,5,7,8,9,10,11,12,13,14,15,16, 19,20,21,22,23,24,25,26,30&31), concrete pavement work length is 1.7 Km chainage of proposed work (5,6,9,10,11,17,18,23,27,30,31,40&41) protection work (gabions at Km 5,6,7,10,11,16 and 17, Retaining/breast wall at Km 12,13,15,21,27,35,36&37), drainage work Km 13 & 40				The contract was terminated after completion of 18 to 20% work. The road restoration work is being carried out by Civil Division of PWD GoU.

Location	Sub-projects Component (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	UEAP/PWD /C-14 Kuwa-Kafnaul Rahdi Motor Road	<p>The nature of work proposed is the restoration work of damaged portion of road at km 1, 2, 3, 4, 5, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 26, 28, 29, 30, 31, 39, 43, 44, 45. Resurfacing with SDBC is proposed at Km 1, 2,4,5,11,12, 13, 15, 16, 17, 22, 39, 40, 41, 42, & 44 totaling to 1953m in length.</p> <p>Cement Concrete pavement is proposed for water logged stretches at Km 11.1, 12.4, 20.4 & 21.1 totaling to 195m in length. Retaining/Breast Wall repair is proposed at Km 12.1, 12.4, 12.9, 13.1, 13.2, 14.5, 18.5, 21.1, 21.4, 25.8, 28.6, 29.8 & 30.3 totaling to 232m in length. Drainage repair of 6000m in length is proposed. A Causeway repair is proposed at Km14.9. The Wire-Crate walls are proposed at km 0.5, 0.9, 1.6, 2.5, 3.7, 3.9, 12.5, 14.8, 14.9, 27.6, & 28.7 to contain the minor landslides. Crash-Barriers are proposed at Km 20, 21 & 22.</p>	Retaining/Breast Wall repair is in progress at Km 12.1, 12.4	At this stage no changes are expected from the approved scope.	Strict application of mitigation measures	

F. Compliance of Safeguard Loan Covenants

1. The status of compliance of ADB's major Loan Covenants related to Safeguard issues is shown below:

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
Safeguard (Environment)		
9	The Borrower shall ensure or cause the EA and IAs to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project facilities comply with (i) all applicable laws and regulations of the Borrower and State relating to environment, health, and safety; (ii) the Environmental Safeguards of ADB; and (iii) all measures and requirements set forth in the EARF, EIA/ IEE as applicable, and the EMMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	<p>Being complied</p> <p>Documents are prepared by complying all relevant State and National Laws, Safeguard Policy Statement (SPS 2009) of ADB, Environment Assessment Review Framework (EARF).</p> <p>Initial Environmental Examination (IEE), Environment Management Plan (EMMP) report prepared and approved by ADB. In case of any change of scope and locations IEE will be revised.</p> <p>All measures and requirements as prescribed in IEE and EMMP will be considered during implementation.</p> <p>Corrective or preventive action plans which will be reflected in Environment Monitoring Report and project implementation authority will be taken care.</p>
Human and Financial Resources to Implement Safeguards Requirements		
12	The Borrower shall ensure or cause the EA and relevant IA to ensure (a) that all necessary budgetary and human resources to fully implement the EMMP as required, are made available; and (b) designates at least one official each to supervise implementation of the EMMP	<p>Being complied</p> <p>Budgetary provisions have been included in EMMPs</p> <p>One officer designated to supervise implementation of the EMMP at IA R&B.</p>
Safeguards – Related Provisions in Bidding Documents and Works Contracts		
13	Borrower shall ensure or cause the EA and each IA to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures and requirements relevant to the contractor set forth in the EIA/IEE, the EMMP, the RPs and any IPP (to the extent they concern impacts	<p>Being complied</p> <p>(a) Approved IEEs, EMMPs and RPs are attached in Bidding documents.</p> <p>In case of any change of scope, revised IEEs, EMMPs will be prepared and corrective</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental and social measures;</p> <p>(c) provide the relevant IA with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks if any, or impacts that arise during construction, implementation or operation of the project that were not considered in the EIA/IEE, the EMMP, and the RP or the IPP if any;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>measures will be disclosed to contractor and same will be reflected in the "Environment Monitoring Report"</p> <p>(b) All IEEs indicate budgetary provisions for implementation of EMMPs</p> <p>(c) With the development of sub project and implementation, in case of additional impacts/risks due to change in scope/area, that will be reflected in the revised IEEs, EMMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Agency for taking relevant corrective measures.</p> <p>(d) Haul roads will be marked properly (by avoiding residences and agricultural land) before commencement of transportation of materials.</p> <p>(e) Pathways, land which are likely to be affected for a short period during implementation of the sub project will be restored by concerned construction agency before acceptance of the work. Restoration status will be reflected in post construction monitoring report</p>
Safeguards Monitoring and Reporting		
14	<p>The Borrower shall ensure or cause the EA and each IA to ensure the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE/EIA, the EMMP, the RPs or any IPP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any breach of compliance with the measures and requirements set forth in the EMMP, the RPs or any IPP promptly after becoming aware of the breach.</p>	<p>Being complied</p> <p>(a) This is 1st Semi-annual Environment Monitoring Report, prepared for the period June to December 2014. 2nd semi-annual report for the month of Jan to June 2015 is also due and under preparation.</p> <p>(b) With the development of project and implementation, in case of additional impacts/risks due to change in scope/area, will be reflected in revised IEEs, EMMPs and accordingly Executing Agency (EA) will inform the ADB along with corrective action plan which will be reflected in the Monitoring Report.</p> <p>(c) In case of any breach of compliance with the measures and requirements set forth in the EMMP; EA will promptly inform ADB and</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
		suitable corrective action plan will be planned.
Prohibited List of Investments		
15	The Borrower shall ensure or cause the EA and each IA to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	<p>Being complied</p> <p>For selection of sub projects there is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.</p>
Labor Standards		
16	The EA through each IA shall ensure that civil works contracts under the Project follow all applicable labor laws of the Borrower and State and that these further include provisions to the effect that contractors; (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors.	<p>Being complied</p> <p>Provision are included (as per EMMP & BID document) to carry out HIV/AIDS awareness programs for construction contractor, application of all relevant labour laws for health and safety including child labour law and engagement of local labours (preferably from economically backward group) covering women labours.</p> <p>In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken.</p> <p>All activities including awareness program will be reflected in "Monitoring Report".</p>

G. Environmental and Social Organization and Management along with Implementation Arrangements

10. The institutional arrangements specify the arrangements for the implementation of environmental provisions of the proposed subproject. The Executing Agency (EA) State Disaster Management Authority (SDMA) will work closely with the Implementing Agency (IA) Uttarakhand Public Works Department (PWD) for effective implementation of environmental safeguards related requirements of the sub projects. The institutional arrangements and responsibilities are detailed below.
11. The subproject will be implemented and monitored by Uttarakhand Public Works Department as Implementing agency and implemented through its Field PIU's supported by DSC (also working as Engineer) and overall management support shall be provided by PMU, UEAP.
12. The Safeguard Staff of UEAP SDMA (EA) in PMU & IA will monitor the implementation of environmental covenants with assistance of Engineer (DSC).
13. UEAP SDMA (EA) shall be responsible for ensuring compliance to environmental requirements of the ADB as well as central/state governments and reporting the

same to ADB. A relevant portion of EMMP will be a part of contract with the civil works contractors engaged for execution of the works. The primary responsibility of implementation of EMMP is of the IA during pre-construction and operation and maintenance phases; and of the civil works contractor during the construction phase as defined in the EMMP. The responsibility of supervision of EMMP implementation is of the DSC; and it would guide the IA and the civil works contractors in this regard. DSC with IA and EA, UEAP will act as monitoring agency as delegated in EMMP. All applicable statutory environmental clearances, consents, and/or permits (at national, state and local levels) as required for the implementation of the subproject would be obtained by the IA or by the civil works contractor in line with India's national/state/local laws and regulations, and in accordance with ADB's SPS 2009 requirements. Redressal of grievances shall be the responsibility of UEAP SDMA (EA). Apart from the mechanism for the grievances receiving and redressal at the level of EA, the provision shall be kept in the EMMP of the subprojects wherein the contractor will depute one Environmental Safeguard Officer who shall be responsible for implementation of EMMP, reporting and grievance redressal on day-to-day basis. The grievances/complaints received at the level of contractor shall be recorded on the Complaints Register and the same shall be forwarded to the DSC (Engineer of the Contract) within 48 hours along with the details of action taken to redress the grievance. The Team Leader of DSC shall immediately try to resolve the issues and forward the details to the FPIU / IA. If the action taken by Contractor and DSC is found to be inadequate, then necessary instructions shall be issued by the FPIU/IA for implementation of rectification measures.

III. ENVIRONMENTAL PROCEDURE REVIEW

H. Environmental Legal Requirement – Environmental Legislation and Pollution Control Acts

14. The Government of India has formulated various policy guidelines; acts and regulations aimed at the sustenance of environment in general, which are briefly summarized and few applicable acts with the project, are described in the following sub-sections.

Sl. No.	Sources	Legislation
1	EIA Notification	The Ministry of Environment and Forests has revised the EIA notification, 1994, and issues the revised EIA notification on 14th September 2006
2	Environment	The Environment (Protection) Act, 1986
3	Forest/ Tree resources	The Forest (Conservation) Act, 1980
4	Water Pollution	The Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988
5	Air Pollution	The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987
6	Noise Pollution	The Noise Pollution (Regulation and Control) Rules, 2000
7	Public Liability	The Public Liability Insurance Act, 1991 The Public Liability Insurance Rules, 1991
8	Conservation, construction and reuse in and around the protected monuments	The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959
9	Hazardous Waste	➤ Hazardous Waste (Management and Handling) Rules, 1989

Sl. No.	Sources	Legislation
		<ul style="list-style-type: none"> ➤ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ➤ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995 ➤ Hazardous Microorganisms and Genetically Modified Organisms (Manufacture, Use Import Export and Storage) Rules, 1999
10	Use and Management of Explosive	The Explosives Act, 1884 and The Explosives Rules, 1983

15. Prominent acts are discussed below:-

16. The Environment Protection act, 1986 and the EIA Notification, 2006

The Environmental (Protection) Act, 1986 is the umbrella legislation providing for the protection of environment in the country. This Act provided for the Environment (Protection) Rules, which have been formulated under the act "The Environmental Impact Assessment Notification, 1994 and the Amendments / Revised EIA notification on 14th September 2006".and Year 2009.

17. The Water (Prevention and Control of Pollution) Act 1974 as amended in 1988 AND AIR (Prevention and Control of Pollution) Act, 1981 as amended by Amendment Act, 1987.

The water (Prevention and Control of Pollution) Act, 1974 resulted in the establishment of the Central and State level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of certain facilities. The SPCB is also empowered to set air quality standards and monitor and prosecute offenders under the air (Prevention and Control of Pollution) Act, 1981.

18. The Noise Pollution (regulation and control) rules, 2000, as amended

Use of heavy machinery and vehicles ambient noise levels may increase during the construction phase. It is considered necessary to regulate and control noise producing and generating sources with the objective of maintaining the ambient air quality standards in respect of noise. The occupier of subprojects have to take measures for abatement of noise pollution ensuring that the existing noise levels do not exceed the standards specified under the Noise Pollution (regulation and control) rules, 2000, as amended.

19. The Forest (Conservation) Act, 1980

The Forest (Conservation) Act, 1980 pertains to the cases of diversion of forest area and felling of roadside plantation. Depending on the size of the tract to be cleared, clearances are applied for at the following levels in the governments:

- If the area of forests to be cleared or diverted exceeds 20 ha (or, 10ha in hilly area), the prior permission of the Central Government is required;
- If the area of forest to be cleared or diverted is between 5 to 20 ha, the Regional Office of Chief Conservator of Forests is empowered to approve;

- If the area of forest to be cleared or diverted is below or equal to 5 ha, the State Government can give permission;
- and If the area to be clear-felled has a forest density of more than 40%, permission to undertake any work is needed from the Central Government, irrespective of the area to be cleared.

20. The specific requirements to ensure compliance by these components and subprojects are shown in Table 4.

21. Clearance status for subprojects is given in **Table 5** below.

22. Environmental compliance status for the running project is encl. in Annexure 1.

Table 4: Present Status of Environment, Forest & other clearances (December 2014)

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ needed	Action
Restoration Work of Almora Bageshwar Road UEAP/PWD/C-2A	The Environment Protection act, 1986 and the EIA Notification, 1994. The water (Prevention and Control of Pollution) Act, 1974 AIR (Prevention and Control of Pollution) Act, 1981 The Water (Prevention and Control of Pollution) Act 1974. -The Noise Pollution (regulation and control) rules, 2000, as amended -Mines and Minerals (Regulation and Development) Act, 1957 and its amended 10th May 2012 -Hazardous Wastes (Management, Handling and Tran boundary			<ul style="list-style-type: none"> •Till date none of the packages under R&B sector (UEAP) require forest clearances under <u>The Forest (Conservation) Act, 1980 & also</u> does not require Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and amendments. • Till date non of the subproject under UEAP falls within protected area and required Environmental Impact Assessment under "The Environmental Impact Assessment Notification, 1994 and the Amendments / Revised EIA notification on 14th September 2006"and 	
Restoration Work of Ranikhet Mohan Road UEAP/PWD/C-2B					
Restoration Work of NTD Kafarkhan-Dhaulichina Road UEAP/PWD/C-6					
Reconstruction of internal road of Nagar Panchayat Almora UEAP/PWD/C-16					
Reconstruction of internal road of Nagar Panchayat Ranikhet UEAP/PWD/C-17A					
Restoration of Jalikhan-Nobra Road UEAP/PWD/C-48					
C&O Restoration of Kosi-Daulaghat Motor Road (1km to 36)					
		Restoration of Dwarhat-Binta Someshwer Motor Road (km 17 to 32)			
C Restoration of Bhatrojkan					

Work (Package No.)		Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ needed	Action
	Bhikiyasain Chokhutiya Moto Road	movement) Rules, 2008 -Central Motor and Vehicle Act 1988 -The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 Petroleum (Amended) Rules, 2011. Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008			Year 2009. • During implementation of project CTE/CTO for HMP, PUC for vehicles, Labour License, Workmen compensation, land owner consent shall be obtained and Safety measures, Muck disposal, Environmental monitoring data required will be carried out as per agreed EMMP. All the provision of EMMP and contractual stipulation with respect to environment safeguards are being implemented. Contractors have been directed to submit mandatory statutory clearances / documents as required.	
	Restoration of Bhikiyasain Deghat Bungidhar Bachuwaban Mehalchori Chaukhutia Motor Road					
Restoration of Ganai-Jorasi Motor Road (Km 1 to 24) UEAP/PWD/C-62						
Restoration of Artoal Jageshwar Naini Motor Road (Km 6 to 20) UEAP/PWD/C-63						
Restoration of Khairna Ranikhet Motor Road (Km 1 to 26) UEAP/PWD/C-64						
Reconstruction of Internal road of Bageshwar Nagar Palika UEAP/PWD /C-18						
Reconstruction of Internal Road of Nagar Panchayat Kapkot UEAP/PWD/C-19						
Restoration of Bageshwar-Kapkot-Sama-Tejam Motor Road UEAP/PWD/C-26						
C-47	Restoration of Kalnabend-Udiyaribend Motor Road					
	Restoration of Baijnath-Gwaldam Motor Road					
C-1	Restoration of Kaladhungi-Kotabagh-Belpadav Road					
	Restoration of Nainital-Kaladhungi-Bajpur Doraha Road					
Restoration of Betalghat-Bhatroj Khan Road UEAP/PWD/C-3						
Restoration of Nathuwakhan-Suyalbari Motor Road						

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ needed	Action
Restoration of Ratighat-Betalghat Motor Road (Km 1 & 16 to 33) UEAP/PWD/C-73					
Restoration of Ranibagh-Bhimtal-Khutani-Padampuri-Motiyapathar-Lohaghat Motor Road (Km7 & 12 to 33) UEAP/PWD/C-74					
Restoration of Satsiling Thal Motor Road UEAP/PWD/C-12					
Reconstruction of internal road of Nagar Panchayat, Didihaat UEAP/PWD/C-15					
Reconstruction of internal road of Nagar Panchayat, Berinag UEAP/PWD/C-28					
Reconstruction of Jaspur-Dhanpur Motor Road UEAP/PWD/C-4					
UEAP/PWD/C-7 a. Nandprayag-Ghat Motor Road b. Rudraprayag-Pokhari-Karanprayag					
UEAP/PWD/C-8 Chamoli – Kund					
UEAP/PWD/C-20 Joshimath-Auli under Nagar Palika Joshimath					
UEAP/PWD/C-21 a. Narshing Mandir Approach Road Joshimath b. Internal Road of Nagar Panchayat Karanprayag					
UEAP/PWD/C-32 Rudraprayag-Pokhari-Karanprayag					
UEAP/PWD/C-33 Tharali Dewal Mundoli					
UEAP/PWD/C-34 Internal Road of Nagar Palika Gopeshwar					
UEAP/PWD/C-49 Karanprayag-Nauti-Paithani Gauchar - Sidholi					
UEAP/PWD/C-50 Karanprayag-Nainisen					

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ needed	Action
UEAP/PWD/C-51 Pokhari Gopeshwar					
UEAP/PWD/C-9 Guptkashi Kalimath Kotma Jaal Chaumasi					
UEAP/PWD/C-22 New Bus stand road under Nagar Palika Rudraprayag					
UEAP/PWD/C-29 Khirshu-Khedakhal-Kandai- Khankra					
UEAP/PWD/C-30 Sonprayag Triyginarayan					
UEAP/PWD/C-31 Makku Pahunch Marg to Paldwari					
UEAP/PWD/C-5 Pauri-Khirsu-Srinagar Road					
UEAP/PWD/C-35 Buakhal-Pauri-Devprayag- Gaja-Jajal Motor Road					
UEAP/PWD/C-40 Khanda Sumari Bhugani					
UEAP/PWD/C-65 Khirsu Musagali Damdeval Bughani Devalgarh Chamdhar					
UEAP/PWD/C-66 Riknikhal Bironkhal Motor Road					
UEAP/PWD C71 Lakshman Jhoola- Rathuwadhab-Dhumakot Road					
UEAP/PWD/C-13 Pilkhi-Gadoliya Motor Road					
UEAP/PWD/C-13 Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag					
UEAP/PWD /C-39 Gaza-Nakot					
UEAP/PWD /C-23 Tyuni-Chakrata-Mussoorie- Chamba-Kirtinagar					
UEAP/PWD /C-24 Kalsi-Bairatkhai					

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ needed	Action
UEAP/PWD /C-38 Ichari-Kwano-Meenus					
UEAP/PWD /C-11 Naugaon-Purola* Kalsi-Chakrata Road*					
UEAP/PWD /C-14 Kuwa-Kafnaul Rahdi Motor Road					

IV. IMPLEMENTATION STATUS OF ENVIRONMENT MEASURES

23. Field activities in some sub-project have started at some of the locations under R&B sectors till 31st December 2014 and status is given in table 1 above. Application of EMMP is being commenced as per IEE report. The compliance monitoring format for application of mitigation measures against impacts on air, water, soil environment, social and safety aspects is enclosed in Annexure 2. Format for summary compliance status of EMMP application and actions/ corrective measures presented in Table 5 below.

Table 5: Summary Compliance status of Environment Management and Monitoring Plan (31.12.2014)

Location	Name of Sub Project	EMMP being Implemented (Yes / No)	Overall Status of EMMP Implementation (Excellent/Satisfactory/ Partially Satisfactory/Below Satisfaction/Poor/Very Poor)	Actions Proposed or continued/Additional Corrective Measures Required
Almora	Restoration Work of Almora Bageshwar Road C-2A	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration Work of Ranikhet Mohan Road C-2B	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly

	Restoration Work of NTD Kafarkhan-Dhaulichina Road C-6	Yes	Below Satisfaction	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
	Reconstruction of internal road of Nagar Panchayat Almora C-16	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Reconstruction of internal road of Nagar Panchayat Ranikhet C-17A	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Jalikhan-Nobra Road C-48	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Kosi-Daulaghat Motor Road (1km to 36)	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Dwarhat-Binta Someshwer Motor Road (km 17 to 32) C-60			
	Restoration of Bhatrojkhani Bhikiyasai C-61	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly

	<p>n Chokhutiya Motor Road</p> <p>Restoration of Bhikiyasai n Deghat Bungidhar Bachuwaban Mehalchori Chaukhutiya Motor Road</p>			
	Restoration of Ganai-Jorasi Motor Road (Km 1 to 24) -62	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Artoal Jageshwer Naini Motor Road (Km 6 to 20) C-63	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Khairna Ranikhet Motor Road (Km 1 to 26) C-64	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
Bageshwar	Reconstruction of Internal road of Bageshwar Nagar Palika /C-18	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Reconstruction of Internal Road of Nagar Panchayat Kapkot C-19	Yes		Physical work/ actual construction work not started in ground EMMP application will start shortly
	Restoration of Bageshwar-Kapkot-Sama-Tejam Motor Road C-26	Yes	Below Satisfaction	<ul style="list-style-type: none"> ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly

				✓ Arrangement of First aid box	
	C-47	Restoration of Kalnabend - Udiyaribend Motor Road	Yes	Physical work/ actual construction work not started in ground EMMP application will start shortly	
		Restoration of Baijnath-Gwaldam Motor Road			
Nainital	C-1	Restoration of Kaladhungi-Kotabagh-Belpadav Road	Yes	Below Satisfaction	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
		Restoration of Nainital-Kaladhungi-Bajpur Doraha Road			
	C-3	Restoration of Betalghat-Bhatrojkhann Road	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
		Restoration of Nathuwakhan-Suyalbari Motor Road			
		Restoration of Ratighat-Betalghat Motor Road (Km 1 & 16 to 33) C-73	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly

	Restoration of Ranibagh-Bhimtal-Khutani-Padampuri-Motiyapathar-Lohaghat Motor Road (Km7 & 12 to 33) C-74	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
Pithoragarh	Restoration of Satsiling Thal Motor Road /C-12	Yes	Poor	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
	Reconstruction of internal road of Nagar Panchayat, Didihaat /C-15	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
	Reconstruction of internal road of Nagar Panchayat, Berinag /C-28	Yes		Physical work/ actual construction work not started in ground EMMP application will start shortly
U.S. Nagar	Reconstruction of Jaspur-Dhanpur Motor	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation

	Road C-4			<ul style="list-style-type: none"> ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C-7	Nandprayag-Ghat Motor Road	Yes	Poor	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
	Rudraprayag-Pokhari-Karanprayag Road	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C-8	Chamoli Kund	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C-	Joshimath-Auli under Nagar	No	-	Physical work/ actual construction work not

20	Palika Joshimath			started in ground EMMP application will start shortly
UEAP/P WD/C- 21	Narshing Mandir Approach Road Joshimath	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
	Internal Road of Nagar Panchayat Karanprayag	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 32	Rudraprayag-Pokhari-Karanprayag	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 33	Tharali Dewal Mundoli	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 34	Internal Road of Nagar Palika Gopeshwar	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C-9	Guptkashi Kalimath Kotma Jaal Chaumasi	No		Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 22	Reconstruction of New Bus stand road, Rudrapryag	Yes		Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 29	Khirshu-Khedakhal-Kandai-Khankra	Yes		Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 30	SonprayagTriy ginarayan	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 31	Makku Pahunch Marg to Paldwari	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P	Pauri-Khirsu-	Yes	Below Satisfactory	✓ Labour licence &

WD/C-5	Srinagar Road			<p>workmen compensation</p> <ul style="list-style-type: none"> ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C-35	Buakhal-Pauri-Devprayag-Gaja-Jajal Motor Road	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C-40	Khanda Sumari Bhugani	No	-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C-13	Pilkhil-Gadoliya Motor Road	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box

	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag		-	Physical work/ actual construction work not started in ground EMMP application will start shortly
UEAP/P WD/C- 39	Gaza-Nakot	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/ UEAP/P WD/C- 23	Tyuni- Chakrata- Mussoorie- Chamba- Kirtinagar	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C- 24	Kalsi- Bairatkhai	Yes	Below Satisfactory	<ul style="list-style-type: none"> ✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape

				not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C- 38	Ichari-Kwano- Meenus	Yes	Below Satisfactory	✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box
UEAP/P WD/C- 14	Kuwa-Kafnaul Rahdi Motor Road	Yes	Below Satisfactory	✓ Labour licence & workmen compensation ✓ Collection of PUC certificate ✓ Complete use of PPE ✓ Labour camp to be established ✓ Safety caution tape not in use properly ✓ Arrangement of First aid box

V. ENVIRONMENTAL MONITORING AND EVALUATION

24. For effective monitoring, selected environmental parameters have been identified as indicators which will be qualitatively and quantitatively measured and compared over a period of time in order to assess/ensure the compliance of EMMP. The environmental performance indicators are physical, biological and social characteristics identified as most important in affecting the environment at critical locations all along the subproject locations. The parameters identified as performance indicators are:

- Air, noise, soil and water quality
- Compliance to EMMP
- Compliance to local/state/national environmental regulations

25. During implementation process, performance monitoring fact sheet is being prepared against each possible environmental impact and attached with the monitoring report.

Annexure 3 shows the Performance Fact Sheet for implementation of EMMP.

Base line air and noise quality monitoring has been carried out at working areas as per scope of work. The values of all the air quality parameters, water quality and Noise

levels, observed at all the sites, are within the permissible limits. Base line monitoring format of ambient air quality, noise, water & soil data is presented in Annexure-6.

Ambient Air Quality

The result of ambient air quality in the sub project roads are within the permissible limits as prescribed by CPCB standards.

- The average concentration of PM_{10.5} and PM_{2.5} in the study area varies from 79 to 42µg/m³ and 53-53.7 µg/m³ respectively.
- The concentration of SO_x and NO_x varies from 4 to 16 µg/m³ and 11 to 27µg/m³ respectively.
- CO and HC concentration is below detection limit in the study area.

Noise

The Noise quality result show L_{deq} varies from 42 to 61dB (A), the result in both the category is under the desire limit for both day & night time specified by CPCB. All the project roads are in hilly terrain.

Water Quality

The water samples were taken for analyzing its physico-chemical quality. The surface water quality in the region is reported to be acceptable and also found by visual identifications.

- The pH concentration in the sub project road is 7 to 7.8, which is well within permissible limit.
- The Total Dissolved Solid (mg/lit.) from 56-387
- Other parameters(both essential and desirable) are below permissible limit

Soil

- Water holding capacity varies from 29-40%
- pH (in 10% aqueous solution) is between 7-9
- Iron (Fe) is 3.5 to 12.4

*Ref. Annex-2 for complete details

26. "During construction" monitoring will be carried out as per Environment Management and Monitoring Plan.

VI. MAJOR PROJECT ISSUES AND PROBLEMS ENVIRONMENTAL CONTEXT

27. Field activity of the sub-project just started at most of the locations. Till date, no major issues and problems have been encountered with, at the sub project locations.

VII. CONSULTATIONS AND RECOMMENDATIONS ENVIRONMENTAL CONTEXT

28. For protection of local environment during construction phase, application of mitigation measures will be done as per specified EMMP. Pubic consultation during construction/ implementation phase will be planned as per the requirement. **Annexure 4** shows the blank consultation format for recording.

VIII. GRIEVANCE REDRESSAL

29. A joint social and environmental redress mechanism will be implemented under the project. Grievances and suggestions from local and affected people may come-up related to inappropriate implementation of the project and components of EMMP. The expected range of grievances to be handled through this mechanism will encompass but not limited to the following: i) nuisance from noise, dust, and temporary blocking of access; ii) contamination of receiving water from runoff; iii) emissions from increase vehicular traffic and stationary sources like construction machineries; iv) conflict between local residents and migrant workers; v) ownership of vegetation for clearing; and vi) damage compensation. These issues will be addressed through acknowledgement, evaluation and corrective action and response approach. Grievances from public or stakeholders concerning the project and EMMP implementation will be received by the concerned Executive Engineer of UEAP division. The Executive Engineer shall refer the application to Construction Supervision Consultants (DSC) who then assess the grievances/suggestions and if they are found to be genuine and acceptable, will be resolved at division level itself within 15 to 30 days from the date of receipt. In case, the issue is unable to be resolved, the matter will be forwarded to the PMU, UEAP (Head quarter). This mechanism is non-judicial in nature and does not preclude the affected people coursing their grievances to the courts. The corrective action will be started as per the action plan indicated to the stakeholder. The action taken and the outcome shall form a part of quarterly report to ADB.

30. GR committee/cell has been constituted under UEAP for R&B sector in all districts of Uttarakhand.

IX. ISSUES AND ACTION PLAN

31. It is important to mention in this context that the final detailed engineering design in each sub project of UEAP have been prepared keeping in mind to avoid or minimize social and environmental impact as far as possible.

32. With the development of project the action plan will be considered for timely and satisfactory environmental compliance. Sample suggestion & action plan format is shown in **Table 6**.

Table 6: Suggestion & Action plan considered for satisfactory Environmental Compliance

Sr. No.	Issues	Suggestion recommendation and	Action to be taken by	Time Frame
1	Application of EMP	Continue on regular basis	Contractor in association with PIU and DSC	Continue process. Submission of monthly format
2	Health and Safety – complete use of PPE	Complete use of PPE	Contractor	
3	Pollution Under control certificate	Collection of PUC for vehicle and equipment	Contractor	
4	Arrangement of labour camp/ rented house for contractor	Arrangement as per requirement	Contractor	Before starting of construction work
5	Restoration of the	At earliest as possible	Contractor	-

	construction area			
6	Social relationship and public safety	Arrangement of safety tape and public consultation	Contractor	-
7	Training to workers	Regular tool box training for labourer Safeguard orientation training for contractor	Contractor, PIU, DSC	Continue process

Annexure 1: Environment Forest and other Compliance (December 31st, 2014)

	Package	EIA Clearance	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological dept.	Consent for establishment of crusher from quarry material supplier	CTE/CTO for HMP	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring/Baseline data generation
ALMORA												
C-6	Ntd kafarkhan- dhaulchinna	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-2	Almora-bageshwar	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
	Ranikhet-mohan	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-16	Reconstruction of internal road of nagar panchayat almora	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-17	Reconstruction of internal road of nagar panchayat ranikhet	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-48	Jalikhana-nobara	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-60	Kosi-daulaghat (km 1 to 36)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
	Dwarhat-binta-someshwar (km 17 to 32)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-61	Bhatrojkhana-bhikiyasain-chaukhutiya (km 26 to 45)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
	Bhikiyasain-deghat-boongidhar-bachuwaan-mehalchauri-chaukhutiya (km 36 to 43)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-62	Ganai-jorasi (km 1 to 24)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-63	Artola-jageshwar-naini (km 6 to 20)	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-64	Khairana-ranikhet (km 1 to 26)	NR	NR	NR	NR	NR	Required,	NR	NA	NR	Yes	To be started
BAGESHWAR												
C-18	Reconstruction of internal road of bageshwar nagar palika	NR	NR	NR	NR	NR	Required	Required,	NR	NR	Yes	To be started
C-19	Reconstruction of internal road of nagar panchayat kapkot	NR	NR	NR	NR	NR	Required	Required,	NR	NR	Yes	To be started
C-26	Bageshwar-kapkot-sama-tejam	NR	NR	NR	NR	NR	Required	Required,	NR	NR	Yes	To be started
C-47	Kalnabend-pantkwerali (km 0.00- 6.81)	NR	NR	NR	NR	NR	Required	Required,	NR	NR	Yes	To be started
	Bajinath-gwaldam (km 84.00- 87.19)	NR	NR	NR	NR	NR	Required	Required,	NR	NR	Yes	To be started

Nainital													
C-1	Kaladhungi- belpadav road	NR	NR	NR	NR	NR	NR	Required,	Not required	NA	NR	Yes	To be started
	Nainital-kaladhungi- doraha road												
C-3	Betalghat-bhatrojkan	NR	NR	NR	NR	NR	NR	Required,	Not required Only PC work is being done	NA	NR	Yes	To be started
	Nathuwakhan-suyalbari												
C-73	Ratighat-betalghat (km 1&16 to 33)	NR	NR	NR	NR	NR	NR	Required,	NR	NA	NR	Yes	To be started
c-74	Ranibagh-bhimtal-khutani- padampuri-motiyapathar- lohaghat (km 7& 12 to 61)	NR	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
U.S. NAGAR		NR						Required,	Required,	NR	NR	Yes	To be started
C-4	Jaspur- Dhampur	NR	NR	NR	NR	NR	NR	Required, Submitted	Required, Submitted	NR	NR	Yes	To be started
PITHORAGARH													
C-12	Satsiling thal motor road	NR	NR	NR	NR	NR	NR	Required,	Not required as contractor will purchase material form other package	NR	NR	Yes	To be started
	Reconstruction of internal road of nagar panchayat dharchula	NR	NR	NR	NR	NR	NR	Required,	Not required PC will be done	NR	NR	Yes	To be started
C-15	Reconstruction of internal road of nagar panchayat didihaat	NR	NR	NR	NR	NR	NR	Required,	Required	NR	NR	Yes	To be started
C-28	Reconstruction of internal roads of nagarpanchayat berinag	NR	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
C-46	Seraghat-udiyaribend (km 61.375- 104.464)	NR	NR	NR	NR	NR	NR	Required,	Required,	NR	NR	Yes	To be started
UEAP/PWD C 5	Pauri-Khirsu-Srinagar Road	NR	NR	NR	NR	NR	NR	Taken from Supplier (Royalty duly submitted)	Obtained	NA	NR	Yet to be submitted	19.11.2014
UEAP/PWD C 35	Buwakhal-Pauri-Devprayag- Gaja-Jajal	NR	NR	NR	NR	NR	NR	Taken from Supplier (Royalty duly submitted)	Under Process	NA	NR	Yet to be submitted	20.10.2014
UEAP/PWD C 40	Kanda-Sumari-Bugani	NR	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	Yet to be submitted	05.12.2014
UEAP/PWD C 9	Guptkashi Kalimath Kotma Jaal Chaumasi	NR	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	Yet to be submitted	08.10.2014
UEAP/PWD C 22	Reconstruction of New Bus Stand Road Under Nagar Palika Rudraprayag	NR	NR	NR	NR	NR	NR	Taken from Supplier (Royalty duly submitted)	Under Process	NA	NR	Yet to be submitted	To be started
UEAP/PWD C 29	Khirshu-Khedakhal-Kandai- Khankra	NR	NR	NR	NR	NR	NR	Taken from Supplier (Royalty duly submitted)	Under Process	NA	NR	Yet to be submitted	19.11.2014
UEAP/PWD C 30	Sonprayag-Triyuginarayan	NR	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	Yet to be	To be started

												submitted	
UEAP/PWD C 31	Makku-Paldwari	NR	NR	NR	NR	NR	Work yet to start	Obtained	NA	NR	NR	Yet to be submitted	06.12.2014
UEAP/PWD C 7	Nandprayag- Ghat	NR	NR	NR	NR	NR	Taken from Supplier (Royalty duly submitted)	Under Process	NA	NR	NR	Yet to be submitted	29.09.2014
	Rudraprayag-Pokhari-Karanprayag	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	03.09.2014
UEAP/PWD C 8	Chamoli - Kund	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	06.10.2014
UEAP/PWD C 20	Joshimath Auli Motor Road Under Nagar Palika Joshimath	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	12.12.2014
UEAP/PWD C 21	Narshing Mandir Approach Road Under Nagar Palika Joshimath	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	08.12.2014
	Internal Road of Nagar Panchayat Karanprayag	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	10.12.2014
UEAP/PWD C 32	Rudraprayag-Pokhari-Karnprayag	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	04.12.2014
UEAP/PWD C 33	Tharali-Dewal-Mundoli	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	17.10.2014
UEAP/PWD C 34	Reconstruction Of Internal Roads of Nagarpalika Gopeshwar	NR	NR	NR	NR	NR	Work yet to start	Under Process	NA	NR	NR	Yet to be submitted	To be Started
Tehri Garhwal													
	Pilkhi-Gadoliya Motor Road	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
UEAP/PWD/C-13	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
UEAP/PWD /C-39	Gaza-Nakot	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
Dehradun													
UEAP/PWD /C-23	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
UEAP/PWD /C-24	Kalsi-Bairatkhai	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
UEAP/PWD /C-38	Ichari-Kwano-Meenus	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
Uttarkashi													
UEAP/PWD /C-11	Naugaon-Purola* Kalsi-Chakrata Road*	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started
UEAP/PWD /C-14	Kuwa-Kafnaul Rahdi Motor Road	NR	NR	NR	NR	NR	Work yet to start	Under Process	NR	NR	NR	Yes	To be started

Annexure – 2: Compliance of Application of EMMP- Sample format

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
PRE-CONSTRUCTION STAGE						
P 1	Land Acquisition (If required)	The acquisition of land and private properties shall be carried out in accordance with the RAP and entitlement framework of the Project. UEAP has to ascertain that acquisition of land in the post design phase are addressed and integrated into the EMMP and relevant contract documents.	Wherever existing RoW is less than proposed RoW	Right to fair Compensation & Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013,	PMU/PIU, Revenue Dept, Collaborating Agencies	PMU
P 2	Clearance of Encroachment/Squatters (change in land use)	Advance notice, as per RAP shall be given to the encroachers and squatters present in the Corridor of Impact, who need to be relocated. All R&R activities shall be undertaken. Entitlements as per UEAP entitlement framework shall be completed before construction starts.	Where compulsory resettlement of people is involved	RAP documents	PIU, PMU and Revenue Authority	PMU
P 3	Tree Cutting (If required)	Trees shall be removed from the Corridor of Impact before the actual commencement of the work with the permission from the state Forest Department. Cutting shall not start until the implementation of the project in that particular location of cutting is confirmed. Stacking, transport and storage of the wood shall be done as per the relevant norms.	Trees along the subproject road falling within proposed RoW	MoRTH 201.1 and 201.6	Forest Department	DSC and / PMU
P 4	Preservation of Trees	All efforts shall be made to preserve trees including evaluation of minor design adjustments/alternatives (as applicable) to save trees. Specific attention shall be given for protecting giant trees, green tunnels and locally important trees (religiously important etc.). Tree cutting is to proceed only after all the legal requirements including attaining of In-principle and Formal Clearances from the Forest Dept./MoEF are completed and subsequently a written order is issued to the Contractor. Particular species declared as "protected" by the State Forest Dept. in the private land shall be felled only after due clearance from the Forest Dept. is obtained. In the event of design changes, additional assessments including the possibility to save trees shall be made. Systematic corridor level documentation for the trees cut and those saved shall be maintained by the UEAP	At green tunnels and trees present at the toe line of the carriage way and trees of valuable species having ecological value.	MoRTH 201.2 and 301.5	Contractor/Agency engaged by PMU	DSC and / PMU
P 5	Relocation of Community Utilities and Common Property Resources	All community utilities and properties i.e., hand pumps, open wells, water supply lines, sewer lines, telephone cables, buildings and health centers shall not be relocated before construction of subproject road starts.	Throughout the corridor	RAP document	PIU/PMU, other Agencies / Contractor	PMU
P 6	Relocation of affected Cultural and Religious Properties	All religious property resources such as shrines, temples and mosques within the project road shall be relocated. No such utilities will be relocated.. If there is any relocation of the religious structures may happen then it shall be identified in accordance with the choice of the community. UEAP in consultation with local people shall finalize those. The entire process (i.e. selection of relocation sites and design) shall be under supervision of Environmental Specialist of DSC, during the construction stage by the Contractor. The relocation shall be completed before the construction starts in these sites.	Throughout the stretch especially nearby settlements	MoRTH 110.7	PIU/ Contractor	DSC/ PMU
Pre-construction activities by the Contractor/Environmental Specialist of DSC						
P 7	Field Verification and Modification of the Contract Documents					
P.7.1	Joint Field Verification	The Environmental Specialist of DSC and the Contractor shall carry out joint field verification to ascertain any possibilities of saving trees, environmental and community resources, and these activities are to be taken up by the construction contractor.	Throughout the stretch of subproject	MoRTH 201.2	Contractor/ Environmental Specialist of DSC	PMU
P.7.2	Assessment of Impacts due to Changes/Revisions/ additions in the Project Work	The Environmental Specialist of DSC shall assess impacts and revise/modify the EMMP and other required sections of the project document/s in the event of changes/revisions (including addition or deletion) in the project's scope of work.	Where ever changes are applicable		Contractor/ Environmental Specialist of DSC	PMU
P.7.3	Crushers, Hot-mix plants and Batching	All construction plants shall be sited sufficiently away from settlements and agricultural operations or any commercial establishments. Such plants shall be located at least 1000 m away from the nearest	At all Crushers, Hot-mix plants and Batching Plants opened up	MoRTH 111.1, Air (prevention of control	Contractor/ Environmental	PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
	Plants Location	dwelling preferably in the downwind direction. The Contractor shall submit a detailed layout plan for all such sites and approval of Environmental Specialist of DSC shall be necessary prior to the establishment. Arrangements to control dust pollution through provision of windscreens, water sprinklers, and dust extraction systems shall have to be provided at all such sites. Specifications for crushers, hot mix plants and batching plants shall comply with the requirements of the relevant emission control legislations. Consent for the Establishment and Operation from UEPPCB shall be obtained before establishment and operation respectively and a copy should be submitted to the DSC and UEAP. Wherever there is extremely water scarcity areas exist the Water sprinkling shall be limited to one time in the morning. To balance this deficient information boards shall be erected at appropriate locations with a message to "Dust prone area take precautions.	for the construction of subproject road	of pollution) Act, 1981 and Noise Rules	Specialist of DSC	
P.7.4	Other Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery to be procured for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 and Motor Vehicles Act, 1988 shall be strictly adhered to. The silent/quiet equipment available in the market shall be used in the Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced to EO, UEAP verification whenever required.	Applicable to all vehicles used in the construction	Air pollution Control Act, and Noise Rules and Motor Vehicle Act, 1988	Contractor/ Environmental Specialist of DSC	PMU
P 8		Identification and Selection of Material Sources				
P.8.1	Borrow Areas	Finalising soil borrowing earth and all logistic arrangements as well as compliance to environmental requirements, as applicable, shall be the sole responsibility of the Contractor. The Contractor shall not start borrowing earth from selected borrow area until the formal agreement is signed between landowner and Contractor and a copy is submitted to the DSC. Locations finalized by the Contractor shall be reported to the Environmental Specialist of DSC and he shall submit the report to UEAP. Planning of haul roads for accessing borrows areas shall be undertaken during this stage. The haul roads shall be routed to avoid agricultural areas as far as possible and shall use the existing village roads wherever available. The environmental personnel of the DSC shall be required to inspect every borrow area location prior to approval. The DSC should include the Request for Inspection form for borrow area approval from the environmental point of view.	Borrow sites	IRC Guidelines on borrow areas and quarries; EPA 1986 and MoRTH 111.2 and 305.2.2	Contractor/ Environmental Specialist of DSC	PMU
P.8.2	Quarry	Contractor shall finalize the quarry for procurement of construction materials after assessment of the availability of sufficient quantity of materials, quality and other logistic arrangements. In case the Contractor decides to use quarries other than recommended by DPR consultant, then the Contractor should give substantiation. Contractor shall also work out haul road network and report to Environmental Specialist of DSC and DSC shall inspect and in turn report to UEAP before approval.	Quarry sites	MoRTH 111.3	Contractor	Environmental Specialist of DSC
P.8.3	Arrangement for Construction Water	In view of the special situation in Uttarakhand, Contractor shall prepare and implement the approved Water Management Plan in accordance with the Appendix-11, and BOQ Environment mitigation works The contractor shall use ground/surface water as a source of water for the construction and may set up own bore well facility for construction work. Contractor may take surface water from the Irrigation Canal with the written consent from the Irrigation Department. To avoid disruption/disturbance to other water users, the Contractor shall extract water from fixed locations and consult Environmental Specialist of DSC before finalizing the locations. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted. The Contractor shall need to comply with the requirements of the State Ground Water Department for the extraction and seek their approval for doing so and submit copies of the permission to DSC and UEAP.	Throughout the subproject	As per the contract document and Clause No. 1010 EPA, 1986	Contractor	Environmental Specialist of DSC
P 9	Sand	The Sand shall be procured from identified statutorily approved sand mines as far as possible. The Contractor shall obtain copy of the Lease Agreement of the supplier and submit to DSC before procuring the sand.	Sand quarries being used for the construction	As per the contract document ⁴	All riverbeds recommended for sand extraction for the project.	

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/Monitoring
P 10	Labour Requirements	The Contractor shall preferably use unskilled labour drawn from local communities to give maximum benefits to the local community.	Throughout the subproject road	As per the Contract Document	Contractor	Environmental Specialist of DSC
P 11	Construction Camp Locations – Selection, Design and Layout	Siting of the construction camps shall be as per the guidelines below and details of layout to be approved by DSC Resident Engineer and environment specialist. Construction camps shall not be proposed within 1000 m from the nearest settlements to avoid conflicts and stress over the infrastructure facilities with the local community. Location for stockyards for construction materials shall be identified at least 300m away from watercourses. The Sewage Treatment Plant and solid waste treatment for the camp shall be designed, built and operated. Contractor's camps shall be identified at least 2km away from the Forest Reserves.	Construction camps	As per IRC guidelines and contract documents.	Contractor	Environmental Specialist of DSC
P 12	Arrangements for Temporary Land Requirement	The Contractor as per prevalent rules shall carry out negotiations with the landowners for obtaining their consent for temporary use of lands for construction camp/construction/borrow areas etc. Temporary land arrangements shall not be from the forest reserves except under special permission circumstances where it is an avoidable due to the vast forest reserves in the PIA.	Construction camps and borrow areas	MoRTH 108.3	Contractor	Environmental Specialist of DSC
P 13	Orientation of Implementing Agency and Contractors	The UEAP shall organize Orientation Sessions and regular training sessions at all stages of the project. This shall include on-site training (general as well as in the specific context of a sub-project). These sessions shall involve all staff of UEAP involved in the implementation of EMMP, Environmental Specialists of DSC and Contractors.	Throughout the implementation period.	EMMP and other training plan developed by UEAP	Contractor/ DSC and UEAP	PMU
CONSTRUCTION STAGE						
Activities to be Carried Out by the Contractor						
C 1		Site Clearance				
C.1.1	Clearing and Grubbing	If required vegetation shall be removed from the construction zone before commencement of construction. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum. Only ground cover/shrubs that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC. The Contractor, under any circumstances shall not cut or damage trees and forest reserves. Trees identified under the project shall be cut only after receiving clearance from the Forest Dept./DoEF/MoEF (as applicable) and after the receipt of UEAP's written permission in this regard. Vegetation only with girth size of over 30 cm shall be considered as trees and shall be compensated, in the event of UEAP's instruction to undertake tree cutting.	Throughout the corridor	MoRTH 201	Contractor	Environmental Specialist of DSC, PMU
C.1.2	Disposal of Debris from dismantling structures and road surface	Appendix-1 & 4 provides guidelines for the preparation of the contractors Debris disposal plan. This is mainly to deal with surplus debris materials that would be available after adjusting for all insitu applications. Other debris generated due to dismantling of the existing road shall be suitably reused in the proposed construction zone, subjected to the structure suitability of the materials and approval of the Resident Engineer and Environmental Expert of DSC as follows: For filling and leveling of School grounds and proposed parking areas. The sub grade of the existing pavement shall be used as embankment fill material. Existing base and sub-base material shall be recycled as sub-base of the haul road or access roads. The existing bitumen surface may be utilized for the paving of cross roads, access roads and paving works in construction sites and campus, temporary traffic diversions, haulage routes etc. The Contractor shall suitably dispose off unutilized debris materials either through filling up of borrows areas located in wasteland or at pre-designated disposal locations, subject to the approval of the Environmental Expert of DSC. At locations identified for disposal of bituminous wastes, the disposal shall be carried out over a 30 mm thick layer of rammed clay so as to eliminate the possibility of scarified percolation of leachate into the ground water. The Contractor shall ensure that the surface area of such disposal pits is covered with a layer of soil and subsequent turfing. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, shall be considered incidental to the work and shall be planned and implemented by the Contractor as approved and directed by the Environmental Expert of DSC. The pre-designed disposal locations shall be a part of Waste Disposal Plan in consultation and with approval of Environmental Expert of DSC. Debris generated from pile driving or other construction activities shall be disposed such that it does not	All debris disposal sites	MoRTH 202	Contractor	Environmental Specialist and Resident Engineer of DSC, EC, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		flow into the surface water bodies or for mud puddles in the area. The Contractor shall identify dumping sites as per the Debris Disposal Plan prepared using the Guidelines provided in the Appendix 1; The identified locations shall be reported to the Environmental Expert of DSC. These locations shall be checked on site and accordingly approved by Environmental Expert of DSC prior to any disposal of waste materials.				
C.1.3	Other Construction Wastes Disposal	The pre-identified disposal location shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan to be prepared by the Contractor in consultation and with approval of Environmental Specialist of DSC. Location of disposal sites shall be finalized prior to initiation of the works on any particular section of the road. The Environmental Specialist of DSC shall approve these disposal sites after conducting a joint inspection on the site with the Contractor. Contractor shall ensure that any spoils or material unsuitable for embankment fill shall not be disposed off near any water course or agricultural land, Orchards and Natural Habitats like Grasslands. Such spoils from excavation can be used to reclaim borrow pits and low-lying areas located in barren lands along the project road (if it so desired by the owner/community and approved by the Environmental Specialist, DSC). Non-bituminous wastes shall be dumped in borrow pits covered with a layer of 30cm soil to ensure that borrow pit is restored to original use. No new disposal site shall be created as part of the project, except with prior approval of the Environmental Specialist of DSC. All waste materials shall be completely disposed and the site shall be completely cleaned and certified by Environmental Specialist of DSC before handing over. The Contractor at his cost shall resolve any claim, arising out of waste disposal or any non-compliance that may arise on account of lack of action on his part.	All waste disposal sites	MoRTH: 202.5 MoRTH: 301.11	Contractor	Environmental Specialist of DSC, PMU
C.1.4	Stripping, stocking and preservation of top soil	The topsoil from all areas of cutting and all areas to be permanently covered shall be stripped off to a specified depth of 150 mm and stored in stockpiles. A portion of the temporarily acquired area and/or Right of Way shall be earmarked for storing topsoil. The locations for stock piling shall be pre-identified in consultation and with approval of Environmental Specialist of DSC. The following precautionary measures shall be taken to preserve them till they are used: (a) Stockpile shall be designed such that the slope does not exceed 1:2 (Vertical to horizontal), and height of the pile is restricted to 2 m. To retain soil and to allow percolation of water, silt fencing shall protect the edges of the pile. (b) Stockpiles shall not be surcharged or otherwise loaded and multiple handling shall be kept to a minimum to ensure that no compaction shall occur. The stockpiles shall be covered with gunny bags or vegetation. (c) It shall be ensured by the Contractor that the topsoil shall not be unnecessarily trafficked either before stripping or when in stockpiles. Such stockpiled topsoil shall be utilized for – ➤ Covering all disturbed areas including borrow areas, only in case where they are to be rehabilitated. ➤ Dressing of slopes of road embankment/agricultural fields of farmers acquired temporarily land.	At all construction material storage areas	MoRTH: 301.3.2 MoRTH: 301.7 MoRTH: 305.3.3 and MoRTH: 305.3.9	Contractor	Environmental Specialist of DSC, PMU
C.1.5	Accessibility	The Contractor shall provide safe and convenient passage for vehicles, pedestrians and livestock to and from roadsides and property access connecting the project road, providing temporary connecting road. The Contractor shall also ensure that the existing accesses shall not be undertaken without providing adequate provisions. The Contractor shall take care that the cross roads are constructed in such a sequence that construction work on the adjacent cross roads are taken up one after one so that traffic movement in any given area not get affected much.	Throughout the project corridor		Contractor	Environmental Specialist of DSC, PMU
C.1.6	Planning for traffic diversions and detours	Temporary diversions shall be constructed with the approval of the Resident Engineer and Environmental Specialist of DSC. Detailed Traffic Control Plans shall be prepared by the Contractor and approved by Environmental Specialist and Resident Engineer of DSC seven days prior to commencement of works on any section of road. The Traffic Control Plans shall contain details of temporary diversions, traffic safety arrangements for construction under traffic, details of traffic arrangement after cessation of work each day, safety measures for night time traffic and precaution for transportation of hazardous materials and arrangement of flagmen. The contractor shall ensure that the diversion/detour is always maintained in running condition,	Throughout the project corridor especially at intersections and settlements and schools	MoRTH: 112 and its Amendments	Contractor	Environmental Specialist and Resident Engineer of DSC, EO, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		particularly during the monsoon to avoid disruption to traffic flow. The Contractor shall also inform local community of changes to traffic routes, conditions and pedestrian access arrangements with assistance from DSC and UEAP. The temporary traffic detours shall be kept free of dust by sprinkling of water three times a day and as required under specific conditions (depending on weather conditions, construction in the settlement areas and volume of traffic).				
C.2		Procurement of Construction Material				
C.2.1	Earth from Borrow Areas for Construction	No borrow area shall be opened without permission of the Environmental Specialist of DSC. The location, shape and size of the designated borrow areas shall be as approved by the Environmental Specialist of DSC and in accordance to the IRC recommended practice for borrow pits for road embankments (IRC: 10: 1961). The borrowing operations shall be carried out as specified in the guidelines for siting and operation of borrow areas. The unpaved surfaces used for the haulage of borrow materials, if passing through the settlement areas or habitations; shall be maintained dust free by the Contractor. Sprinkling of water shall be carried out twice a day to control dust along such roads during their period of use. During dry seasons (winter and summer) frequency of water sprinkling shall be increased in the settlement areas and Environmental Specialist of DSC shall decide the sprinkling time depending on the local requirements. Contractor shall rehabilitate the borrow areas as soon as borrowing of soil is over from a particular borrow area in accordance with the approved Borrow Area Redevelopment Plan.	All borrow areas	MoRTH: 305.2	Contractor	Environmental Specialist of DSC, PMU
C.2.2	Quarry Operations Crushers	The Contractor shall obtain materials from quarries only after consent of the Department of Mines and Geology and District Administration. In view of special situation of excavation of the hill ward side, Contractor shall get an opportunity to use the same material for road construction. This shall require establishment of a number of crushers along the roadsides. The crushers and all related activities shall be under taken as per the Policy guidelines for installation of stone Crushers.	At quarries and Crushing units.	MoRTH: 111.3	Contractor	Environmental Specialist of DSC, PMU
C.2.3	Blasting	Except as may be provided in the contract or ordered or authorized by the Engineer, the Contractor shall not use explosives. Where the use of explosives is so provided or ordered or authorized, the Contractor shall comply with the requirements of the following Sub-Clauses of MoRTH 302 besides the law of the land as applicable. The Contractor shall at all times take every possible precaution and shall comply with appropriate laws and regulations relating to the importation, handling, transportation, storage and use of explosives. The contractor shall at all times when engaged in blasting operations, post sufficient warning flagmen, to the full satisfaction of the Engineer. The Contractor shall at all times make full liaison with and inform well in advance and obtain such permission as is required from all Government Authorities, public bodies and private parties whomsoever concerned or affected or likely to be concerned or affected by blasting operations. Blasting shall be carried out only with permission of the Engineer. All the statutory laws, regulations, rules etc., pertaining to acquisition, transport, storage, handling and use of explosives shall be strictly followed. Blasting shall be carried out during fixed hours (preferably during mid-day) or as permitted by the Engineer. The timing should be made known to all the people within 1000m (200m for pre-splitting) from the blasting site in all directions.	Quarry sites	Sub-Clauses of MoRTH 302,4 301.9 (i) 304.5	Contractor	Environmental Specialist of DSC, PMU
C.2.4	Transporting Construction Materials and Haul Road Management	Contractor shall maintain all roads (existing or built for the project), which are used for transporting construction materials, equipment and machineries as précised. All vehicles delivering fine materials to the site shall be covered to avoid spillage of materials. All existing roads used by vehicles of the Contractor or any of his subcontractor or suppliers of materials and similarly roads, which are part of the works, shall be kept clear of all dust/mud or other extraneous materials dropped by such vehicles. Contractor shall arrange for regular water sprinkling as necessary for dust suppression of all such roads and surfaces.	All roads used for haulage of construction materials	As per IRC guidelines and contract documents	Contractor	Environmental Specialist of DSC, PMU
C.2.5	Construction Water	Contractor need to implement the finally approved contractors Construction Water Management Plan as per the guidelines provided in Appendix 11. This is linked to the contractor's work plan. Contractor shall arrange adequate supply and storage of water for the whole construction period at his own cost. The contractor shall submit a list of source/s from where water shall be used for the project to DSC and UEAP. The Contractor shall source the requirement of water preferentially by conjunctive use of Surface water and groundwater but with prior permission from the Groundwater Authority. A copy of the permission	Throughout the project corridor	Environmental Protection Act 1986 and MoRTH Spec. for Roads and Bridges	Contractor	Environmental Specialist of DSC, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		shall be submitted to DSC and UEAP prior to initiation of construction. The Contractor shall take all precaution to minimize the wastage of water in the construction process/operation.				
C.3		Construction Work				
C.3.1	River training and disruption to other users of water	While working across or close to any perennial water bodies, Contractor shall not obstruct/prevent the flow of water. Construction over and close to the non-perennial streams shall be undertaken in the dry season. If construction work is expected to disrupt users of community water bodies, notice shall be served well in advance to the affected community.	Near major cross drainage structures (River crossings)	MoRTH:304.3.2	Contractor	Environmental Specialist of DSC, PMU
C.3.2	Drainage and flood control	Contractor shall ensure that no construction materials like earth, stone, or appendage disposed off in a manner that block the flow of water of any water course and cross drainage channels. Contractor shall take all necessary measures to prevent any blockage to the water flow. In addition to the design requirements, the Contractor shall take all required measures as directed by the Environmental Specialist of DSC to prevent temporary or permanent flooding of the site or any adjacent area.	Construction sites of cross drainage structures	MoRTH:305.3.7 MoRTH:306	Contractor	Environmental Specialist of DSC, PMU
C.3.3	Siltation of water bodies and degradation of water quality	The Contractor shall not excavate beds of any stream/canals/any other water body for borrowing earth for embankment construction. Contractor shall construct silt fencing at the base of the embankment construction for the entire perimeter of any water body (including springs and wells) adjacent to the project road and around the stockpiles at the construction sites including ancillary sites close to water bodies. The fencing shall be provided prior to commencement of earthwork and continue till the stabilization of the embankment slopes, on the particular sub-section of the road. Contractor shall ensure that construction materials containing fine particles are stored in an enclosure such that sediment-laden water does not drain into nearby watercourse.	Construction sites of cross drainage structures	MoRTH:06	Contractor	Environmental Specialist of DSC, PMU
C.3.4	Slope protection and control of soil erosion	All temporary sedimentation control works and maintenance thereof shall be deemed as incidental to the earth work or other items of work and as such no separate payment shall be made for them. Contractor shall ensure the following aspects: ➤ After construction of road embankment, the side slopes shall be covered with grass and shrubs (refer Appendix-7 and 14) as per design specifications. ➤ Turfing works shall be taken up as soon as possible provided the season is favorable for the establishment of grass sods. Other measures of slope stabilization shall include mulching netting and seeding of batters and drains immediately on completion of earthworks. ➤ In borrow pits, the depth shall be so regulated that the sides of the excavation shall have a slope no steeper than 1 vertical to 2 horizontal, from the edge of the final section of the bank. ➤ Along sections abutting water bodies, pitching as per design specification shall protect slopes.	At bridge approaches; high embankment sections (Low lying areas) and borrow pits	MoRTH: 305.2.2.2 MoRTH: 306.2	Contractor	Environmental Specialist of DSC, PMU
C.4		Pollution				
C.4.1		Water Pollution				
C.4.1.1	Water Pollution from Construction Wastes	The Contractor shall take all precautionary measures to prevent entering of wastewater into streams, water bodies or the irrigation system during construction. Contractor shall avoid construction works close to the streams or water bodies during monsoon. Contractor shall not wash his vehicles in river water and shall not enter riverbed for that purpose.	At all surface water bodies intercepting with the project corridor	MoRTH: 111.4 MoRTH: 111.1	Contractor	Environmental Specialist of DSC, PMU
C.4.1.2	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations, fuel/lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 500 m away from rivers and irrigation canal/ponds. The Contractor shall submit all locations and layout plans of such sites prior to their establishment and shall be approved by the Environmental Specialist of DSC. Contractor shall ensure that all vehicle/machinery and equipment operation, maintenance and refueling shall be carried out in such a manner that spillage of fuels and lubricants does not contaminate the ground. Wastewater from vehicle parking, fuel storage areas, workshops, wash down and refueling areas shall be treated in an oil interceptor before discharging it on land or into surface water bodies or into other treatment system. In all, fuel storage and refueling areas, if located on agricultural land or areas supporting vegetation, the topsoil shall be stripped, stockpiled and returned after cessation of such storage. Contractor shall arrange for collection, storing and disposal of oily wastes to the pre-identified disposal sites (list to be submitted to DSC and UEAP) and approved by the Environmental Specialist of DSC. All spills and collected petroleum wastes shall be disposed off in accordance with Petroleum Rules and	At all surface water bodies intercepting with the project corridor; refueling stations and construction camps	MoRTH: 111.4 MoRTH: 111.1 (Oil Interceptors) Petroleum Act and Rules MoEF/CPCB Notifications	Contractor	Environmental Specialist of DSC, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		PCB guidelines.				
C.4.2	Air Pollution					
C.4.2.1	Dust Pollution	<p>The Contractor shall take every precaution to reduce the level of dust from construction plants, construction sites involving earthwork by sprinkling of water, encapsulation of dust source. Due to the acute water scarcity in certain areas, Contractor should limit water sprinkling once in the early morning hours. Contractor should erect warning boards on dust nuisance to the road users. The Contractor shall procure the construction plants and machinery, which shall conform to the pollution control norms specified by MoEF/CPCB/UEPPCB.</p> <p>The concentration of suspended particulate matter at a distance of 40m from a construction plant located in a cluster of industries should be less than 500 µg. The environmental monitoring is to be conducted as per the monitoring plan.</p> <p>Alternatively, only crushers licensed by the UEPPCB shall be used. The Environmental Specialist, EO and UEAP through the Engineer shall submit required certificates and consents.</p>	Construction sites and construction establishment such as batching plants, hot mix plants	MoRTH:111.1 MoRTH:111.5 MoRTH:111.9 MoRTH:111.10 Contract Agreement	Contractor	Environmental Specialist of DSC, EO, PMU through Engineer
C.4.2.2	Emission from Construction Vehicles, Equipment and Machineries	<p>Contractor shall ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that pollution emission levels comply with the relevant statutory requirements of CPCB and/Motor Vehicles Rules.</p> <p>The Contractor shall submit PUC certificates for all vehicles/equipment/machinery used for the Project.</p>	The Air (prevention and control of pollution) Act, 1981 and EPA, 1986	Annexure 'A' to MoRTH 501	Contractor	Environmental Specialist of DSC, PMU
C.4.3		Noise Pollution				
C.4.3.1	Noise Pollution: Noise from Vehicles, Plants and Equipments	<p>The Contractor shall confirm the following:</p> <ul style="list-style-type: none"> ➤ All Construction plants and equipment used in construction shall strictly conform to the MoEF/CPCB noise standards. ➤ All Vehicles and equipment used in construction shall be fitted with exhaust silencers. ➤ Servicing of all construction vehicles and machinery shall be done regularly and during routine servicing operations, the effectiveness of exhaust silencers shall be checked and if found defective shall be replaced. ➤ The equipment available in the market should be procured, if the Contractor plans to purchase new equipment. For the old equipment, necessary or possible alterations must be carried out to reduce the noise levels to the possible extent. ➤ Maintenance of vehicles, equipment and machinery shall be regular and up to the satisfaction of the Environmental Specialist of DSC to keep noise levels at the minimum. <p>At the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night time between 10.00 pm to 6.00 am. Working hours of the construction activities shall be restricted around educational institutions/Health Centers (silent zones) up to a distance of 100 m from the sensitive receptors i.e., School, Health Centers and Hospitals etc.</p> <p>Contractor shall provide noise barriers to the suggested locations of select Schools.</p> <p>Noise monitoring shall be carried out at the locations specified in monitoring plan by the UEAP and the Engineer through the approved monitoring agency.</p>	Through out the project corridor and other construction establishments	The noise pollution (regulation and control) rules, 2000	Contractor	Environmental Specialist of DSC, PMU
C.5		Safety				
C.5.1	Personnel Safety Measures for Labour	<p>Contractor shall provide:</p> <ul style="list-style-type: none"> ➤ Protective footwear, protective goggles and nose masks to the workers employed in asphalt works, concrete works, crusher etc. ➤ Welder's protective eye-shields to workers who are engaged in welding works ➤ Earplugs to workers exposed to loud noise, and workers working in crushing or compaction ➤ The Contractor shall comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. <p>The Contractor shall comply with all the precautions as required for ensuring the safety of the workmen as per the International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this contract.</p> <p>The Contractor shall make sure that during the construction work all relevant provisions of Building and other Construction Workers (regulation of Employment and Conditions of Services) Act, 1996 are adhered to.</p> <p>The Contractor shall not employ any person below the age of 14 years for any work and no woman shall be employed on the work of painting with products containing lead in any form</p> <p>The Contractor shall also ensure that paint containing lead or lead products is used except in the form of paste or readymade paint.</p>	Throughout the project corridor and construction phase of the project	Building and other Construction Workers (regulation of Employment and Conditions of Services) Act, 1996;	Contractor	Environmental Specialist of DSC, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
C.5.2	Traffic and Safety	The Contractor shall take all necessary measures for the safety of traffic during construction and provide erect and maintain such barricades, including signs, markings, flags, lights and flagmen as proposed in the Traffic Control Plan/Drawings and as required by the Environmental Expert of DSC for the information and protection on traffic approaching or passing through the section of any existing cross roads. The Contractor shall ensure that all signs, barricades, pavement markings are provided as per the MoRTH specifications. Before taking up of construction on any section of the existing lanes of the highway, a Traffic Control Plan shall be devised and implemented to the satisfaction of the Environmental Expert of DSC.	Throughout the project corridor especially at intersections and settlements	MoRTH: 112.4 MoRTH: 112.1 IRC: SP:55	Contractor	Environmental Specialist of DSC, PMU
C.5.3	Risk from electrical equipments	The Contractor shall take all required precautions to prevent danger from electrical equipment and ensure that – ➤ No material shall be so stacked or placed as to cause danger or inconvenience to any person or the public. ➤ All necessary fencing and lights shall be provided to protect the public in construction zones. All machines to be used in the construction shall conform to the relevant Indian Standards (IS) codes, shall be free from patent defect, shall be kept in good working order, shall be regularly inspected and properly maintained as per IS provision and to the satisfaction of the Environmental Expert of DSC.	Construction sites and storage areas	The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996 and Factories Act, 1948	Contractor	Environmental Specialist of DSC, PIU
C.5.4	Risk force measure	Contractor shall take all reasonable precautions to prevent danger to the workers and public from fire, flood etc. resulting due to construction activities. Contractor shall make required arrangements so that in case of any mishap all necessary steps can be taken for prompt first aid treatment. Construction Safety Plan prepared by the Contractor shall identify necessary actions in the event of an emergency.	Throughout the construction phase	Contract Agreement and Annexure 'A' to MoRTH Clause 501	Contractor	Environmental Specialist of DSC, PMU
C.5.6	First Aid	The Contractor shall arrange for – A readily available first aid unit including an adequate supply of sterilized dressing materials and appliances as per the Factories Rules in every work zone. Availability of suitable transport at all times to take injured or sick person(s) to the nearest hospital. Equipment and trained nursing staff at construction camp.	Construction sites; labour camps and construction establishments	The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996	Contractor	Environmental Specialist of DSC, PMU
C.5.7	Informatory Signs and Hoardings	The Contractor shall provide, erect and maintain informatory/safety signs, hoardings written in English and local language, wherever required or as suggested by the Environmental Specialist of DSC.	Construction sites and construction establishments	MoRTH:801 MoRTH:802	Contractor	Environmental Specialist of DSC, PMU
C.6		Flora and Fauna: Plantation/Preservation/Conservation Measures				
C.6.1	Road side Plantation Strategy	The Contractor shall do turfing on embankment slopes, plantation of shrubs as specified in the Contract. The compensatory plantation shall be carried out by the State Forest Department. Minimum 80 percent survival rate of the saplings shall be acceptable otherwise the Contractor/Forest Department shall replace dead plants at his own cost. The Environmental Specialist of DSC shall inspect regularly the survival rate of the trees planted by the Contractor in accordance with the plantation strategy suggested.	Throughout the length of project corridor	As per the contract document and MoRTH 301.3.3	Contractor	Environmental Specialist of DSC, PMU
C.6.2	Flora and chance found Fauna	The Contractor shall take reasonable precaution to prevent his workmen or any other persons from removing and damaging any flora (plant/vegetation) and fauna (animal) including fishing in any water body and hunting of any animal. If any animal is found near the construction site at any point of time, the contractor shall immediately upon discovery thereof acquaint in the Environmental Specialist of DSC and carry out his instructions for dealing with the same. Environmental Specialist of DSC shall report to the nearby forest office (range office or divisional office) and shall take appropriate steps/measures, if required in consultation with the forest officials.	Throughout project corridor especially near forest stretches including surface water bodies		Contractor	Environmental Specialist of DSC, PMU
C.6.3	Chance Found Archaeological Property	All fossils, coins, articles of value of antiquity, structures and other remains of archaeological interest discovered on the site shall be the property of the Government and shall be dealt with as per provisions of the relevant legislation. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing and damaging any such article or thing. He shall, immediately upon discovery thereof and before removal acquaint the Environmental Specialist of DSC of such discovery and carry out the DSC's instructions for dealing with the same, waiting which all work shall be stopped. The DSC shall seek direction from the Archaeological Survey of India (ASI) before instructing the Contractor to recommence the work in the site. The Archaeological structures identified along the road sides should be protected/preserved or enhanced as per the law.	Throughout project corridor	The Ancient Monuments and Archaeological Sites and Remains Act, 1958	Contractor	Environmental Specialist of DSC, PMU
C.7.1	Accommodation	Contractor shall follow all relevant provisions of the Building and the other Construction Workers	Labour camps	The Building and	Contractor	Environmental

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		(Regulations of Employment and Conditions of Service) Act, 1996 for construction and maintenance of labour camp. The location, layout and basic facility provision of each labour camp shall be submitted to DSC and UEAP prior to their construction. The Construction shall commence only upon the written approval of the Environmental Specialist of DSC. The Contractor shall maintain necessary living accommodation and ancillary facilities in functional and hygienic manner and as approved by the DSC.		Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996		Specialist of DSC, PMU
C.7.2	Potable Water	The Contractor shall construct and maintain all labour accommodation in such a fashion that uncontaminated water is available for drinking, cooking and washing. The Contractor shall also provide potable water facilities within the premises of every camp at an accessible place, as per standards set by the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. The Contractor shall also guarantee the following: a) Supply of sufficient quantity of Potable Water (as per IS) in every workplace/labour camp (Site at suitable and easily accessible places and regular maintenance of such facilities. b) If any water storage tank is provided that shall be kept such that the bottom of the tank at least 1 m above the surrounding ground level. c) If water is drawn from any existing well, which is within 30 m proximity of any toilet, drain or other source of pollution, the well shall be disinfected before water is used for drinking. d) All such wells shall be entirely covered and provided with a trap door, which shall be dust proof and water proof. e) A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection, which shall be done at least once in a month. f) Analysis of water shall be done every month as per parameters prescribed in IS 10500-2012. Environmental Specialist of DSC shall be required to inspect the labour camp once in a week to ensure the compliance of the EMMP	Construction site, Labour camp	The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996	Contractor	Environmental Specialist of DSC, PMU
C.7.3	Sanitation and Sewage System	The Contractor shall ensure that – ➤ The Sewage system for the camp are designed, built and operated in such a manner that no health hazards occurs and no pollution to the air, ground water or adjacent water courses take place ➤ Separate toilets/bathrooms, wherever required, Screened from those form men (marked in vernacular) are to be provided for women ➤ Adequate water supply is to be provided in all toilets and urinals ➤ Night soil can be disposed of with the help of local municipal extractor or disposed of by putting layer of it at the bottom of a permanent tank prepared for the purpose and covered with 15 cm layer of waste or refuse and then covered with a layer of earth for fortnight.	Labour camps	The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act, 1996 MoRTH:114.14	Contractor	Environmental Specialist of DSC, PMU
C.7.4	Waste Disposal	The Contractor shall provide garbage bins in the camps and ensure that these are regularly emptied and disposed off in a hygienic manner as per the Comprehensive Solid Waste Management Plan approved by the Environmental Specialist of DSC.	Labour camps	Annexure 'A' to MoRTH Clause 501	Contractor	Environmental Specialist of DSC, PMU
C.8		Contractor's Demobilization				
C.8.1	Environmental Conditions	The UEAP shall undertake seasonal monitoring of air, water and noise and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring as well as the locations to be monitored shall be as per the Monitoring Plan prepared. National Standard of Air, Noise and Water given in Appendix-2.	Representative locations as directed by Environmental Engineer, DSC.	Environmental Protection Act, 1986	Contractor	Environmental Specialist of DSC and PMU
C.8.2	Continuous Community Participation	The Environmental Specialist of DSC shall have continuous interactions with local people around the project area to ensure that the construction activities are not causing undue inconvenience to the locals residing in the vicinity of project site under construction due to noise, dust or disposal of debris etc.	Along the project corridor		Environmental Specialist of DSC	Environmental Specialist of DSC and PMU
C.8.3	Clean-up Operations, Restoration and Rehabilitation	Contractor shall prepare site restoration plans, which shall be approved by the Environmental Specialist of DSC. The clean-up and restoration operations are to be implemented by the Contractor prior to demobilization. The Contractor shall clear all temporary structures; dispose all garbage, night soils and POL (Petroleum, Oil and Lubricants) wastes as per Comprehensive Waste Management Plan and as approved by DSC. All disposal pits or trenches shall be filled in and effectively sealed off. Residual topsoil, if any shall be distributed on adjoining/proximate barren land or areas identified by the Contractor and approved by the Environmental Specialist of DSC in a layer of thickness of 75 mm – 150 mm. All construction zones and facilities including culverts, road side areas, camps, Hot Mix plant sites, Crushers, batching plant sites	Throughout the project corridor	MoRTH 111.9, 111.10 and 111.11	Contractor	Environmental Specialist of DSC, PMU

Sl. No.	Environmental Issue	Mitigation Measures	Approximate location	Reference law/guidelines	Responsibility	
					Planning and Execution	Supervision/ Monitoring
		and any other area used/affected due to the project operations shall be left clean and tidy, at the Contractor's expense, to the entire satisfaction to the Environmental Specialist of DSC.				
C.9	Construction Activities by UEAP					
C.9.1	Tree Plantation	The plantation at the following locations shall be implemented by the UEAP through the State Forest Department; as per Appendix-7 and 8 1. Road side 2. Enhancement sites 3. Forest land 4. Community Forestation	Throughout the project corridor	The Uttar Pradesh Protection of Trees in Rural and Hill Areas Act, 1976 and amended 1998 and 2001	State Forest Department	PMU
	OPERATION STAGE					
	Activities to be Carried Out by the UEAP					
O.1	Monitoring Operation Performance	The UEAP shall monitor the operational performance of the various mitigation/enhancement measures carried out as a part of the project. The indicators selected for monitoring include the survival rate of trees; utility of enhancement provision made under the project; status of rehabilitation of borrow areas; and effectiveness of noise barriers.	Throughout the project corridor	As per the contract document	PMU	PMU
O.2	Maintenance of Drainage	PWD shall ensure that all drains (side drains, median drain and all cross drainages) are periodically cleared especially before monsoon season to facilitate the quick passage of rainwater and avoid flooding.	Throughout the project corridor		PMU	PMU
O.3	Pollution Monitoring	The periodic monitoring of the ambient air quality, noise level, water (both ground and surface water) quality, soil quality in the selected locations as suggested in pollution monitoring plan through the UEPPCB or its approved monitoring agency.	At representative locations as per the instructions of Env. Engineer	Environmental Protection Act, 1986 and The noise pollution (regulation and control) rules, 2000	Pollution Monitoring Agency	PMU
O.4	Soil Erosion and Monitoring of Borrow Areas	Visual Monitoring and inspection of soil erosion at borrow areas, quarries (if closed and rehabilitated), embankments and other places expected to be affected, shall be carried out once in every three months as suggested in monitoring plan.	Borrow areas and embankment slopes	MoRTH 305.2.2.2 and 306.3	PMU	PMU
O.5	Public awareness on Noise levels and Health Affects	However the public shall be advised to construct the noise barriers such as walls, double glazed windows and tree plantation between the roads and their property. The public awareness is necessary regarding the human health through the news papers and consultations and distribution of pamphlets during the operation stage.	Throughout the project corridor	Corporate Social Responsibility	PMU	PMU

Annexure 3: Environmental Performance Fact Sheet

Name of Contractor		
Date of Signing of Contract		
Signing of Contract		
Date of Completion		
Name of Environmental staff (Contractor) with mobile no.		
Baseline data generated		
Obtained vide No..... Dated.....	Consent to establish (CTE)	Statutory environmental compliance status
Obtained vide No..... Dated.....	Consent to operate (CTO)	
PUC vehicles		
Labour licence		
Workmen compensation Insurance		
Land owner consent for establishment of Plant site, labour camps		
Hard Hats (Helmet)	Personal Protective Equipments	
Safety Jackets		
Boots		
Gloves		
Others		
Barricading and warning signs (Y/N)		
Type of Labour Camps		
Sanitation facilities such as Toilets (Y/N)		
rDebris/Muck Disposal sites (Y/N)		
Quarry (Y/N)		
Water Sprinkling (Y/N)		
Borrow areas (Y/N)		
Air	Status of environmental monitoring	
Water		
Noise		
Soil		

Annexure 4: Public Consultation on Environmental Issues**During Construction/ Implementation**

PLACE OF CONSULTATION	
DATE OF CONSULTATION	
PROJECT NAME	
PACKAGE NO.	
NAME OF THE FIELD SUPERVISORS	
NAME OF THE PERSONS	
ADDRESS	

S.No.	POINTS DISCUSSED	REMARKS
01.		
02.		
03.		
04.		
05.		
06.		
07.		
08.		
09.		
10.		

Consultation Summary**Participants**

Annexure 5: Sample Grievance Registration Form

(To be available in Hindi and English or local language, if any)

The **Uttarakhand Emergency Assistance Project (UEAP)** welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date		Place of registration			
Contact Information/Personal Details					
Name		Gender	Male Female	Age	
Home Address					
Village / Town					
District					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below: If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
If – then mode: <input type="checkbox"/> Note/Letter <input type="checkbox"/> E-mail <input type="checkbox"/> Verbal/Telephonic	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Means of Disclosure:	

GRIVENCES RECORD AND ACTION TAKEN

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks

परिशिष्ट 6: नमूना शिकायत पंजीकरण फार्म

(हिंदी, उर्दू और अंग्रेजी या स्थानीय भाषा में उपलब्ध हो, यदि कोई हो,)

UEAP शिकायतें, सुझाव, प्रश्नों और परियोजना के कार्यान्वयन के बारे में टिप्पणियों का स्वागत करता है¹ हम लोगों को शिकायत के साथ उनके नाम और संपर्क जानकारी प्रदान करने के लिए प्रोत्साहित करते हैं ताकि हम स्पष्टीकरण और प्रतिक्रिया के लिए आप के साथ संपर्क कर सकें 1

आपको अपने व्यक्तिगत विवरण शामिल करने चाहिए लेकिन उस जानकारी को गोपनीय रखा जायगा¹ आपका नाम ऊपर (गोपनीय) * लेखन / टाइपिंग द्वारा हमें सूचित करें धन्यवाद

तारीख			पंजीकरण का स्थान		
संपर्क करने संबंधी जानकारी / व्यक्तिगत विवरण					
नाम		लिंग	पुरुष/महिला	आयु	
घर का पता					
गांव / शहर					
जनपद					
फोन नं.					
ई मेल					
शिकायत / सुझाव / टिप्पणी / प्रश्न नीचे अपनी शिकायत का विवरण (जो, क्या, कहां और कैसे) प्रदान करें:					
सलगनक / नोट / पत्र के रूप में, शामिल हैं, कृपया यहाँ टिक करें					
हम आप तक प्रतिक्रिया के लिए कैसे पहुँच सकते हैं या अपनी टिप्पणी / शिकायत पर नवीनीकरण?					

केवल कार्यालय उपयोग के लिए

द्वारा पंजीकृत: (सरकारी पंजीकरण शिकायत का नाम)						
यदि -फिर विधि:						
<input type="checkbox"/> नोट / पत्र		<input type="checkbox"/> ई मेल		<input type="checkbox"/> मौखिक / टेलीफोन		
से समीक्षित: (नाम / अधिकारी की पोजिशन समीक्षा शिकायत)						
की गई कार्रवाई:						
की गई कार्रवाई का खुलासा:				<input type="checkbox"/> हां		<input type="checkbox"/> नहीं
प्रकटीकरण का मतलब:						
शिकायत रिकॉर्ड और की गई कार्रवाई क्रम संख्या	तारीख	नाम और complainer का संपर्क नंबर	शिकायत के प्रकार	जगह	निवारण की स्थिति	टिप्पणियाँ

Annexure 7: Environmental Baseline Monitoring Data
Ambient Air Quality Analysis Results

Pkg. Road	Laboratory	Date of Monitoring	Location	PM10.5 (ug/m3)	PM2.5 (ug/m3)	SOx (ug/m3)	Nox (ug/m3)	CO (mg/m3)	Pb	HC
C-5	NewCon	17.11.2014	Bhugani ay 27 Km (Pauri)	56.0		14.0	28.0	0.16	-	-
C-7a	M.E Testing	29.09.2014	Nandprayag-Ghat (Ch 10+500)	79.1	53.2	16.2	11.5	N.D	-	-
		29.09.2014	Nandprayag-Ghat (Ch 16+200)	78.9	53.5	15.5	11.3	N.D	-	-
C-7b		2.10.2014	Rudraprayag Pokhari karanprayag (Km 8+400)	79.2	53.6	16.1	12.0	N.D	-	-
		2.10.2014	Rudraprayag Pokhari karanprayag (Km 13+300)	78.6	53.4	15.6	11.9	N.D	-	-
C-8	M.E Testing	06.10.2014	Chamoli Kund Ch. 21+500	79.0	53.3	15.8	11.7	N.D	-	-
		06.10.2014	Chamoli Kund Ch. 30+750	79.3	53.8	16.4	12.1	N.D	-	-
C-9	M.E Testing	08.10.2014	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 10+350	78.7	53.1	15.8	11.5	N.D	-	-
		08.10.2014	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 16+800	78.4	53.0	15.2	11.3	N.D	-	-
C-20	NewCon	10.12.2014	Joshimath Auli Motor Road (Ch. 7+900)	54.0	-	9.0	22.0	0.16	-	-
C-21	NewCon	06.12.2014	Narsingh Mandir Approach Road (Ch. 2+700)	58.0	-	12.0	25.0	0.2	-	-
C21b	Newcon	08.12.2014	Karanprayag Nagar panchayat (Km 3.135)	63.0	-	12.0	27.0	0.23	-	-
C29	M.E Testing	17.10.2014	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 15+750	78.9	53.4	15.9	11.6	N.D	-	-
		17.10.2014	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 35+200	78.7	53.8	16.4	11.9	N.D	-	-
C30	M.E Testing	10.01.2015	Sonprayag Triyuginarayan Ch. 4+40	74.8	53.6	16.7	12.8	N.D	-	-
		10.01.2015	Sonprayag Triyuginarayan Ch. 0+13	74.6	53.9	16.2	12.4	N.D	-	-
C31	NewCon	4.12.2014	Makku-Paldwari Motor Road (10+350)	65.0	-	11.0	22.0	0.15	-	-
C32	NewCon	2.12.2014	Rudraprayag Pokhari karanprayag (Km 6+125)	62.0	-	9.0	24.0	0.18	-	-
C33	M.E Testing	17.10.2014	Thrali Dewal Mundoli CH. 15+200	78.7	53.3	15.6	11.2	N.D	-	-
		17.10.2014	Thrali Dewal Mundoli CH. 17+850	79.5	53.6	16.3	11.7	N.D	-	-
C-34	Not yet submitted								-	-
C35	M.E Testing	20.10.2014	Buwakhal Pauri Devprayag Gaja Jajal Ch. 10+350	79.2	53.4	16.4	11.4	N.D	-	-
		20.10.2014	Buwakhal Pauri Devprayag Gaja Jajal Ch. 15+200	78.7	53.4	16.2	11.8	N.D	-	-
		20.10.2014	Buwakhal Pauri Devprayag Gaja Jajal Ch. 25+100	78.8	53.5	16.0	11.7	N.D	-	-
		22.10.2014	Buwakhal Pauri Devprayag Gaja Jajal Ch. 40+500	79.4	53.7	16.5	11.3	N.D	-	-
C-40	Newcon	01-12-2014	Khanda- Sumari-Bhugani	53.7	-	10.0	14.0	0.04	-	-
		01-12-2014	Khanda- Sumari-Bhugani (Near Rd Side NH-119)	64.9	-	14.0	19.0	0.06	-	-
		02-12-2014	Khanda- Sumari-Bhugani (Near Village Chandi About 4 Km from plant)	54.0	-	6.0	8.0	0.01	-	-
		02-12-2014	Khanda- Sumari-Bhugani (Near Village Khanda About 1 Km from plant)	42.0	-	4.0	6.0	0.02	-	-
C-51	Not yet submitted				-				-	-
C-65a	M.E Testing	10-13/03/2015	Bhugadhi Develagrh Chamdhar Motor Road (Ch. 2.340 Village Bhatoli)	77.3	53.3	15.2	13.5	<0.01	N.D	N.E
		10-13/03/2015	Bhugadhi Develagrh Chamdhar Motor Road (Ch. 13+28 Village Chamdhar)	77.5	53.4	15.5	13.3	<0.01	N.D	N.E
C-65b		09-12/03/2015	Khirsu-Musagli-Damdevel Motor Road (Km 8+020 Village Thandar)	76.9	52.8	15.0	13.2	<0.01	N.D	N.E
		09-12/03/2015	Khirsu-Musagli-Damdevel Motor Road (Km 14+500 Village Bidoli)	77.1	53.0	15.1	13.0	<0.01	N.D	N.E
C-66	M.E Testing	03-06/03/2015	Rikhnikhal-Beerokhal Motor Road (Km 79+110)	77.7	53.4	15.0	13.2	<0.01	N.D	N.E
		03-06/03/2015	Rikhnikhal-Beerokhal Motor Road (Km 80+470)	77.2	53.6	15.3	13.5	<0.01	N.D	N.E

Ambient Air Quality Analysis Results

Pkg. Road	Laboratory	Date of Monitoring	Location	PM10 / RSPM (ug/m3)	PM2.5 (ug/m3)	SPM (ug/m3)	SO ₂ (ug/m3)	No ₂ (ug/m3)	CO (mg/m3)
C-13	Newcon Consultants & Laboratories	22-11-2014	Pilkhi-Gadoliya Motor Road	64	-	-	12.0	22.6	0.16
			Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	-	-	-	-	-	-
C-39	M.E. Testing Laboratory	04-12-2014	Gaza-Nakot Motor Road (11+250)	78.2	53.5	-	15.8	11.5	N.D
C-23	-	-	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	-	-	-	-	-	-
C-24	-	-	Kalsi-Bairatkhai	-	-	-	-	-	-
C-38	Scientific Age Research & Testing Lab Pvt. Ltd.	20-11-2014	Ichari-Kwano-Meenus (Km0+000)	51.6	-	392	10.5	24.2	906
		20-11-2014	Ichari-Kwano-Meenus (Km 14+840)	57.2	-	401	11.2	23.2	948
C-14	-	-	Kuwa-Kafnaul Rahdi Motor Road	-	-	-	-	-	-

Water Analysis Results

Package Road	Location	Type	Date of Monitoring	Colour (Hazen)	Tour	Taste	Turbidity (NTU)	pH	Total Hardness (mg/lit.)	Iron (Fe) (mg/lit.)	Chloride (Cl) (mg/lit.)	Residual Free Chlorine (RFC) (mg/lit.)	Sulphate (SO4) (mg/lit.)	Total Alkalinity (mg/lit.)	Fluoride (F) (mg/lit.)	Total Dissolve Solid (TDS) (mg/lit.)	Calcium (Ca)	Nitrate (NO3)	Iron (B)	Others	Total Suspended Solid (TSS)	OD (mg/lit at 27 C)	OD (mg/lit)	Bilirubin	Freeze	Total Coliform (MPN)	Organism	Coli	
C5	Bhugani at 27 Km (Pauri)	Ground Water	24.11.2014	<5	Unobjectionable	Agreeable	<1	7.21	86	0.1	29	nil	7.2	106	0.21	273	-	-	-	-	-	-	-	-	-	-	-	-	-
C-7a	Nandprayag-Ghat (Ch 10+500)	Drinking Water	29.09.2014	<5	Agreeable	-	Nil	7.6	166	Nil	71	-	-	-	0.77	384	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Nandprayag-Ghat (Ch 16+200)	Drinking Water	29.09.2014	<5	Agreeable	-	Nil	7.8	165	Nil	73	-	-	-	0.78	385	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-7a	Rudraprayag Pokhari karanprayag (Km 8+400)	Drinking Water	2.10.2014	<5	Agreeable	-	Nil	7.7	168	Nil	71	-	-	-	0.76	381	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Rudraprayag Pokhari karanprayag (Km 13+300)	Drinking Water	2.10.2014	<5	Agreeable	-	Nil	7.5	164	Nil	70	-	-	-	0.79	383	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-8	Chamoli Kund Ch. 21+500	Drinking Water	06.10.2014	<5	Agreeable	-	Nil	7.8	167	Nil	73	-	-	-	0.8	384	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Chamoli Kund Ch. 30+750	Drinking Water	06.10.2014	<5	Agreeable	-	Nil	7.6	169	Nil	70	-	-	-	0.78	383	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-9	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 10+350	Drinking Water	08.10.2014	<5	Agreeable	-	Nil	7.8	169	Nil	73	-	-	-	0.78	385	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 16+800	Drinking Water	08.10.2014	<5	Agreeable	-	Nil	7.4	165	Nil	72	-	-	-	0.78	381	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-20	Joshimath Auli Motor Road (Ch. 7+900)	Ground Water	10.12.2014	<5	Agreeable	-	<1	7.18	61	0.11	22.5	Nil	7.6	115	0.14	245	-	-	-	-	-	-	-	-	-	<2	N.D		
C-21a	Narsingh Mandir Approach Road (Ch. 2+700)	Ground Water	6.12.2014	<5	Unobjectionable	Agreeable	<1	7.18	65	0.11	21.6	Nil	9.2	112	0.12	236	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C21b	Karanprayag Nagar panchayat (Km 3.135)	Ground Water	8.12.2014	<5	Unobjectionable	Agreeable	<1	7.23	68	0.11	24.6	Nil	8.2	124	0.18	253	-	-	-	-	-	-	-	-	-	<2	Absent		
C29	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 15+750	Drinking Water	17.10.2014	<5	Agreeable	-	Nil	7.5	165	Nil	68	-	-	-	0.74	379	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 35+200	Drinking Water	17.10.2014	<5	Agreeable	-	Nil	7.6	166	Nil	69	-	-	-	0.76	380	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C30	Sonprayag Triyuginarayan Ch. 1+07	Drinking Water	10.01.2015	<5	Agreeable	-	Nil	7	164	Nil	69	-	-	-	0.68	380	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Sonprayag Triyuginarayan Ch. 4+32	Drinking Water	10.01.2015	<5	Agreeable	-	Nil	7.5	166	Nil	69	-	-	-	0.67	380	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C31	Makku-Paldwari Motor Road (10+350)	Ground Water	4.12.2014	<5	Unobjectionable	Agreeable	<1	7.1	72	0.11	18.4	Nil	8.4	124	0.12	242	-	-	-	-	-	-	-	-	-	<2	Absent		
C32	Rudraprayag Pokhari karanprayag (Km 6+125)	Ground Water	2.12.2014	<5	Unobjectionable	Agreeable	<1	7.24	68	0.1	22.6	Nil	7.2	118	0.12	256	-	-	-	-	-	-	-	-	-	<2	Absent		
C33	Thrali Dewal Mundoli CH. 15+200	Drinking Water	17.10.2014	<5	Agreeable	-	Nil	7.5	165	Nil	72	-	-	-	0.86	387	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Thrali Dewal Mundoli CH. 17+850	Drinking Water	17.10.2014	<5	Agreeable	-	Nil	7.7	168	Nil	73	-	-	-	0.81	382	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-34	Not yet submitted																												
C-35	Buwakhal Pauri Devprayag Gaja Jajal Ch. 10+350	Drinking Water	18.10.2014	<5	Agreeable	-	Nil	7.5	163	Nil	67	-	-	-	0.72	378	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
	Buwakhal Pauri Devprayag Gaja Jajal Ch. 15+200	Drinking Water	18.10.2014	<5	Agreeable	-	Nil	7.7	168	Nil	73	-	-	-	0.79	384	-	-	-	-	-	-	-	-	-	-	N.D	N.D	
C-40	Khanda- Sumari-Bhugani (From Village Khanda, 1 Km from Site)	From Hand Pump (Ground Water)	2.12.2014	<5	Unobjectionable	Agreeable	<1	7.06	42	0.06	4.6	Nil	0.56	14.2	0.05	56	-	-	-	-	-	-	-	-	-	-	-	-	
	Khanda- Sumari-Bhugani (From Khanda River About 50 away from plant site)	Waste Water	1.12.2014	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	10.1	4.1	12	N.D	-	-	-		
C-51	Not yet submitted																												
C-65a	Bhugadhi Develagr Chamdhar Motor Road (Ch. 2.340 Village Bhatoli)	Drinking Water	10-18/03/2015	3	Agreeable	Agreeable	2.5	7.8	139	0.02	14	N.D	8.2	39	0.2	166	28.9	3.6	0.01	N.D	-	-	-	-	-	-	-	-	
	Bhugadhi Develagr Chamdhar Motor Road (Ch. 9 Village Rampur Chowk)	Drinking Water	10-18/03/2015	3	Agreeable	Agreeable	2.7	7.6	136	0.02	14	N.D	8.3	36	0.2	164	28.4	3.5	0.01	N.D	-	-	-	-	-	-	-	-	
C-65a	Khirsu-Musagli-Damdevel Motor Road (Km 8+020 Village Thandar)	Drinking Water	09-17/03/2015	2	Agreeable	Agreeable	2.5	7.6	138	0.02	17	N.D	8.6	39	0.1	170	28.8	3.7	0.01	N.D	-	-	-	-	-	-	-	-	
	Khirsu-Musagli-Damdevel Motor Road (Km 10+860 Village Bidoli)	Drinking Water	09-17/03/2015	2	Agreeable	Agreeable	2.4	7.5	136	0.02	14	N.D	8.5	38	0.1	168	28.6	3.9	0.01	N.D	-	-	-	-	-	-	-	-	
C-66	Rikhnikhhal-Beerokhal Motor Road (Km 76+710, Vill Simdhi)	Drinking Water	12.03.2015	3	Agreeable	Agreeable	2.3	7.2	136	0.02	15	N.D	8.3	358	0.2	160	28.7	3.6	0.02	N.D	-	-	-	-	-	-	-	-	
C-66	Rikhnikhhal-Beerokhal Motor Road (Km 76+710, Vill Simdhi)	Drinking Water	12.03.2015	3	Agreeable	Agreeable	2.3	7.2	136	0.02	15	N.D	8.3	358	0.2	160	28.7	3.6	0.02	N.D	-	-	-	-	-	-	-	-	

Water Analysis Results

Package Road	Location	Type	Date of Monitoring	Colour (Hazen)	Odour	Taste	Turbidity (NTU)	pH	Total Hardness (mg/lt.)	Iron (Fe) (mg/lt.)	Chloride (Cl) (mg/lt.)	Residual Free Chloride (RFC) (mg/lt.)	Sulphate (SO4) (mg/lt.)	Total Alkalinity (mg/lt.)	Fluoride (F) (mg/lt.)	Total Dissolve Solid (TDS) (mg/lt.)	Calcium (Ca)	Magnesium (Mg)	Bacterial Coliform	Organics	Total Suspended Solid (TSS)	Inorganics	Total Coliform Organism (MPN)	E. Coli
C-13	Pilkhi-Gadoliya Motor Road	Ground Water	22-11-2014	<5	UNOBJECTIVE	Agreeable	<1	7.18	86	0.14	22.6	Nil	10.8	126	0.24	263	-	-	Absent	-	-	-	<2	-
	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-39	Gaza-Nakot	Surface Water	04-12-2014	-	-	-	7.9	-	-	66	-	15.2	-	-	-	-	-	-	86	Nil	232	-	-	
C-23	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C-24	Kalsi-Bairatkhai	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C-38	Ichari-Kwano-Meenus (Km. 10+060)	Water (Drinking)	20-11-2014	<5	Agreeable	Agreeable	<1	7.2	160	N.D	15	N.D	13	112	N.D	185	44	12	-	-	-	-	Absent	Absent
	Ichari-Kwano-Meenus (14+840)	Water (Drinking)	20-11-2014	<5	Agreeable	Agreeable	<1	7.23	151	N.D	12	N.D	10	108	N.D	177	41	11	-	-	-	-	Absent	Absent
C-14	Kuwa-Kafnaul Rahdi Motor Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Soil Analysis Results

Package Road	Location	Date of Monitoring	Moisture	Specific Gravity	Water Holding Capacity (10% Aqueous solution)	pH	Alkalinity	Iron (Fe)	Calcium (CaCO ₃)	Magnesium (MgCO ₃)	Nitrates (NO ₃)	Chlorides (Cl)	Potassium (k)	Sodium (Na)	Sulphate (SO ₄)	Electrical Conductivity (EC)	Organic Carbon	Lead (Pb)	Nitrogen (N)	Phosphorus (P)	NaCl
C5	Bhugani at 27 Km (Pauri)	17.11.2014	13.6	1.24	39.2	7.32	4.9	3.5	612	242	8.2	62	256	813	623	0.29	0.9	0.21	268	126.2	
C7 a&b	Not Provided																				
C-8	Chamoli Kund 21+500	08.10.14	-	-	-	9.7	-	-	-	-	-	-	0.59	-	-	-	0.31	N.D	0.46	0.066	0.048
C-9	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 10+350	08.10.14	-	-	-	9.1	-	-	-	-	-	-	0.53	-	-	-	0.24	N.D	0.41	0.06	0.041
C-20	Joshimath Auli Motor Road (Ch. 7+900)	10.12.2014	16.8	1.3	38.9	7.22	5.25	4.3	598	139	8.5	43	245	674	11.2	0.38	0.85	0.15	215	126	
C-21	Narsingh Mandir Approach Road (Ch. 2+700)	6.12.2014	15.9	1.26	40.6	7.23	5.18	3.8	618	182	10.4	42	212	612	9.4	0.39	1	0.14	286	134	
C21b	Karanprayag Nagar panchayat (Km 3.135)	8.12.2014	18.6	1.3	29.4	7.26	5.67	4.6	578	156	9.4	56	264	642	12.6	0.41	0.82	0.15	234	118	
C22																					
C29	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 15+750	17.10.2014	-	-	-	9.2	-	-	-	-	-	-	0.56	-	-	-	0.26	N.D.	0.42	0.063	0.043
C30	Sonprayag Triyuginarayan 6+13	10.01.2015	-	-	-	9.5	-	-	-	-	-	-	0.66	-	-	-	0.28	N.D.	0.49	0.063	0.044
C31	Makku-Paldwari Motor Road (10+350)	4.12.2014	13.9	1.26	40.2	7.16	5.1	3.8	638	206	7.9	36	242	634	8.8	0.35	0.89	0.12	318	143.6	
C32	Rudraprayag Pokhari karanprayag (Km 6+125)	2.12.2014	15.8	1.32	39.2	7.12	4.96	4.2	618	213	6.8	42	256	612	9.8	0.31	0.94	0.12	312	126.2	
C-33	Thrali Dewal Mundoli 15+200	17.10.2017	-	-	-	8.9	-	-	-	-	-	-	0.53	-	-	-	0.28	N.D.	0.45	0.067	0.046
C-34	Not yet submitted																				
C-35	Buwakhal Pauri Devprayag Gaja Jajal Ch. 10+350	18.10.2014	-	-	-	9	-	-	-	-	-	-	0.55	-	-	-	0.29	N.D.	0.47	0.067	0.041
	Buwakhal Pauri Devprayag Gaja Jajal Ch. 15+200	18.10.2014	-	-	-	9.6	-	-	-	-	-	-	0.61	-	-	-	0.31	N.D.	0.46	0.068	0.045
C-40	Khanda- Sumari-Bhugani (Plant Side)	2.12.2014	22.4	1.387	36.7	7.2	11.2	12.4	314	102	14	14	8	12	19			Nil		8.4	
C-51	Not yet submitted																				
C-65a	Bhugadhi Develagrh Chamdhar Motor Road (Ch. 2.340 Village Bhatoli)	10-18/03/2015	-	-	-	9.2	-	-	-	-	-	-	0.64	-	-	-	0.26	Nil	0.41	0.058	-
C-65B	Khirsu-Musagli-Damdevel Motor Road (Ch. Km 9 Vill. B/w Thandar & Marora)	9-14/03/2015	-	-	-	9.1	-	-	-	-	-	-	0.64	0.045			0.26	N.D	0.44	0.06	-
C-66	Rikhnikhhal-Beerokhal Motor Road (Km 69+500, Village Jaygot)	09.03.2015	-	-	-	9	-	-	-	-	-	-	0.64	-	-	-	0.25	N.D	0.44	0.61	0.045

Soil Analysis Results

Package Road	Location	Date of Monitoring	Moisture	Specific Gravity	Water Holding Capacity	pH (10% Aqueous solution)	Alkalinity	Iron (Fe)	Calcium (CaCO ₃)	Magnesium (MgCO ₃)	Nitrates (NO ₃)	Chlorides (Cl)	Potassium (k)	Sodium (Na)	Total Organic Carbon, per cent by weight	Zinc (Zn)	Sulphate (SO ₄)	Electrical Conductivity	Organic Carbon	Total Chromium (Cr)	Lead (Pb)	Nitrogen (N)	Phosphate (P)	NaCl
C-13	Pilkh-Gadoliya Motor Road	22-11-2014	15.2	1.32	36.4	7.12	4.28	4.6	6.14	162	6.8	242	634	12.8	-	-	12.8	0.42	0.78	-	0.16	206	120	-
	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-39	Gaza-Nakot (Km. 11+250)	03-12-2014	-	-	-	9.7	-	-	-	-	-	-	0.26 (By%)	-	0.24	-	-	-	-	-	N.D	0.45 (By%)	0.061 (By%)	0.046 (By%)
C-23	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-24	Kalsi-Bairatkhai	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-38	Ichari-Kwano-Meenus (Km. 10+050)	20-11-2014	-	-	-	7.10	-	183.9	-	-	-	320	120	-	-	8.1	-	-	-	N.D	-	41.2	13.3	-
	Ichari-Kwano-Meenus (Km. 14+840)	20-11-2014	-	-	-	7.12	-	183.1	-	-	-	316	117	-	-	7.5	-	-	-	N.D.	-	41.5	39.9	-
C-14	Kuwa-Kafnaul Rahdi Motor Road	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Noise Monitoring Analysis Result

Package Road	Type of Monitoring Location	Date of Monitoring	Leq (day) dB(A)	Leq (night) dB(A)
C-5	Bhugani ay 27 Km (Pauri)	23.10.08	50.7	-
C-7a	Nandprayag-Ghat (Ch 10+500)	29.09.2014	61.7	51.4
	Nandprayag-Ghat (Ch 16+200)	29.09.2014	60.6	50.3
C-7b	Rudraprayag Pokhari karanprayag (Km 8+400)	2.10.2014	60.9	50.4
	Rudraprayag Pokhari karanprayag (Km 13+300)	2.10.2014	61.4	51.6
C-8	Chamoli Kund Ch. 21+500	08.10.2014	61.6	51.0
	Chamoli Kund Ch. 30+750	08.10.2014	59.5	48.6
C-9	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 10+350	08.10.2014	59.1	48.7
	Guptakashi Kalimath Kotma Jaal Chaumasi Ch. 16+800	08.10.2014	59.6	47.9
C-20	Joshimath Auli Motor Road (Ch. 7+900)	10.12.2014	52.5	-
C-21a	Narsingh Mandir Approach Road (Ch. 2+700)	6.12.2014	54.2	-
C21b	Karanprayag Nagar panchayat (Km 3.135)	8.12.2014	53.1	-
C29	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 15+750	17.10.2014	59.2	49.1
	Khirsu Khedakhal Kandai Khankra Motor Road Ch. 35+200	17.10.2014	60.4	49.7
C30	Sonprayag Triyuginarayan Ch. 0+9	10.01.2015	61	-
	Sonprayag Triyuginarayan Ch. 4+32	10.01.2015	61.2	-
C31	Makku-Paldwari Motor Road (10+350)	4.12.2014	53.4	-
C32	Rudraprayag Pokhari karanprayag (Km 6+125)	2.12.2014	51.3	-
C-33	Thralli Dewal Mundoli CH. 15+200	17.10.2014	58.9	49
	Thralli Dewal Mundoli CH. 17+850	17.10.2014	61.2	50.9
C-34	Not yet submitted			
C-35	Buwakhal Pauri Devprayag Gaja Jajal Ch. 10+350	20.10.2014	59.5	50.3
	Buwakhal Pauri Devprayag Gaja Jajal Ch. 15+200	20.20.2014	61.1	51.7
	Buwakhal Pauri Devprayag Gaja Jajal Ch. 25+100	20.10.2014	59.5	49
	Buwakhal Pauri Devprayag Gaja Jajal Ch. 40+500	21.10.2014	61.3	49.6
C-40	Khanda- Sumari-Bhugani (Inside Plot premises)	1.12.2014	42.7	-
	Khanda- Sumari-Bhugani (Near Rd Side NH-119)	1.12.2014	51.5	-
	Khanda- Sumari-Bhugani (Near Village Chandni)	2.12.2014	44.4	-
	Khanda- Sumari-Bhugani (Near Village Khanda)	2.12.2014	46	-
C-51	Not yet submitted			
C-65a	Bhugadhi Develagr Chamdhar Motor Road (Ch. 2.340 Village Bhatoli)	10.12.2015	59	48.5
	Bhugadhi Develagr Chamdhar Motor Road (Ch. 13+28 Village Chamdhar)	10.12.2015	59.5	49
C-65b	Khirsu-Musagli-Damdevel Motor Road (Km 8+020 Village Thandar)	09.03.2015	59.5	49.5
	Khirsu-Musagli-Damdevel Motor Road (Km 11+040 Village Bidoli)	09.03.2015	59.5	49
C-66	Rikhnikhal-Beerokhal Motor Road (Km 79.110 Village Kanda)	28.02.2015	58.5	49
	Rikhnikhal-Beerokhal Motor Road (Km 80+470 Village Kanda)	28.02.2015	58.5	48.5
C-13	Pilkhi-Gadoliya Motor Road	22-11-2014	59.1	-
	Reconstruction Of Inspection House Approach Road Under Nagar Panchayat Devprayag	-	-	-

Package Road	Type of Monitoring Location	Date of Monitoring	Leq (day) dB(A)	Leq (night) dB(A)
C-39	Gaza-Nakot (Km. 11+250)	03-12-2014	62.3	-
C-23	Tyuni-Chakrata-Mussoorie-Chamba-Kirtinagar	-	-	-
C-24	Kalsi-Bairatkhai	-	-	-
C-38	Ichari-Kwano-Meenus (Km. 14+840)	20-11-2014	57.6	-
C-14	Kuwa-Kafnaul Rahdi Motor Road	-	-	-