



Environmental Monitoring Report

Project Number: 47229-001
May 2017

Period: January 2016 – June 2016

IND: Uttarakhand Emergency Assistance Project

Submitted by

Project Implementation Unit, Uttarakhand Jal Santhan, Jal Bhawan, Dehradun,
Uttarakhand

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PROJECT IMPLEMENTATION UNIT (PIU)
(Urban Water Supply Sector)
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Ref: *SSG* /PIU-UEAP/58/2015-16

Dated: 06 Sep., 2016

To,

The Country Director
South Asia Department,
India Resident Mission (ADB),
4 San Martin Marg, Chanakyapuri,
New Delhi 110021, India



Sub.: Loan 3055 IND - Uttarakhand Emergency Assistance Project (UEAP)

Reg.: Submission of Semi-Annual Environmental Monitoring Report (S-AEMR) for the period of January, 2016 to June, 2016.

Dear Madam,

With reference to above subject and as per ADB's Safeguards Policy Statement 2009, please find herewith enclosed Semi-Annual Environmental Monitoring Report of PIU (Urban Water Supply Sector under UEAP) for the period of January, 2016 to June, 2016 for your kind review.

Yours Sincerely

Enclosure: Semi-Annual Environmental Monitoring Report
(January, 2016 to June, 2016).

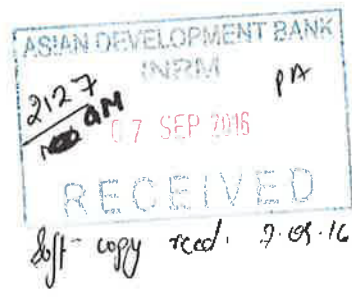
(Ashok Negi)

Dy. Program Manager
PIU- UEAP- UWS

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Dy. Program Manager
PIU- UEAP- UWS



Government of Uttarakhand
State Disaster Management Authority (SDMA)
Uttarakhand Jal Sansthan (UJS)

Uttarakhand Emergency Assistance Project (UEAP)
Water Supply Sub-projects
(ADB Loan No: 3055-IND)

FOURTH REPORT
SEMI - ANNUAL ENVIRONMENT MONITORING REPORT
(Period January to June 2016)

July 2016

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ABBREVIATIONS

ADB	Asian Development Bank
BOD	Bio Chemical Oxygen Demand
CO	Carbon Mono Oxide
CFE	Consent for Establishment
CH ₄	Methane
DO	Dissolve Oxygen
dB	Decibel
DSC	Design and Supervision Consultant
IEE	Initial Environmental Examination
EA	Executing Agency
EIA	Environmental Impact Assessment
EC	Environmental Clearance
GLSR	Ground Level Surface Reservoir
GoI	Government of India
GoU	Government of Utrakhand
GR	Grievance Redressal
Ha	Hectare
HDPE	High Density Poly Ethylene
HFL	High Flood Level
Km	Kilometer
Leq	Equivalent continuous noise level
Mg	Milligram
MFF	Multitranchise Financing Facility
MoEF	Ministry of Environment & Forests
MLD	Million Litter Per day
Mn	Million
M	Meter
mm	Millimeter
mg/l	Milligram per Liter
m ³	Cubic meter
NAAQS	National Ambient Air Quality Standards
NO _x	oxides of Nitrogen
NA	Not Applicable
O & M	Operation and maintenance
PIU	Project Implementation Units
PM _{2.5}	Particulate matter size less than 2.5µm
PM ₁₀	Particulate matter size less than 10µm
PMU	Project Management Unit
PPE	Personal Protective Equipments
PVC	Poly Vinyl Chloride
PWD	Public Works Division
RCC	Reinforced Cement Concrete
RoW	Right of Way
RP	Resettlement Plan
SBR	Sequential Batch Reactor
SC	Scheduled Castes
SEIAA	State Environment Impact Assessment Authority
SO ₂	Sulphur dioxides
SOP	Standard Operational Procedures
SPCB	State Pollution Control Board
SPS	Safeguard Policy Statements

SS	Suspended Solids
ST	Scheduled Tribes
UDD	Urban Development Department
UEAP	Uttarakhand Emergency Assistance Project
UEPPCB	Uttarakhand Environmental Protection and Pollution Control Board
UJS	Uttarakhand Jal Sansthan
UPJN	Uttarakhand Peya Jal Nigam
U.P	Uttar Pradesh
UPCL	Uttarakhand Power Corporation Limited

I. INTRODUCTION

A. Background

1. In the month of June 2013 a severe flood and rain event occurred in Uttarakhand causing extensive damage to the state. The major affected areas are of Roads and bridges, Water Supply other infrastructure and livelihood. To assist in the rehabilitation works ADB decided to assist the Government of Uttarakhand in rehabilitating the various sectors. As part of this, ADB has provided a loan (No. 3055-IND) to the government of India. For smooth functioning of the various works **Uttarakhand Emergency Assistance Project (UEAP)** is devised. The UEAP will support the Government of India (GoI) and the Government of Uttarakhand (GoU) in their efforts to rehabilitate and reconstruct the damaged water supply system in 9 selected towns of Uttarakhand. The investment program will support: (i) Water supply; and (ii) Planning and design, institutional and policy development, capacity building and creating awareness.

2. The Project Management Unit (PMU) of Uttarakhand Emergency Assistance Project (UEAP) created for implementation of the said project under the Government of Uttarakhand (GoU) and the Project Implementation Units (PIU), Uttarakhand Jal Sansthan (UJS) will be provided with necessary consulting services under the proposed loan to strengthen their project design, management and implementation capabilities including mainly engineering design and construction supervision. The work in this Project is of emergency nature and has to be finished within stipulated time, so as to provide drinking water to affected population. The Executing Agency (EA), State Disaster Management Authority (SDMA) will work closely with the Implementing Agency (IA) Uttarakhand Jal Sansthan

3. Total 09 towns, 06 towns of Garhwal Region and 03 towns of Kumaun Region have been selected for implementation of water supply sub project of Assistance Project. Towns selected for implementation of water supply sub project in Garhwal regions are - Srinagar , Devprayag Rudraprayag , Gauchar , Karnprayag and Uttarkashi . Towns selected for implementation of same subproject in Kumaun regions are - Dharchula , Kapkot and Bageshwar . Location of the project towns are shown in **Figure 1**



Figure 1: Location of project towns in Uttarakhand

4. To support implementation of the Program, UEAP have engaged STUP Consultants Pvt. Ltd. as Design & Supervision Consultant (DSC). Design and Supervision Consultant (DSC) firm assists Investment Project Management Unit (IPMU) and the respective Investment Project Implementation Units (IPIUs) to undertake necessary surveys and investigations, detailed engineering designs, quantity and cost estimation, preparation of bid documents, procurement activities, preparation of construction drawings, construction supervision including recording measurements, quality control, assisting community awareness and poverty alleviation program associated with the Project.

5. Three contractors – M/s Kashmirilal Construction P. Ltd and M/s R.K. Engineers Sales Ltd and M/S Uttaranchal Tube well Construction have been appointed to implement the subprojects. As per contract, M/s Kashmirilal Construction P. Ltd will implement the subproject in Kapkot, Bageshwar, Dharchula and Devprayag town and M/s R.K. Engineers Sales Ltd will implement the subproject in Rudraprayag, Karnprayag, Gauchar, Uttarkashi and Srinagar town . M/S Uttaranchal Tubewell Construction will implement construction of 6 tube wells at the bank of Alaknanda in Srinagar town.

B. Project Profile

6. Up to 30th June, 2016, contract agreements were signed for all lots under 4 sub projects. Contractors have mobilized and working in all the project towns .Up to 30th June, 2016 contractors have done good progress in all subprojects and in some area considerable progress have been reported.

7. Scope of work for each subproject are as follows –

Contract Package No. - UK/UEAP-UJS/WSS-KU/01/2014-15

Sn.	Name of Town	Works Proposed
1	Kapkot	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of 125 mm dia. MSERW lined Rising Main. • Design, Supply, Erection of structural steel works for Bridge crossing. • Design, Supply, Installation, Testing, Commissioning of Electro-chlorinator. • Design, Supply, Installation, Testing, Commissioning of Electromagnetic flow meter. • Design, Supply, Installation, Testing, Commissioning of Electromechanical works including Trial Run for a period of 3 months. • Design, Supply, Installation, Testing, Commissioning of SCADA/Instrumentation works. • Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of 1.4 MLD Infiltration Well at river Saryu including dewatering and diversion of water. • Providing and Construction of Pump House over Infiltration Well or as required suitable for Pump House.
2	Bageshwar	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of 150mm dia. MSERW lined Rising Main including dismantling of existing 80 mm dia. GI Rising Main and hand over to Jal Sansthan at their store. • Demolition of existing Raw and Clear Water pumping set including all electrical equipments, cable etc. at Kathayat Bada. • Design, Supply, Installation, Testing, Commissioning of Electromechanical works including Trial Run for a period of 3 months at different locations. • Instrumentation work at : <ul style="list-style-type: none"> (i) Proposed Infiltration Well Jalkal (ii) WTP at Thakurdwara (iii) WTP at Kathayatbada. • Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of 1.34 MLD Infiltration Well including diversion and dewatering of water at Jalkal Water Works. • Provide & Construction of Pump House over Infiltration Well or as required suitable for Pump House. • Rehabilitation of WTP at Thakurdwara including Reconstruction of Alum Godown. • Demolition of old intake structure/electrical/mechanical items at Jal Sansthan Water Works and old damaged Alum Godown and disposal of unserviceable material.
3	Dharchula	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of Distribution & Gravity Mains including Valves & Valve Chambers. • Demolition of Stone Masonry CWR & Steel CWR. • Construction of Uttaranchal Koop. • Construction of Intake Chamber/source work. • Design, Construction, Testing, Commissioning & Trial Run for a period of 3 months of 1.728 MLD Horizontal Flow Roughing Filter. • Design, construction, testing, commissioning of RCC CWRs.

Contract Package No. - UK/UEAP-UJS/WSS-GW/01

Sn.	Name of Town	Works Proposed
1	Rudraprayag	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of MSERW lined Gravity Transmission Main. • Supply, Installation of 3 No. Uttaranchal Koops. • Rehabilitation of RCC Intake Chambers. • Construction of RCC Bridge to carry the pipeline across the stream. • Replacement / Supply & Laying of pipelines damaged due to flood. • Construction of Office Building.

		<ul style="list-style-type: none"> Supply and Installation of Sluice Valves, Scour Valves and Air Valves. Providing, Fixing of RCC Valve Chamber for housing valves. Supply and Installation of Bulk Water Meters. Road Restoration works.
2	Karanprayag	<ul style="list-style-type: none"> Supply, Installation of 1 No. of Infiltration Well. Rehabilitation of RCC Intake Chambers. Supply, Laying, Jointing, Testing and Commissioning of MS ERW pipe of 200mm (ID) dia, 6mm thick for a length of 6000m from Well Site (0 chainage) to ITI Colony Proposed Tank (6000 chainage). Construction of RCC Bridge to carry the pipeline across the stream at different locations. Construction of CWR of 500KL capacity at Pujari Gaon location, 150 KL at GGIC and 35KL CWR at taxi stand (Near Petrol Pump). Replacement / Supply & Laying of pipelines damaged due to flood. Construction of Office Building. Supply and Installation of Sluice Valves, Scour Valves and Air Valves. Providing, Fixing of RCC Valve Chamber for housing valves. Supply and Installation of Bulk Water Meters. Road Restoration works. Design, Supply, Installation, Testing, and Commissioning of Electromechanical works including trial run for a period of 3 months at different locations. Instrumentation work at Proposed Infiltration Well.
3	Gauchar	<ul style="list-style-type: none"> Supply, Installation of 1 No. of Infiltration Well. Rehabilitation of RCC Intake Chambers. Supply, Laying, Jointing, Testing and Commissioning of MS ERW pipe of 200mm dia, 6mm thick for a length of 3000m from Airport gate (0 chainage) to Main Bazaar (1500 chainage) on both side of Main Bazaar road. Replacement / Supply & Laying of pipelines damaged due to flood. Construction of Office Building as the existing office building was partly damaged. Supply and Installation of Sluice Valves, Scour Valves and Air Valves. Providing, fixing of RCC Valve Chamber for housing valves. Supply and Installation of Bulk Water Meters. Road Restoration works.
4	Uttarkashi	<ul style="list-style-type: none"> Construction of RCC Cross Wall for a length of 20 meters and height of 1 Meter. Construction of Intake Chamber of size 1.0 M X 1.0 M X 1.0 M. Supply and Laying of 250mm dia MS ERW Pipeline for a length of 150 Meters from the outlet of intake chamber of Kohari Gad source. Supply and Laying of 200mm dia MS ERW Pipeline for a length of 1000 Meters for replacing existing damaged 200mm dia CI pipeline feeding to Gufiyara WTP. Supply and Laying of 250mm dia MS ERW Pipeline for a length of 650 Meters downstream of WTP at Jangara. Supply and Laying of 200mm dia MS ERW Pipeline for a length of 50 Meters downstream of Chiwa Gad Stream Junction. Supply and Laying of 200mm dia MS ERW Pipeline for a length of 130 Meters below the bed across Assi Ganga River before confluence point (Sangam) of rivers Assi Ganga and Bhagirathi including concrete encasing for pipeline. Supply and Laying of 100mm dia GI Pipeline for a length of 1500 Meters from Gufiyara WTP CWR to Tiloth and 500 Meters form Gufiyara CWR to Batwadi WTP CWR. Supply and Laying of 125mm dia MS ERW Pipeline for a length of 800 meters and 100mm dia GI Pipeline for a length of 1200 Meters from Gufiyara WTP CWR to Gyansu. Sluice Valves, Scour Valves and Air Valves are proposed to be installed. RCC Valve Chambers and Thrust Blocks / Anchor Blocks are proposed to be constructed. Drilling of new Tube wells (2 nos.) through Dual Rotary Method of 400mm dia for a depth of 45 meter including providing and fixing ERW MS casing pipe for a depth of 20 meter. Construction of 2 Nos. RCC Framed Pump Houses of 20 Sqm area each at

		<p>Ramleela Maidan.</p> <ul style="list-style-type: none"> • Rising main of ERW MS 300mm dia pipeline for a length of 1300 meter form Ramleela Maidan to 350 KL CWR at Gufiyara WTP. • Supply and Fixing DI Non-return Valve, CI Bulk Water Meter, DI Sluice Valve at outlet pipeline from Tube Well inside each Pump House at Ramleela Maidan. • Supply and Fixing DI Scour Valve for 300mm dia Rising Main near Ramleela Maidan. • Supply and fixing DI Double Orifice Air Valve on 300mm dia Rising Main. • Construction of RCC Valve Chambers for Scour Valve and Air Valves. • Rehabilitation of 0.67 MLD WTP at Batwadi Road. • Rehabilitation of 1.63 MLD WTP at Gufiyara. • Rehabilitation of 4.58 MLD WTP at Jangara. • Electrical Works.
5	Devprayag	<ul style="list-style-type: none"> • Construction of RCC Cross Walls at Sources. • Providing and Fixing Uttaranchal Koop. • Supply and Laying of Transmission Mains. • Construction of 50 KL and 100 KL CWRs. • Supply and Laying of Distribution Pipelines. • Supply and Installation of Valves and Water Meters. • Construction of RCC Valve Chambers. • Restoration of Roads. • Construction of Office Building, Guest House Building, Staff Quarters Building.

Contract Package No. - UK/UEAP-UJS/WSS-GW/02/SRINAGAR (PAURI)

Name of Town	Works Proposed
Srinagar	<ul style="list-style-type: none"> • Construction of RCC Retaining Wall for Pump House. • Design and Construction of RCC Framed Low Level Pump House. • Providing and Fixing trolley / lifting arrangement for Low Level Pump House. • Replacement of damaged raw water Pumps and Motors. • Alteration of Existing Jack Well as High Level Pump House. • Supply and Installation of New Raw Water Pumps in High Level Pump House (Existing Jack Well). • Supply and Laying Raw Water Transmission Mains. • Rehabilitation of 6 MLD Water Treatment Plant. • Rehabilitation of 3.75 MLD Water Treatment Plant. • Rehabilitation of 2.0 MLD Water Treatment Plant. • Design and Construction of RCC Framed structure for Chlorine Room at existing WTP premises. • Design, Supply and Installation of Chlorination System by Chlorine gas with Vacuum type Chlorinators for all three WTP's • Supply and Installation of Clear Water Pumps in 6 MLD & 3.75 MLD WTP Clear Water Pump Houses. • Supply and Installation of Submersible Pumps for Infiltration Well. • Supply and Laying Clear Water Transmission Main from Proposed Pump House. • Supply and Installation of Clear Water Pumps at Tube Well site. • Infiltration Well Site Protection Work by constructing RCC Gravity Retaining Wall. • Supply and Laying Clear Water Transmission Mains from existing WTP to various reservoirs. • Supply and Laying of Distribution pipelines with Pipe Appurtenances. • Providing and Fixing House Service Connections. • Road Restoration Works. • Design and Construction of 500KL RCC Sump and Clear Water Pump House at Infiltration Well site. • Design and Construction of Tube Well near Govt. ITI college. • Water Supply Rehabilitation and Augmentation Scheme – Srinagar and Pauri • Design and Construction of Pump house over Infiltration Well.

	<ul style="list-style-type: none"> • Design and Construction of New Clear Water Storage Reservoirs of 500KL & 1000KL Capacities. • Design and Construction of Office Cum Staff Quarters building at existing WTP premises. • Design, Supply, Installation, Testing, Commissioning of Electromechanical works including Trial Run for a period of 3 months. • Design, Supply, Installation, Testing, Commissioning of Instrumentation, Automation and SCADA works at WTP premises and proposed tube Well site including Trail Run for a period of 3 months.
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Contract Package No. - UK/UEAP-UJS/WSS-GW/02-01/SRINAGAR

Name of Town	Works Proposed
Srinagar	<ul style="list-style-type: none"> • Design and Construction of Tube Wells by drilling of bore hole using Direct Rotary Method/RR/Dual Rotary/Percussion method , lowering of well assembly, development of bore well, performance (yield) test, design, supply and installation of Mechanical equipment to suit yield test results (single stage pumping), testing, commissioning, laying of required lengths of pipe line up to termination / destination points, as per site requirements, along with related mechanical as required, including Civil Works i.e Construction of Pump houses, chamber, Construction of Boundary Walls, operation and maintenance of tube wells for a period of 1 year and allied works in Srinagar..

C. Project & Report Purpose

8. Water Supply sub projects which are under implementation has been classified by ADB as environmental assessment Category B (some negative impacts but less significant than category A) and the impacts of sub - projects were assessed through Initial Environmental Examination (IEE), prepared according to ADB Safeguard Policy statement (SPS 2009).

9. This “Environment Monitoring Report” for the period January to June 2016 describes the status of implementation of the mitigation measures and monitoring recommended in the IEE for these sub – projects within the stated period.

II. IMPLEMENTATION PROGRESS

A. Major works and progress

10. Till date (30th June 2016) contractors have done good progress in all subprojects and in some area considerable progress (82.21%) have been reported. Monitoring and reporting on Environmental safeguard have been started for all the subprojects.

11. List of sub projects and their status is given hereunder:

Table 1: Sub Project status under UEAP- WSS (up to 30th June, 2016)

Town	Package Code	Status
Kapkot	UK/UEAP-WSS-KU/01 Lot 1: Kapkot Lot 2 : Bageshwar Lot 3: Dharchula	Lot 1: Kapkot- Revised tendering completed on 16.09.2014, Contractor selected. Agreement signed on 07.11.2014 Physical progress - 92.35 %
Bageshwar		Lot 2: Bageshwar- Revised tendering completed on 16.09.2014, Contractor selected. Agreement signed on 07.11.2014 Physical progress - 79.40%
Dharchula		Lot 3: Dharchula - Revised tendering completed on 16.09.2014, Contractor selected. Agreement signed on 07.11.2014 Physical progress - 91.11 %
Rudraprayag	UK/UEAP-WSS-GW/01 Lot 1: Rudraprayag Lot 2 : Karnprayag Lot 3: Gauchar Lot 4: Uttarkashi Lot 5: Devprayag	Lot 1: Rudrapryag- Revised tendering completed on 20.09.2014, Contractor selected. Agreement signed on 19.12.2014 Physical progress - 85.83%
Karnprayag		Lot 2: Karnpryag- Revised tendering completed on 20.09.2014, Contractor selected. Agreement signed on 19.12.2014 Physical progress - 78.49 %
Gauchar		Lot 3: Gauchar- Revised tendering completed on 20.09.2014, Contractor selected. Agreement signed on 19.12.2014 Physical progress - 74.96 %
Uttarkashi		Lot 4: Uttarkashi- Revised tendering completed on 10.11.2014, Contractor selected. Letter of Acceptance (LOA) issued on 29.12.2014 Agreement signed on 12.01.2015 Physical progress - 75.95 %
Devprayag		Lot 5: Devprayag - Revised tendering completed on 09.12.2014, Contractor selected. LOA issued. Agreement signed on 07.02.2015 Physical progress - 67.64%
Srinagar		UK/UEAP-WSS-GW/02
Srinagar	UK/UEAP-WSS-GW/02-01	Tendering completed on 02.03.16, Contractor selected. Agreement signed on 18.03.2016 Physical progress - 18.33 %

12. **Table 2** show the status of the sub project implementation, starting date, schedule date of completion and physical progress. Major Works under Sub project and Progress up to 30th June 2016 has been shown in table 3 of this report

**Table 2: Status of Sub-project Implementation under UEAP- WSS
(Up to 30th June, 2016)**

Location	Component, name of the sub project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion & Extended date of completion	Physical progress (%) as on 30.06.16
Kapkot	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula (UK/UEAP-WSS-KU/01)	1.11.2014	18 months	31.05.2016 18.12.2016	92.35
Bageshwar		1.12.2014	18 months	31.05.2016 18.12.2016	79.40
Dharchula		1.12.2014	18 months	31.05.2016 30.11.2016	91.11
Rudraprayag		19.01.2015	18 months	18.07.2016 30.11.2016	85.83
Karnprayag		19.01.2015	18 months	18.07.2016 18.12.2016	78.49
Gauchar		19.01.2015	18 months	18.07.2016 18.12.2016	74.96
Uttarkashi		19.01.2015	18 months	18.07.2016 30.11.2016	75.95
Devprayag	(UK/UEAP-WSS-GW/01)	09.03.2015	18 months	08.09.2016 18.12.2016	67.64

Location	Component, name of the sub project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion & Extended date of completion	Physical progress (%) as on 30.06.16
Srinagar	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works at Srinagar (UK/UEAP-WSS-GW/02)	19.01.2015	18 months	18.07.2016 18.12.2016	70.15
Srinagar	Design and Construction of Tube Wells by drilling of bore hole using Direct Rotary Method/RR/Dual Rotary/Percussion method , lowering of well assembly, development of bore well, performance (yield) test, design, supply and installation of Mechanical equipment to suit yield test results (single stage pumping), testing, commissioning, laying of required lengths of pipe line up to termination / destination points, as per site requirements, along with related mechanical as	19.04.2016	06 months	18.10.2016	18.33

Location	Component, name of the sub project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion & Extended date of completion	Physical progress (%) as on 30.06.16
	required, including Civil Works i.e Construction of Pump houses, chamber, Construction of Boundary Walls, operation and maintenance of tube wells for a period of 1 year and allied works in Srinagar UK/UEAP-WSS-GW/02 -01)				

Table 3: Major Works under Sub project and Progress (up to 30th June 2016)

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
Kapkot (UK/UEAP- WSS-KU/01 Lot 1)	Construction of Infiltration well (IW), pump house over IW, Laying of Rising mains and appurtenant works.	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of 125 mm dia MSERW lined Rising Main • Design, Supply, Erection of Structural Steel Works for Bridge Crossing • Design, Supply, Installation, Testing, Commissioning of Electro Chlorinator • Design, Supply, Installation, Testing, Commissioning of Electromagnetic Flow Meter • Design, Supply, Installation, Testing, Commissioning of Electro Mechanical Works including trial run for a period of 3months • Design, Supply, Installation, Testing, Commissioning of SCADA / Instrumentation works • Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of 1.4 MLD Infiltration well at Saryu river including dewatering and diversion of water. • Providing and Construction of pump house over Infiltration Well or as required suitable for Pump House. 	<ul style="list-style-type: none"> • Construction of 1.4 MLD Infiltration Well and pump house completed • VT pump installation completed. • 7641 m pipes procured and laid • Arrangements for electrical power connections are in progress. • Transformer shifting done. • LT Switchgear Panel Board Installation completed. • SCADA compatible Pump motor starter panel Installation completed. 	Nil	Strict application of EMP mitigation measures	-

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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 (UK/UEAP- WSS-KU/01 Lot 2)	Demolition of existing intake well, Construction of new infiltration well, replacement of Rising mains, rehabilitation of WTP, pumps and related electrical, mechanical works,	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of 150mm dia MSERW lined Rising Main including dismantling of existing 80 mm dia GI Rising Main and hand over to Jal Sansthan at their store • Demolition of existing Raw and Clear water Pumping set including all electrical equipments cable etc. at Kathayat Bada. • Design, Supply, Installation, Testing, Commissioning of Electro Mechanical works including trial run for a period of 3 months at different locations • Instrumentation work at <ul style="list-style-type: none"> (i) Proposed Infiltration Well Jalkal (ii) WTP at Thakurdwara (iii) WTP at Kathayatbada • Design, Construction, Testing, Commissioning, Trial Run for a period of 3 months of Infiltration Well 1.34 Mld including diversion and dewatering of water at Jalkal Water Works. • Provide & Construction of Pump House over Infiltration Well or as required suitable for Pump House • Rehabilitation of WTP at 	<ul style="list-style-type: none"> • 1405 m 150mm dia. MSERW pipe procured out of which 1074m laid • Slab concreting completed, approach bridge and protection work is in progress for 1.34 MLD Infiltration Well. • Rehabilitation of WTP in progress. • G/F slab casting completed, 1st floor block masonry work in progress for alum godown • 4 numbers of pump installed • For Electrical & Instrumentation Work Panel installation work completed commissioning to be done. 	Shifting of location of infiltration well 500 m upstream	Strict application of EMP mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		Thakurdwara including reconstruction of Alum Godam <ul style="list-style-type: none"> • Demolition of old Intake Structure/Electrical/Mechanical items at Jal Sansthan Water Works old damaged Aalum Godown and disposal of unserviceable material 				
Dharchula (UK/UEAP-WSS-KU/01-Lot 3)	Damage repair in source works, installation of Uttarakhand Koop, construction of horizontal flow Roughing filter, Demolishing of old damaged tanks & construction of new tanks.	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of Distribution & Gravity Mains including valves & valve chambers. • Demolition of Stone Masonry CWR & Steel CWR • Construction of Uttarakhand Koop. • Construction of Intake Chamber/Source Work • Design, Construction, Testing, Commissioning & Trial Run for a period of 3 months of Horizontal Flow Roughing Filter of 1.728 MLD. • Design, Construction, Testing, Commissioning of RCC CWRs 	<ul style="list-style-type: none"> • Construction of Intake Chamber (Ghatkhola) 1.5X1.5X 1.5 M- completed • Construction of Uttarakhand Koop – completed • Construction of Horizontal flow roughing filter 1.728 mld – Raft foundation, Outer wall and column completed; Planks fixing and Filter media work in progress. • Dismantling of old GLSRs completed • 50 KL GLSR at Ghatkhola- 	Nil	Strict application of EMP mitigation measures	-

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
			completed and commissioned • 25 KL GLSR at Mankhet completed • 300KL tank completed • Pipe laying completed – - 125mm dia. GI pipe 70m - 100mm dia. GI pipe – 6028m - 50mm dia. GI pipe- 1248 m - 40mm dia. GI pipe – 240m - 32mm dia. GI pipe – 90 m			
Rudraprayag (UK/UEAP- WSS-GW/01- Lot 1)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of	<ul style="list-style-type: none"> • Supply, Laying, Jointing, Testing & Commissioning of MSERW lined Gravity Transmission Main. • Supply, Installation of 3 No. Uttarakhand koops. • Rehabilitation of RCC Intake Chambers • Construction of RCC bridge to carry the pipeline across the stream. 	<ul style="list-style-type: none"> • Office building –AE room, JE room and Store, , Room flooring completed, Plasterwork in progress at Main office building 	Nil	Strict application of EMP mitigation measures	-

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
	Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> • Replacement / Supply & Laying of pipelines damaged due to flood. • Construction of Office Building • Supply and Installation of Sluice Valves, Scour Valves and Air Valves • Providing, Fixing of RCC Valve Chamber for housing valves • Supply and Installation of Bulk Water Meters • Road Restoration works. 	<ul style="list-style-type: none"> • Pipe laying completed – <ul style="list-style-type: none"> - 200mm dia. GI pipe 1980 m - 80mm dia. GI pipe – 280 m - 50mm dia. GI pipe- 1248 m - 65mm dia. GI pipe – 450 m - 32mm dia. GI pipe – 300 m - 25 mm dia. GI pipe – 300 m • AE, JE and Stores completed brickwork in progress at main office building. • Stream crossing works completed • 1313 Ipm Uttaranchal Koop completed 			

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
Karnprayag (UK/UEAP- WSS-GW/01- Lot 2)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> • Supply, Installation of 1 No. of Infiltration Well. • Rehabilitation of RCC Intake Chambers. • Supply, Laying, Jointing, Testing and Commissioning of MSERW Pipe of 200mm (ID) dia, 6mm thick for a length of 6000m from Well Site (0 chainage) to ITI Colony Proposed Tank (6000 chainage). • Construction of RCC Bridge to carry the pipeline across the stream at different locations. • Construction of CWR of 500KL capacity at Pujari Gaon location, 150 KL at GGIC and 35KL CWR at Taxi Stand (Near Petrol Pump). • Replacement / Supply & Laying of pipelines damaged due to flood. • Construction of Office building. • Supply and Installation of Sluice Valves, Scour Valves and Air Valves • Providing, fixing of RCC valve chamber for housing valves • Supply and Installation of Bulk Water Meters • Road Restoration works. • Design, Supply, Installation, Testing, Commissioning of Electromechanical works including trial run for a period of 3 months at 	<ul style="list-style-type: none"> • 13330 m of pipe procured. • 11048 m of pipe length laid. • office building completed • 500KL at ITI Colony Raft reinforcement is in progress. Protection wall completed • Protection work is in progress for 500KL GLSR; • Protection work in 150kl and 35kl GLSR completed. • 150kl and 35kl GLSR completed • Two bridges completed for stream crossing, work is in 	Nil	Strict application of EMP mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<ul style="list-style-type: none"> • different locations • Instrumentation work at Proposed Infiltration Well 	<p>progress for the third bridge</p> <ul style="list-style-type: none"> • Infiltration Well Completed. Finishing is in progress. • 100KI Sump Completed. Finishing is in progress. 			
<p>Gauchar (UK/UEAP-WSS-GW/01-Lot 3)</p>	<p>Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.</p>	<ul style="list-style-type: none"> • Supply, Installation of 1 No. of Infiltration Well. • Rehabilitation of RCC Intake Chambers. • Supply, Laying, Jointing, Testing and Commissioning of MSERW pipe of 200mm dia, 6mm thick for a length of 3000m from airport gate (0 chainage) to 100 kl GLSR (Panai). • Replacement / supply & Laying of pipelines damaged due to flood. • Construction of Office building as the existing office building was partly damaged. • Supply and Installation of Sluice Valves, Scour Valves and Air Valves • Providing, fixing of RCC valve chamber for housing valves • Supply and Installation of Bulk Water Meters • Road Restoration works 	<ul style="list-style-type: none"> • 12812 m of pipe procured. • 10823 m of pipe length laid. • 100KL GLSR Completed. Finishing work is in progress. • office building completed • Infiltration Well Completed. Finishing is in progress.. 	<p>Change location of GLSR to Panai</p>	<p>Strict application of EMP mitigation measures</p>	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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 (UK/UEAP- WSS-GW/01- Lot 4)	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	<ul style="list-style-type: none"> • Construction of RCC Cross Wall for a length of 20 meters and height of 1 Meter • Construction of Intake Chamber of size 1.0 M X 1.0 M X 1.0 M. • Supply and Laying of 250mm dia MS ERW Pipeline for a length of 150 Meters from the outlet of intake chamber of Kohari Gad source. • Supply and Laying of 200mm dia MS ERW Pipeline for a length of 1000 Meters for replacing existing damaged 200mm dia CI pipeline feeding to Gufiyara WTP. • Supply and Laying of 250mm dia MS ERW Pipeline for a length of 650 Meters downstream of WTP at Jangara. • Supply and Laying of 200mm dia MS ERW Pipeline for a length of 50 Meters downstream of Chiwa Gad Stream Junction. • Supply and Laying of 200mm dia MS ERW Pipeline for a length of 130 Meters below the bed across Assi Ganga River before confluence point (Sangam) of rivers Assi Ganga and Bhagirathi including concrete encasing for pipeline. • Supply and Laying of 100mm dia GI Pipeline for a length of 1500 Meters 	<ul style="list-style-type: none"> • Two tubewells completed, and supply started • One pump house completed. • 1.63MLD WTP at Gufiyara - Filter media work is in progress. Protection wall in progress • 0.67MLD WTP at Bhatwadi Filter media Work completed • 5799 m of pipe length laid. 	Nil	Strict application of EMP mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<p>from Gufiyara WTP CWR to Tiloth and 500 Meters form Gufiyara CWR to Batwadi WTP CWR.</p> <ul style="list-style-type: none"> • Supply and Laying of 125mm dia MS ERW Pipeline for a length of 800 meters and 100mm dia GI Pipeline for a length of 1200 Meters from Gufiyara WTP CWR to Gyansu. • Sluice Valves, Scour Valves and Air Valves are proposed to be installed. • RCC valve chambers and thrust blocks/anchor blocks are proposed to be constructed. • Drilling of new Tube wells (2 nos.) through Dual rotary method of 400mm dia for a depth of 45 meter including providing and fixing ERW MS casing pipe for a depth of 20 meter. • Construction of 2 Nos. RCC framed Pump Houses of 20 Sqm area each at Ramleela Maidan. • Rising Main of ERW MS 300mm dia pipeline for a length of 1300 meter form Ramleela Maidan to 350 KL CWR at Gufiyara WTP. • Supply and Fixing DI Non-return valve, CI Bulk Water Meter, DI Sluice Valve at outlet pipeline from Tube Well inside each Pump House at Ramleela Maidan. 				

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<ul style="list-style-type: none"> • Supply and fixing DI Scour valve for 300mm dia rising main near Ramleela Maidan. • Supply and Fixing DI Double orifice Air valve on 300mm dia Rising Main. • Construction of RCC valve Chambers for Scour valve and Air Valves. • Rehabilitation of 0.67 MLD WTP at Batwadi Road • Rehabilitation of 1.63 MLD WTP at Gufiyara • Rehabilitation of 4.58 MLD WTP at Jangara • Electrical Works • 				
<p>Devprayag (UK/UEAP-WSS-GW/01-Lot 5)</p>	<p>Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.</p>	<ul style="list-style-type: none"> • Construction of RCC Cross Walls at Sources. • Providing and fixing Uttarakhand Koop. • Supply and Laying of Transmission Mains. • Construction of 50 kl GLSR New Tahsil. • Supply and Laying of Distribution Pipelines. • Supply and Installation of Valves and Water Meters. • Construction of RCC valve Chambers. • Restoration of Roads. 	<ul style="list-style-type: none"> • 25120 m of pipe length laid. • office building - Column footing work is in progress. • Uttaranchal Koop - Two nos installation completed at Randhigadh. 	<p>Nil</p>	<p>Strict application of EMP mitigation measures</p>	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<ul style="list-style-type: none"> Construction of Office Building near Tahsil. 	<ul style="list-style-type: none"> 50KL CWR - Slab concreting completed. Finishing to be done 			
Srinagar (UK/UEAP-WSS-GW/02)	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works	<ul style="list-style-type: none"> Construction of RCC Retaining Wall for Pump House. Design and Construction of RCC framed low level pump house. Providing and fixing trolley / lifting arrangement for low level pump house. Replacement of damaged raw water Pumps and Motors. Alteration of Existing Jack Well as high level pump house. Supply and Installation of New Raw Water Pumps in High level Pump House (Existing Jack Well). Supply and Laying Raw Water Transmission Mains. Rehabilitation of 6 MLD Water Treatment Plant. Rehabilitation of 3.75 MLD Water Treatment Plant. Rehabilitation of 2.0 MLD Water Treatment Plant. Design and Construction of RCC framed structure for Chlorine room at existing WTP premises. Design, Supply and Installation of Chlorination system by Chlorine 	<ul style="list-style-type: none"> 21453 m of pipes laid. office building completed 500 KL GLSR Design & Drawing Approved. Excavation in progress. Protection wall completed. 1000 KL GLSR completed 500 KL Sump - Top dome Reinforcement is in progress Rehabilitation of WTP - 24 nos. 	Alignment of Rising Main changed Construction of Raw Water Pump House deleted at Srinagar Rehabilitation of Raw Water Pump House included Rehabilitation of Clear Water Pump House included Introduced 6 tube wells in place of Infiltration Well	Strict application of EMP mitigation measures	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<p>gas with Vacuum type Chlorinators for all three WTP's</p> <ul style="list-style-type: none"> • Supply and Installation of Clear Water Pumps in 6 MLD & 3.75 MLD WTP Clear water Pump Houses. • Supply and installation of Submersible pumps for infiltration well. • Supply and laying Clear Water Transmission Main from Proposed Pump House. • Supply and installation of clear water pumps at infiltration well site. • Infiltration Well Site Protection Work by constructing RCC gravity retaining wall. • Supply and Laying Clear Water Transmission Mains from existing WTP to various reservoirs. • Supply and Laying of distribution pipelines with pipe appurtenances. • Providing and Fixing House Service Connections. • Road Restoration Works. • Design and Construction of 500KL RCC Sump and Clear Water Pump House at Infiltration Well site. • Design and Construction of Infiltration Well near Govt. ITI college. • Water Supply Rehabilitation and Augmentation Scheme – Srinagar 	<p>pumps reached site and 17 are installed.</p> <ul style="list-style-type: none"> • RWPH-2 Pumps commissioned. • Pauri – 1 Pump commissioned • SCADA System room completed 			

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
		<p>and Pauri</p> <ul style="list-style-type: none"> • Design and Construction of Pump house over infiltration well. • Design and Construction of New Clear Water Storage Reservoirs of 500KL & 1000KL Capacities. • Design and Construction of Office Cum Staff Quarters building at existing WTP premises. • Design, supply, installation, testing, commissioning of Electro-mechanical works including trial run for a period of 3 months. • Design, Supply, Installation, Testing, Commissioning of Instrumentation, Automation and SCADA works at WTP premises and proposed Infiltration Well site including trail run for a period of 3 months. 				
<p>Srinagar (UK/UEAP- WSS-GW/02- 01</p>	<p>Design and Construction of Tube Wells by drilling of bore hole using Direct Rotary Method/RR/Dual Rotary/Percussion method , lowering of well assembly, development of bore well, performance (yield) test, design,</p>	<ul style="list-style-type: none"> • Design and Construction of 6 Tube Wells • performance (yield) test, • installation of Mechanical equipment to suit yield test results (single stage pumping), • laying of required lengths of pipe line up to termination / destination points, as per site requirements, • Construction of Pump houses, chamber, 	<ul style="list-style-type: none"> • Monitoring of wells done for two nos. • Boring of tube wells done for two nos. • Development work is in progress. 	<p>Nil</p>	<p>Strict application of EMP mitigation measures</p>	

Location/ Package code	Specific Package / Lot work	List of major works under the Package/ Lot	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
	supply and installation of Mechanical equipment to suit yield test results (single stage pumping), testing, commissioning, laying of required lengths of pipe line up to termination / destination points, as per site requirements, along with related mechanical as required, including Civil Works i.e Construction of Pump houses, chamber, Construction of Boundary Walls, operation and maintenance of tube wells for a period of 1 year and allied works in Srinagar	<ul style="list-style-type: none"> • Construction of Boundary Walls, • operation and maintenance of tube wells for a period of 1 year 				

B. Compliance of Safeguard Loan Covenants

13. 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
Environment		
9	<p>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>	<p>Under compliance</p> <p>Documents have been 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 (EMP) report prepared and approved by ADB. Due to change of scope during implementation IEEs have been revised and submitted to ADB.</p> <p>All measures and requirements as prescribed in IEE and EMP has been considered during implementation.</p> <p>Corrective or preventive action plans which reflected in Environment Monitoring Report has been taken care by project implementation authority</p>
Human and Financial Resources to Implement Safeguards Requirements		
12	<p>The Borrower shall ensure or cause the EA and relevant IA to ensure</p> <p>(a) that all necessary budgetary and human resources to fully implement the EMMP as required, are made available; and</p> <p>(b) designates at least one official each to supervise implementation of the EMMP</p>	<p>Under compliance</p> <p>Budgetary provisions have been included in EMPs</p> <p>One officer designated to supervise implementation of the EMMP</p>
Safeguards – Related Provisions in Bidding Documents and Works Contracts		
13	<p>Borrower shall ensure or cause the EA and each IA to ensure that all</p>	<p>Under compliance</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(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 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>(a) Approved IEEs, EMPs and RPs are attached in Bidding documents.</p> <p>In case of any change of scope, revised IEEs, EMPs have been prepared and corrective measures disclosed to contractor and same reflected in the “Environment Monitoring Report”</p> <p>(b) All IEEs indicate budgetary provisions for implementation of EMPs</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, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Agency for taking relevant corrective measures.</p> <p>(d) Haul roads 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 have been 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</p>	<p>Under compliance</p> <p>(a) This is 4th Semi-annual Environment Monitoring Report, prepared for the period January to June 2016. Next semi-annual report is due on 31st December 2016.</p> <p>(b) With the development of project and implementation, in case of additional</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>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>impacts/risks due to change in scope/area, will be reflected in revised IEEs, EMPs and accordingly Executing Agency (EA) will inform the ADB along with corrective action plan which will be reflected in the Monitoring Report.</p> <p>Accordingly revised IEEs were submitted to ADB and approved by ADB</p> <p>(c) In case of any breach of compliance with the measures and requirements set forth in the EMP; EA will promptly inform ADB and suitable corrective action plan will be planned.</p>
Prohibited List of Investments		
15	<p>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>	<p>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	<p>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</p>	<p>Complied in document and to be complied during implementation</p> <p>Provision are included (as per EMP & 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>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	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.	

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

14. The institutional arrangements specify the arrangements for the implementation of environmental provisions of the proposed sub-projects. The Executing Agency (EA), State Disaster Management Authority (SDMA) will work closely with the Implementing Agency (IA) Uttarakhand Jal Sansthan for effective implementation of environmental safeguards related requirements of the sub-projects. The institutional arrangements and responsibilities are detailed below.

15. The sub-projects will be implemented and monitored by Uttarakhand Jal Sansthan 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.

16. The Safeguard Staff of UEAP SDMA (EA) in PMU & IA will monitor the implementation of environmental covenants with assistance of Engineer (DSC).

17. 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 EMP of the subprojects wherein the contractor will depute one Environmental Safeguard Officer who shall be responsible for implementation of EMP, 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

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

18. 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	<ul style="list-style-type: none"> ➤ Hazardous Waste (Management and Handling) Rules, 1989 ➤ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ➤ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995 ➤ Hazardous Microorganisms and Genetically

Sl. No.	Sources	Legislation
		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

19. Prominent Acts / Notifications are discussed below

- **THE ENVIRONMENT PROTECTION ACT, 1986 AND THE EIA NOTIFICATION, 1994/ 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.

- **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.

- **THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000, AS AMENDED**

Since the subproject corridor/ area is located within the city, the construction activity and use of heavy machinery and vehicles may increase the ambient noise levels 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.

- **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**

Table 4: Action required ensuring compliance with National Environmental Laws

Component	Applicable Legislation	Compliance	Action Required
Water Treatment Plant (WTP)	Water (Prevention and Control of Pollution) Act 1974	Consent to Establish (CTE) and Consent to Operate (CTO) from Government of Uttarakhand	Based on project review and site inspection, Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) provide CTE before construction, and stipulate the disposal standards to be met during operation. After completion of construction, Consent to Operate (CTO) will be issued confirming compliance with the CTE conditions, if any
		Renewal of CTO during operation of Water Treatment Plant (WTP)	Based on the performance of the WTP and its compliance with the disposal standards CTO to be renewed every year.

B. Compliance with Environmental Regulations

21. Three sub projects are considered under UEAP – water supply system. As per state and national rules clearance and consent are required for few projects.

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

23. Environmental compliance status for the running project is enclosed in **Annexure 1**.

Table 5: Present Status of Environment, Forest & other clearances (up to June 2016)

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply,	Water (Prevention and Control of Pollution) Act. 1974 Consent to Establish (CTE) for rehabilitation of WTP from	Consent to Establish (CTE) for rehabilitation of WTP	Not required	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula (UK/UEAP-WSS-KU/01) Lot 2: Bageshwar	Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation			amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP,
Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Rudraprayag, Karnprayag, Gauchar, Uttarkashi & Devaprayag (UK/UEAP-WSS-GW/01) Lot 4: Uttarkashi Lot 5: Devprayag	Water (Prevention and Control of Pollution) Act. 1974 Consent to Establish (CTE) for rehabilitation of WTP from Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation	Consent to Establish (CTE) for rehabilitation of WTP	Not required	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP,
	As per "The Forest (Conservation) Act, 1980" online application submitted to DFO for acquisition of forest land tree felling	Forest land acquisition – 0.36 ha for construction of office building at Devaprayag	Clearance obtained on 30.12.2015 by Government of India Ministry of Environment, forest and climate change, Regional office Dehradun	0.36 ha of forest land for non forest purpose handed over to UJS on 18.02.2016 on lease for 30 years and maintenance of 190 trees. (Refer annexure 2)
Construction of low level pump house, installation of raw water and clear water pumping	Water (Prevention and Control of Pollution) Act. 1974 Consent to	Consent to Establish (CTE) for rehabilitation of WTP	Not required	Existing Water Treatment Plant does not have Consent to Operate under Water (Prevention and Control of

Work (Package No.)	Applicable Legislation/ Type of clearance	Subject / Issue	Clearance given by and date	Remarks/ Action needed
machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works at Srinagar (UK/UEAP- WSS-GW/02)	Establish (CTE) for rehabilitation of WTP from Uttarakhand Environmental Protection and Pollution Control Board (UEPPCB) at Dehradun Consent to operate will be required before operation			Pollution) Act, 1974 and amendments. Ref. to discussion with Pollution Control Board it emerges that there is no fixed requirement for consent to establish for rehabilitation of WTP.
For all packages under UEAP- WSS UK/UEAP-WSS- KU/01 UK/UEAP-WSS- GW/01 UK/UEAP-WSS- GW/02 Srinagar (UK/UEAP- WSS-GW/02-01)	Water (Prevention and Control of Pollution) Act. 1974 The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Noise Pollution (Regulation and Control) Rules, 2002 amended up to 2010 Also for setting up diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	-	-	During implementation of project compliance against Air Act, Noise Rules and Water Act will be required

IV. IMPLEMENTATION STATUS OF ENVIRONMENT MEASURES

24. Work in all the 9 sub projects till 30th June 2016 are under progress. In some sub project works are almost complete. Application of EMP is being implemented as per IEE report. The compliance monitoring format for application of mitigation measures against impacts on air, water, soil environment, and social and safety aspects is enclosed in **Annexure 3**. Format for summary compliance status of EMP application and actions/ corrective measures presented in **Table 6** below.

Table 6: Summary Compliance status of Environment Management and Monitoring Plan (30.06.2016)

Location	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/ Partially Satisfactory/Below Satisfaction/Poor/Very Poor)	Actions Proposed or continued/ Additional Corrective Measures Required
Kapkot	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula (UK/UEAP-WSS-KU/01 Lot 1)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular intervals during construction phase ✓ Arrangement of First aid box
Bageshwar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula (UK/UEAP-WSS-KU/01 Lot 2)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular intervals during construction phase ✓ Arrangement of First aid box
Dharchula	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental

Location	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/Partially Satisfactory/Below Satisfactory/Poor/Very Poor)	Actions Proposed or continued/ Additional Corrective Measures Required
	(UK/UEAP-WSS-KU/01 Lot 3)			monitoring tests being done at regular regulars during construction phase ✓ Arrangement of First aid box
Rudraprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 1)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular regulars during construction phase ✓ Arrangement of First aid box
Karnprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 2)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular regulars during construction phase ✓ Arrangement of First aid box
Gauchar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 3)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular regulars during construction phase ✓ Arrangement of First aid box

Location	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/Partially Satisfactory/Below Satisfactory/Poor/Very Poor)	Actions Proposed or continued/ Additional Corrective Measures Required
Uttarkashi	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 4)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular intervals during construction phase ✓ Arrangement of First aid box
Devprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (UK/UEAP-WSS-GW/01- Lot 5)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular intervals during construction phase ✓ Arrangement of First aid box
Srinagar	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works (UK/UEAP-WSS-GW/02)	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of PPE ✓ Labour in rented accommodation ✓ Environmental monitoring tests being done at regular intervals during construction phase ✓ Arrangement of First aid box
Srinagar	Design and Construction of Tube Wells by drilling of bore hole using Direct Rotary Method/RR/Dual Rotary/Percussion	Yes	Satisfactory	Labour licence & workmen compensation obtained ✓ PUC certificate submitted ✓ Complete use of

Location	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)	Actions Proposed or continued/ Additional Corrective Measures Required
	method , lowering of well assembly, development of bore well, performance (yield) test, design, supply and installation of Mechanical equipment to suit yield test results (single stage pumping), testing, commissioning, laying of required lengths of pipe line up to termination / destination points, as per site requirements, along with related mechanical as required, including Civil Works i.e Construction of Pump houses, chamber, Construction of Boundary Walls, operation and maintenance of tube wells for a period of 1 year and allied works in Srinagar (UK/UEAP-WSS-GW/02-01)			PPE ✓ Labour in rented accommodation ✓ Arrangement of First aid box

V. ENVIRONMENTAL MONITORING AND EVALUATION

25. 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 EMP. 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, water and soil quality
- Compliance to EMP
- Compliance to local/state/national environmental regulations

26. During implementation process, performance monitoring fact sheet is being prepared against each possible environmental impact and attached with the monitoring report. **Annexure 4** shows the Performance Fact Sheet for implementation of EMP.

27. Base line air, noise, water quality monitoring have been carried out at all working areas of 9 towns, as per scope of work. During construction monitoring has been carried out at all the 9 project towns as follows-

January 2016 in Bageshwar, Kapkot and Dharchula town

April 2016 in Srinagar, Rudraprayag, Karnaprayag, Gauchar and Uttarkashi

May 2016 in Devprayag

28. **Annexure 5** shows monitoring report summary. All the monitoring results were compared with the national standards for residential areas with respect to Air quality (refer annexure -8), surface water quality (refer annexure - 9) , Ground water quality (refer annexure -10) and noise quality (annexure -11)

Findings of the monitoring are –

- ✓ Marginal Increase of PM_{2.5} and PM₁₀ concentration at all the town and during construction. Same trend is noted for SO₂ and NO₂.
- ✓ In all the cases during construction and before construction PM_{2.5} and PM₁₀, SO₂ and NO₂ concentrations are within the standard.
- ✓ Concentration of CO is below the detectable limit
- ✓ “During construction” noise level during day and night is marginally increased at all the 9 towns in compared to base line level at those locations
- ✓ Water quality parameters like pH, total hardness, total dissolved solid, chloride, coliform bacteria all are within the standard
- ✓ Fluoride is not detected in water sample and also iron is below the limit.
- ✓ Also residual free chlorine is not detected in water sample
- ✓ There is no significant change in water quality status during construction

29. “During construction” monitoring will be continued out as per Environment Management and Monitoring Plan. Next environment al monitoring will be conducted in October 2016 at Kapkot, Bageshwar, Dharchula and Devprayag and in November 2016 monitoring will be conducted at Rudraprayag, Karnaprayag, Gauchar, Uttarkashi and Srinagar .

VI. MAJOR PROJECT ISSUES AND PROBLEMS ENVIRONMENTAL CONTEXT

30. Field activity of the sub-project has started at most of the locations. Up to June 30, 2016 contractors have done good progress in all subprojects and in some area considerable progress has been reported. Till date, no major issues and problems have been encountered with, at the sub project locations.

VII. CONSULTATIONS, TRAINING AND RECOMMENDATIONS ENVIRONMENTAL CONTEXT

31. For protection of local environment during construction phase, application of mitigation measures will be done as per specified EMP. Pubic consultation during construction/ implementation phase particularly at sensitive areas will be planned as per the requirement. **Annexure 6** shows the blank consultation format for recording. Pipe laying work is on progress for the sub projects, work mostly continued at open

space or isolated location. Consultation work will be taken up with progress of work once it will start within the settlements.

To create awareness among workers and supervisors on Environment Health and safety issues during construction contractor and DSC arranged onsite training programmes for the contractor's workers along the construction supervisors. Such training were organised at Bageshwar, Kapkot and Dharchula town.

32. Training was attended by the contractor's workers and supervisors. **(Refer annexure 13)**

VIII. GRIEVANCE REDRESSAL

33. 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 EMP. 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 EMP implementation will be received by the concerned Executive Engineer of UEAP division. The Executive Engineer shall refer the application to Design and 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.

34. Central GR committee has been set up under UEAP at UJS. Till date no complain has come to the GR committee

35. Sample Grievance Registration Format is enclosed as **Annexure 7**.

IX. ISSUES AND ACTION PLAN

36. Urbanization has increased at a rapid pace in India over the recent years, much faster than the increase in urban infrastructure facilities to support them. Also, pressure of population has been more on larger towns/cities putting enormous pressure on the resources of municipalities so much so that most are unable to keep up with the provision of even basic services and infrastructure resulting in irregular availability of

water, sanitation and public amenities. In extreme cases, this has aggravated risks to public health and safety. Nine towns as selected under the Emergency Program particularly for water supply sector needs immediate attention and urgent implementation process.

37. Experience from ADB-funded urban projects show complex social, economic, legal, institutional, and management issues in urban development – largely derived from realities of urban life in developing countries like India. Urban projects typically consist of a variety of infrastructure such as roads, water, sewerage, solid waste, and slum improvement/upgrading activities. 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.

38. Contractors have done good progress in all subprojects and in some area considerable progress have been reported. Provisions in the EMP are implemented in all the subproject towns (**Refer Annexure -14**). Till date, no major issues and problems have been encountered with, at the sub project locations. Suggestion & action plan is shown in **Table 7**

Table 7: Suggestion & Action plan considered for satisfactory Environmental Compliances

Sr. No.	Issues	Suggestion and recommendation	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	Continue process.
3	Pollution Under control certificate	Collection of remaining PUC for vehicle and equipment	Contractor	Within September 2016
4	Arrangement of labour camp/ rented house for contractor	Arrangement as per requirement	Contractor	Continue process
5	Restoration of the construction area	At earliest as possible	Contractor	Within November 2016
6	Social relationship and public safety	Arrangement of safety tape and public consultation	Contractor	Continue process
7	Training to workers	Regular tool box training for laborers. Safeguard orientation training for contractor	Contractor, PIU, DSC	Continue process
8	Renewal of Labour License	Continue on regular basis	Contractor, PIU, DSC	Continue process


ANNEXURE 1: ENVIRONMENT FOREST AND OTHER COMPLIANCES (as on 30th June , 2016)

Package	EIA Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological dept.	Consent for establishment of crusher from quarry material supplier	MSW Rules	CTE/ CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorinization (storage of Chlorine cylinder) at WTP
(UK/UEAP-WSS-KU/01 Lot 1) Kapkot	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line – 10.01. 15 to 12.01.2015 During construction- 08.06. 15 to 09.06.15, 29.10. 15 to 30.10. 15 22.01.16 to 24.01.16	NR now
(UK/UEAP-WSS-KU/01 Lot 2) Bageshwar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 10.01.15 to 12.01. 15 During construction – 27.10.15 to 28.10.15 21.01.16 to 22.01.16	NR now
Supply (UK/UEAP-WSS-KU/01 Lot 3) Dharchula	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line – 12.01.15 & 13.01.15 During construction- 10.06.15 to 11.06.15 01.11.15 to 02.11.15 18.01.16 to 20.01.16	NR now
(UK/UEAP-WSS-GW/01-Lot 2) Rudraprayag	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 21.02.15 to 22.02.15 During construction – 22.10.15 to 24.10.15 07.04.16 to 08.04.16	NR now
(UK/UEAP-WSS-GW/01-Lot 2) Karnprayag	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 23.02.15 to 25.02.15 During construction – 22.10.15 to 24.10.15 09.04.16 to 10.04.16	NR now

Package	EIA Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological dept.	Consent for establishment of crusher from quarry material supplier	MSW Rules	CTE/ CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorinization (storage of Chlorine cylinder) at WTP
(UK/UEAP-WSS-GW/01-Lot 3) Gauchar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 28.01.15 and 01.02.15 During construction – 20.10.15 to 22.10.15 08.04.16 to 09.04.16	NR now
(UK/UEAP-WSS-GW/01-Lot 4) Uttarkashi	NR	NR	NR	NR	NR	NR	NR	NA	NR	NA	NR	Submitted	Done Base line- 26.02.15 and 27.02.15 During construction – 24.10.15 to 26.10.15 11.04.16 to 12.04.16	NR now
(UK/UEAP-WSS-GW/01-Lot 5) Devprayag	NR	NR	Yes – forest clearance received on 18.02.2016	NR	Yes – forest clearance received on 18.02.2016	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 07.04.15 and 09.04.15 During construction – 02.12.15 & 04.12.15 03.05.16 to 05.05.16	NR now
(UK/UEAP-WSS-GW/02) Srinagar	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 20.02.15 and 22.02.15 During construction – 15.10.15 & 17.10.15 06.04.16 to 07.04.16	NR now
(UK/UEAP-WSS-GW/02-01) Srinagar (tube wells)	NR	NR	NR	NR	NR	NR	NR now	NA	NR	NA	NR	Submitted	Done Base line- 20.02.15 and 22.02.15 During construction – 15.10.15 & 17.10.15 06.04.16 to 07.04.16	

ANNEXURE -2: FOREST CLEARANCE DOCUMENTS

राष्ट्रिय वन विभाग
केंद्रीय वन विभाग, नवी दिल्ली
मुख्यालय, नवी दिल्ली
दूरध्वनी क्र. ०११-२३३७०००
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Phone: 815 2758800**

दिनांक: ०२/०६/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

विषय: ...

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

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आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

आवेदन क्र. ०२/२०१६/२०१६/०२/०१/२०१६/०२/०१/२०१६

ANNEXURE – 3: COMPLIANCE OF APPLICATION OF EMMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula								
Kapkot								
Package No: UK/UEAP-WSS-KU/01 Lot 1								
Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP implementation at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU and being implemented
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	All project sites	DSC/PIU and contractor	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU and contractor	Complied Site Safety training arranged by Environment Specialist of DSC and contractor Environment Officer
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or	Sign boards Project information	All project sites	DSC/PIU	Site visit and public consultations	Environment Specialist of DSC and Environment Officer of PMU	Complied during construction

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula								
Kapkot								
Package No: UK/UEAP-WSS-KU/01 Lot 1								
Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	dissemination					
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	All project locations	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU and DSC	Under compliance Approval obtained/ or to be obtained from PMU and DSC.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All excavation sites	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	All project locations	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. 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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan	Necessary permission/ NOC	All project locations	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula								
Kapkot								
Package No: UK/UEAP-WSS-KU/01 Lot 1								
Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	<p>Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU.</p> <p>Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local</p>	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Workers are staying in rented buildings with all facilities

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula								
Kapkot								
Package No: UK/UEAP-WSS-KU/01 Lot 1								
Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		ULB system or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in working sites and also in living place
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Excess earth Utilized in back filling
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged as per EMP Work completed
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
20	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. Waste will be disposed of to a suitable waste site in	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms						
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Water sprinkling done. Base line and during construction air quality monitoring

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	<p>All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to.</p> <p>The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project.</p> <p>The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.</p>	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted by contractor
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE being used Base line monitoring done. During construction

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.						noise monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied and most of the work completed

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		disruptions						
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied and excess earth utilized
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available Safety tape / barricade provided

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<p>potable drinking water;</p> <ul style="list-style-type: none"> • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 					<p>Potable Drinking water available at site.</p> <p>Safety signage present at site</p>
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as no labour or construction camp

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Kapkot Package No: UK/UEAP-WSS-KU/01 Lot 1 Physical progress : 92.3 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and Environment Officer of contractor

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Contractor.						
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics,	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts	Layout of components	All project locations	PMU/PIU/	Observation and document checking	Environment Specialist of DSC and Environment	Complied in design and

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	sensitive environmental areas / attributes of the site	and in compliance with statutory and regulatory requirements.			DSC		Officer of PMU	EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per requirement of EMP
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of	Any removal of vegetation or tree felling shall be done after taking	Necessary	-	DSC, PIU	Document	Environment Specialist of	Under compliance

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	construction areas	statutory permissions if required. 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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan	permission/ NOC			checking	DSC and Environment Officer of PMU	Restoration will be done
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking	Environment Specialist of DSC and	Complied in design and

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
						of design	Environment Officer of PMU	EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Workers are living in rented house with all facilities as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements,	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment	Provided at working site and also in

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		test methods and sampling procedure according to IS: 10500.					Officer of PMU	living place
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	To be Compiled Utilization of excess earth being done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		access roads are maintained in good condition						
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Being done as per requirement and site

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.						condition
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied .
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		the ground. All pollution parameters will be monitored as per monitoring plan.					PMU	
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will be considered Water sprinkling done. Base line air quality monitoring done and during construction monitoring done
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution control • Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted by contractor

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites 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. Noise limits for construction	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site Base line monitoring done. During construction also monitoring done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.						
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of	Not required now. Utility shifting plan

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions					PMU	(if any) will be developed and will be implemented as per site condition .
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) 	Project Locations	Contractor	Document check and visual	Environment Specialist of DSC and	PPE used by contractor , First aid box

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and	Plan <ul style="list-style-type: none"> • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 			observation	Environment Officer of PMU	available at site Safety tape / barricade provided Drinking water available at site . Training given to workers Safety signage present at site

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		around the construction site and prevent local people entering into the construction site.						
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	No such camp workers are living in rented buildings
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work. Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.					PMU	
Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Dharchula Package No: UK/UEAP-WSS-KU/01 Lot 3 Physical progress : 91.11 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period						
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and contractor Environment officer
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly	Sign boards Project information dissemination	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.						
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 		Under compliance Approval obtained/ or to be obtained from PMU and DSC.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. 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	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Done as per requirement Restoration being done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Expert of DSC All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Labour camp arranged in rented building All facilities available as

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.						per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS: 10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied , excess earth are being used for filling and site restoration

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.						
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied . Work mostly complete.
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> • Involvement of traffic dept. • Road closure planning • Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Under compliance
17	Quarry Operations	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. The Contractor shall obtain	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.						Purchase from local market
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms						
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials will

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		minimize dust generation	<ul style="list-style-type: none"> Water sprinkling arrangement Cover materials 					be considered Water sprinkling being done. Base line and during construction air quality monitoring done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites 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.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	<p>Complied</p> <p>No such noise producing machinery mobilized at site</p> <p>PPE utilizing partially.</p> <p>Base line monitoring done. During construction monitoring also done</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Board standards.						
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p> <p>All concrete mixing must take place on a designated, impermeable surface.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	<p>Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency</p> <p>Realign pipelines, if required and subsequently revise IEE</p> <p>Provide public information in case of service disruptions</p>	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste is being used
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule,	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula Bageshwar Package No: UK/UEAP-WSS-KU/01 Lot 2 Physical progress : 79.4 %								
sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		arrangement for supply of potable water should be made.						
30	Safety Measures During Construction	<p>Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in</p>	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	<p>PPE used by contractor First aid box available</p> <p>Safety tape / barricade provided</p> <p>potable drinking water available at site</p> <p>Safety signages found at site</p>

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sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.						
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as workers are living in rented buildings
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

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		further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.						
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and contractor environment officer

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
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		operate critical items of mechanical equipment without having been trained by the Contractor.						
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive	The project components siting will avoid impacts on the aesthetics of the site, ensure	Layout of components	All project locations	PMU/PIU/	Observation and document	Environment Specialist of DSC and	Complied in design and

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
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	environmental areas / attributes of the site	minimal impacts and in compliance with statutory and regulatory requirements.			DSC	checking	Environment Officer of PMU	EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	Project sites	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	Will be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
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9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. 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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration is being done
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Being implemented as per site condition particularly pipe laying area

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11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Rented house arranged for workers. All facilities provided as per EMP

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		Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged for working site and in the rented house
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth to be done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and	Complied

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.					Environment Officer of PMU	
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> • Involvement of traffic dept. • Road closure planning • Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Under compliance
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment	Arranged

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
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		consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.					Officer of PMU	
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied per requirement.
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied as per requirement
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials are considered Water sprinkling being done. Base line air quality

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								monitoring done and during construction monitoring also done
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used	<ul style="list-style-type: none"> Complaints from sensitive 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of 	Environment Specialist of	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites 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. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.	receptors • Use of silencers in noise-producing equipment and sound barriers • Monitoring data			records • Visual inspection of sites	DSC and Environment Officer of PMU	No such noise producing machinery mobilized at site PPE used at site Base line monitoring done. During construction monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.						
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Excess earth and demolish waste are being used

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		project site indiscriminately.						
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; Record of H&S orientation 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available Potable Drinking available at site Safety tape /

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.
Karnaprayag
Package No: UK/UEAP-WSS-GW/01- Lot 2
Physical progress : 78.49 %

Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<p>trainings</p> <ul style="list-style-type: none"> • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 					<p>barricade t provided</p> <p>Signage present</p> <p>Overall complied</p>
31	Clearing of Construction of	Contractor to prepare site	Site restoration	Project	Contractor	Site	Environment	Not required

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	Camps and Restoration	restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	plan	Locations		observation	Specialist of DSC and Environment Officer of PMU	as workers living in rented building
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Karnaprayag Package No: UK/UEAP-WSS-GW/01- Lot 2 Physical progress : 78.49 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works Srinagar Package No: UK/UEAP-WSS-GW/02 Physical progress : 70.15 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC Tool box training will be required on regular basis

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	-	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
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Physical progress : 70.15 %

Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All sites	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum.	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration is being done

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Will be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the	Selected location for construction work camps and	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and	Arranged rented

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	stockpile area,				Environment Officer of PMU	house All facilities-toilet, drinking water provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS: 10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working sites and rented houses
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth is being done.

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works Srinagar Package No: UK/UEAP-WSS-GW/02 Physical progress : 70.15 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.						
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> • Involvement of traffic dept. • Road closure planning • Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials done Water sprinkling being done. Base line air quality monitoring

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								done and during construction monitoring also done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the	<ul style="list-style-type: none"> Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records 	Environment Specialist of DSC and	Complied

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works Srinagar Package No: UK/UEAP-WSS-GW/02 Physical progress : 70.15 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites 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.</p> <p>Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards</p> <p>Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Use of silencers in noise-producing equipment and sound barriers Monitoring data 			<ul style="list-style-type: none"> Visual inspection of sites 	Environment Officer of PMU	<p>No such noise producing machinery mobilized at site</p> <p>PPE are in use</p> <p>Base line monitoring done.</p> <p>During construction monitoring also done</p>
26	Material Handling at Site	<p>Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles.</p> <p>Workers, who are engaged in welding works, will be provided with welder's protective eye-shields.</p> <p>Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing.</p>	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Partially complied. Instruction given to contractor for full compliance

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works Srinagar Package No: UK/UEAP-WSS-GW/02 Physical progress : 70.15 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		All concrete mixing must take place on a designated, impermeable surface.						
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.						
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available at all working ocations Safety tape / barricade provided at all excavated sites Signages present Overall complied

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
Srinagar
Package No: UK/UEAP-WSS-GW/02
Physical progress : 70.15 %

Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	<ul style="list-style-type: none"> Number of signages placed at subproject location 					
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required , workers living in rented houses
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Project: Water Supply - Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works
Srinagar
Package No: UK/UEAP-WSS-GW/02
Physical progress : 70.15 %

Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		they require ensuring its removal or protection in situ.						
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and contractor Environment officer .

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural /archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	All sites	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely	Selection of materials will be according to specification and from approved sources	<ul style="list-style-type: none"> List of approved quarry sites 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual 	PMU	Under compliance Approval

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	impact the aesthetic appeal of the destinations	Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	and sources of materials • Construction Contractor documentation			inspection of sites		obtained/ or to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	-	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	Will be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	-	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum.	Necessary permission/ NOC	-	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration being done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	No Labour camp , Workers are living in rented house all facilities provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working site and living place

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth being done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Being implemented as per requirement and site condition

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	<p>Complied Location of stockpiles selected.</p> <p>Covering of materials is practiced</p> <p>Water sprinkling being done.</p> <p>Base line air quality monitoring done and during construction monitoring also done as per EMP</p>
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The	<ul style="list-style-type: none"> • Heavy equipment and machinery with air pollution 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual 	Environment Specialist of DSC and Environment	PUC certificate submitted

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	control <ul style="list-style-type: none"> • Availability of PUC certificate 			inspection of sites	Officer of PMU	
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the night	<ul style="list-style-type: none"> • Complaints from sensitive receptors • Use of silencers in noise-producing equipment and sound barriers • Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE is being used Base line monitoring done. During

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.						construction monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied. Instruction given to contractor for the continuation of good material handling practices

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and will be implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		exceeds the intimated schedule, arrangement for supply of potable water should be made.						
30	Safety Measures During Construction	<p>Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid</p>	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	<p>PPE used by contractor</p> <p>First aid box available</p> <p>Safety tape / barricade provided</p> <p>Drinking water available</p> <p>Signages present</p> <p>Overall complied</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	location					
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as workers are living in rented house
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation;	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Gauchar Package No: UK/UEAP-WSS-GW/01- Lot 3 Physical progress : 74.96 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.						
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	All sites	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural/archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	All sites	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All sites	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	Will be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	All sites	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum.	Necessary permission/ NOC	All sites	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration being done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of	Arranged rented house

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU.</p> <p>Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.</p>					PMU	All facilities-toilet, drinking water provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working sites and rented houses
14	Waste disposal	<p>Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan.</p> <p>Contractor shall ensure that waste shall not be disposed off near the water</p>	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth being done.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		course or agricultural land, Orchards and Natural Habitats like Grasslands.						
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> • Involvement of traffic dept. • Road closure planning • Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and	Arranged in consultation

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.					Environment Officer of PMU	with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	Water Pollution from Fuel and Lubricants	The Contractor shall ensure that all construction vehicle parking locations,	<ul style="list-style-type: none"> Water pollution Complaint 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling sites shall be located at least 300 m away from rivers/streams and irrigation canal/ponds if any	from sensitive receptors				Officer of PMU	
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> • Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> • Location of stockpiles • Complaints from sensitive receptors • Monitoring data • Water sprinkling arrangement • Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials implemented Water sprinkling being done. Base line air quality monitoring

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
								done and during construction monitoring also done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	<p>All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to.</p> <p>The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project.</p> <p>The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.</p>	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise- 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of	Complied No such noise producing machinery

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		construction shall be fitted with exhaust silencers. At the construction sites 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. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.	producing equipment and sound barriers • Monitoring data				PMU	mobilized at site PPE in use Base line monitoring done. During construction monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule,	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		arrangement for supply of potable water should be made.						
30	Safety Measures During Construction	<p>Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the</p>	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	<p>PPE used by contractor</p> <p>First aid box available at all working ocations</p> <p>Safety tape / barricade provided at all excavated sites</p> <p>Signage erected at all sites</p> <p>Potable drinking water at all sites</p> <p>Overall complied</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.	location					
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required workers living in rented houses
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc Uttarkashi Package No: UK/UEAP-WSS-GW/01 lot-4 Physical progress : 75.95 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	All project sites	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and contractor Environment officer

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	All project sites	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural /archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	All project sites	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the	Selection of materials will be according to specification and from approved sources Procurement of all material	<ul style="list-style-type: none"> List of approved quarry sites and sources of 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection 	PMU	Under compliance Approval obtained/ or

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
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	destinations	according to the material specification of the contract document and sourced from licensed and approved sources.	materials <ul style="list-style-type: none"> Construction Contractor documentation 			of sites		to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All project locations	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be comply as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	All project locations	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. 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	Necessary permission/ NOC	All project locations	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration being done

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		works or necessary temporary works shall be removed with prior approval from the Environmental Expert of DSC All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat	Selected location for construction work camps and	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment	No Labour camp , Workers are living in

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
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		and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	stockpile area,				Officer of PMU	rented house all facilities provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working site and living place
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth being done.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
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		Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.						
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> • Involvement of traffic dept. • Road closure planning • Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries	<ul style="list-style-type: none"> • List of approved quarry sites and sources of materials • Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		only after consent of the Department of Mines and Geology and District Administration.						Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste site	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms						
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials implemented

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
			<ul style="list-style-type: none"> Water sprinkling arrangement Cover materials 					Water sprinkling being done. Base line air quality monitoring done and during construction monitoring also done as per EMP
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites 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. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	<p>Complied</p> <p>No such noise producing machinery mobilized at site</p> <p>PPE in use</p> <p>Base line monitoring done.</p> <p>During construction monitoring also done</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc. Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction	<ul style="list-style-type: none"> Waste Management 	Project Locations	Contractor	Site	Environment Specialist of	Complied

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		waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	List <ul style="list-style-type: none"> Complaints from sensitive receptors 			observation	DSC and Environment Officer of PMU	Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; Medical insurance coverage for workers Supplies of potable drinking water; 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box available Safety tape / barricade provided Supplies of potable

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.</p>	<ul style="list-style-type: none"> Record of H&S orientation trainings Personal protective equipments Sign boards for comply public safety Complaints from sensitive receptors Number of signages placed at subproject location 					<p>drinking water at all sites</p> <p>Sign board at all sites</p> <p>Overall complied</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Rudraprayag Package No: UK/UEAP-WSS-GW/01- Lot 1 Physical progress : 85.83 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as workers are living in rented house
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and environment officer of contractor

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.	Sign boards Project information dissemination	Project sites	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural /archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	Project sites	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely	Selection of materials will be according to specification and from approved sources	<ul style="list-style-type: none"> List of approved quarry sites and sources of 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection 	PMU	Under compliance Approval obtained/ or

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
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	impact the aesthetic appeal of the destinations	Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	materials <ul style="list-style-type: none"> Construction Contractor documentation 			of sites		to be obtained from PMU and DSC.
7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All project locations	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	All project locations	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. All works shall be carried out such that the damage or disruption of flora other than those identified for cutting is minimum.	Necessary permission/ NOC	All project locations	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
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		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 All areas used for temporary construction operations will be subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP

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Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU. Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	No Labour camp , Workers are living in rented house all facilities provided as per EMP
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working sites and living place

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14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth being done.
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied.
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition

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20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	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 300 m away from rivers/streams and irrigation canal/ponds if any	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

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23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	<p>Complied Location of stockpiles selected.</p> <p>Covering of materials implemented</p> <p>Water sprinkling being done.</p> <p>Base line air quality monitoring done and during construction monitoring also done as per EMP</p>
24	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
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		Act, 1986 shall be strictly adhered to. The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.						
25	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites 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. Noise limits for construction	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied No such noise producing machinery mobilized at site PPE in use . Base line monitoring done. During construction monitoring also done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.						
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc.	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be developed

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions						and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) 	Project Locations	Contractor	Document check and visual	Environment Specialist of DSC and	PPE used by contractor

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		<p>adequate safety measures for workers during handling of materials at site will be taken up. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp. Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp. The Contractor will also ensure that the interests of the community are preferably not disturbed, and if</p>	<p>Plan</p> <ul style="list-style-type: none"> • Equipped first-aid stations; • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 			observation	Environment Officer of PMU	<p>First aid box available</p> <p>Safety tape / barricade provided</p> <p>Potable drinking water supplied at sites</p> <p>Signages posted at sites</p> <p>Overall complied</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the construction site and prevent local people entering into the construction site.						
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as workers are living in rented house
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. Devprayag Package No: UK/UEAP-WSS-GW/01- Lot 5 Physical progress : 67.64 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Site Establishment and Preliminary Activities phase								
1	Legislation, Permits and Agreements	In all instances, EA, IA contractors and consultants must remain in compliance with relevant environmental legislation of India at the national, state and local levels. Proof of compliance to statutory requirements must be forwarded by the facility owner and/or contractor to PMU/PIU in relation to hot mixing, stone crushers, diesel generators etc. A copy of the EMP must be kept on site during the construction period	EMP at site NOC from competent authority	All project sites	DSC/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	NOC not required EMP available with PIU
2	Education of site staff on general and Environmental Conduct	Ensure that all site personnel have a basic level of environmental awareness training Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitized to any potential hazards associated with their task No operator shall be permitted to operate critical items of mechanical equipment without having been trained by the Contractor.	Documentation – Training and awareness	-	DSC/PIU	Materials and records on awareness training program	Environment Specialist of DSC and Environment Officer of PMU	Complied Site Safety training arranged by Environment Specialist of DSC and environment officer of contractor
3	Social Impacts	Open liaison channels shall be established between the Site owner, operator, the contractors	Sign boards Project information dissemination	Project sites	DSC/PIU	Materials and records on awareness training	Environment Specialist of DSC and Environment	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		and interested and affected parties such that any queries, complaints or suggestions pertaining to environmental management aspects can be dealt with quickly and by the appropriate person(s). Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints.				program	Officer of PMU	
4	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created and the architectural /archaeological character of the surroundings	Design will include provisions for ensuring effective maintenance and protection of the assets created so as to ensure the long term sustainability.	Maintenance procedure as per design	Project sites	PMU/PIU	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design
5	Layout of components and its location to avoid impacts on the aesthetics, sensitive environmental areas / attributes of the site	The project components siting will avoid impacts on the aesthetics of the site, ensure minimal impacts and in compliance with statutory and regulatory requirements.	Layout of components	All project locations	PMU/PIU/ DSC	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
6	Selection of materials and construction technologies, if not carefully chosen, will adversely impact the aesthetic appeal of the destinations	Selection of materials will be according to specification and from approved sources Procurement of all material according to the material specification of the contract document and sourced from licensed and approved sources.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Material source sites	Contractor, PIU, DSC	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMU	Under compliance Approval obtained/ or to be obtained from PMU and DSC.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
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7	Socio cultural resources- Ground disturbance can uncover and damage archaeological and historical remains`	There is not such location anticipated on the project site. In case of chance of finding such location, Consult Archaeological Survey of India (ASI) and/or concerned dept. of Uttarakhand Govt. as applicable to obtain an expert assessment of the archaeological potential of the site	Chance find protocol	All project locations	PIU, PMU	Site observation, document checking	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per requirement
8	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed designs for the sub-project components shall ensure that environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, rainwater harvesting etc.	Detailed design	All project locations	DSC, PMU	Document checking and site feasibility	PMU	Under compliance
9	Site clearance activities, including delineation of construction areas	Any removal of vegetation or tree felling shall be done after taking statutory permissions if required. 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 All areas used for temporary construction operations will be	Necessary permission/ NOC	All project locations	DSC, PIU	Document checking	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Restoration will be done

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		subject to complete restoration to their former condition with appropriate rehabilitation procedures as per the rehabilitation plan						
10	Blockage of access in residential area, commercial area and sensitive location like school, college, hospitals and court	Contractor will identify such location in the preconstruction stage and prepare plan approved by DSC to minimize inconvenience to the people.	Complain from sensitive receptors	Construction location	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	To be complied as per site condition particularly pipe laying area
11	Slope protection near reservoir and intake well	Retaining wall will constructed near reservoir and intake well	Protection work	-	PMU/DSC	Observation and checking of design	Environment Specialist of DSC and Environment Officer of PMU	Complied in design and EMP
Construction phase								
12	Construction Camps - Location, Selection, Design and Layout	Siting of the construction camps, labour camp, and stockpiles shall be as per the guidelines of UEPPCB, ULB, village panchayat and any other applicable guideline to the local site. The contractor will assess the impact of the construction camp and should be acceptable to the PIU/ IA/PMU.	Selected location for construction work camps and stockpile area,	Construction camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	No Labour camp , Workers are living in rented house all facilities provided as per EMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Construction camps will be located away from settlements and drainage from and through the camps will not endanger any domestic or public water supply. Construction camps including sanitation facilities must be adequately drained. Sewage management through septic tanks and solid waste management through local ULB system or other alternate measures.						
13	Drinking water availability	Sufficient supply of potable water to be provided and maintained as per the standards, requirements, test methods and sampling procedure according to IS:10500.	Availability of drinking water	Working and camp site	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Provided at working sites and living place
14	Waste disposal	Pre-identified disposal location (identified by Contractor in compliance to relevant regulation and approved by DSC) shall be part of Comprehensive Waste Disposal Plan Solid Waste Management Plan. Contractor shall ensure that waste shall not be disposed off near the water course or agricultural land, Orchards and Natural Habitats like Grasslands.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Under compliance Utilization of excess earth being done.

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
15	Stockpiling of construction materials	Stockpiling of construction materials and excavated earth or silt in case of construction of river bed filtration does not impact obstruct the drainage and Stockpiles will be covered to protect from dust and erosion.	Selected location and facility	Project Locations	Contractor	Site checking	Environment Specialist of DSC and Environment Officer of PMU	Complied.
16	Access to Site	Contractors shall ensure that all side drains and scour check walls on access and haul roads are functioning properly and are well maintained. Contractors shall ensure that access roads are maintained in good condition	<ul style="list-style-type: none"> Involvement of traffic dept. Road closure planning Maintenance of road 	Specific project location	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
17	Quarry Operations	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. The Contractor shall obtain materials from approved quarries only after consent of the Department of Mines and Geology and District Administration.	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Construction Contractor documentation 	Quarries and material source areas	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Approval obtained from PMU and DSC Purchase from local markets
18	Arrangement for Construction Water	The contractor shall use ground/surface water as a source of water for the construction with the written consent from the	Water source locations	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged in consultation with PIU

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
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		concerned Department. The Contractor shall provide a list of locations and type of sources from where water for construction shall be extracted.						
19	Soil/land Erosion	Slope protection measures will be undertaken as per design to control soil erosion. There shall be a periodic checking of the site's drainage system by DSC, PIU/IA and PMU to ensure that the water flow is unobstructed.	Slope protection work	Construction locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Will be done as per requirement and site condition
20	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. Waste will be disposed of to a suitable waste site in accordance with Hazardous Wastes (Management, Handling and Transboundary movement) Rules, 2008 and amendments till date and applicable norms	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Arranged near water source
21	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 300 m away from	<ul style="list-style-type: none"> Water pollution Complaint from sensitive receptors 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		rivers/streams and irrigation canal/ponds if any						
22	Soil Pollution due to fuel and lubricants, construction waste	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. All pollution parameters will be monitored as per monitoring plan.	<ul style="list-style-type: none"> Soil pollution-contamination of ground 	Project locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied
23	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. Regular sprinkling of water and Stockpiles of soil will be kept covered in such a manner to minimize dust generation	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Water sprinkling arrangement Cover materials 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	Complied Location of stockpiles selected. Covering of materials implemented Water sprinkling being done. Base line air quality monitoring done and during construction monitoring also done as per EMP

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
24	Emission from Construction Vehicles, Equipment and Machinery	<p>All vehicles, equipment and machinery used for construction shall confirm to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to.</p> <p>The use of silent/quiet equipment compliant with India ambient noise standards and standards specified for manufacturers shall be encouraged in the sub Project.</p> <p>The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.</p>	<ul style="list-style-type: none"> Heavy equipment and machinery with air pollution control Availability of PUC certificate 	Project locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	PUC certificate submitted
25	Noise Pollution	<p>The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEF/CPCB noise standards and all Vehicles and equipment used in construction shall be fitted with exhaust silencers.</p> <p>At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment</p>	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	Project Locations	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	Environment Specialist of DSC and Environment Officer of PMU	<p>Complied</p> <p>No such noise producing machinery mobilized at site</p> <p>PPE in use</p> <p>Base line monitoring done. During</p>

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		shall be stopped during the night time between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will be in conformity to the BIS/SPCB/CPCB standards Regular monitoring of ambient noise levels to ensure compliance to Uttarakhand Environment Protection & Pollution Control Board standards.						construction monitoring also done
26	Material Handling at Site	Workers Employed on mixing cement, lime mortars, concrete etc., will be provided with protective footwear and protective masks and goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles, masks, and clothing. All concrete mixing must take place on a designated, impermeable surface.	Available protective equipments	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied.
27	Damage, and disturbance to other infrastructure in the construction site	Confirm location of infrastructure. Finalize alignment in coordination with agencies like Uttarakhand Power Corporation Limited, Bharat Sanchar Nigam Limited, etc.	List of affected utilities / infrastructure if any and operators	Specific project location	Contractor	Observation and document checking	Environment Specialist of DSC and Environment Officer of PMU	Not required now. Utility shifting plan (if any) will be

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		Ensure prior permission of respective agency Realign pipelines, if required and subsequently revise IEE Provide public information in case of service disruptions						developed and implemented with progress of work
28	Disposal of Construction Waste / Debris / Cut Material	The Contractor shall confirm that Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed around the project site indiscriminately.	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Complied Utilization of excess earth and demolish waste done
29	Disruption / cessation of existing water supply systems due to construction activity.	Care to be taken during improvement of existing water supply systems, so that disruption in existing water supply would not occur. Tentative schedule of closure should be known to affected people prior to cessation of water supply. In case disruption of water supply exceeds the intimated schedule, arrangement for supply of potable water should be made.	<ul style="list-style-type: none"> Schedule of closure 	Project site	Contractor, PIU	Checking of records Visual observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as per present nature of work
30	Safety Measures During Construction	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site will be taken up.	<ul style="list-style-type: none"> Site-specific Health and Safety (H&S) Plan Equipped first-aid stations; 	Project Locations	Contractor	Document check and visual observation	Environment Specialist of DSC and Environment Officer of PMU	PPE used by contractor First aid box

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		<p>The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress.</p> <p>The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work.</p> <p>Contractor shall also organize periodic visits by a qualified registered medical practitioner to the site and workers camp.</p> <p>Contact information of Doctor, availability & location of first aid box shall be displayed in appropriate language both at work site and workers camp.</p> <p>The Contractor will also ensure that the interests of the community are preferably not disturbed, and if unavoidable then disturbed to the minimum. Provide traffic management personnel, barricade, appropriate signage and safety information in and around the</p>	<ul style="list-style-type: none"> • Medical insurance coverage for workers • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for comply public safety • Complaints from sensitive receptors • Number of signages placed at subproject location 					<p>available</p> <p>Safety tape / barricade provided</p> <p>Potable drinking water supplied at sites</p> <p>Signages posted at sites</p> <p>Overall complied</p>

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Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		construction site and prevent local people entering into the construction site.						
31	Clearing of Construction of Camps and Restoration	Contractor to prepare site restoration plans for approval by the Engineer. The plan is to be implemented by the contractor prior to demobilization.	Site restoration plan	Project Locations	Contractor	Site observation	Environment Specialist of DSC and Environment Officer of PMU	Not required as workers are living in rented house
32	Risk of archaeological chance finds	Strictly follow the protocol for chance finds in any excavation work; Request FPIU/DSC or any authorized person with archaeological field training to observe excavation; Stop work immediately to allow further investigation if any finds are suspected; and Inform FPIU/DSC, and take any action they require ensuring its removal or protection in situ.	Chance find protocol	Project Locations	Contractor	Checking of record	Environment Specialist of DSC and Environment Officer of PMU	Not required till date
33	Conflict with locals	Contractor shall ensure that mostly the local labourers are employed and migratory laborer shall be employed only in case of unavoidable circumstances.	Employment record	Project Locations	Contractor	Checking of records	Environment Specialist of DSC and Environment Officer of PMU	Complied Local labours are employed

Project: Water Supply - Supply, Laying, Jointing, Testing and Commissioning of Tube wells at Srinagar Srinagar Package No: UK/UEAP-WSS- GW / 02- 01 Physical progress : 18.33 %								
Sr. No.	Field /Issue	Mitigation Activities and Method	Parameters monitored	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
34	Environment Safeguard Officer	Contractor shall appoint one full-time suitably qualified and experienced Environment and Safety Officer who shall be responsible for assisting contractor in implementation of EMP, community liaisoning, consultations with interested/affected parties, reporting and grievance redressal on day-to-day basis. This environment and safety officer will be at site till all works related to the project including demobilization are completed.	Available Environment and safety officer	Project site/ Office	Contractor	Observation, checking of presence and activity	Environment Specialist of DSC and Environment Officer of PMU	Complied

ANNEXURE 4: ENVIRONMENT PERFORMANCE FACT SHEET

S.No.	Sub project Code	Name of Sub Project	Name of Contractor	EMP Part of contract Document (Yes / No)	EMP being implemented (Yes / No)	Overall Status of EMP Implementation (Excellent, Satisfactory, Partially Satisfactory, Below Satisfactory)	Environmental Consents / Clearances Required						Nomination of Environmental & Social Safeguard Officer by Contractor (Nominated / Yet to be Nominated)	Dust Control (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Labour Camp Management (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Workers Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Traffic Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)
							Tree Cutting	Crusher	Batching Plant	Hot Mix Plant	Diesel Generator Set	Pollution Under Control (PUC) Certificates for Contractor's Vehicles					
UEAP Water supply sub Project																	
1	(UK/UEAP-WSS-KU/01 Lot 1) Kapkot	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory.	Not required now

2	(UK/UEAP-WSS-KU/01 Lot 2) Bageshwar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory	Not required now
3	(UK/UEAP-WSS-KU/01 Lot 3) Dharchula	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. at Kapkot, Bageshwar & Dharchula	Kasmirial Construction Pvt. Ltd.	Yes	Yes	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory	Not required now
4	(UK/UEAP-WSS-GW/01- Lot 1) Rudraprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	Yes.	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory	Not required now

5	(UK/UEAP-WSS-GW/01- Lot 2) Karnprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	Yes.	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory.	Not required now
6	UK/UEAP-WSS-GW/01- Lot 3) Gauchar	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc. (R. K. Engineers Sales Ltd.	Yes	Yes.	Satisfactory -	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory -	Not required now
7	(UK/UEAP-WSS-GW/01- Lot 4) Uttarkashi	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.	R. K. Engineers Sales Ltd.	Yes	Yes.	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Satisfactory	Rented house arranged	Satisfactory	Not required now

8	(UK/UEAP-WSS-GW/01- Lot 5) Devprayag	Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains and Design, Supply, Construction and Commissioning of Infiltration Wells, WTP, GLSR etc.		Yes	No	Satisfactory	Tree cutting NOC under process	NR	NR	NR	NR	Submitted	Nominated	Not required now	Rented house arranged	Satisfactory	Not required now
9	UK/UEAP-WSS-GW(02) Srinagar	Construction of low level pump house, installation of raw water and clear water pumping machinery, Supply, Laying, Jointing, Testing and Commissioning of Water Transmission Mains, Rehabilitation of WTP's Design, Supply, Construction and Commissioning of Infiltration Wells, Construction of Sump and Electrical and Instrumentation works (R. K. Engineers Sales Ltd.	Yes	Yes	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Not done	Rented house arranged	Satisfactory	Not required now

10	UK/UEAP-WSS-GW(02-01) Srinagar	Design and Construction of Tube Wells bore well, performance (yield) test, design, supply and installation of Mechanical equipment to suit yield test results (single stage pumping), testing, commissioning, laying of required lengths of pipe line up to termination / destination points, as per site requirements, Construction of Pump houses, chamber, Construction of Boundary Walls, operation and maintenance of tube wells for a period of 1 year and allied works in Srinagar	Uttaranchal Tubewell Construction	Yes	Yes	Satisfactory	NR	NR	NR	NR	NR	Submitted	Nominated	Not done	Rented house arranged	Satisfactory	Not required now
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Annexure 5: Monitoring data

PROJECT TOWN – KAPKOT				
Package - UK/UEAP-WSS-KU/01				
TEST RESULT MONTH OF January 2016				
SURFACE WATER				
S.No.	Test Parameters	Unit	Intake well, Up stream	Intake well, Down stream
1	Colour	Hazen	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable
4	Turbidity	NTU	<1.0	<1.0
5	pH Value	-	7.78	7.89
6	Total Hardness (as CaCO ₃)	mg/l	46.0	61.0
7	Iron (as Fe)	mg/l	<0.1	<0.1
8	Chlorides (as Cl)	mg/l	11.0	15.0
9	Residual free chlorine	mg/l	Nil	Nil
10	Total Dissolved Solids	mg/l	156.0	161.0
11	Fluoride (as F)	mg/l	<0.01	<0.01
12	Total Coliform	per 100ml	Absent	Absent

AM BIENT AIR M ONITORING					
S.No.	Test Parameters	Unit	Chetti (Near Intake Well)	Tehsil Road (Maa Uma Shiksha Saraswati Mandir)	Mandalkhet (Bhurkuti)
1	Particular Matter, PM _{2.5}	ug/m ³	42.17	46.19	45.19
2	Particular Matter, PM ₁₀	ug/m ³	86.19	85.19	83.01
3	Sulphur Dioxide (as SO ₂)	ug/m ³	9.72	11.19	9.72
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	21.19	20.72	19.19
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2

AM BIENT NOISE							
S.No.	Test Parameters	Unit	Up stream Chetti (Near Intek Well)	Down stream Chetti (Near Outtake Well)	Mandalkhet (Bhurkuti)	Tehsil Road (Maa Uma Shiksha Saraswati Mandir)	Govt. Hospital (Near Swasthya kendra)
1	Lmin	dB(A)	38.70	37.80	46.90	45.8	45.8
2	L10	dB(A)	60.77	61.08	63.97	67.02	64.04
3	L50	dB(A)	55.75	50.45	57.80	56	55.1
4	L90	dB(A)	40.43	39.23	46.20	46.52	46.97
5	Leq	dB(A)	57.49	57.07	60.54	62.58	59.74
6	Lmax	dB(A)	62.30	62.90	64.30	69.2	65.2
7	Leq-Day	dB(A)	59.00	58.64	61.94	64.18	61.27
8	Leq-Night	dB(A)	45.15	43.94	47.68	47.72	48.15

PROJECT TOWN : BAGESHWAR			
TEST RESULT MONTH OF January 2016			
SURFACE WATER			
S.No.	Test Parameters	Unit	Sarju River (Intake well)
1	Colour	Hazen	<5.0
2	Odour	-	Agreeable
3	Taste	-	Agreeable
4	Turbidity	NTU	<1.0
5	pH Value	-	7.87
6	Total Hardness (as CaCO ₃)	mg/l	41.0
7	Iron (as Fe)	mg/l	<0.1
8	Chlorides (as Cl)	mg/l	7.6
9	Residual free chlorine	mg/l	Nil
10	Total Dissolved Solids	mg/l	140.0
11	Fluoride (as F)	mg/l	<0.01
12	Total Coliform	per 100ml	Absent

AMBIENT AIR MONITORING				
S.No.	Test Parameters	Unit	Near Intek well Suraj kund	WTP at Kathayat Wada
1	Particular Matter, PM _{2.5}	ug/m ³	50.17	49.19
2	Particular Matter, PM ₁₀	ug/m ³	85.19	88.72
3	Sulphur Dioxide (as SO ₂)	ug/m ³	9.73	16.17
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	17.89	20.19
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2

SOIL						
S.No.	Test Parameters	Unit	Near Pipe Laying Area	Thakurwada	Near Intek Area	Near WTP Area
1	pH	-	8.17	7.32	7.11	7.32
2	Conductivity	uS/cm	799.87	517.21	497.20	872.19
3	Moisture	% by mass	12.17	10.17	10.72	9.87
4	Sodium as Na	mg/Kg	395.19	201.19	273.17	389.17
5	Potassium as K	mg/Kg	201.72	79.87	173.19	197.21
6	Total Kjeldahi Nitrogen	% by mass	0.61	0.65	0.97	0.17
7	Phosphorus	mg/Kg	41.72	20.19	49.92	71.17
8	Organic matter	% by mass	1.92	1.72	2.17	1.13
9	Organic Carbon	% by mass	2.73	2.19	2.97	2.01
10	Lead (as Pb)	mg/Kg	<0.1	<0.1	<0.1	<0.1
11	Soil- Gran Size Analysis/ Texture (% by mass)					
a)	Sand	% by mass	72.5	70.5	69.50	71.25
b)	Silt	% by mass	15.75	15.5	17.50	16.25
c)	Clay	% by mass	11.75	14.00	13.00	12.50

AM BIENT NOISE						
S.No.	Test Parameters	Unit	Near Intek well	Thakurwada (Alum Godown)	WTP Kathayat wada	Pipe Laying Area within city limit
1	Lmin	dB(A)	47.1	39.60	39.80	43.20
2	L10	dB(A)	69.78	63.69	65.69	70.04
3	L50	dB(A)	55.9	57.40	55.40	59.25
4	L90	dB(A)	47.92	41.59	42.43	56.95
5	Leq	dB(A)	64.77	60.46	61.58	64.95
6	Lmax	dB(A)	71.1	68.70	67.90	71.20
7	Leq-Day	dB(A)	66.41	61.93	63.09	66.53
8	Leq-Night	dB(A)	48.83	48.79	46.76	48.56

PROJECT TOWN : <u>DHARCHULA</u>			
TEST RESULT MONTH OF JANUARY 2016			
TAP WATER			
S.No.	Test Parameters	Unit	Gwal Gaon (300 KL Tank Reservoir)
1	Colour	Hazen	<5.0
2	Odour	-	Agreeable
3	Taste	-	Agreeable
4	Turbidity	NTU	<1.0
5	pH Value	-	7.76
6	Total Hardness (as CaCo ₃)	mg/l	58.0
7	Iron (as Fe)	mg/l	<0.1
8	Chlorides (as Cl)	mg/l	13.0
9	Residual free chlorine	mg/l	Nil
10	Total Dissolved Solids	mg/l	140.0
11	Fluoride (as F)	mg/l	<0.01
12	Total Coliform	per 100ml	Absent

GROUND WATER			
S.No.	Test Parameters	Unit	Galati Gadh
1	Colour	Hazen	<5.0
2	Odour	-	Agreeable
3	Taste	-	Agreeable
4	Turbidity	NTU	<1.0
5	pH Value	-	7.11
6	Total Hardness (as CaCO ₃)	mg/l	26.0
7	Iron (as Fe)	mg/l	<0.1
8	Chlorides (as Cl)	mg/l	13.0
9	Residual free chlorine	mg/l	Nil
10	Total Dissolved Solids	mg/l	86.0
11	Fluoride (as F)	mg/l	<0.01
12	Total Coliform	per 100ml	Absent

AMBIENT AIR MONITORING							
S.No.	Test Parameters	Unit	Ghat khola, 50 KL tank reservoir	Gwal Gaon (300 KL Tank Reservoir)	Gwal Gaon (Pipe line laying city line area)	Galati Gadh (Cross well Galati Gadh)	Galati Gadh (horizontal Ruffing Filter)
1	Particular Matter, PM _{2.5}	ug/m ³	43.51	48.19	50.12	50.75	48.72
2	Particular Matter, PM ₁₀	ug/m ³	80.17	86.12	87.17	87.92	87.31
3	Sulphur Dioxide (as SO ₂)	ug/m ³	9.87	12.12	13.17	14.91	12.12
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	16.12	15.12	25.72	19.87	19.87
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2

AMBIENT NOISE							
S.No.	Test Parameters	Unit	Gwal Gaon (300 KL Tank Reservoir)	Gwal Gaon (Pipe Line Laying City Line Area)	Galati Gadh (Cross Well Galati Gadh)	Galati Gadh (Horizontal Ruffing Filter)	Ghat Khola, 50 KL tank reservoir
1	Lmin	dB(A)	39.8	43.80	38.60	36.80	42.90
2	L10	dB(A)	66.39	67.95	63.90	63.58	64.67
3	L50	dB(A)	59.0	59.65	56.55	55.20	60.05
4	L90	dB(A)	45.83	45.99	40.96	39.44	45.30
5	Leq	dB(A)	61.77	64.82	60.76	59.44	60.79
6	Lmax	dB(A)	67.6	70.30	69.30	66.80	65.80
7	Leq-Day	dB(A)	63.28	65.10	62.29	61.01	62.18
8	Leq-Night	dB(A)	47.07	47.22	52.01	44.92	50.02

PROJECT TOWN : UTTARKASHI - TEST RESULT MONTH OF APRIL 2016

SURFACE WATER						
S.No.	Test Parameters	Unit	Upstream of intake well on Koharigarh	Downstream of intake well on Koharigarh	Upstream of Assi Ganga Intake well	Downstream of Assi Ganga Intake well
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	7.32	7.45	7.12	7.56
6	Total Hardness (as CaCO ₃)	mg/l	51	54	66	74
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1
8	Chlorides (as Cl)	mg/l	20	26	32	36
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil
10	Total Dissolved Solids	mg/l	84	92	120	116
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent

AMBIENT AIR QUALITY MONITORING							
S.No.	Test Parameters	Unit	Near Intake Well/WTP	Construction of WTP in Jangara	Construction of WTP in Kufiara	Construction of WTP in Batwadi Road	Near Construction Camp (Ramlila Maidan)
1	Particular Matter, PM _{2.5}	ug/m ³	44.23	53.25	55.91	48.75	43.31
2	Particular Matter, PM ₁₀	ug/m ³	87.92	89.92	92.25	87.95	90.21
3	Sulphur Dioxide (as SO ₂)	ug/m ³	12.15	12.21	13.71	12.21	12.17
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	19.87	20.71	21.27	22.31	18.72
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2
DRINKING WATER							
S.No.	Test Parameters	Unit	Tap Water				
1	Colour	Hazen	<5.0				
2	Odour	-	Agreeable				
3	Taste	-	Agreeable				
4	Turbidity	NTU	<1.0				
5	pH Value	-	7.56				
6	Total Hardness (as CaCO ₃)	mg/l	56				
7	Iron (as Fe)	mg/l	<0.1				
8	Chlorides (as Cl)	mg/l	27				
9	Residual free chlorine	mg/l	Nil				
10	Total Dissolved Solids	mg/l	112				
11	Fluoride (as F)	mg/l	<0.01				
12	Total Coliform	per 100ml	Absent				

AMBIENT NOISE MONITORING

S.No.	Test Parameters	Unit	Near Intake well/WTP	Construction of WTP in Jangara	Construction of WTP in Kufiara	Construction of WTP in Batwadi Road	Near Constructioon Camp (Ramilla Maidan)
1	Lmin	dB(A)	37.8	39.3	36.2	40.1	37.4
2	L10	dB(A)	59.52	60.02	51.43	60.24	58.19
3	L50	dB(A)	53.6	49.8	47.9	52.4	50.35
4	L90	dB(A)	39.46	40.96	39.81	40.71	39.96
5	Leq	dB(A)	46.35	57.54	51.38	59.35	54.66
6	Lmax	dB(A)	61.9	67.8	69.4	69.5	60.6
7	Leq-Day	dB(A)	57.57	58.93	52.61	60.81	
8	Leq-Night	dB(A)	41.83	43.12	41.8	44.48	

SOIL ANALYSIS

S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir (Sample No.1)	Disposal of silt from RBF Construction Site	Within the City limits where pipe laying	Within the City limits where pipe laying	Within the City limits where pipe laying	Constructi on Camp/Stor age Yard	Labour Camp
1	pH	-	7.5	8.6	8.4	7.6	8.7	7.2	7.6	8.4
2	Conductivity	uS/cm	625.8	587.7	538.61	652.9	523.76	610.81	622.5	599.76
3	Moisture	% by mass	8.72	9.61	9.56	8.67	9.5	8.29	8.91	9.7
4	Sodium as Na	mg/Kg	273.8	265.75	289.76	278.81	270.78	283.85	270.88	286.22
5	Potassium as K	mg/Kg	170.3	170.37	168.45	179.36	178.51	174.33	179.4	178.3
6	Total Kjeldahi Nitrogen	% by mass	723.7	630.88	635.7	741.75	625.56	732.7	745.6	730.45
7	Phosphorus	mg/Kg	67.8	60.51	71.82	67.51	60.85	68.87	67.76	69.2
8	Organic matter	% by mass	0.79	0.689	0.68	0.761	0.692	0.787	0.782	0.788
9	Calcium (as Ca)	% by mass	0.588	0.48	0.482	0.582	0.476	0.583	0.586	0.572
10	Magnesium (as Mg)	mg/Kg	172.35	170.3	176.39	174.38	172.32	169.36	172.35	175.3
11	Cation exchange capacity	Meq/100gm	19.71	20.68	19.45	19.43	17.58	20.67	19.7	19.75
12	Water Holding Capacity	% by mass	18.39	18.73	17.4	17.4	15.5	18.73	18.44	18.6
13	Bulk Density	gm/cc	1.12	1.12	1.12	1.11	1.14	1.12	1.14	1.12
14	Soil- Gran Size Analysis/ Texture (% by mass)									
(a)	Sand	% by mass	77.25	75.25	74.25	75.25	76.25	77.25	78.25	77.25
(b)	Silt	% by mass	14.25	11.25	12.25	15.25	14.25	12.5	13.25	11.25
(c)	Clay	% by mass	8.5	13.5	13.5	9.5	9.5	10.5	8.5	11.5

PROJECT TOWN : RUDRAPRAYAG TEST RESULT MONTH OF APRIL 2016							
SURFACE WATER							
S.No.	Test Parameters	Unit	Upstream of intake well and left bank of the river	Down Stream left bank of Intake Well	Upstream of RBF well and left bank of the river	Down Stream left bank of RBF	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	
5	pH Value	-	7.40	7.45	7.95	7.60	
6	Total Hardness (as CaCO ₃)	mg/l	22.0	18.0	44.0	15.0	
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	
8	Chlorides (as Cl)	mg/l	8.0	7.0	13.0	10.0	
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	
10	Total Dissolved Solids	mg/l	50.0	44.0	60.0	42.0	
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent	
AMBIENT AIR QUALITY MONITORING							
S.No.	Test Parameters	Unit	Near Residential Area	Commercial Area	Upstream of Intake Well	Downstream of Intake Well	Near Construction Camp
1	Particular Matter, PM _{2.5}	ug/m ³	51.27	49.11	45.89	48.71	49.98
2	Particular Matter, PM ₁₀	ug/m ³	89.72	90.21	86.37	87.23	87.31
3	Sulphur Dioxide (as SO ₂)	ug/m ³	12.29	11.17	12.17	11.11	12.29
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	19.87	21.12	20.21	17.27	20.27
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2

AMBIENT NOISE							
S.No.	Test Parameters	Unit	Residential Area	Commercial Area	Upstream of Intake Well	Downstream of Intake Well	Near Construction Camp
1	Lmin	dB(A)	35.4	35.6	36.90	37.90	39.5
2	L10	dB(A)	54.26	64.6	52.34	56.15	60.68
3	L50	dB(A)	51.35	60.25	47.20	46.00	56.30
4	L90	dB(A)	37.05	36.9	37.73	39.62	41.25
5	Leq	dB(A)	53.91	61.69	50.37	52.95	58.14
6	Lmax	dB(A)	64.5	69.4	57.90	62.90	64.9
7	Leq-Day	dB(A)	55.41	63.14	51.55	64.41	59.48
8	Leq-Night	dB(A)	38.43	37.61	40.31	41.05	42.01

SOIL ANALYSIS										
S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir (Sample No.1)	Construction of Reservoir (Sample No.2)	Disposal of site from RBF Construction Site	Within the City limits where pipe laying (Sample No.1)	Within the City limits where pipe laying (Sample No.2)	Construction Camp/Storage Yard	Labour Camp
1	pH	-	8.30	7.5	9.18	8.15	7.10	8.3	9.3	7.6
2	Conductivity	uS/cm	640.10	540.68	618.30	547.76	640.30	540.4	598.4	632.5
3	Moisture	% by mass	9.80	8.5	9.58	9.38	8.56	9.78	9.95	9.8
4	Sodium as Na	mg/Kg	195.70	280.12	196.70	279.24	195.61	197.27	199.78	188.69
5	Potassium as K	mg/Kg	90.30	95.78	91.29	100.46	92.28	93.32	97.3	92.25
6	Total Kjeldahi Nitrogen	% by mass	565.29	749.61	568.30	728.5	580.29	575.41	578.35	582.36
7	Phosphorus	mg/Kg	85.30	75.2	90.31	76.26	90.25	92.35	93.4	93.37
8	Organic matter	% by mass	0.471	0.721	0.452	0.71	0.47	0.456	0.778	0.478
9	Calcium (as Ca)	% by mass	0.275	0.346	0.268	0.365	0.273	0.265	0.283	0.269
10	Magnesium (as Mg)	mg/Kg	261.2	138.7	253.41	133.7	278.35	263.44	275.42	295.35
11	Cation exchange capacity	Meq/100gm	21.7	18.32	22.95	20.37	19.88	18.9	19.9	20.98
12	Water Holding Capacity	% by mass	17.28	16.3	18.4	19.3	17.67	16.48	17.64	17.66
13	Bulk Density	gm/cc	1.1	1.11	1.12	1.13	1.13	1.12	1.11	1.14
14	Soil- Gran Size Analysis/ Texture (% by mass)									
(a)	Sand	% by mass	75.25	78.25	74.3	78.25	72.25	75.25	76.25	73.25
(b)	Silt	% by mass	16.25	12.3	17.25	13.25	15.25	12.25	13.25	14.25
(c)	Clay	% by mass	8.50	9.45	8.45	8.5	12.50	12.5	10.5	12.5

PROJECT TOWN : KARNPRAYAG**TEST RESULT MONTH OF APRIL 2016****SURFACE WATER**

S.No.	Test Parameters	Unit	Upstream of intake well and left bank of the river	Down Stream left bank of Intake Well	Upstream of RBF and left bank of the river	Down Stream left bank of RBF
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	7.74	7.67	7.38	7.15
6	Total Hardness (as CaCo ₃)	mg/l	70	76	52	65
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1
8	Chlorides (as Cl)	mg/l	12	17	9	8
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil
10	Total Dissolved Solids	mg/l	92	107	82	85
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent

AMBIENT AIR QUALITY MONITORING

S.No.	Test Parameters	Unit	Near Intake Well/ WTP (Kaleswar)	Construction of Reservoir	Pipe Laying Area within the city limits	Residential Area Near River Bed Filtration	Near Construction Camp
1	Particular Matter, PM _{2.5}	ug/m ³	52.72	54.7	48.29	50.21	45.21
2	Particular Matter, PM ₁₀	ug/m ³	89.73	90.72	87.31	91.21	89.21
3	Sulphur Dioxide (as SO ₂)	ug/m ³	12.11	12.21	11.21	13.27	12.21
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	19.21	19.11	16.73	19.82	20.11
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2

AMBIENT NOISE							
S.No.	Test Parameters	Unit	Near Intake Well	Construction of Reservoir	Within city limits where pipe Laying	Residential Area Near River Bed Filtration	Near Construction Camp
1	Lmin	dB(A)	42.5	36.8	35.9	37.6	36.5
2	L10	dB(A)	61.85	64.8	62.2	62	52.82
3	L50	dB(A)	55.7	54.5	57.7	57.05	46.05
4	L90	dB(A)	42.96	39.3	40.01	39.86	37.96
5	Leq	dB(A)	59.1	61.4	58.97	59.56	51.69
6	Lmax	dB(A)	65.7	71.5	64.2	66.5	61.3
7	Leq-Day	dB(A)	60.44	63.02	60.23	60.75	53.27
8	Leq-Night	dB(A)	44.84	42.7	44.45	42.3	38.75

SOIL SAMPLE

S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir (Sample No.1)	Construction of Reservoir (Sample No.2)	Disposal of silt from RBF Construction Site	Within the City limits where pipe laying area	Within the City limits where pipe laying area	Construction Camp/Storage Yard	Labour Camp
1	pH	-	7.78	8.6	7.15	9.7	8.7	7.29	9.7	7.4
2	Conductivity	uS/cm	521.45	456.62	523.67	495.73	541.72	642.1	648.5	497.78
3	Moisture	% by mass	8.23	9.58	8.26	9.62	9.46	8.79	9.87	9.61
4	Sodium as Na	mg/Kg	251.1	275.23	272.19	256.28	285.19	195.7	281.17	297.28
5	Potassium as K	mg/Kg	94.56	96.97	94.9	81.92	97.99	92.96	95.98	100.95
6	Total Kjeldahi Nitrogen	% by mass	758.4	645.56	716.26	693.48	739.54	739.52	746.55	691.48
7	Phosphorus	mg/Kg	70.3	65.18	70.16	71.25	71.28	75.28	75.27	70.19

S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir (Sample No.1)	Construction of Reservoir (Sample No.2)	Disposal of silt from RBF Construction Site	Within the City limits where pipe laying area	Within the City limits where pipe laying area	Construction Camp/Storage Yard	Labour Camp
8	Organic matter	% by mass	0.722	0.657	0.699	0.871	0.724	0.745	0.759	0.632
9	Calcium (as Ca)	% by mass	0.335	0.289	0.298	0.423	0.345	0.358	0.362	0.357
10	Magnesium (as Mg)	mg/Kg	138.7	125.61	131.64	140.6	128.7	135.66	128.6	137.7
11	Cation exchange capacity	Meq/100gm	20.64	18.6	18.54	18.65	20.76	19.75	21.68	18.67
12	Water Holding Capacity	% by mass	18.7	16.4	16.35	16.5	18.45	16.4	19.56	16.4
13	Bulk Density	gm/cc	1.14	1.13	1.15	1.11	1.13	1.12	1.13	1.11
14	Soil- Gran Size Analysis/ Texture (% by mass)									
(a)	Sand	% by mass	77.25	75.5	79.25	80.25	79.25	76.25	79.25	80.25
(b)	Silt	% by mass	12.25	16	12.25	13.25	14.25	11.25	14.25	11.25

PROJECT TOWN : GAUCHAR**TEST RESULT MONTH OF APRIL 2016****SURFACE WATER**

S.No.	Test Parameters	Unit	Upstream of intake well and left bank of the river	Down Stream left bank of Intake Well	Upstream of RBF and left bank of the river	Down Stream left bank of RBF
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	-	7.67	7.76	7.23	7.14
6	Total Hardness (as CaCO ₃)	mg/l	69	66	62	109
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1
8	Chlorides (as Cl)	mg/l	18	24	28	30
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil
10	Total Dissolved Solids	mg/l	90	96	108	156
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent

AMBIENT AIR QUALITY MONITORING

S.No.	Test Parameters	Unit	Near Intake Well	Pipe Laying Area Near Market	Pipe Laying Area within the city limits	Residential Area	Near Construction Camp
1	Particular Matter, PM _{2.5}	ug/m ³	50.39	53.45	43.21	47.21	50.19
2	Particular Matter, PM ₁₀	ug/m ³	90.19	91.73	89.29	89.29	91.29
3	Sulphur Dioxide (as SO ₂)	ug/m ³	13.11	15.19	14.72	13.29	14.17
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	19.2	21.91	20.29	22.21	19.27
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2

AMBIENT NOISE							
S.No.	Test Parameters	Unit	Intake Well (Bhat Nagar)	Location of Laying of Pipeline Near Market	Location of Laying of Pipeline Near Market	Residential Area	Near Construction Camp
1	Lmin	dB(A)	37.4	40.1	38.7	36.1	35.4
2	L10	dB(A)	57.29	63.86	68.48	59.18	52.44
3	L50	dB(A)	50.55	57.45	59.75	54.4	47.95
4	L90	dB(A)	38.49	40.36	39.36	37.78	36.8
5	Leq	dB(A)	53.24	63.86	64.03	55.88	50.39
6	Lmax	dB(A)	59.2	75.7	72.3	61.9	58.3
7	Leq-Day	dB(A)	54.5	65.3	65.66	57.2	51.68
8	Leq-Night	dB(A)	39.04	41.35	42.58	38.94	37.89

SOIL SAMPLE										
S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir (Sample No.1)	Construction of Reservoir (Sample No.2)	Disposal of silt from RBF Constructi on Site	Within the City limits where pipe laying area	Within the City limits where pipe laying area	Construction Camp/Storage Yard	Labour Camp
1	pH	-	1	pH	-	8.25	7.9	7.6	9.6	7.2
2	Conductivity	uS/cm	2	Conductivity	uS/cm	651.3	532.72	637.78	542.2	643.2
3	Moisture	% by mass	3	Moisture	% by mass	9.88	9.56	9.63	9.77	9.87
4	Sodium as Na	mg/Kg	4	Sodium as Na	mg/Kg	198.76	289.25	278.8	192.71	195.68
5	Potassium as K	mg/Kg	5	Potassium as K	mg/Kg	96.35	99.98	170.25	93.25	97.4
S.No.	Test	Unit	Near	Construction	Construction	Disposal of	Within the	Within	Construction	Labour Camp

	Parameters		Intake Well/ WTP	of Reservoir (Sample No.1)	of Reservoir (Sample No.2)	silt from RBF Constructi on Site	City limits where pipe laying area	the City limits where pipe laying area	Camp/Storage Yard	
6	Total Kjeldahi Nitrogen	% by mass	578.38	733.51	746.52	560.32	574.38	732.5	472.32	578.34
7	Phosphorus	mg/Kg	93.37	74.26	75.23	91.32	88.38	63.79	85.37	92.38
8	Organic matter	% by mass	0.476	0.742	0.735	0.474	0.399	0.789	0.455	0.465
9	Calcium (as Ca)	% by mass	0.282	0.358	0.368	0.275	0.399	0.578	0.259	0.277
10	Magnesium (as Mg)	mg/Kg	275.45	137.75	145.76	268.46	770.39	172.35	280.43	266.43
11	Cation exchange capacity	Meq/100g m	20.95	17.7	20.78	19.92	19.97	17.65	20.7	20.94
12	Water Holding Capacity	% by mass	18.76	16.91	18.48	17.62	15.7	15.3	19.6	19.73
13	Bulk Density	gm/cc	1.12	1.12	1.13	1.14	1.12	1.12	1.13	1.12
14	Soil- Gran Size Analysis/ Texture (% by mass)									
(a)	Sand	% by mass	73.25	77.25	78.25	79.25	77.25	75.25	76.25	76.25
(b)	Silt	% by mass	15.25	11.25	11.25	12.25	13.25	11.25	14.25	13.25
(c)	Clay	% by mass	578.38	733.51	746.52	560.32	574.38	13.5	9.5	10.5

PROJECT TOWN : <u>SRINAGAR</u> - TEST RESULT OF MONTH OF APRIL 2016							
SURFACE WATER							
S.No.	Test Parameters	Unit	Upstream of intake well and left bank of the river	Downstream left bank of intake well	Upstream of RBF and left bank of the river	Downstream left bank of RBF	
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	
4	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	
5	pH Value	-	7.42	7.62	7.69	7.78	
6	Total Hardness (as CaCo ₃)	mg/l	62	70	66	59	
7	Iron (as Fe)	mg/l	<0.1	<0.1	<0.1	<0.1	
8	Chlorides (as Cl)	mg/l	18	14	19	20	
9	Residual free chlorine	mg/l	Nil	Nil	Nil	Nil	
10	Total Dissolved Solids	mg/l	80	93	86	80	
11	Fluoride (as F)	mg/l	<0.01	<0.01	<0.01	<0.01	
12	Total Coliform	per 100ml	Absent	Absent	Absent	Absent	
AMBIENT AIR QUALITY MONITORING							
S.No.	Test Parameters	Unit	Near Intake well/ WTP	Construction of Reservoir	Within the city limits (Near NIT)	Residential Area Near River Bed Filtration	Near Construction Camp
1	Particular Matter, PM _{2.5}	ug/m ³	47.11	46.25	48.12	48.72	41.72
2	Particular Matter, PM ₁₀	ug/m ³	87.21	87.29	90.17	93.29	85.72
3	Sulphur Dioxide (as SO ₂)	ug/m ³	12.11	12.32	14.71	13.17	11.79
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	19.21	19.21	20.27	19.87	17.23
5	Carbon Monoxide (as CO)	mg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2

AMBIENT NOISE							
S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Construction of Reservoir	Within the city limits (Near NIT)	Residential Area Near River Bed Filtration	Near Construction Camp
1	Lmin	dB(A)	36.6	37.4	35.1	38.1	37.5
2	L10	dB(A)	53.77	56.47	56.07	65.16	59.3
3	L50	dB(A)	46.3	48.9	50.35	55.75	51.35
4	L90	dB(A)	37.41	38.5	37.73	39.05	38.76
5	Leq	dB(A)	50.04	52.57	52.32	61.33	55.43
6	Lmax	dB(A)	55.9	59.3	57.2	70.4	62.5
7	Leq-Day	dB(A)	51.42	53.94	53.55	63	56.78
8	Leq-Night	dB(A)	38.48	39.15	41.63	43.64	1.05

SOIL SAMPLE ANALYSIS										
S.No.	Test Parameters	Unit	Near Intake Well/ WTP	Constructi on of Reservoir (Sample No.1)	Construction of Reservoir (Sample No.2)	Disposal of silt from RBF Construction Site	Within the City limits where pipe laying	Within the City limits where pipe laying	Construction Camp/Storage Yard	Labour Camp
1	pH	-	8.17	8.35	7.18	9.5	7.18	8.17	7.15	7.26
2	Conductivity	uS/cm	534.19	485.23	516.35	450.18	354.75	479.7	524.12	470.85
3	Moisture	% by mass	7.32	9.7	7.51	6.78	8.7	8.53	7.39	7.63
4	Sodium as Na	mg/Kg	312.17	230.62	280.92	230.81	215.6	227.8	310.2	200.74
5	Potassium as K	mg/Kg	199.21	95.3	95.21	92.28	95.3	98.32	200.22	92.24
6	Total Kjeldahi Nitrogen	% by mass	732.17	721.5	750.89	739.7	695.79	712.81	731.18	710.59

7	Phosphorus	mg/Kg	71.21	69.23	65.18	65.17	68.13	73.12	62.15	75.28
8	Organic matter	% by mass	0.87	0.623	0.729	0.851	0.625	0.716	0.702	0.712
9	Calcium (as Ca)	% by mass	0.415	0.401	0.418	0.411	0.312	0.411	0.41	0.405
10	Magnesium (as Mg)	mg/Kg	193.21	168.15	170.25	175.2	169.19	171.19	189.25	166.13
11	Cat ion exchange capacity	Meq/100gm	16.21	16.7	15.71	16.8	16.88	15.28	19.25	15.82
12	Water Holding Capacity	% by mass	17.21	19.62	19.12	19.12	14.1	19.13	20.21	17.14
13	Bulk Density	gm/cc	1.12	1.1	1.14	1.11	1.14	1.14	1.12	1.18
14	Soil- Grain Size Analysis/ Texture (% by mass)									
(a)	Sand	% by mass	75.25	72.15	75	71.3	76.35	74.3	75.25	75.35
(b)	Silt	% by mass	16	14.2	15.1	18.25	18.3	18.25	11.25	15.2
(c)	Clay	% by mass	8.75	13.65	9.9	10.45	5.35	7.45	13.5	9.45

**PROJECT TOWN : DEVPRAYAG
TEST RESULT MONTH OF MAY 2016**

AMBIENT AIR

S.No.	Test Parameters	Unit	Randhi Garh	Dewani Garh	Labour Yard	Randhi garh (crossing)	Tehsil Road	Near filter water tank	Devprayag market	Village Saud	Village Raud
1	Particular Matter, PM _{2.5}	ug/m ³	63.6	68.7	73.6	74.2	79.8	74.5	85.4	65.6	100
2	Particular Matter, PM ₁₀	ug/m ³	17.5	20.3	23.7	23.6	27.5	22.6	33.4	17.4	60
3	Sulphur Dioxide (as SO ₂)	ug/m ³	6.8	6.4	7	7.1	7.7	7.2	10.4	6.2	80
4	Oxide of Nitrogen (as NO ₂)	ug/m ³	13.7	12.5	13.8	12.3	11.8	12.4	12	12.7	80
5	Carbon Monoxide (as CO)	mg/m ³	0.328	0.344	0.453	0.452	0.426	0.388	0.542	0.438	4

AMBIENT NOISE

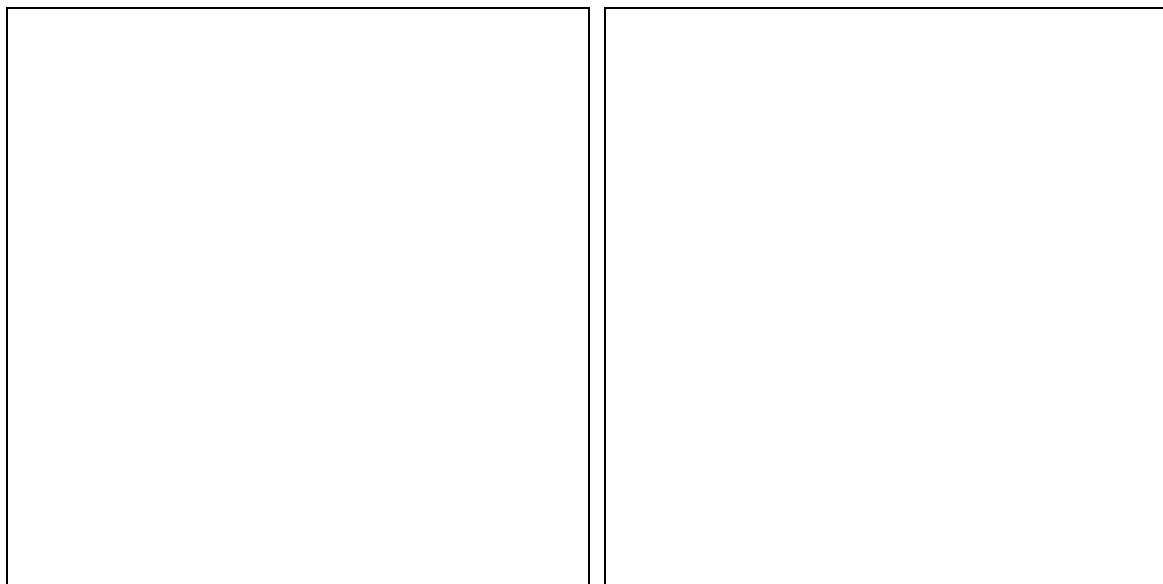
S.No.	Test Parameters	Unit	Randhi Garh	Dewani Garh	Labour Yard	Randhi garh (crossing)	Tehsil Road	Near I-well	Devprayag market	Village Saud	Village Raud
1	Leq-Day	dB(A)	51.4	51.7	54.6	54.4	55	54.7	64.8	53	53.4
2	Leq-Night	dB(A)	38.7	40.3	41.7	42	42.3	41.9	44.5	41.8	41.2

SURFACE WATER				
S.No.	Test Parameters	Unit	Randhi Garh	Dewani Garh
1	Colour	Hazen	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable
3	Turbidity	NTU	<5.0	<5.0
4	pH Value	-	7.15	7.33
5	Total Hardness (as CaCO ₃)	mg/l	112.6	116.2
6	Iron (as Fe)	mg/l	0.08	0.1
7	Chlorides (as Cl)	mg/l	23.8	21.8
8	Fluoride (as F)	mg/l	0.41	0.32
9	Calcium (as CaCO ₃)	mg/l	95	96
10	Magnesium (as CaCO ₃)	mg/l	17.6	20.2
11	Sulphate (as SO ₄)	mg/l	22.5	18.6
12	Nitrate (as NO ₃)	mg/l	3.4	3
13	Alkalinity as (CaCO ₃)	mg/l	81	91
14	TDS	mg/l	185.36	189.79
15	TSS	Mg/l	<2.5	<2.5
16	Dissolved Oxygen	% By Mass	10.5	9.6
17	BOD (at 27° C 3-days)	mg/l	BDL	BDL
18	Phosphates	mg/l	<1.0	<1.0
19	Electrical Conductivity	Microm/hos/ cm	285.17	291.99
20	Sodium (as Na)	mg/l	5.2	4.5
21	Potassium (as K)	mg/l	1.8	2

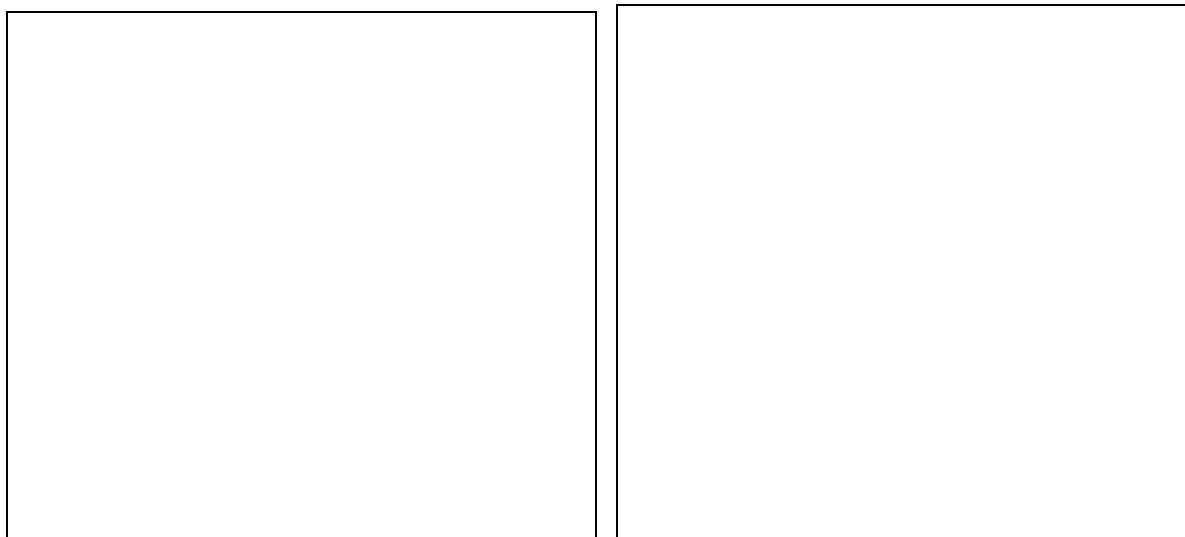
GROUND WATER							
S.No.	Test Parameters	Unit	Tehsil Road	Devprayag water	Village Raud	Ram kund bridge	Village Saud
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	<5.0	<5.0	<5.0	<5.0	<5.0
4	pH Value	-	7.51	7.4	7.68	7.4	7.58
5	Total Hardness (as CaCO ₃)	mg/l	193.5	204.2	207.7	201.2	221.2
6	Iron (as Fe)	mg/l	0.1	0.15	0.1	0.13	0.1
7	Chlorides (as Cl)	mg/l	33.7	30.8	36.4	37.4	30.2

8	Fluoride (as F)	mg/l	0.42	0.4	0.44	0.38	0.39
9	Calcium (as CaCO ₃)	mg/l	155	167	168	160	170
10	Magnesium (as CaCO ₃)	mg/l	38.5	37.2	36.7	41.2	51.2
11	Sulphate (as SO ₄)	mg/l	26.2	29.8	25.2	28.7	32.2
12	Nitrate (as NO ₃)	mg/l	2.8	3.3	3.8	3	3.7
13	Alkalinity as (CaCO ₃)	mg/l	162	148	171	154	166
14	TDS	mg/l	314.16	309.5	327.3	313.82	329.79
15	TSS	Mg/l	<2.5	<2.5	<2.5	<2.5	<2.5
16	Dissolved Oxygen	% By Mass	6.5	6.5	7	8	7.5
17	BOD (at 27° C 3-days)	mg/l	BDL	BDL	BDL	BDL	BDL
18	Phosphates	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
19	Electrical Conductivity	Microm/hos/ cm	483.32	476.15	503.54	482.81	507.38
20	Sodium (as Na)	mg/l	7	6.8	6.6	5.8	5.7
21	Potassium (as K)	mg/l	2.3	2.5	2.2	2	1.9

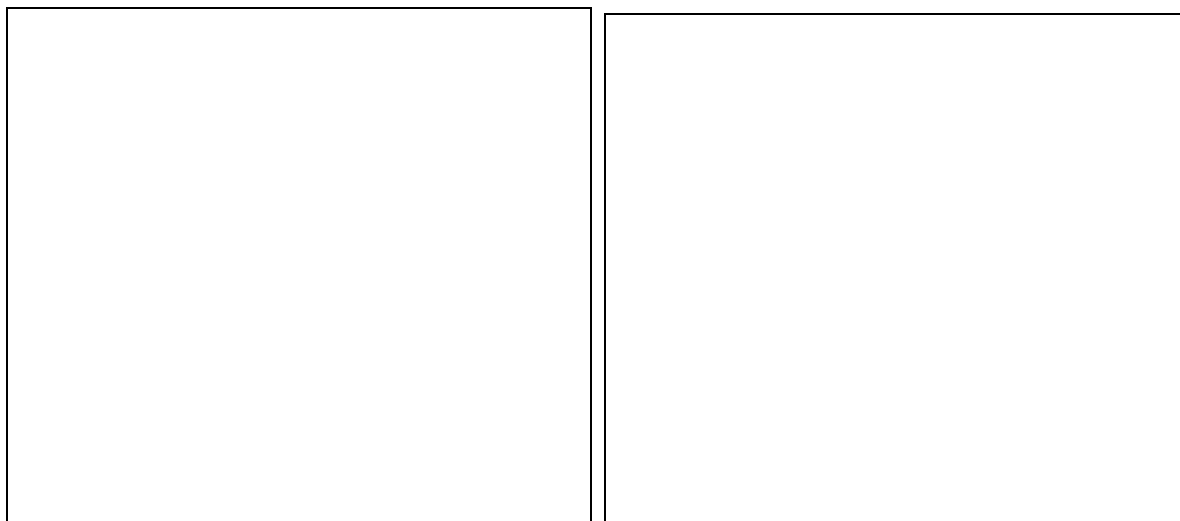
SOIL SAMPLE												
S.No.	Test Parameters	Unit	Randhi garh- 1	Dewani garh- 2	Labour yard- 1	Randhi garh crossing- 1	Tehsil Road- 1	Near water filter tank- 1	Devprayag market- 1	Village Saud- 1	Village Raud- 1	Near Ram Kund bridge- 1
1	pH (1:5 suspension)	-	7.38	7.52	7.14	7.49	7.28	7.59	7.81	7.67	7.24	7.49
2	Electrical Conductivity at 25°C (1:5 suspension)	µmhos/cm	110.2	109.7	102.7	113	114.5	110.6	124.6	120.2	101.7	110.4
3	Bulk Density	gm/cm ³	1.32	1.42	1.42	1.33	1.36	1.12	1.78	1.55	1.45	1.5
4	Mositure	%	22	22	24	22	23.5	20.5	20.5	23.4	21.5	22.5
5	Texture	-	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam	Silt Clay Loam
6	Sand	% by mass	20	21.6	21.7	20.4	18	19	19.6	20	20	18.1
7	Clay	% by mass	23.4	23	23	23.3	25.4	23	23.4	23	23.8	23.9
8	Silt	% by mass	56.6	55.4	55.3	56.3	56.6	58	58	57	56.2	58
9	Nitrogen	mg/1000g	52	52.8	46.7	52.1	57.2	48.2	51.9	53.4	53.4	53.4
10	Potassium (as K)	mg/Kg	0.42	0.44	0.32	0.47	0.36	0.34	0.46	0.52	0.37	0.43
11	Phosphorus	mg/1000g	50	58	47	52	48.7	52	62	55	52.4	52
12	Organic Matter	% by mass	0.14	0.15	0.1	0.14	0.12	0.13	0.17	0.17	0.11	0.08
13	Moisture Retention capacity	% by mass	23	23	21	22	21	23.4	22	23.4	24	22
14	Infiltration Rate	mm/hr	20	22	19.8	23	18.7	20	20	22	22	19.6
15	Sulphates	mg/1000g	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16	Sodium Sulphates	mg/1000g	48	44	40	45.4	40	40.2	47	41.6	44	41.4
17	Calcium Sulphates	mg/1000g	64.6	64.9	61	60.8	58.7	58.7	66.4	58.7	60.8	62.5
18	Porosity		35.6	30.2	32.5	33.4	33.3	32.4	30.81	31.6	31.7	37.8



Status of PM 2.5 and PM 10 in Kapkot during construction phase



Status of PM 2.5 and PM 10 in Bageshwar during construction phase

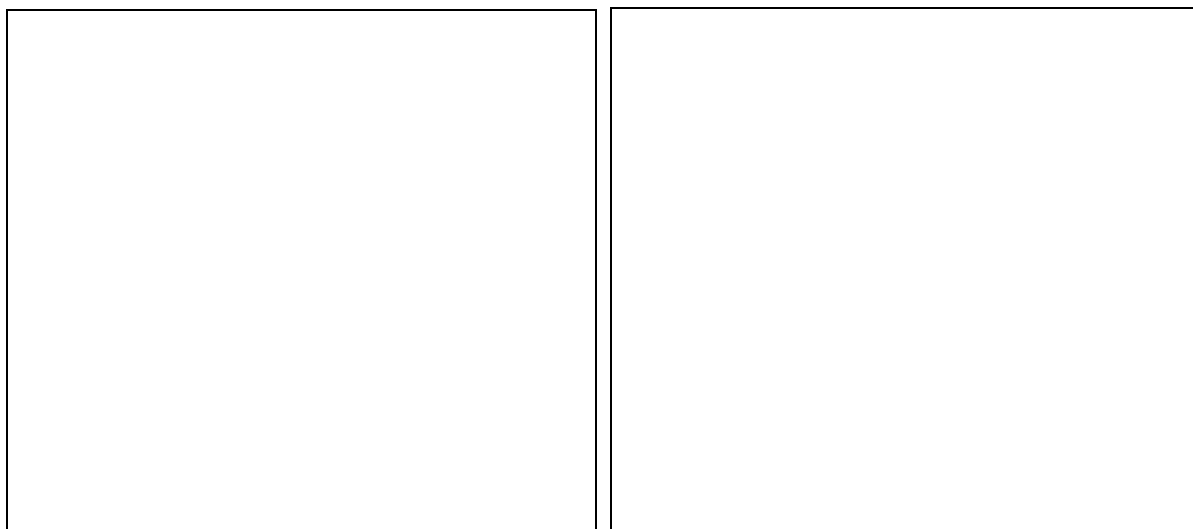


Status of PM 2.5 and PM 10 in Dharchula during construction phase

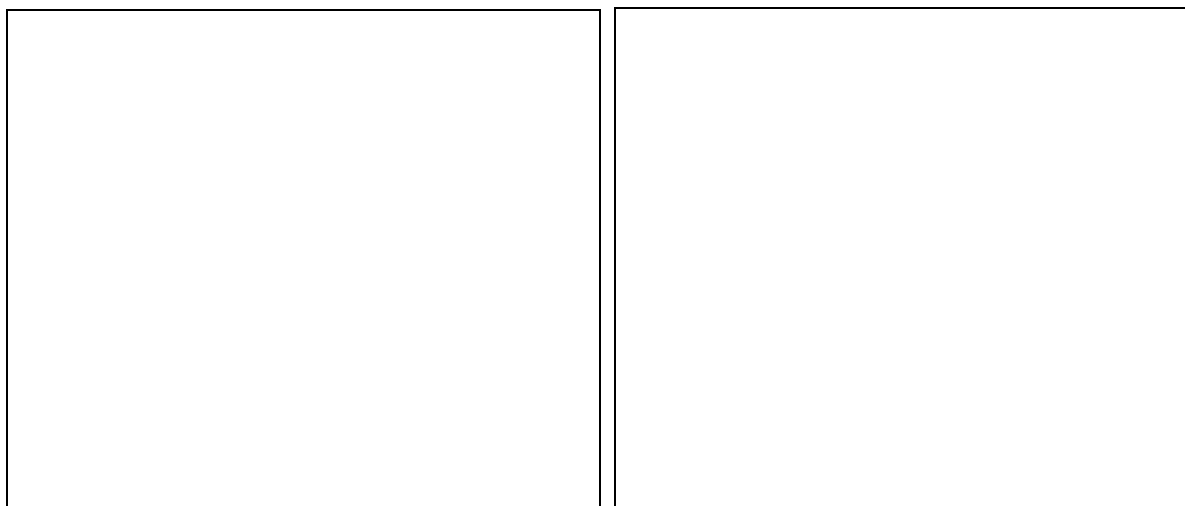
Status of Noise in Kapkot during construction stage

Status of Noise in Bageshwar during construction stage

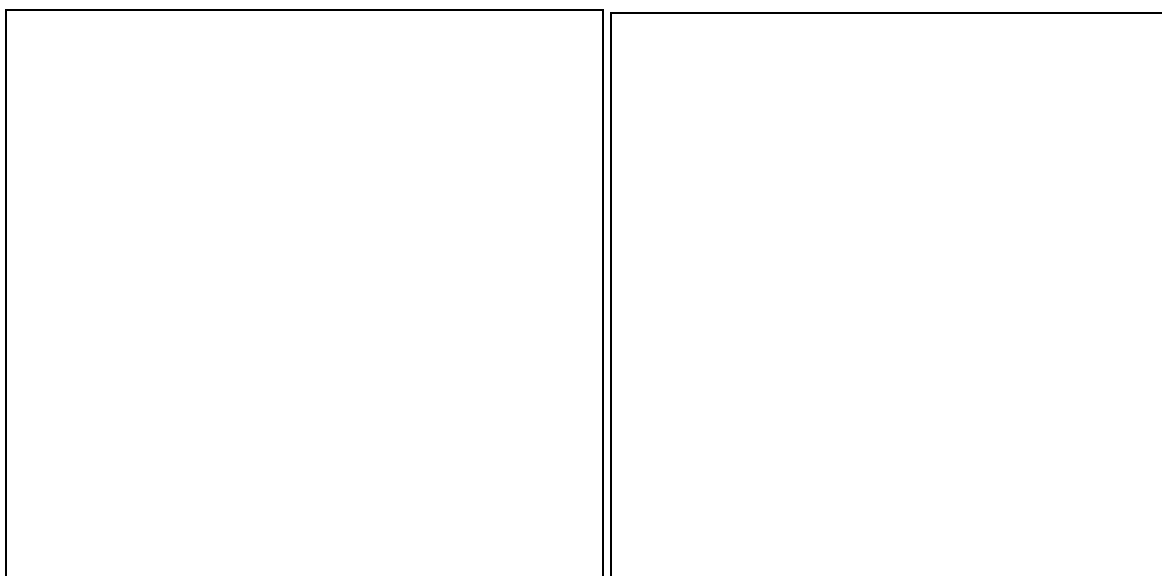
Status of Noise in Dharchula during construction stage



Status of PM 2.5 and PM 10 in Rudraprayag during construction phase



Status of PM 2.5 and PM 10 in Karnaprayag during construction phase



Status of PM 2.5 and PM 10 in Gauchar during construction phase

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Status of PM 2.5 and PM 10 in Devprayag during construction phase

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Status of PM 2.5 and PM 10 in Srinagar during construction phase

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Status of PM 2.5 and PM 10 in Uttarkashi during construction phase

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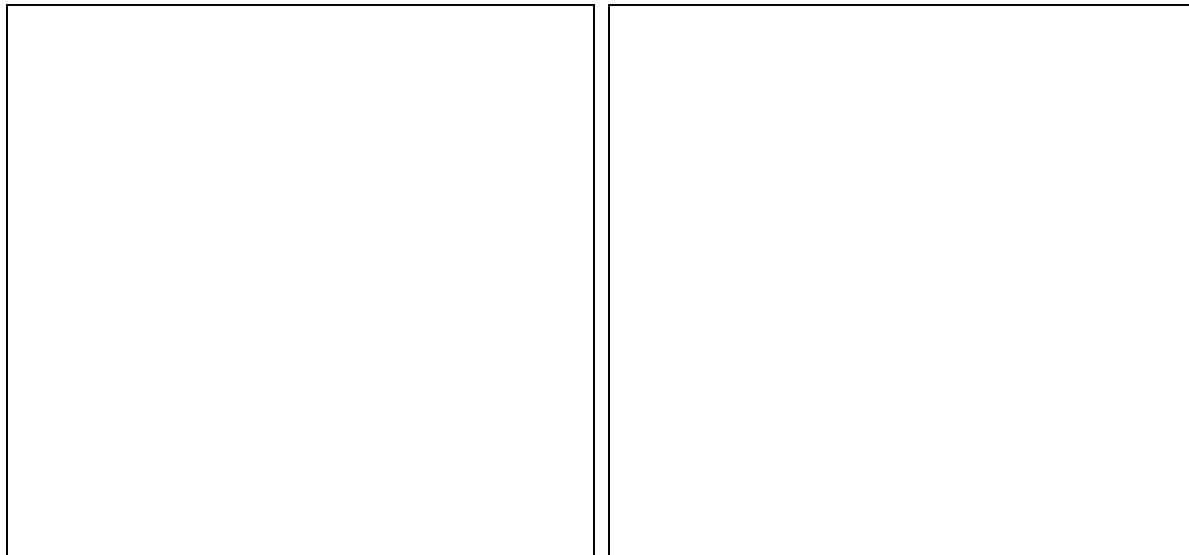
Status of Noise in Rudraprayag during construction stage

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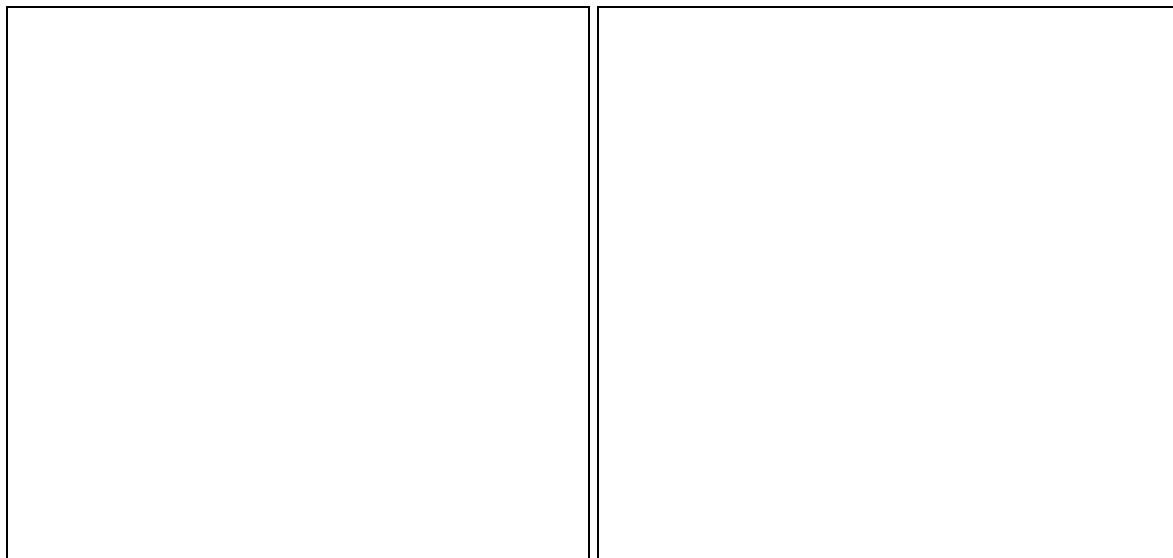
Status of Noise in Karnaprayag during construction stage

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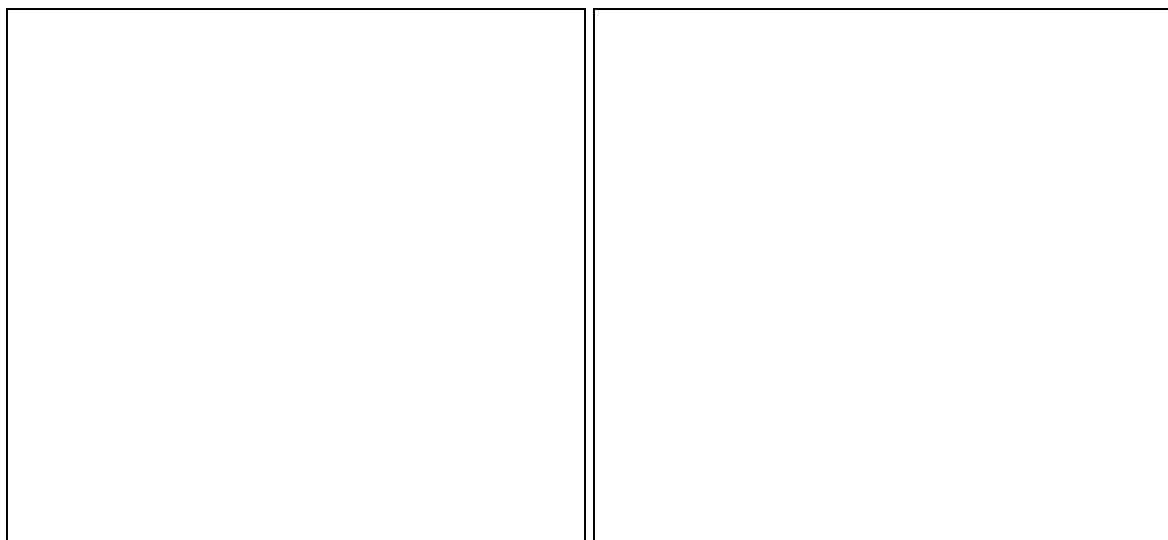
Status of Noise in Gauchar during construction stage



Status of Noise in Devprayag during construction stage



Status of Noise in Srinagarduring construction stage



Status of Noise in Uttarkashi during construction stage

**ANNEXURE 6: 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 7: 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:	
<ul style="list-style-type: none"> • Note/Letter • E-mail • Verbal/Telephonic 	
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	<ul style="list-style-type: none"> • Yes • 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 5: 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 है। 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।

आपको अपने व्यक्तिगत विवरण शामिल करने चाहिए लेकिन उस जानकारी को गोपनीय रखा जायगा। 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 संकते हैं या अपनी टिप्पणी / शिकायत पर नवीनीकरण?					

केवल कार्यालय उपयोग के लिए

द्वारा पंजीकृत: (सरकारी पंजीकरण शिकायत का नाम)						
यदि -फिर विधि:						
<ul style="list-style-type: none"> • नोट / पत्र • ई मेल • मौखिक / टेलीफोन 						
से समीक्षित: (नाम / अधिकारी की पोजिशन समीक्षा शिकायत)						
की गई कार्रवाई:						
की गई कार्रवाई का खुलासा:			<ul style="list-style-type: none"> • हां • 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 – 8

National ambient air quality Standards (2009)

NATIONAL AMBIENT AIR QUALITY STANDARDS
GENERAL POLLUTION CONTROL BOARD
 New Delhi, India

The Government of India, Ministry of Environment and Forests, in exercise of the powers conferred by Sub-section (2) (a) of section 44 of the Air (Prevention and Control of Pollution) Act, 1986 (Act No. 14 of 1986), and in pursuance of the Notification No. G.O. 38833 dated 17th April, 1998 and G.O. 30032 dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:

NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutant	Time Weighted Average	Conversion in micrograms		Methods of Measurement
			Industrial, Commercial, Road and other area	Background location away from any source	
1	Sulphur Dioxide (SO ₂) (µg/m ³)	Annual	80	80	Impactor Method Passive Diffusion Method
		24 hours	80	80	
2	Nitrogen Dioxide (NO ₂) (µg/m ³)	Annual	80	80	Impactor Method Passive Diffusion Method Chemical method
		24 hours	80	80	
3	Respirable Suspended Particles (RSP) (µg/m ³)	Annual	400	400	Gravimetric Filter Beta Attenuation
		24 hours	400	400	
4	Respirable Suspended Particles (RSP) (µg/m ³)	Annual	400	400	Gravimetric Filter Beta Attenuation
		24 hours	400	400	
5	Total Suspended Particles (TSP) (µg/m ³)	Annual	400	400	Gravimetric Gravimetric Gravimetric Method
		24 hours	400	400	
6	Total Suspended Particles (TSP) (µg/m ³)	Annual	400	400	Gravimetric Gravimetric Gravimetric Method -ISO 15900 using Filter
		24 hours	400	400	
7	Carbon Monoxide (CO) (µg/m ³)	Annual	10	10	Impactor Method Passive Diffusion Method Gravimetric
		24 hours	10	10	
8	Lead (Pb) (µg/m ³)	Annual	50	50	Gravimetric Gravimetric Gravimetric Method
		24 hours	50	50	

THE TABLE OF DATA TO BE MONITORED

Sl. No.	Parameter	Frequency	Unit	Limit	Remarks
1	Temperature (°C)	Quarterly	°C	30	The temperature limit is 30°C. If the temperature is above 30°C, the water body is considered to be polluted and the cause should be investigated.
2	Dissolved Oxygen (DO) (mg/l)	Quarterly	mg/l	5	The dissolved oxygen limit is 5 mg/l. If the DO is below 5 mg/l, the water body is considered to be polluted and the cause should be investigated.
3	Ammonia Nitrogen (NH ₄ -N) (mg/l)	Quarterly	mg/l	1.0	The ammonia nitrogen limit is 1.0 mg/l. If the ammonia nitrogen is above 1.0 mg/l, the water body is considered to be polluted and the cause should be investigated.
4	Total Nitrogen (TN) (mg/l)	Quarterly	mg/l	1.0	The total nitrogen limit is 1.0 mg/l. If the total nitrogen is above 1.0 mg/l, the water body is considered to be polluted and the cause should be investigated.

1. The limit values of water quality parameters in a year as a guideline for the water quality monitoring.

2. If any of the limit values, as applicable, shall be exceeded with 10% of the value in a year, 10% of the time, then they shall be taken as an indication of pollution.

Note: - Whenever and wherever necessary, as the respective Dept of monitoring control the limit specified above for the respective category, it shall be considered adequate cause to initiate regular or continuous monitoring and further investigations.

Prof. Prabir Chandra, Director
(WSS) (2016/2017)

Note: The guidelines on National Ambient Air Quality Standards were published by the Central Pollution Control Board through the Gazette of India, Extraordinary on September 19, 2009 (1909), dated 17th April, 1986 and G.O. 11531, dated 17th October, 1998.

Annexure -9

INLAND SURFACE WATER CATEGORIES (CPCB,1978)

The Central Pollution Control Board has classified the inland Surface water into five categories A to E. On the basis of there designated best use and the desired class. The principal concern has been the end use to which man may put to water. The classification has been made in such a manner that with the degradation in quality, the water quality requirement becomes progressively lower from A to E. The CPCB classification of the inland surface water is give as under: -

Designated Best Use	Class of Water	Criteria
Drinking water Source without Conventional treatment but after disinfections.	A	<ol style="list-style-type: none"> 1. Total coliform organisms MPN/100 ml shall be 50(max.) 2. pH between 6.5 to 8.5 3. Dissolved Oxygen (Min) 6 mg/l 4. BOD (max) 5 days < 2.00 mg/l
Outdoor bathing(Organised)	B	<ol style="list-style-type: none"> 1. Total coliform organisms MPN/100 ml shall be 500 (max.) 2. Fecal Coliform MPN/100 mg. to be 2500 (max.) for Ganga Action Plan. 3. pH between 6.8 to 8.5. 4. Dissolved Oxygen (min) 4 mg/l 5. BOD (Max.) 5 days @ 3 mg/l
Drinking water with conventional treatment Followed by disinfections	C	<ol style="list-style-type: none"> 1. Total coliform organisms MPN/100 ml shall be 5000 (max.) 2. pH between 6.8 to 3. Dissolved Oxygen (min) 4 mg/l 4. BOD (max.) 5 days @ 3 mg/l
Propagation of wild life Fisheries.	D	<ol style="list-style-type: none"> 1. pH between 6.5 to 8.5 2. Dissolved Oxygen (min) 4 mg/l. 3. Free Ammonia (as N) (max)1.2mg/l.
Irrigation, industrial cooling, and Controlled disposal	E	<ol style="list-style-type: none"> 1. pH between 6.0 and 8.5 2. Electrical conductivity less than 2250 micro mhos/cm, 3. Sodium Aborption Ratio less than 26, and Boron less than 2 mg/l

Annexure-10

Drinking water standards – (IS 10500: 2012)

Sl No.	Characteristic	Regulatory Acceptable Limit	Permissible Limit in the absence of alternate source	Method of Test, Ref to Part of IS 10500	Remarks
(i)	(ii)	(iii)	(iv)	(v)	(vi)
(i)	Colour, Hazen units, Max	1	10	Part I	Exceeded in 07 out of 08 test stations as not reported in absence of alternate source
(ii)	Taste	Acceptable	Acceptable	Part I	as Test result not value based for Test at several stations
(iii)	pH value	6.5-8.5	No restriction	Part II	---
(iv)	Turbidity	Acceptable	Acceptable	Part I and II	Test to be conducted only after testing for free residual
(v)	Velocity, M/S, Max	1	1	Part III	---
(vi)	Total dissolved solids, mg/L, Max	500	1000	Part III	---

NOTE – It is recommended that the acceptable limit is to be implemented. Where in course of these experiment under 'acceptable' under the usual are suitable, but still may be obtained in the absence of an alternate source but up to the limits indicated under 'permissible limit in the absence of alternate source' as set & above which the source will have to be rejected.

EN 10000 | 2012

Table 2 General Parameters Concerning Substances Undetectable in Executive Approval (Floorwash and Cleaner 4)

SI No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to	Remarks
(i)	(ii)	(iii)	(iv)	(v)	(vi)
1	Ammonia (as N), mg/l, Max	0.05	0.2	IS 9021 (Part 05)	---
2	Ammonia (as total ammonia-N), mg/l, Max	0.7	No relaxation	IS 9021 (Part 06)	---
3	Acidic Detergent (as NH ₄), mg/l, Max	0.2	1.0	Annex B of IS 15426	---
4	Bromine (as Br), mg/l, Max	0.7	No relaxation	Annex F of IS 15426 or IS 15442	---
5	Boron (as B), mg/l, Max	0.4	1.0	IS 9021 (Part 07)	---
6	Calcium (as Ca), mg/l, Max	75	300	IS 9021 (Part 08)	---
7	Chlorine (as Cl ₂), mg/l, Max	0.0	No relaxation	IS 9021 (Part 20) ¹ or IS 9021 (Part 20) ²	---
8	Chloride (as Cl), mg/l, Max	250	1 000	IS 9021 (Part 12)	---
9	Copper (as Cu), mg/l, Max	0.05	0.2	IS 9021 (Part 02)	---
10	Fluoride (as F), mg/l, Max	1.0	1.0	IS 9021 (Part 09)	---
11	Total residual chlorine, mg/l, Max	0.2	1	IS 9021 (Part 20)	To be applicable only where trace is observed. Based on continuous use. When protective against viral infection is required, it shall be minimum 0.1 mg/l
12	Iron (as Fe), mg/l, Max	0.1	No relaxation	IS 9021 (Part 05)	Total concentration of iron (as Fe) shall not exceed 0.1 mg/l
13	Magnesium (as Mg), mg/l, Max	50	200	IS 9021 (Part 04)	---
14	Manganese (as Mn), mg/l, Max	0.1	0.2	IS 9021 (Part 04)	Total concentration of manganese (as Mn) shall not exceed 0.1 mg/l
15	Methyl oil, mg/l, Max	0.1	No relaxation	Class 4 of IS 9021 (Part 19) (Refer to note)	---
16	Mercury (as Hg), mg/l, Max	0.0	No relaxation	IS 9021 (Part 04)	---
17	Phenolic compounds (as C ₆ H ₅ O), mg/l, Max	0.001	0.002	IS 9021 (Part 05)	---
18	Selenium (as Se), mg/l, Max	0.01	No relaxation	IS 9021 (Part 04) or IS 15027	---
19	Silver (as Ag), mg/l, Max	0.1	No relaxation	Annex J of IS 15028	---
20	Sulphate (as SO ₄), mg/l, Max	200	800	IS 9021 (Part 04)	May be increased to 800 mg/l if Magnesium does not exceed 50
21	Sulphite (as S ₂ O ₃), mg/l, Max	0.05	No relaxation	IS 9021 (Part 04)	---
22	Total alkalinity as calcium carbonate, mg/l, Max	200	800	IS 9021 (Part 11)	---
23	Total hardness (as CaCO ₃), mg/l, Max	300	800	IS 9021 (Part 11)	---
24	Zinc (as Zn), mg/l, Max	1	1.0	IS 9021 (Part 04)	---

NOTES

1 In case of dispute, the method indicated by ** shall be the reference method.

2 It is recommended that the acceptable limit is to be implemented. When in excess of these mentioned under 'acceptable' under the water act, suitable, but will may be tolerated in the absence of an alternative control but up to the limit indicated under 'permissible limit in the absence of alternate source' in cell 4, where which the water will have to be reported.

IS 10200 : 2011

Table 3 Parameters Concerning Toxic Substances
(Forward and Cluster 4)

Sl No.	Characteristics	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to	Remarks
(i)	(ii)	(iii)	(iv)	(v)	(vi)
12	Cadmium (as Cd), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
13	Cyanide (as CN), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
14	Lead (as Pb), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
15	Mercury (as Hg), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2) Mercury analyzer	---
16	Nickel (as Ni), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
17	Mercury (as Hg), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
18	Formaldehyde, mg/L, Max	See Table 2	No relaxation	See Table 1	---
19	Polychlorinated biphenyls, mg/L, Max	0.0001	No relaxation	IS 1020 1021*	--- as APMA 400
20	Polycyclic aromatic hydrocarbon (as PAH), mg/L, Max	0.0001	No relaxation	APMA 400	---
21	Total arsenic (as As), mg/L, Max	0.05	0.05	IS 1021 (Part 2)	---
22	Total chromium (as Cr), mg/L, Max	0.05	No relaxation	IS 1021 (Part 2)	---
23	Chloroform:				
a.	Residual, mg/L, Max	0.1	No relaxation	IS 1021 1021.40** as APMA 400	---
b.	Dichloromethane, mg/L, Max	0.1	No relaxation	IS 1021 1021.40** as APMA 400	---
c.	Trichloroethylene, mg/L, Max	0.05	No relaxation	IS 1021 1021.40** as APMA 400	---
d.	Carbon tetrachloride, mg/L, Max	0.1	No relaxation	IS 1021 1021.40** as APMA 400	---

NOTE

1. In case of dispute, the method indicated by * shall be the reference method.

2. It is recommended that the acceptable limit is to be implemented. Values in excess of these permitted under 'acceptable' under the above are desirable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be repaired.

Table 4 Parameters Concerning Radioactive Substances
(Forward and Cluster 4)

Sl No.	Characteristics	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to Part of IS 1470	Remarks
(i)	(ii)	(iii)	(iv)	(v)	(vi)
1	Radioactive materials:				
a.	Alpha emitter, Bq/L, Max	0.1	No relaxation	Part 2	---
b.	Beta emitter, Bq/L, Max	1.0	No relaxation	Part 1	---

NOTE: — It is recommended that the acceptable limit is to be implemented. Values in excess of these permitted under 'acceptable' under the above are desirable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be repaired.

EN 30266 : 2013

Table 7 Predicted Residual Levels and Test Method
(Revised and Table 5)

Sl. No.	Parameter	Level mg/l	Method of Test, Ref No	
			Method	Reactive
(i)	(ii)	(iii)	(iv)	(v)
01	Alkalinity	20	IS 3101, IS 17	---
02	Acidity	2	IS 3101, IS 17 A	---
03	Hardness	2000	IS 3101	---
04	Alpha BOD	0.05	IS 3101	---
05	Beta BOD	0.05	IS 3101	---
06	Residual	0.25	IS 3101, IS 17 A	---
07	Chlorophyll	10	IS 3101, IS 17 A	---
08	Total BOD	0.05	IS 3101	---
09	2,4-Dichlorophenoxyacetic acid	10	IS 3101	---
10	ECO (α, β and γ – forms of DDT, DDE and DDD)	1	IS 3101	IS 3101, IS 17 B
11	Electrode (alpha, beta, and sulphate)	0.1	IS 3101	IS 3101, IS 17 B
12	Fluoride	1	IS 3101 A	---
13	Gamma – BOD (Leadon)	2	IS 3101	IS 3101, IS 17 B
14	Suphates	5	IS 3101	---
15	Nitrate	100	IS 3101 A	---
16	Mineral phosphorus	0.1	IS 3101 A	IS 3101, IS 17 B
17	Microorganism	1	IS 3101 A	---
18	Phenol	1	IS 3101 A	---

NOTE: --- Test methods are the guidelines and references for testing laboratory. In case of new methods, ISIRI method shall be the reference method.

Table 8 Bacteriological Quality of Drinking Water¹⁾
(Clause 4.3.1)

Sl. No.	Requirement	Requirements
(i)	(ii)	(iii)
01	All water intended for drinking	
02	at E. coli or thermotolerant coliform bacteria ²⁾	shall not be detectable in any 100 ml sample
03	Preserved water entering the distribution system	
04	at E. coli or thermotolerant coliform bacteria ²⁾	shall not be detectable in any 100 ml sample
05	Total coliform bacteria	shall not be detectable in any 100 ml sample
06	Drinking water in the distribution system	
07	at E. coli or thermotolerant coliform bacteria	shall not be detectable in any 100 ml sample
08	Total coliform bacteria	shall not be detectable in any 100 ml sample

¹⁾Sanitation investigation action shall be taken if either E. coli or total coliform bacteria are detected. The minimum action in the case of total coliform bacteria is repeat sampling. If these bacteria are detected in the repeat sample, the cause shall be determined by immediate further investigation.

²⁾Although E. coli is the more precise indicator of faecal pollution, the count of thermotolerant coliform bacteria is an acceptable alternative. If necessary, proper confirmatory tests shall be carried out. Total coliform bacteria are an acceptable indicator of the sanitary quality of stored water supplies, particularly in tropical areas where many factors of an sanitary significance occur in almost all untreated supplies.

³⁾It is recognized that, in the great majority of rural water supplies in developing countries, faecal contamination is widespread. Under these conditions, the national surveillance agency should set maximum goals beyond the progressive improvement of water supplies.

Annexure -11

SCHEDULE

(see rule 3(1) and 4(1))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

- Note:-
1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
 2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
 3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
 4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

(source : The Noise Pollution (regulation and control) rules, 2000 and its amendment in 2010 and 2012)

Annexure -12

PHOTOGRPHS OF PROGRESS OF WORK

Tube well boring work is in progress in Srinagar (UK/UEAP-UJS/WSS-GW/02-01/SRINAG)

Tube well work is in progress in Srinagar (UK/UEAP-UJS/WSS-GW/02-01/SRINAG)



Completed office building at Srinagar (UK/UEAP-UJS/WSS-GW/02-01/SRINAG)

Completed 1000 KL tank at Srinagar (UK/UEAP-UJS/WSS-GW/02-01/SRINAG)

Office building construction in progress in Devprayag UK/UEAP-UJS/WSS-GW/01(Lot 05-Devprayag)

50kl GLSR work in progress in in Devprayag UK/UEAP-UJS/WSS-GW/01(Lot 05-Devprayag)

Completed Infiltration well at Gauchar UK/UEAP-UJS/WSS-GW/01(Lot 03-Gauchar)



Completed office building at Gauchar UK/UEAP-UJS/WSS-GW/01(Lot 03-Gauchar)

Completed Infiltration well at Kaleshwar at Karnaprayag UK/UEAP-UJS/WSS-GW/01(Lot 02-Karanprayag)

100kl SUMP and Pump house work is in progress at Kaleshwar at Karnaprayag UK/UEAP-UJS/WSS-GW/01(Lot 02-Karanprayag)

Completed 300kl GLSR at Dharchula UK/UEAP-UJS/WSS-KU/01/2014-15(Lot 3-Dharchula)



Completed Infiltration well at Kapkot UK/UEAP-UJS/WSS-KU/01/2014-15(Lot 1-Kapkot)

Annexure -13

PHOTOGRAPHIC EVIDENCES OF ON SITE TRAINING AND ATTENDENCE



ONSITE TRAINING AT BAGESWAR



ONSITE TRAINING AT DHARCHULA



ONSITE TRAINING AT KAPKOT

ATTENDANCE SHEETS

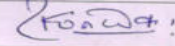
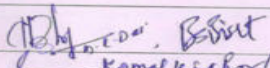
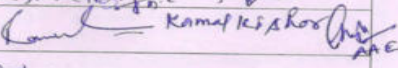
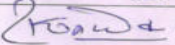
ARIHANT ANALYTICAL LABORATORY PVT. LTD.


Topic of Training : Environment Health & Safety.
 Date : 13-5-2016
 Training given by :
 Location of Training : Lot 3 Dharchhula 300 KL Tank GSLR

Sr. No.	Name of Participants	Signature
1	Sombeer	Sombeer
2	Pramod Kumar	प्रामोद कुमार
3	Ramgopal	रामगोपाल
4	Santosh Kumar	सन्तोष कुमार
5	Bhanpreet Pratap	भानुप्रीत
6	Satendra pal	सतेंद्रपाल
7	Rajendra giri	राजेंद्र गिरि
8	Ramesh Yogi	रामेश योगी
9	Hukram	हुकुराम
10	Shobhan Singh	शोभन सिंह
11	Heera Singh	हीरा सिंह
12	Mayank Sah	मयंक साह
13	Rajendra Singh	राजेंद्र सिंह
14	Bharat Singh Bisht	भारत सिंह बिष्ट
15	Bikash Kumar Das	बिकास कुमार दास
16	Kamal Kishor	कमल किशोर
17	RAMKISHOR SINGH GARGYAL (AE) VFS	रामकिशोर

Name of Experts:
NIRANJAN SINGH BANGARI

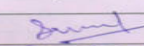
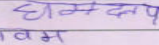
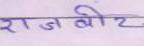



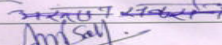

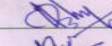



Date of Training :- 13-5-2016

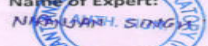
Name Of Place	Dharchula	
Name Of Site	Lot-3 Dharchula 300KL Tank GILSR	
Representative	Name	Sign
Name Of Site Engineer	Rajendra Singh	
Name of STUP Representative	Birash Kumar Das / Bhawal Singh Bisht	
Name Of Jal Sansthan Representative	RAMESH SINGH GARBYAL UJS Dharchula (A.E)	
Name of Project manager	Rajendra Singh	




ARIHANT ANALYTICAL LABORATORY PVT. LTD.

Topic of Training : Environment Health & Safety.
 Date : 12-5-2016
 Training given by :
 Location of Training : Kapkot (Lot 1) Interlock Well.


Sr. No.	Name of Participants	Signature
1.	Suneel chandra Singh	
2.	Dharmendra	
3.	Shivam pal Mistry	
4.	Rajveer	
5.	Suraj pal	
6.	Dhannu	
7.	Birendra	BIRENDRA
8.	Arun Saxena	
9.	Kundan Singh	
10.	Mayank Sah	
11.	Rajesh upadhyay	
12.	Bikash Kumar Das	
13.	Ajeeraj Tiwari (A.E) Jal Sanstha	

Name of Expert:

 NISHANT SINGH BANGAR



Date of Training :- 12-5-2016

Name Of Place	Kaprot	
Name Of Site	Kaprot (Lot 1) Infiltration well	
Representative	Name	Sign
Name Of Site Engineer	Mayank Sah	<i>[Signature]</i>
Name of STUP Representative	Birash Kumar Das	<i>[Signature]</i> B. K. Das C.E.-DSC
Name Of Jal Sansthan Representative	Neeraj Tiwari	<i>[Signature]</i> N. Tiwari A.E. UES
Name of Project manager	Rajesh Upadhyay	<i>[Signature]</i> R. Upadhyay



ARIHANT ANALYTICAL LABORATORY PVT. LTD.

Topic of Training : Environment Health & Safety.
 Date : 12-5-2016
 Training given by : Niranjn Singh Bangari
 Location of Training : Surajkund (Bageshwar I-well)

Sr. No.	Name of Participants	Signature
1	Sajan Saxena	<i>[Signature]</i>
2	Ajan Saxena	<i>[Signature]</i>
3	Kapoor Singh	Kapoor Singh
4	Shankar chaudhary	<i>[Signature]</i>
5	Arun chaudhary	Arun
6	Vinod chaudhary	Bijod Das
7	Ajay Joshi	<i>[Signature]</i>
8	Birash Kumar Das	<i>[Signature]</i> B. K. Das
9	Rohit Kumar	<i>[Signature]</i>
10	Dayal Singh	<i>[Signature]</i>
11	Rajesh upadhyay	<i>[Signature]</i>
12	Himanshu Kumar	<i>[Signature]</i>
13	Unni Krishna Nair	<i>[Signature]</i>
14	Mayank Sah	<i>[Signature]</i>
15	Neeraj Tiwari (A.E) Jal Sansthan	<i>[Signature]</i>

Name of Expert:
 NIRANJAN SINGH BANGARI

 BANGARI

Date of Training :- 12-5-2016

Name Of Place	Bageshwar	
Name Of Site	Surajkund (Bageshwar I-well)	
Representative	Name	Sign
Name Of Site Engineer	Rohit Kumar	
Name of STUP Representative	Bikash Kumar Das	 B.K. Das C.S.-DSC
Name Of Jal Sansthan Representative	Deen Dayal/ Neeraj Tiwari	 AB-VSS
Name of Project manager	Rajesh Upadhyay	 Rajesh Upadhyay



ANNEXURE-14

PHOTOGRAPHIC ILLUSTRATION OF EMP IMPLEMENTATION AT WORK SITES



Workers with PPE at Bageswar infiltration well



Workers with PPE at Uttarkashi retaining wall



Project signboard at Srinagar



Workers with PPE at Srinagar tank site



Project signboard at Karnaprayag



Workers with PPE at Uttarkashi WTP



Workers with PPE at Karnaprayag retaining wall



Workers with PPE at Dharchula HRF



Workers with PPE at Devprayag Pipe laying work



Workers with PPE at Devprayag building site

ENVIRONMENTAL MONITORING AT WORK SITES



AIR QUALITY MONITORING AT SRINAGAR



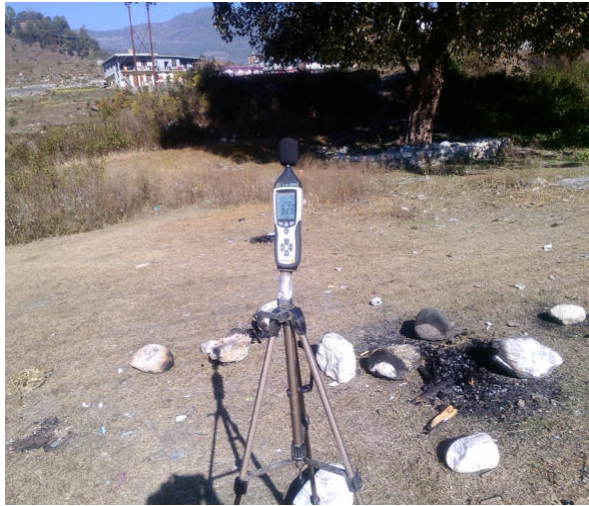
NOISE MONITORING AT SRINAGAR

WATER SAMPLING AT SRINAGAR



AIR QUALITY MONITORING AT UTTARKASHI

NOISE MONITORING AT UTTARKASHI



NOISE MONITORING AT KAPKOT



SOIL SAMPLING AT KAPKOT



AIR QUALITY MONITORING AT BAGESWAR



NOISE MONITORING AT BAGESWAR



WATER SAMPLING AT DHARCHULA



NOISE MONITORING AT DHARCHULA



WATER SAMPLING AT KARNAPRAYAG



AIR MONITORING AT KARNAPRAYAG



WATER SAMPLING AT RUDRA PRAYAG



AIR QUALITY MONITORING AT RUDRAPRAYAG



NOISE MONITORING AT GAUCHAR



WATER SAMPLING AT GAUCHAR