

# Environmental Compliance Monitoring Report

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Semi-annual Report  
July 2020  
Project No: 43524-015

## NEP: Kathmandu Valley Wastewater Management Project

Prepared by Kathmandu Valley Wastewater Management Project (KVVMP) for the Government of Nepal and the Asian Development Bank.

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**CURRENCY EQUIVALENTS**

(as of 29 June 2020)

Currency unit	–	Nepalese rupee (NRs)
NRs 1.00	=	\$ 0.0082
\$1.00	=	NRs 121.34

*Source: Nepal Rastra Bank, Kathmandu*

**NOTE{S}**

- (i) The fiscal year (FY) of the Government of Nepal and its agencies ends on 15 July. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2018 ends on 16 July 2019.
- (ii) In this report, "\$" refers to US dollars.

**ABBREVIATIONS**

ADB	–	Asian Development Bank
CASSC	–	Community Awareness and Safeguard Support Consultant
CBS	–	Central Bureau of Statistics

CDC	–	Compensation Determination Committee
CEMP	–	Contractor Environmental Management Plan
DSC	–	Design and Supervision Consultants
EA	–	Executing Agency
EMP	–	Environmental Management Plan
GON	–	Government of Nepal
GRC	–	Grievance Redress Committee
IP	–	Indigenous People
IR	–	Involuntary Resettlement
IS	-	Interceptor Sewers
KUKL	–	Kathmandu Upatyaka Khanepani Limited
KVWMP	–	Kathmandu Valley Wastewater Management Project
MoWS	–	Ministry of Water Supply
PD	–	Project Director
PID	–	Project Implementation Directorate
PID-SU	–	Project Implementation Directorate-Safeguard Unit
PIU	–	Project Implementation Unit
PM	–	Project Manager
ROR	–	Right of River
RP/IPP	–	Resettlement Plan
R&R	–	Resettlement and Rehabilitation
ToR	–	Terms of Reference
WWTP	–	Wastewater Treatment Plant

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## **Executive Summary**

The Kathmandu Valley Wastewater Management Project (KVVWMP) (ADB Loan No. 3000-NEP) is working for the improvement in the wastewater services in Kathmandu Valley with the expansion, upgrading and new construction of sewer networks to improve quality of wastewater before it disposes directly into the natural streams flowing along the valley. The major objective of the project is to manage waste water of the Kathmandu valley. The project is considered Category B as per the SPS 2009 as no significant impacts are envisioned.

The KVVWMP involves (i) rehabilitation and expansion of sewerage network including property connections; (ii) rehabilitation and construction of interceptors along the streams and rivers; (iii) modernization and expansion of wastewater treatment plants to 138.1 MLD capacity; (iv) energy generation of approximately 434 kW through sludge digestion and/ or gasification; and (v) supporting operational and financial improvements and capacity building. The expected outcome of the project will be an improved wastewater collection and treatment system and increased access of wastewater services to the residents of Kathmandu Valley including poor women and men.

Environmental Safeguard conditions of the implemented wastewater treatment plant are satisfactory and interceptor sewer projects are partially satisfactory. During the construction phase, the health and safety of the workers, technical staffs, visitors and public is one of the most important aspects. Several instruction letters have been issued to contractors to enhance safety at the working site. Similarly, no any remarkable impacts upon the surroundings due to noise generated from the construction and excavation work. Further, no any significant impact upon air and surrounding water with the construction activities carried during this biannual. Till date contractor at WWTP-01 has removed 89 numbers of trees requiring compensatory plantation out of which 117 trees are planted until now.

# **1 Introduction**

## **Background**

The Kathmandu Valley Wastewater Management Project (ADB Loan No. 3000-NEP) is working for the improvement in the wastewater services in Kathmandu Valley with the expansion, upgrading and new construction of sewer networks to improve quality of wastewater before it disposes directly into the natural streams flowing along the valley. The project is investing in rehabilitation and construction of new wastewater treatment plants, expansion of sewerage network, and improvement of wastewater management in Kathmandu Valley. The project is expected to increase operational efficiency, enhance service delivery, and improve health and quality of life of the inhabitants of Kathmandu Valley. Safeguard policy are the policies that require to “avoid, minimize or mitigate adverse environmental and social impacts” that may result from development projects. The safeguard policies adopt “do no harm” approach. Development projects that change patterns of use of land, water and other natural resources can cause a range of resettlement effects.

## **Objectives**

The overall objective of the Project is to improve water quality in rivers and tributaries and their ecosystem in Kathmandu Valley by enhancing wastewater management capacity; whereas the specific objectives are as follows;

- i. rehabilitating and expanding the sewerage networks;
- ii. modernizing, expanding, and constructing wastewater treatment plants (WWTPs); and
- iii. supporting operational and financial improvements and capacity building.

Kathmandu Valley is characterized by high population growth (estimated to be 6.6% per annum) and high population density (estimated at more than 2,500 persons per km<sup>2</sup>). The total population of Kathmandu Valley (Kathmandu, Lalitpur and Bhaktapur Districts) was estimated at 2.51 million in 2011 (CBS, census 2011) and will reach 3.26 million by 2021.

The existing wastewater network has not been maintained or expanded to serve the spreading urban areas and increased population. This has resulted in untreated sewage being discharged directly into local watercourses. The rivers have become open sewers presenting severe public health risks, in particular to the urban poor. Moreover, poor access to sanitation facilities, an improper solid waste management system, and groundwater and surface water pollution from untreated domestic sewage have caused increased disease, health risks, and associated economic burdens disproportionately impacting the poor and vulnerable.

## **Scope**

The KVWWMP involves (i) rehabilitation and expansion of sewerage network including property connections; (ii) rehabilitation and construction of interceptors along the streams and rivers; (iii) modernization and expansion of wastewater treatment plants to 138.1 MLD capacity; (iv) energy generation of approximately 434 kW through sludge digestion and/ or gasification. The expected outcome of the project will be an improved wastewater collection

and treatment system and increased access of wastewater services to the residents of Kathmandu Valley.

### **Monitoring Requirements**

Monitoring is a major part of the safeguard/resettlement management system to ensure that its goals are met. Supervision Consultant (DSC-6) has been preparing monthly, quarterly and semi-annual progress reports on safeguards activities and submitting to KUKL/PID. The KUKL/PID expert or focal person has been reviewing and consolidating their reports into semi-annual monitoring and submitting to ADB.

This is the semi-annual environmental monitoring report for the month of January to June 2020 and is prepared in compliance with the ADB Policies. The report comprises activities performed under Wastewater Treatment Plant (WWTP) package TP-01, TP-02, and TP-03, Interceptor Sewer packages IS-01, IS-02 and IS-03, Decentralized Wastewater Treatment Systems (DEWATS) packages Hanumanghat and Gokarna and Sewerage Network SN-03.

### **Environmental Category**

The project is considered Category B as per the SPS 2009 as no significant impacts are envisioned. As per ADB's Safeguard Policy Statement (2009) and Operations Manual section on Safeguard Policy (OM F1), borrowers/clients are required to submit monitoring reports for ADB review. ADB's Environment Policy is to consider environmental issues in all aspects of the Bank's operations. ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, financial intermediation loans and private sector investment operations. The nature of the assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures.

### **Project Safeguards Team**

The project safeguard team supporting for the L-3000 is presented in the following table.

**Table 1-1: Project Safeguard Support Team**

S.N	Name	Designation/ Office	Email Address	Roles
<b>PID</b>				
1.	Bhoj Bikram Thapa	Project Director	<a href="mailto:bhojenv@gmail.com">bhojenv@gmail.com</a>	Overall guidance and direction to the team
2.	Laxmi Pant	Chief, Safeguard Unit PID	<a href="mailto:laxmipant_007@yahoo.com">laxmipant_007@yahoo.com</a>	As a SU Chief, maintaining safeguard of TP and IS sub-projects compliance and enforcement, meetings with consultants and contractor's ESSS teams, guidance and direction to the teams

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S.N	Name	Designation/ Office	Email Address	Roles
3.	Vidya Bhandari	Sociologist, Safeguard Unit PID	<a href="mailto:Vidyab2069@gmail.com">Vidyab2069@gmail.com</a>	Support unit head in making necessary arrangements to review RP, GESI Action plan and DDR prepared by consultant /GESI Focal person
4.	Pramila Adhikari	Sociologist, Safeguard Unit PID	<a href="mailto:apramila27@gmail.com">apramila27@gmail.com</a>	Support unit head in making necessary arrangements to review RP, GESI Action plan and DDR prepared by consultant /GESI Focal person/OHS focal person
<b>DSC-06</b>				
1.	Sarika Gharana	Environment Safeguard Specialist	<a href="mailto:sarikagharana@gmail.com">sarikagharana@gmail.com</a>	Monitoring and supervision of environmental safeguard works of TP, IS and SN projects of L-3000
2.	Dilip Malla	Social Safeguard Specialist	<a href="mailto:dkmalla@yahoo.com">dkmalla@yahoo.com</a>	Monitoring and supervision of social safeguard works of TP, IS and SN projects of L-3000
3.	Dikshya Dhakal	Environment and OHS Associate	<a href="mailto:dikshyadhakal842@gmail.com">dikshyadhakal842@gmail.com</a>	Monitoring of environmental safeguard works of TP, IS and SN projects of L-3000
<b>Consultants (CASSC)</b>				
1.	Ram Krishna Giri	Social Safeguard Specialist, CASSC	<a href="mailto:ramkrishnagiri@gmail.com">ramkrishnagiri@gmail.com</a>	Generation of awareness at community level and supervision of the sub-projects implemented by PID.
2.	Madhukar Shrestha	Public Health Expert- CASSC	<a href="mailto:madhukarbshrestha@gmail.com">madhukarbshrestha@gmail.com</a>	Orientation /Awareness program for school students, Municipality Mayor, vice- Mayor, ward chairman and members, women members ,women's group, youth group , Female Community Health Volunteers
3.	Pushpa Koirala	Environment Safeguard Specialist, PID/CASSC	<a href="mailto:pukoirala80@gmail.com">pukoirala80@gmail.com</a>	Support safeguard unit in reviewing IEE documents; monitoring and supervision of environmental safeguard compliance of PID projects
4.	Rooja Bajracharya	OHS Expert	<a href="mailto:rooja.bajracharya@gmail.com">rooja.bajracharya@gmail.com</a>	Support PID in assessment of risks and evaluation of Contractors safety performance, Identification and assessment of OHS requirements
5.	Min Dahal	Field Coordinator	<a href="mailto:meendahal102gmail.com">meendahal102gmail.com</a>	Coordination with the community level

## **Overall Project and Sub-project Progress / Status**

The proposed project includes (i) rehabilitation or construction of new WWTP already established in different locations in the Kathmandu Valley; (ii) construction of interceptors; and (iii) improvement in the wastewater network system (rehabilitation, replacing, laying of new sewer and storm water drains, etc.).

### ***A. Wastewater Treatment Plant (WWTP)***

As per the procurement plan, the work includes the rehabilitation and construction of new WWTP at Kodku 7.0 MLD (Patan), Sallaghari 13.1 MLD (Bhaktapur), Dhobighat 39 MLD (Kathmandu), Guheshwori 30.6 MLD (Kathmandu). The two numbers of packages are ongoing for the implementation of WWTPs based on the updated capacity as per the revised design, Package I consisting of one treatment plant i.e. Guheshwori (32.4 MLD) as WWTP-01, WWTP-02 consisting of three WWTPs i.e. Sallaghari (14.20 MLD), Kodku (17.5 MLD) and Dhobighat (37 MLD) and WWTP-03 i.e. Dhobighat (37 MLD).

The WWTPs have been designed for extension and rehabilitation in the existing locations, and on government land that was acquired more than 3 decades ago. The land required for updated capacity is within the threshold of available land acquired. Population and service area coverage figures are changed based on current design estimation. Decentralized Wastewater Treatment Systems (DEWATS) have been added. DEWATS component split into two separate packages - WW/DCTP-01 for Hanumanghat DEWATS and WW/DCTP-02 for Gokarna DEWATS.

### ***B. Interceptor Sewers***

At present, the KVWWMP is laying interceptors along the banks of Hanumante, Manohara and Khashyasang Khusung rivers in different packages IS-01, IS-02 and IS-03 respectively. The package KUKL/WW/IS-01 includes construction of Intercepting Sewerage System along both bank of Hanumante river from Jagati of Bhaktapur along the left bank and from Chokin Chilla bridge at Kharipati along right bank of Hanumante upto Manohara confluence down stream. The package KUKL/WW/IS-02 includes extension and construction of intercepting sewer system along both banks of Manohara River from Manohara and Hanumante confluence up to Sun City colony along Manohara.

The package KUKL/WW/IS-03 includes laying of interceptor sewer pipeline along the Khashyasang Khusung River catering the sewer into Sallaghari WWTP. The storm water from sewerage network will be over flowed to the nearby stream or river through the overflow/diversion structures. The pipeline alignments will be on existing RoRs. The government has defined 20 m on both banks of rivers in Kathmandu as RoRs, so the interceptors will be laid within the RoWs to the extent technically feasible.

### ***C. Sewer Cleaning and Rehabilitation***

Sewer Cleaning and Rehabilitation in Core Area of Patan (KUKL/WW/SN-03) is also a new package initiated on the request of KUKL and Lalitpur Metropolitan City (LMC). As

discussed with LMC and KUKL, the rehabilitation work will be focused to reduce flooding in the core area of Patan, which also includes a UNESCO heritage site Durbar Square. DSC has prepared and submitted the DPR of the combined sewer and storm water drainage network to the PID. The preparation of environmental and social safeguards documents meeting ADB requirements has been done. Initial Environmental Examination (IEE) report, Heritage Impact Assessment (HIA) report and Alternative Analysis report have been prepared and uploaded at PID website. Briefing on IEE, HIA, OHS and EMP requirement has been given to contractor. Contractor has submitted Site-specific Environment Management Plan (SEMP) for approval. Project locations of WWTP and Interceptor Sewer Lines are presented in Figure 1-1 and project wise progress status is given in Table 1-2.



## Description of Subprojects (package-wise) and Status of Implementation

Table 1-2: Package Wise Implementation Progress

Present Progress Status of Ongoing Contracts as of June 2020										
SN	Contract Package		Contractor	Contract Amount, million NPR	Commencement Date	Initial Completion Date	Revised Completion Date	Financial status (%)	Time Elapsed (%)	Status as of 30 June, 2020 Progress
	(KUKL/WW/...)									
1	TP/01	Guheshwori WWTP	VA Tech Wabag Ltd.	2,558.32	1-Aug-16	22-Jul-18	EOT-01: 20 July 2019 EOT-2: 17 December 2019 EOT-03: 31 March 2020	77.00	100.0	Detailed design: 100 %
										Manufacturing and supply: 100%
										Procurement: 100%
										Civil works: 99.9%
										Trial Run & Commis.: 85%
<b>Overall progress: 99.42 %</b>										
2	TP-02	Sallagahri, Kodku & Dhobighat	Safbon Water Service (Holding)	3,920.62	7-May-17	6-Nov-19	EoT-01: 31 Dec 2020	22.78	86.2	Detail Design: 100% approved
										Procurement: 7.3%
										Civil works: 11.8%
<b>Overall Progress: 21.07%</b>										
3	TP-03	Dhobighat WWTP	CGCOC - ATAL JV	1,962.39	25-Mar-18	14-Mar-20	EoT-01: Submitted and Evaluation on going by PID	16.09	100.0	Detail Design: 100 %
										Procurement: none
										Civil Works: 12.23%
<b>Overall Progress: 17.76%</b>										
4	IS-01	Hanumante Interceptors	GIETC-Lama-Raman JV	636.04	3-May-16	23-Apr-18	EOT-01: 5-Apr-19 EOT-02: 31-Dec-19 EOT-03: 12 April 2020; Descoping assessment is on going	58.50	100.0	Hume pipe laying: 16.8 km
										Manholes: 398 nos.
										Aqueducts/Crossings: 6
										River training works: 592 m
										Hume pipes for Overflow & Outfall structures: 27 Nos
<b>Overall Progress: 46.9%</b>										
5	IS-02	Manohara Interceptors	ZIEC-Sharma-BKOI JV	758.66	2-Nov-16	23-Oct-18	EOT-01: 31-May-19 EOT-2: 16 Dec 2019 EOT-03: 30 May 2020; Descoping assessment is on going	52.49	100.0	Hume pipe laying: 5.8 km
										Manholes: 144 at various stage
										Aqueducts/Crossings: 2
										River training works: 2686 m
										<b>Overall Progress: 42.96%</b>
6	IS-03	Kashayang Khusung Collectors	Lama-Raman-Golden Good JV	411.23	15-Dec-17	8-Jun-19	EoT -01: 7 Dec 2019	96.62	100	Hume pipe laying: 7.06 km
										Manholes: 182 nos.
										River Crossings: 3
										Overflow/Outfall structures: 25
										<b>Overall Progress: 97%</b>
Contract Completed										

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7	EG-01	Sewer Cleaning Equipment	MANIAR & Co.	42.762	19-Jun-19	15-Nov-19	EoT-01: 7 Dec 2019	100	100	Supply of Equipment completed
8	SN-03	Lalitpur Sewer	Lama-Sharma-Golden good JV	487.89	17-Jun-20	1-Aug-20		1st Instalment of AP	2.4	Contract Awarded
9	DEWATS									Design and Bidding documents and Bidding Documents have been revised incorporating the comments received from ADB.

## 2 Compliance Status with National / State / Local Statutory Environmental Requirements

The project has fulfilled all the statutory requirements in order to safeguard environment with the consequences due to construction works. Compliance status with national environment requirement is presented in Table 2-1 below. Package wise IEE report is prepared for each sub-project and the package-wise IEE documentation status is presented in Table 2 2.

**Table 2-1: Compliance Status with National Environment Requirement**

Package No.	Sub-project Name	Statutory Environmental Requirements <sup>1</sup>	Status of Compliance <sup>2</sup>	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish <sup>3</sup>
KUKL/ WW/TP-01	Guheshwori WWTP	Initial Environmental Examination	IEE report approved	N/A	N/A	No any permission required
KUKL/ WW/TP-02	Sallaghari, Kodku and Dhobighat WWTPs	Initial Environmental Examination	IEE report approved	N/A	N/A	No any permission required
KUKL/ WW/TP-03	Dhobighat WWTP	Initial Environmental Examination	IEE report approved	N/A	N/A	No any permission required
DEWATS	Hanumanghat and Gokarna	Initial Environmental Examination	Submitted to ADB for review	N/A	Finalize the report	No any permission required
KUKL/ WW/ IS-01	Hanumante Interceptor Sewer	Initial Environmental Examination	IEE report approved	N/A	N/A	No any permission required.
KUKL/ WW/ IS-02	Manohara Interceptor Sewer	Initial Environmental Examination	IEE report approved	N/A	N/A	No any permission required
KUKL/ WW/ IS-03	Khashyang Khusung Interceptor Sewer	Initial Environmental Examination	IEE report approved	N/A	N/A	Road cut permit required. (Obtained and permit attached in Appendix 2)
KUKL/ WW/ SN-03	Sewer cleaning and rehabilitation in core area of Patan	Initial Environmental Examination	IEE report approved by ADB and MoWS.	N/A	Finalize the report	Heritage Impact Assessment (HIA ) is required that is approved by DoA. (The approval letter is attached in Appendix 3)

<sup>1</sup> Specify (environmental clearance? Permit/consent to establish? Forest clearance ?Etc.)

<sup>2</sup> Specify if obtained, submitted and awaiting approval, application not yet submitted

<sup>3</sup> Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.

**Table 2-2: Package-wise IEE Documentation Status**

Package Number	Final IEE Report based on Detailed Design			Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)
	Not yet due (detailed design not yet completed)	Disclosed on project website (Provide Link)	EMPs included in the bidding documents (Yes/No)	
KUKL/WW/TP-01	IEE Report Approved by ADB	<a href="http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_3.pdf">http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_3.pdf</a>	Yes	Construction EMP prepared and approved
KUKL/WW/TP-02	IEE Report Approved by ADB	<a href="http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_1.pdf">http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_1.pdf</a>	Yes	Construction EMP prepared and approved
KUKL/WW/TP-03	IEE Report Approved by ADB	<a href="http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_2.pdf">http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/43524-014-iee-en_2.pdf</a>	Yes	Construction EMP prepared and approved
DEWATS	Comments on IEE Report received from ADB and incorporation of comments ongoing	Not Yet	Yes	Not Yet
KUKL/WW/IS-01	IEE Report Approved by ADB	<a href="https://www.adb.org/projects/documents/nep-43524-014-iee">https://www.adb.org/projects/documents/nep-43524-014-iee</a>	Yes	Construction EMP prepared and approved
KUKL/WW/IS-02	IEE Report Approved by ADB	<a href="http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/Kathmandu%20Valley%20Wastewater%20Management%20Project%20Interceptor%20Sewer%20(IS-02)%20Initial%20Environmental%20Examination%20.pdf">http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/Kathmandu%20Valley%20Wastewater%20Management%20Project%20Interceptor%20Sewer%20(IS-02)%20Initial%20Environmental%20Examination%20.pdf</a>	Yes	Construction EMP prepared and approved
KUKL/WW/IS-03	IEE Report Approved by ADB	<a href="http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/Kathmandu%20Valley%20Wastewater%20Management%20Project%20Interceptor%20Sewer%20(IS-03)%20Initial%20Environmental%20Examination.pdf">http://www.kuklpid.org.np/kukl/Content/Upload/document/safeguard/Kathmandu%20Valley%20Wastewater%20Management%20Project%20Interceptor%20Sewer%20(IS-03)%20Initial%20Environmental%20Examination.pdf</a>	Yes	Construction EMP prepared and approved
KUKL/WW/SN-03	IEE Report Approved by ADB and MoWS	<a href="http://www.kuklpid.org.np/kukl/D:/Hosting/11365196/html/kukl/Content/Upload/document/safeguard/Initial%20Environmental%20Examination%20(IEE)%20Report%20(Volum-D)%20For%20Core%20Area%20Sewer%20Network%20of%20Lalitpur%20Metropolitan%20City.%20Kathmandu%20Valley%20Wastewater%20Management%20Pr.pdf">http://www.kuklpid.org.np/kukl/D:/Hosting/11365196/html/kukl/Content/Upload/document/safeguard/Initial%20Environmental%20Examination%20(IEE)%20Report%20(Volum-D)%20For%20Core%20Area%20Sewer%20Network%20of%20Lalitpur%20Metropolitan%20City.%20Kathmandu%20Valley%20Wastewater%20Management%20Pr.pdf</a>	Yes	Construction EMP prepared and under review

### 3 Compliance Status with Environmental Loan Covenants

The compliance status with environmental and social loan covenants is presented in Table 3-1.

**Table 3-1: Status of Environmental Loan Covenants**

S.N	Covenants as Mentioned in Schedule 5	Status of Compliance
	<b>Implementation Arrangements</b>	
Loan Agreement Schedule 5, para 6	The Borrower shall make available KVWSMB and KUKL to make available necessary budgetary and human resources to fully implement the EMP and the RP.	<b>Complied.</b> PID now has Safeguards Unit with full-time officers and DSC and Community Awareness and Social Safeguard Consultant (CASSC) is in place.
Loan Agreement Schedule 5, para 7	The Borrower shall ensure, or cause KVWSMB and KUKL to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to: <ul style="list-style-type: none"> <li>(a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, and the RP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</li> <li>(b) make available a budget for all such environmental and social measures;</li> <li>(c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP;</li> <li>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</li> <li>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</li> </ul>	<b>Complied</b> All bidding documents are prepared as per ADB Standard Bidding Document (SBD).
	<b>Safeguards Monitoring and Reporting</b>	
Loan Agreement Schedule 5, para 8	The Borrower shall do the following, or cause KVWSMB and KUKL to do the following: <ul style="list-style-type: none"> <li>(a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</li> </ul>	<b>Complied</b> Semi-annual environmental monitoring reports have been prepared and submitted regularly.

	<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, the EMP, and the RP, 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 actual or potential breach of compliance with the measures and requirements set forth in the EMP or the RP promptly after becoming aware of the breach.</p>	
	<b>Labor Standards</b>	
Loan Agreement Schedule 5, para 10	<p>The Borrower and KUKL shall ensure that the contractors comply with all applicable labor, health, and safety laws and regulations of the Borrower and, in particular, (a) do not employ child labor for construction and maintenance activities, and (b) provide appropriate facilities (latrines, etc.) for workers at construction sites. The Borrower shall require contractors not to differentiate wages between men and women for work of equal value. The Borrower and KUKL shall ensure that specific clauses shall be included in bidding documents to ensure adherence to these provisions, and that compliance are strictly monitored during project implementation.</p>	<b>Complied.</b> PID through its Design and Supervision Engineer (DSC) is supervising and monitoring the compliance with labor, health and safety law regulations. The project work is in compliance with ADB's requirements and national laws & regulations.
	<b>Grievance Redress Mechanism</b>	
Loan Agreement Schedule 5, para 16	<p>Within 12 months of Effective Date, KUKL shall prepare a grievance redress mechanism, acceptable to ADB, and establish a special committee to receive and resolve complaints and grievances or act upon reports from stakeholders on misuse of funds and other irregularities, including grievances due to any resettlement. The special committee shall (a) make public the existence of the grievance mechanism, (b) review and address grievances of stakeholders of the Project, in relation to either the Project, any of the service providers, or any person responsible for carrying out any aspect of the project; and (c) proactively and constructively responding to them.</p>	<b>Complied.</b> Grievance redress mechanism (GRM) established. A special committee in PID to receive and resolve complaints and grievances has also been formed. The project has formed 16 GRC at ward level to redress grievance. However the GRC is not active as before.

#### 4 Status of Corrective Action Plan Set Forth in ADB Review Mission

The status of the corrective action plan set forth in ADB review mission in November 2019 is given in Table 4-1.

**Table 4-1: Corrective Action Plan Set Forth in ADB Review Mission Status**

Description	Time frame	Responsible	Current Status
Appoint an environment expert in the Safeguard Unit/PID and train in OHS requirements. Outsource a full-time environment consultant until the position is vacant	15 Jan 2020	MWSS/PID	Environment consultant is working at safeguard unit. OHS expert has also been appointed in safeguard unit.
PID to immediately instruct contractor of all contracts (TP and IS packages) to urgently replace the shanty camps constructed with tarpaulin/rusted old CGI sheet by following PID specification for camp, kitchen, cafeteria, toilets and shower rooms etc.)	15 Dec 2019	Contractors SU/PID	Labor Camp Standard has been made and distributed and instructed to the contractors to follow the standard.
PID to immediately instruct contractor of all contracts (TP packages) to establish a medical bay with sick-bed, simple medical equipment and first-aid medicines managed by an assistant health worker	15 Dec 2019	Contractors SU/PID	Complied. However, assistant health worker is not recruited in any of the contract packages as it is not specifically mentioned in the contract.
PID to immediately instruct contractor of all contracts (TP packages) to submit air, water and noise standard	15 Dec 2019	Contractors SU/PID	Instructed several times.
Consult with existing contractors and agree to urgently mobilize an environment cum OHS staff at every work site. Train the staff in OHS requirements through support of PID	31 Dec 2019	PID/ Contractors ADB	Complied
Instruct contractors of all contract packages to spray water on dry area of work or vehicle operation inside or approach road to work sites in order to suppress dust	Immediately	PID Contractors	Complied
Grade the approach roads irrespective of responsible agency for maintaining or black-topping (eg. in TP Dhobighat, Kodku, and most of IS work areas)	Immediately	PID Contractor	Following will be assured in new contract packages: -Keep provision of blacktopping the road within the PID contract in new contract packages. -Keep cost for temporary sealing where immediate blacktopping is not possible.
Instruct contractor to submit landscaping and vegetation plan in all the concerned contract packages	30 Nov 2019	PID	Completed in TP 01. Process initiated in TP 02 and 03.
PID to organize a joint meeting with ADB and the contractor of non-performing contract packages, and agree	15 Dec 2019	PID/SU, ADB, Contractor	Complied

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to take urgent corrective actions and record in minutes			
ADB to finalize environmental safeguards and OHS guidelines, also including procedural guideline and “zero soil” concept Customize the guidelines and get approval from MWSS and translate in Nepali	31 Dec 2019 29 Feb 2020	ADB/PID KUKL/MWSS	PID has not received environmental safeguards and OHS guidelines from ADB
Review and update safeguards BOQ items and contract agreement provisions, and use in all future contract packages. The bidding and CA documents shall be screened for safeguard/OHS provisions by SU.	31 Jan 2020	PID/ADB	Already done in new contract packages
Keep mandatory provision of site-specific EMP and OHS submission in all future contracts prior to mobilization or initiation of work at a given site	On-going	PID	Compiled
Mobilize a software designer to prepare a safeguard information management system (part of PPMS at PID level), which will be useful to manage multiple projects by PID. The system shall complimentary to the safeguards monitoring system being prepared by SAUW and linked to SARD safeguard tracking system	15 Feb 2020	PID/ADB	Complied. ADB has supported PID to operate Automated safeguard performance monitoring.
Explore national institutions to provide OHS training, and arrange for the training through appropriate source of funding	On-going activity	ADB PID	OHS expert has been recruited and expert has planned for OHS training to contractors and labors
At the Sallaghari WWTP sites (TP-02 package) conduct an environmental due diligence with all required chemical tests to identify possibility of toxicity to pollute soil and surface/groundwater prior to managing solid waste mixed earth excavated for project work.	As and when required and before disposing	DSC PID Contractor	Complied

## 5 Contractor Compliance Status as per CEMP

Overall Compliance with Contractor Environmental Management Plan (CEMP)/ Environmental Management Plan (EMP) is presented in Table 5-1.

**Table 5-1: Compliance as per CEMP**

SN.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required
1.	KUKL/WW/TP-01	CEMP prepared by contractor	CEMP implemented	Satisfactory	N/A

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2.	KUKL/WW/TP-02	CEMP prepared by contractor	CEMP partially implemented	Partially Satisfactory	N/A
3.	KUKL/WW/TP-03	CEMP prepared by contractor and under approval process	CEMP partially implemented	Partially Satisfactory	N/A
4.	KUKL/WW/IS-01	CEMP prepared by contractor	CEMP not implemented properly	Partially Satisfactory	N/A
5.	KUKL/WW/IS-02	CEMP prepared by contractor	CEMP not implemented properly	Partially Satisfactory	N/A
6.	KUKL/WW/IS-03	CEMP prepared by contractor	CEMP not implemented properly	Partially Satisfactory	N/A

## 6 Contractor Compliance with Environmental Safeguard Requirement

Status of Contractor's compliance with environmental safeguard requirement is presented in table 6-1 below.

**Table 6-1: Contractor Compliance Status with Environmental Safeguard Requirement**

S.N	Description	Remarks
1.	Appointment of Environment, Health and Safety (HSE) and/or nodal person	Appointed. Details in Appendix 4.
2.	Submission of site-specific EMPs	Under revision/approval phase. Site-specific EMPs updated to incorporate issue of COVID-19.
3.	Submission of SEMP implementation report	Monthly
4.	Site verification by PMU, PIU or consultants	Continuous process.
5.	SEMR compliance matrix on mitigation measures implementation	Continuous process.

### Compensation Tree Plantation

TP01 has cut around 89 trees during the construction phase within WWTP with ownership by KUKL. For this, the contractor need to plant trees for the compensation of the tress that are cut down. Hence, they had planted 117 trees inside the compound of WWTP. Tree saplings of Jacaranda Mimosifolia, Dhupi, Kapur, Palm, Parijat, Tejpatta, etc are planted. The main objective for the plantation of saplings is to comply with the environmental compliance measures to improve the environmental conditions and for recreation of the space. Landscaping work is also almost completed in the site.

## **7 Compliance Status with the Environmental Management Plan**

Compliance status of environmental monitoring plan is presented in Table 7-1 below. Environmental safeguards and OHS compliance reporting matrix of TP-01, TP-02, TP-03, IS-01 and IS-02 are presented respectively in Table 7-2, Table 7-3, Table 7-4, Table 7-5, and Table 7-6 below.

Table 7-1: Compliance Status of EMP

Subproject Name	Implementation Phase (Compliance to EMP Provisions)																			
	Proper spoil management	Proper drainage management	Workers are insured	Occupational health and safety at work site and camps	Open defecation controlled at work sites	Reinstate of public and private structures	Proper housekeeping in work area	Safety drill and tool box talk, safety signage available	Contractor has compensated for temporary land and crop damage	Safety plan prepared and implemented	Employment to local beneficiaries	Bio-engineering for slope protection	Plantation on required areas	Other EMP Compliance	Safeguard desk meeting convened regularly and minutes kept	Grievance redress mechanism functioning	Public consultation organized regularly as per the plan	Monthly and Semi-annual monitoring report submission	Total Weightage of Implementation	Total Weightage in percentage
	<b>3</b>	<b>3</b>	<b>2</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>60</b>	
TP01	3	3	2	6.5	2	N/A	2.75	3	N/A	2.5	2	N/A	N/A	11	2	3	3	3	48.75/51	95.58
TP02	3	1.5	2	4.5	2	N/A	1.5	3	N/A	2.5	2	N/A	N/A	9	2	3	3	3	42/51	82.35
TP03	3	2.5	2	5.5	2	N/A	2.5	1.5	N/A	2	2	N/A	N/A	10	2	3	3	3	44/51	86.27
IS01	1.5	2	2	3.5	2	3	2	1.5	2	1.5	2	N/A	N/A	7	2	3	3	3	41/56	73.21
IS02	2	2	2	4.5	2	3	2.5	2	2	1.5	2	N/A	N/A	7	2	3	3	3	43.5/56	77.67

Table 7-2: Environmental Safeguards and OHS Compliance Reporting Matrix of TP01

Potential Impact	EMP/SEMP recommended mitigation measure	Mitigation measure undertaken	Compliance %*	Contractor Instructed for Corrective Action	Corrective Action with Responsible Agency and Timeline
<b>A. Physical environment</b>					
Loss of topsoil	<ul style="list-style-type: none"> <li>Top soil recovered for re-use? Volume cum?</li> </ul>	Top soil is stockpiled after scraping in a secure area for later rehabilitation purpose.	95	Not instructed in this reporting period.	
Spoil management	<ul style="list-style-type: none"> <li>Spoil disposed downhill or block natural drain?</li> </ul>	Spoil are disposed in secured place.	100	Not applicable since natural drain is not blocked yet.	
Dust management	<ul style="list-style-type: none"> <li>“Zero Soil” approach adopted?</li> </ul>	Excavated soil is stockpiled in specific area	100	Written instruction not given in this reporting period	
	<ul style="list-style-type: none"> <li>Trench backfilled and compacted?</li> </ul>	Trench are backfilled and compacted wherever necessary.	90	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Regular water spraying for sufficient soil moisture at all time?</li> </ul>	Water spraying is being done regularly in the site.	80	Verbal instruction is given.	
	<ul style="list-style-type: none"> <li>Temporary sealing of trenches?</li> </ul>	Trenches are barricaded with either green net/caution tape or done hard barricading with steel rod or bamboo.	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Construction material covered during transportation?</li> </ul>	Yes. Construction materials are fully covered and transported in enclosed trailers and trucks.	100	Not applicable	
Air quality monitoring	<ul style="list-style-type: none"> <li>AQ monitoring conducted?</li> </ul>	AQ monitoring has been conducted once on May 2019.	100	Not instructed after the monitoring	Air quality monitoring allocated in bid document of new contracts.

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	<ul style="list-style-type: none"> <li>Any parameter above NAQS</li> </ul>	Yes. (result of 247.5 µg/m <sup>3</sup> versus standard of 230 µg/m <sup>3</sup> ). The sampling location is near the road.	-	Contractor is instructed to sprinkle water whenever there is high emission of suspended particulates.	
	<ul style="list-style-type: none"> <li>Emission testing of vehicles? Emission within standard?</li> </ul>	Emission testing has not been done yet.	0	Not instructed	
Water quality monitoring	<ul style="list-style-type: none"> <li>Water quality tested at camp and work areas?</li> </ul>	Water quality is tested regularly.	95	Verbal instruction is given.	
	<ul style="list-style-type: none"> <li>Vehicle washing in rivers/WB?</li> </ul>	Not allowed	100	Not applicable.	
	<ul style="list-style-type: none"> <li>Chemical and cement slurry in rivers/water bodies?</li> </ul>	Not disposed to river or water bodies. Remaining chemical drums have been returned to vendor itself.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Direct drainage discharge from camps in rivers?</li> </ul>	Drainage are not directly discharged.	90	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Crusher plant with water spray and @ 500m away from settlements.</li> </ul>	N/A			
Noise level monitoring	<ul style="list-style-type: none"> <li>Noise monitoring at sensitive receptor? Noise level within NS?</li> </ul>	Noise monitoring is done twice in a year	90	Instruction not required	Noise level monitoring is allocated in bid document of new contracts.
	<ul style="list-style-type: none"> <li>Crusher plant @ 500m away from sensitive receptor?</li> </ul>	N/A			
Sedimentation	<ul style="list-style-type: none"> <li>Temporary sealing of backfilled trench to avoid muddy pool formation?</li> </ul>	Backfilled trenches are compacted properly	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Workshop and garage have drainage facility?</li> </ul>	Drainage not available.	-	Not instructed in this reporting period.	
Blockage of natural drainage	<ul style="list-style-type: none"> <li>Natural drainage is not blocked?</li> </ul>	Natural drainage is not blocked.	100	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Construction material stockpile, chemicals store, and workshops &amp; garage have drainage facility?</li> </ul>	No drainage facility but waste is managed properly	90	Not instructed in this reporting period.	

Impacts due to quarry operation	• Is the quarry inside environmentally sensitive area?	N/A			
	• Aggregates purchased from local suppliers? Volume in cum.	Aggregates are purchased from local suppliers.	100	Instruction is not required	
	• Extraction of riverbed material done with a plan endorsed by Engr and local body. If yes, cum.	N/A			
	• Quarry area has drainage, dust minimization, noise control and water pollution prevention measures.	N/A			
	• No of tree cleared dur to quarry operation	N/A			
Closing of work area	• Work area left dirty without properly closing?	After completion of the work, the work areas are cleaned.	100		
	• Camp area left without properly closing?	N/A			
<b>B. Biological environment</b>					
Clearing of trees	• No of tree cleared	89 trees are cut down	-	Trees were cut after the approval from DSC.	
	• No. of tree planted	117 trees are planted until now			
	• Number of protected species felled?	N/A			
	• Tree guarding and watering mechanism established?	Not established but done by the labours	100	Instruction is not required	
	• Nursery established for long term maintenance, replacement and proper pruning and tending of trees?	Workers themselves maintain, prun the trees	100	Instruction is not required	

Wildlife habitat destruction	• Any work inside forest area?	N/A			
	• Any case of wildlife sighting? Record type and frequency of sighting (H, M, L)	N/A			
	• Any case of poaching recorded, buying of wildlife meat by workers?	N/A			
	• Any impact on fishes due to project work?	N/A			
	• Any wildlife watering hole, grazing area, or movement corridor disturbed?	N/A			
	• No of orientation to workers, staff, community on need for environment and wildlife protection	N/A			
<b>C. Socio-economic and cultural environment</b>					
Work inside World Heritage Site	• Heritage impact assessment prepared with monitoring plan, if relevant?	N/A			
	• Consultation with government and CSO on planning and implementation?	N/A			
	• Any impact due to vibration, excavation, transportation on heritage structures?	N/A			
	• Information disseminated on working period to the tourists, businessmen, pilgrims?	N/A			
	• Infrastructure repaired back to original condition to the satisfaction of stakeholders?	N/A			
Safety at work	• Contractor submitted OHS plan and engineer has approved?	Contractor submitted OHS plan and DSC approved the plan.	100		

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• Contractor has mobilized safety staff? Number?	1 safety officer appointed.	100		
• % compliance in use of PPEs by workers?	PPEs are being given and used by the workers but sometimes it is not worn.	90	Instructed.	
• Is the First Aid Box kept at site?	First Aid Box kept at site and in the site office maintaining the ratio of 1:25	100		
• Number of worker trained in first aid application	3 first aiders are present in the site.	100	Instruction is not required..	
• Are the workers are insured?	All the workers are insured.	100		
• Medical room with asst. health worker?	Medical room has been made with bed, stretcher and first aid box but asst health worker is not recruited.	90	Not instructed in this reporting period.	
• Ambulance/Vehicle is kept ready at site for emergency transport to hospital?	A standby vehicle is kept ready at site for emergency transport to hospital.	100		
• Safety protocol for working in deep trench established. % compliance?	Safety protocol is established.	95	Not instructed in this reporting period.	
• Safety protocol for working in confined space established, gas detector available. % compliance?	Safety protocol is established. Gas detector is available as well	95	Not instructed in this reporting period.	
• Safety protocol for working in height established and % compliance?	Safety protocol is established.	80	Instructed to correct the scaffolds.	
• Safety check on fire hazard established, fire extinguisher available at all sites?	Safety check on fire hazard established, fire extinguisher are available in sites.	90	Not instructed in this reporting period.	
• Workers health regularly screened for Covid-19 and other communicable diseases, workers oriented and safety drill carried out?	Health checkup of worker was done for communicable diseases. Body temperature is taken daily for screening of Covid-19. Safety drill has also been done.	95	Instructed to take the temperature reading on daily basis.	

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Labor camp	• Camp is fenced, lighted and guarded?	Camps are established in confined space with proper lighting.	85	Verbal instruction given to maintain the standard of the camp.	
	• Quality of labor camp (Excellent, Good, Fair, Poor): Ventilated, Lighted, Cabin on raised impervious floor, Drainage available, Proper bed and mattress, Kitchen and eating area in separate room, Water supply and sanitation facility available, Solid waste is managed, Fire extinguisher and First Aid Box available?	Good	90	Instructed verbally only.	
	• Ditches and water pools around camp proliferating vector diseases?	No	100		
	• Case of unsocial incidence inside camps?	Not yet	100		
	• Firewood is used for heating and cooking?	Fire wood is not allowed for cooking. LPG gas is used for cooking purposes.	100		
Child labor	• Any case of child labor?	Child labor are prohibited.	100		
Grievance Redress Mechanism	• GRC established?	GRC is established	100		
	• Number of complaints received this quarter	No documented grievances in this quarter.	100		
	• Number of grievance resolved	Verbal grievances are closed on the same day itself.	100		
Others (to be filled by site engineer if there are any other typical impacts.					

**Note:** \* Compliance % is made with scoring system or professional judgement (full compliance = 100%)

Table 7-3: Environmental Safeguards and OHS Compliance Reporting Matrix of TP02

Potential Impact	EMP/SEMP recommended mitigation measure	Mitigation measure undertaken	Compliance %*	Contractor Instructed for Corrective Action	Corrective Action with Responsible Agency and Timeline
<b>A. Physical environment</b>					
Loss of topsoil	<ul style="list-style-type: none"> <li>Top soil recovered for re-use? Volume cum?</li> </ul>	Top soil is stockpiled after scraping in a side by area for later rehabilitation purpose.	95	Not yet instructed.	
Spoil management	<ul style="list-style-type: none"> <li>Spoil disposed downhill or block natural drain?</li> </ul>	Spoil are disposed in secured place.	100	Not applicable since natural drain is not blocked yet.	
Dust management	<ul style="list-style-type: none"> <li>“Zero Soil” approach adopted?</li> </ul>	Excavated soil is stockpiled in specific area	85	Written instruction not given in this reporting period	
	<ul style="list-style-type: none"> <li>Trench backfilled and compacted?</li> </ul>	Trench are backfilled and compacted wherever necessary.	90	Not yet instructed.	
	<ul style="list-style-type: none"> <li>Regular water spraying for sufficient soil moisture at all time?</li> </ul>	Water spraying is being done regularly in the site.	80	Instructed.	
	<ul style="list-style-type: none"> <li>Temporary sealing of trenches?</li> </ul>	Trenches are barricaded with either green net/caution tape or done hard barricading with steel rod painted red and white.	70	Instructed many times	
	<ul style="list-style-type: none"> <li>Construction material covered during transportation?</li> </ul>	Yes. But depending upon the type of material.	100	-	
Air quality monitoring	<ul style="list-style-type: none"> <li>AQ monitoring conducted?</li> </ul>	AQ monitoring has not been conducted yet but water sprinkling is done regularly for dust suppression.	0	Contractors are instructed but as air quality monitoring is not written in contract agreement, contractor are not ready to invest for air quality monitoring.	Air quality monitoring allocated in bid document of new contracts.

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	<ul style="list-style-type: none"> <li>Any parameter above NAQS</li> </ul>	-	-	-	
	<ul style="list-style-type: none"> <li>Emission testing of vehicles? Emission within standard?</li> </ul>	Emission testing has not been done yet.	0	Not yet instructed	
Water quality monitoring	<ul style="list-style-type: none"> <li>Water quality tested at camp and work areas?</li> </ul>	Water jars are used for drinking purpose.	75	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Vehicle washing in rivers/WB?</li> </ul>	Not allowed	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Chemical and cement slurry in rivers/water bodies?</li> </ul>	Not disposed.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Direct drainage discharge from camps in rivers?</li> </ul>	Drainage are not directly discharged.	90	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Crusher plant with water spray and @ 500m away from settlements.</li> </ul>	N/A			
Noise level monitoring	<ul style="list-style-type: none"> <li>Noise monitoring at sensitive receptor? Noise level within NS?</li> </ul>	Noise monitoring is done twice in a year	85	Instruction is not required	Noise level monitoring is allocated in bid document of new contracts.
	<ul style="list-style-type: none"> <li>Crusher plant @ 500m away from sensitive receptor?</li> </ul>	N/A			
Sedimentation	<ul style="list-style-type: none"> <li>Temporary sealing of backfilled trench to avoid muddy pool formation?</li> </ul>	Backfilled trenches are compacted properly	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Workshop and garage have drainage facility?</li> </ul>	Drainage not available.	-	Instruction is not required	
Blockage of natural drainage	<ul style="list-style-type: none"> <li>Natural drainage is not blocked?</li> </ul>	Natural drainage is not blocked.	100	Instruction is not required	
	<ul style="list-style-type: none"> <li>Construction material stockpile, chemicals store, and workshops &amp; garage have drainage facility?</li> </ul>	No drainage facility but waste management is not done.	50	Not instructed in this reporting period.	
Impacts due to quarry operation	<ul style="list-style-type: none"> <li>Is the quarry inside environmentally sensitive area?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Aggregates purchased from local suppliers? Volume in cum.</li> </ul>	Aggregates are purchased from local suppliers.	100	Instruction is not required	

	<ul style="list-style-type: none"> <li>Extraction of riverbed material done with a plan endorsed by Engr and local body. If yes, cum.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Quarry area has drainage, dust minimization, noise control and water pollution prevention measures.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of tree cleared dur to quarry operation</li> </ul>	N/A			
Closing of work area	<ul style="list-style-type: none"> <li>Work area left dirty without properly closing?</li> </ul>	After completion of the work, the work areas are cleaned.	100		
	<ul style="list-style-type: none"> <li>Camp area left without properly closing?</li> </ul>	N/A			
<b>B. Biological environment</b>					
Clearing of trees	<ul style="list-style-type: none"> <li>No of tree cleared</li> </ul>	Trees are not cut yet.	100		
	<ul style="list-style-type: none"> <li>No. of tree planted</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Number of protected species felled?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Tree guarding and watering mechanism established?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Nursery established for long term maintenance, replacement and proper pruning and tending of trees?</li> </ul>	N/A			
Wildlife habitat destruction	<ul style="list-style-type: none"> <li>Any work inside forest area?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any case of wildlife sighting? Record type and frequency of sighting (H, M, L)</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any case of poaching recorded, buying of wildlife meat by workers?</li> </ul>	N/A			

	<ul style="list-style-type: none"> <li>Any impact on fishes due to project work?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any wildlife watering hole, grazing area, or movement corridor disturbed?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of orientation to workers, staff, community on need for environment and wildlife protection</li> </ul>	N/A			
<b>C. Socio-economic and cultural environment</b>					
Work inside World Heritage Site	<ul style="list-style-type: none"> <li>Heritage impact assessment prepared with monitoring plan, if relevant?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Consultation with government and CSO on planning and implementation?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact due to vibration, excavation, transportation on heritage structures?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Information disseminated on working period to the tourists, businessmen, pilgrims?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Infrastructure repaired back to original condition to the satisfaction of stakeholders?</li> </ul>	N/A			
Safety at work	<ul style="list-style-type: none"> <li>Contractor submitted OHS plan and engineer has approved?</li> </ul>	Contractor submitted OHS plan and DSC approved the plan.	100		
	<ul style="list-style-type: none"> <li>Contractor has mobilized safety staff? Number?</li> </ul>	3 safety officer appointed for 3 site and one safety coordinator is recruited.	100		
	<ul style="list-style-type: none"> <li>% compliance in use of PPEs by workers?</li> </ul>	PPEs are being given and used by the workers.	75	Written and verbal instruction given several times.	

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	<ul style="list-style-type: none"> <li>Is the First Aid Box kept at site?</li> </ul>	First Aid Box kept at site and in the site office maintaining the ratio of 1:25	100		
	<ul style="list-style-type: none"> <li>Number of worker trained in first aid application</li> </ul>	7 first aiders are present in 3 site.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Are the workers are insured?</li> </ul>	All the workers are insured.	100		
	<ul style="list-style-type: none"> <li>Medical room with asst. health worker?</li> </ul>	Medical room has been made with bed, stretcher and first aid box but asst health worker is not recruited.	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Ambulance/Vehicle is kept ready at site for emergency transport to hospital?</li> </ul>	A standby vehicle is kept ready at site for emergency transport to hospital.	100		
	<ul style="list-style-type: none"> <li>Safety protocol for working in deep trench established. % compliance?</li> </ul>	Established as oriented in training by ADB OHS expert.	80	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Safety protocol for working in confined space established, gas detector available. % compliance?</li> </ul>	Established as oriented in training by ADB OHS expert. Gas detector is not available	75	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Safety protocol for working in height established and % compliance?</li> </ul>	Established as oriented in training by ADB OHS expert.	80	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Safety check on fire hazard established, fire extinguisher available at all sites?</li> </ul>	Safety check on fire hazard established, fire extinguisher are available in sites.	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Workers health regularly screened for Covid-19 and other communicable diseases, workers oriented and safety drill carried out?</li> </ul>	Body temperature is taken daily for screening of Covid-19. Health checkup of workers is done for communicable disease but safety drill is not yet conducted.	75	Instructed to take the temperature reading on daily basis. For health checkup for communicable disease, it was instructed during OHS audit.	
Labor camp	<ul style="list-style-type: none"> <li>Camp is fenced, lighted and guarded?</li> </ul>	Camps are established in confined space with proper lighting.	100	Instructed in this reporting period to use suitable material to make the camp.	

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	<ul style="list-style-type: none"> <li>Quality of labor camp (Excellent, Good, Fair, Poor): Ventilated, Lighted, Cabin on raised impervious floor, Drainage available, Proper bed and mattress, Kitchen and eating area in separate room, Water supply and sanitation facility available, Solid waste is managed, Fire extinguisher and First Aid Box available?</li> </ul>	Fair.	75	Instructed to use proper bed and mattress, to separate kitchen and sleeping area.	
	<ul style="list-style-type: none"> <li>Ditches and water pools around camp proliferating vector diseases?</li> </ul>	Yes water pools were formed in labor camp of Dhobighat site	75	Instructed verbally.	
	<ul style="list-style-type: none"> <li>Case of unsocial incidence inside camps?</li> </ul>	Not yet	100		
	<ul style="list-style-type: none"> <li>Firewood is used for heating and cooking?</li> </ul>	Fire wood is not allowed for cooking. LPG gas is used for cooking purposes.	100		
Child labor	<ul style="list-style-type: none"> <li>Any case of child labor?</li> </ul>	Child labor are prohibited.	100		
Grievance Redress Mechanism	<ul style="list-style-type: none"> <li>GRC established?</li> </ul>	GRC is established	100		
	<ul style="list-style-type: none"> <li>Number of complaints received this quarter</li> </ul>	No documented grievances in this quarter.	100		
	<ul style="list-style-type: none"> <li>Number of grievance resolved</li> </ul>	-	-		
Others (to be filled by site engineer if there are any other typical impacts.					

**Note:** \* Compliance % is made with scoring system or professional judgement (full compliance = 100%)

Table 7-4: Environmental Safeguards and OHS Compliance Reporting Matrix of TP03

Potential Impact	EMP/SEMP recommended mitigation measure	Mitigation measure undertaken	Compliance %*	Contractor Instructed for Corrective Action	Corrective Action with Responsible Agency and Timeline
<b>A. Physical environment</b>					
Loss of topsoil	<ul style="list-style-type: none"> <li>Top soil recovered for re-use? Volume cum?</li> </ul>	Top soil is stockpiled after scraping in a side by area for later rehabilitation purpose.	95	Not instructed in this reporting period.	
Spoil management	<ul style="list-style-type: none"> <li>Spoil disposed downhill or block natural drain?</li> </ul>	Spoil are disposed in secured place.	100	Not applicable since natural drain is not blocked yet.	
Dust management	<ul style="list-style-type: none"> <li>“Zero Soil” approach adopted?</li> </ul>	Excavated soil is stockpiled in in bare area beside the WWTP boundary	100	Written instruction not given in this reporting period	
	<ul style="list-style-type: none"> <li>Trench backfilled and compacted?</li> </ul>	Trench are backfilled and compacted wherever necessary.	90	Not instructed in this reporting period..	
	<ul style="list-style-type: none"> <li>Regular water spraying for sufficient soil moisture at all time?</li> </ul>	Water spraying is being done regularly in the site.	80	Instructed while doing the Hazard Identification Risk assessment to increase the frequency.	
	<ul style="list-style-type: none"> <li>Temporary sealing of trenches?</li> </ul>	Trenches are barricaded with either green net/caution tape or done hard barricading with steel rod or bamboo.	90	Instructed while doing the Hazard Identification Risk assessment.	
	<ul style="list-style-type: none"> <li>Construction material covered during transportation?</li> </ul>	Yes. But depending upon the type of material.	100	-	

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Air quality monitoring	• AQ monitoring conducted?	AQ monitoring has not been conducted yet but water sprinkling is done regularly for dust suppression.	0	Contractors are instructed but as air quality monitoring is not written in contract agreement, contractor are not ready to invest for air quality monitoring.	Air quality monitoring allocated in bid document of new contracts.
	• Any parameter above NAQS	-	-	-	
	• Emission testing of vehicles? Emission within standard?	Emission testing has not been done yet.	0	Not instructed	
Water quality monitoring	• Water quality tested at camp and work areas?	Water from deep boring is tested. Water jars are used for drinking purpose.	95	Instruction is not required.	
	• Vehicle washing in rivers/WB?	Not allowed	100	Instruction is not required.	
	• Chemical and cement slurry in rivers/water bodies?	Not disposed.	100	Instruction is not required.	
	• Direct drainage discharge from camps in rivers?	Drainage are not directly discharged.	90	Instruction is not required.	
	• Crusher plant with water spray and @ 500m away from settlements.	N/A			
Noise level monitoring	• Noise monitoring at sensitive receptor? Noise level within NS?	Noise monitoring is done twice in a year	90	Instruction not required	Noise level monitoring is allocated in bid document of new contracts.
	• Crusher plant @ 500m away from sensitive receptor?	N/A			
Sedimentation	• Temporary sealing of backfilled trench to avoid muddy pool formation?	Backfilled trenches are compacted properly	90	Not instructed in this reporting period.	
	• Workshop and garage have drainage facility?	Drainage not available.	-	Instruction not required	
Blockage of natural drainage	• Natural drainage is not blocked?	Natural drainage is not blocked.	100	Instruction not required	

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	<ul style="list-style-type: none"> <li>Construction material stockpile, chemicals store, and workshops &amp; garage have drainage facility?</li> </ul>	No drainage facility but waste is dumped in a pit.	50	Not instructed in this reporting period.	
Impacts due to quarry operation	<ul style="list-style-type: none"> <li>Is the quarry inside environmentally sensitive area?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Aggregates purchased from local suppliers? Volume in cum.</li> </ul>	Aggregates are purchased from local suppliers.	100	Instruction not required	
	<ul style="list-style-type: none"> <li>Extraction of riverbed material done with a plan endorsed by Engr and local body. If yes, cum.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Quarry area has drainage, dust minimization, noise control and water pollution prevention measures.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of tree cleared dur to quarry operation</li> </ul>	N/A			
Closing of work area	<ul style="list-style-type: none"> <li>Work area left dirty without properly closing?</li> </ul>	After completion of the work, the work areas are cleaned.	100		
	<ul style="list-style-type: none"> <li>Camp area left without properly closing?</li> </ul>	N/A			
<b>B. Biological environment</b>					
Clearing of trees	<ul style="list-style-type: none"> <li>No of tree cleared</li> </ul>	Trees are not cut yet.	100		
	<ul style="list-style-type: none"> <li>No. of tree planted</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Number of protected species felled?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Tree guarding and watering mechanism established?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Nursery established for long term maintenance, replacement and proper pruning and tending of trees?</li> </ul>	N/A			
Wildlife habitat destruction	<ul style="list-style-type: none"> <li>Any work inside forest area?</li> </ul>	N/A			

	<ul style="list-style-type: none"> <li>Any case of wildlife sighting? Record type and frequency of sighting (H, M, L)</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any case of poaching recorded, buying of wildlife meat by workers?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact on fishes due to project work?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any wildlife watering hole, grazing area, or movement corridor disturbed?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of orientation to workers, staff, community on need for environment and wildlife protection</li> </ul>	N/A			
<b>C. Socio-economic and cultural environment</b>					
Work inside World Heritage Site	<ul style="list-style-type: none"> <li>Heritage impact assessment prepared with monitoring plan, if relevant?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Consultation with government and CSO on planning and implementation?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact due to vibration, excavation, transportation on heritage structures?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Information disseminated on working period to the tourists, businessmen, pilgrims?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Infrastructure repaired back to original condition to the satisfaction of stakeholders?</li> </ul>	N/A			
Safety at work	<ul style="list-style-type: none"> <li>Contractor submitted OHS plan and engineer has approved?</li> </ul>	Contractor submitted OHS plan and DSC approved the plan.	100		
	<ul style="list-style-type: none"> <li>Contractor has mobilized safety staff? Number?</li> </ul>	1 safety officer appointed.	100		

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<ul style="list-style-type: none"> <li>• % compliance in use of PPEs by workers?</li> </ul>	PPEs are being given and used by the workers.	85	Instructed during HIRA.	
<ul style="list-style-type: none"> <li>• Is the First Aid Box kept at site?</li> </ul>	First Aid Box kept at site and in the site office maintaining the ratio of 1:25	100	Instruction is not required.	
<ul style="list-style-type: none"> <li>• Number of worker trained in first aid application</li> </ul>	4 first aiders are present in the site.	100	Instruction is not required.	
<ul style="list-style-type: none"> <li>• Are the workers are insured?</li> </ul>	All the workers are insured.	100	Instruction is not required.	
<ul style="list-style-type: none"> <li>• Medical room with asst. health worker?</li> </ul>	Medical room has been made with bed, stretcher and first aid box but asst health worker is not recruited.	90	Not instructed in this reporting period	
<ul style="list-style-type: none"> <li>• Ambulance/Vehicle is kept ready at site for emergency transport to hospital?</li> </ul>	A standby vehicle is kept ready at site for emergency transport to hospital.	100	Instruction is not required.	
<ul style="list-style-type: none"> <li>• Safety protocol for working in deep trench established. % compliance?</li> </ul>	Not established but oriented in training by ADB OHS expert.	75	Not instructed in this reporting period	
<ul style="list-style-type: none"> <li>• Safety protocol for working in confined space established, gas detector available. % compliance?</li> </ul>	Not established but oriented in training by ADB OHS expert. Gas detector is not available	65	Not instructed in this reporting period	
<ul style="list-style-type: none"> <li>• Safety protocol for working in height established and % compliance?</li> </ul>	Not established but oriented in training by ADB OHS expert.	75	Instructed to correct the scaffolds during HIRA.	
<ul style="list-style-type: none"> <li>• Safety check on fire hazard established, fire extinguisher available at all sites?</li> </ul>	Safety check on fire hazard established, fire extinguisher are available in sites.	90	Not instructed in this reporting period	
<ul style="list-style-type: none"> <li>• Workers health regularly screened for Covid-19 and other communicable diseases, workers oriented and safety drill carried out?</li> </ul>	Body temperature is taken daily for screening of Covid-19. Health checkup for communicable disease and safety drill is not yet conducted.	50	Instructed in this reporting period to take the temperature reading on daily basis. For health checkup for communicable disease and safety drill, instructed during HIRA.	

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Labor camp	• Camp is fenced, lighted and guarded?	Camps are established in confined space with proper lighting.	100	Instructed to maintain the standard of the labour camp.	
	• Quality of labor camp (Excellent, Good, Fair, Poor): Ventilated, Lighted, Cabin on raised impervious floor, Drainage available, Proper bed and mattress, Kitchen and eating area in separate room, Water supply and sanitation facility available, Solid waste is managed, Fire extinguisher and First Aid Box available?	Fair.	75	Instructed verbally only and in written to increase the number of toilet and space in the labor camp.	
	• Ditches and water pools around camp proliferating vector diseases?	No	100		
	• Case of unsocial incidence inside camps?	Not yet	100		
	• Firewood is used for heating and cooking?	Fire wood is not allowed for cooking. LPG gas is used for cooking purposes.	100		
Child labor	• Any case of child labor?	Child labor are prohibited.	100		
Grievance Redress Mechanism	• GRC established?	GRC is established	100		
	• Number of complaints received this quarter	No documented grievances in this quarter.	100		
	• Number of grievance resolved	-	-		
Others (to be filled by site engineer if there are any other typical impacts.					

**Note:** \* Compliance % is made with scoring system or professional judgement (full compliance = 100%)

Table 7-5: Environmental Safeguards and OHS Compliance Reporting Matrix of IS01

Potential Impact	EMP/SEMP recommended mitigation measure	Mitigation measure undertaken	Compliance %*	Contractor Instructed for Corrective Action	Corrective Action with Responsible Agency and Timeline
<b>A. Physical environment</b>					
Loss of topsoil	<ul style="list-style-type: none"> <li>Top soil recovered for re-use? Volume cum?</li> </ul>	Top soil is stockpiled after scraping in a secure area for later rehabilitation purpose.	90	Instructed not to keep the stockpiled soil in the river.	
Spoil management	<ul style="list-style-type: none"> <li>Spoil disposed downhill or block natural drain?</li> </ul>	Spoil are disposed in secured place.	100	Not applicable since natural drain is not blocked yet.	
Dust management	<ul style="list-style-type: none"> <li>"Zero Soil" approach adopted?</li> </ul>	Excavation works not done in this reporting period.	-		
	<ul style="list-style-type: none"> <li>Trench backfilled and compacted?</li> </ul>	Excavated trench are backfilled and compacted.	90	Verbal instruction is given.	
	<ul style="list-style-type: none"> <li>Regular water spraying for sufficient soil moisture at all time?</li> </ul>	Water sprinkling is not done.	0	Not yet instructed as the pipe alignment is in the river banks.	
	<ul style="list-style-type: none"> <li>Temporary sealing of trenches?</li> </ul>	Trenches are barricaded with either green net/caution tape or done hard barricading with bamboo.	50	Instructed several times.	
	<ul style="list-style-type: none"> <li>Construction material covered during transportation?</li> </ul>	Construction materials is being covered during transportation.	100		
Air quality monitoring	<ul style="list-style-type: none"> <li>AQ monitoring conducted?</li> </ul>	AQ monitoring has not been conducted yet.	0	Contractors are instructed but as air quality monitoring is not written in contract agreement, contractor are not ready to invest for air quality monitoring.	Air quality monitoring allocated in bid document of new contracts.

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	<ul style="list-style-type: none"> <li>Any parameter above NAQS</li> </ul>	-	-	-	
	<ul style="list-style-type: none"> <li>Emission testing of vehicles? Emission within standard?</li> </ul>	Emission testing has not been done yet.	0	Not instructed in this reporting period.	
Water quality monitoring	<ul style="list-style-type: none"> <li>Water quality tested at camp and work areas?</li> </ul>	No tests done for drinking water but drinking water of Jar (tested by factory itself) is used with Piyush (Chlorine solution).	95	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Vehicle washing in rivers/WB?</li> </ul>	Not allowed	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Chemical and cement slurry in rivers/water bodies?</li> </ul>	Chemical and cement slurry are not disposed in rivers/water bodies but handled properly.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Direct drainage discharge from camps in rivers?</li> </ul>	Drainage are not directly discharged.	90	Not instructed	
	<ul style="list-style-type: none"> <li>Crusher plant with water spray and @ 500m away from settlements.</li> </ul>	N/A			
Noise level monitoring	<ul style="list-style-type: none"> <li>Noise monitoring at sensitive receptor? Noise level within NS?</li> </ul>	Noise level monitoring is not done.	0	Contractors are instructed but as noise level monitoring is not written in contract agreement, contractor are not ready to invest for noise level monitoring.	Noise level monitoring is allocated in bid document of new contracts.
	<ul style="list-style-type: none"> <li>Crusher plant @ 500m away from sensitive receptor?</li> </ul>	N/A			
Sedimentation	<ul style="list-style-type: none"> <li>Temporary sealing of backfilled trench to avoid muddy pool formation?</li> </ul>	Backfilled trenches are compacted properly			
	<ul style="list-style-type: none"> <li>Workshop and garage have drainage facility?</li> </ul>	Drainage not available.	-	Not instructed in this reporting period.	
Blockage of natural drainage	<ul style="list-style-type: none"> <li>Natural drainage is not blocked?</li> </ul>	Natural drainage is not blocked.	100	Instruction is not required.	

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	<ul style="list-style-type: none"> <li>Construction material stockpile, chemicals store, and workshops &amp; garage have drainage facility?</li> </ul>	No drainage facility but waste is dumped in a pit.	70	Not instructed in this reporting period.	
Impacts due to quarry operation	<ul style="list-style-type: none"> <li>Is the quarry inside environmentally sensitive area?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Aggregates purchased from local suppliers? Volume in cum.</li> </ul>	Aggregates are purchased from local suppliers.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Extraction of riverbed material done with a plan endorsed by Engr and local body. If yes, cum.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Quarry area has drainage, dust minimization, noise control and water pollution prevention measures.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of tree cleared dur to quarry operation</li> </ul>	N/A			
Closing of work area	<ul style="list-style-type: none"> <li>Work area left dirty without properly closing?</li> </ul>	After completion of the work, the work areas are cleaned.	100		
	<ul style="list-style-type: none"> <li>Camp area left without properly closing?</li> </ul>	N/A			
<b>B. Biological environment</b>					
Clearing of trees	<ul style="list-style-type: none"> <li>No of tree cleared</li> </ul>	Trees are not cut yet.	100		
	<ul style="list-style-type: none"> <li>No. of tree planted</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Number of protected species felled?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Tree guarding and watering mechanism established?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Nursery established for long term maintenance, replacement and proper pruning and tending of trees?</li> </ul>	N/A			
Wildlife habitat destruction	<ul style="list-style-type: none"> <li>Any work inside forest area?</li> </ul>	N/A			

	<ul style="list-style-type: none"> <li>Any case of wildlife sighting? Record type and frequency of sighting (H, M, L)</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any case of poaching recorded, buying of wildlife meat by workers?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact on fishes due to project work?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any wildlife watering hole, grazing area, or movement corridor disturbed?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of orientation to workers, staff, community on need for environment and wildlife protection</li> </ul>	N/A			
<b>C. Socio-economic and cultural environment</b>					
Work inside World Heritage Site	<ul style="list-style-type: none"> <li>Heritage impact assessment prepared with monitoring plan, if relevant?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Consultation with government and CSO on planning and implementation?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact due to vibration, excavation, transportation on heritage structures?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Information disseminated on working period to the tourists, businessmen, pilgrims?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Infrastructure repaired back to original condition to the satisfaction of stakeholders?</li> </ul>	N/A			
Safety at work	<ul style="list-style-type: none"> <li>Contractor submitted OHS plan and engineer has approved?</li> </ul>	Contractor submitted OHS plan and DSC approved the plan.	100		
	<ul style="list-style-type: none"> <li>Contractor has mobilized safety staff? Number?</li> </ul>	1 safety officer appointed but not with suitable background.	50	Not instructed in this reporting period.	

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	• % compliance in use of PPEs by workers?	PPEs are being given and used by the workers.	60	Verbal instruction given several times.	
	• Is the First Aid Box kept at site?	First Aid Box kept at site and in the site office maintaining the ratio of 1:25	70	Verbal instruction given several times.	
	• Number of worker trained in first aid application	2 first aiders are present in the site but are not present in site regularly.	80	Not instructed in this reporting period.	
	• Are the workers are insured?	All the workers are insured.	100	Instruction is not required.	
	• Medical room with asst. health worker?	Only first aid box is available in the site.	50	Not instructed in this reporting period.	
	• Ambulance/Vehicle is kept ready at site for emergency transport to hospital?	A standby vehicle is kept ready at site for emergency transport to hospital.	80	Not instructed in this reporting period.	
	• Safety protocol for working in deep trench established. % compliance?	Not established but oriented in training by ADB OHS expert.	60	Not instructed in this reporting period.	
	• Safety protocol for working in confined space established, gas detector available. % compliance?	Not established but oriented in training by ADB OHS expert. Gas detector is available in the site.	60	Not instructed in this reporting period.	
	• Safety protocol for working in height established and % compliance?	N/A			
	• Safety check on fire hazard established, fire extinguisher available at all sites?	Not established but fire extinguisher is present in the site for emergency.	60	Not instructed in this reporting period.	
	• Workers health regularly screened for Covid-19 and other communicable diseases, workers oriented and safety drill carried out?	Health checkup for communicable disease was done but body temperature is not taken on daily basis.	75	Instructed via email.	
Labor camp	• Camp is fenced, lighted and guarded?	Camps is in poor condition.	40	Instructed several times.	

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	<ul style="list-style-type: none"> <li>Quality of labor camp (Excellent, Good, Fair, Poor): Ventilated, Lighted, Cabin on raised impervious floor, Drainage available, Proper bed and mattress, Kitchen and eating area in separate room, Water supply and sanitation facility available, Solid waste is managed, Fire extinguisher and First Aid Box available?</li> </ul>	Poor	40	Instructed several times.	
	<ul style="list-style-type: none"> <li>Ditches and water pools around camp proliferating vector diseases?</li> </ul>	No	100		
	<ul style="list-style-type: none"> <li>Case of unsocial incidence inside camps?</li> </ul>	Not yet	100		
	<ul style="list-style-type: none"> <li>Firewood is used for heating and cooking?</li> </ul>	Fire wood is not allowed for cooking. LPG gas is used for cooking purposes.	100		
Child labor	<ul style="list-style-type: none"> <li>Any case of child labor?</li> </ul>	Child labor are prohibited.			
Grievance Redress Mechanism	<ul style="list-style-type: none"> <li>GRC established?</li> </ul>	GRC is established	100		
	<ul style="list-style-type: none"> <li>Number of complaints received this quarter</li> </ul>	3 complaints received	100		
	<ul style="list-style-type: none"> <li>Number of grievance resolved</li> </ul>	3 grievance solved	100		
Others (to be filled by site engineer if there are any other typical impacts.					

**Note:** \* Compliance % is made with scoring system or professional judgement (full compliance = 100%)

**Table 7-6: Environmental Safeguards and OHS Compliance Reporting Matrix of IS02**

Potential Impact	EMP/SEMP recommended mitigation measure	Mitigation measure undertaken	Compliance %*	Contractor Instructed for Corrective Action	Corrective Action with Responsible Agency and Timeline
<b>A. Physical environment</b>					
Loss of topsoil	<ul style="list-style-type: none"> <li>Top soil recovered for re-use? Volume cum?</li> </ul>	Top soil is stockpiled after scraping in a secure area for later rehabilitation purpose.	90	Instructed not to keep the stockpiled soil in the river.	
Spoil management	<ul style="list-style-type: none"> <li>Spoil disposed downhill or block natural drain?</li> </ul>	Spoil are disposed in secured place.	100	Not applicable since natural drain is not blocked yet.	
Dust management	<ul style="list-style-type: none"> <li>"Zero Soil" approach adopted?</li> </ul>	Excavation works is not done in this reporting period.			
	<ul style="list-style-type: none"> <li>Trench backfilled and compacted?</li> </ul>	Excavated trench are backfilled and compacted.	90	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Regular water spraying for sufficient soil moisture at all time?</li> </ul>	Water sprinkling is not done.	0	Not yet instructed as the pipe alignment is in the river banks.	
	<ul style="list-style-type: none"> <li>Temporary sealing of trenches?</li> </ul>	Trenches are barricaded with either green net/caution tape or done hard barricading with bamboo.	50	Instructed several times.	
	<ul style="list-style-type: none"> <li>Construction material covered during transportation?</li> </ul>	Construction materials is being covered during transportation.	100		
Air quality monitoring	<ul style="list-style-type: none"> <li>AQ monitoring conducted?</li> </ul>	AQ monitoring has not been conducted yet.	0	Contractors are instructed but as air quality monitoring is not written in contract agreement, contractor are not ready to invest for air quality monitoring.	Air quality monitoring allocated in bid document of new contracts.

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	<ul style="list-style-type: none"> <li>Any parameter above NAQS</li> </ul>	-	-	-	
	<ul style="list-style-type: none"> <li>Emission testing of vehicles? Emission within standard?</li> </ul>	Emission testing has not been done yet.	0	Not instructed in this reporting period.	
Water quality monitoring	<ul style="list-style-type: none"> <li>Water quality tested at camp and work areas?</li> </ul>	No tests done for drinking water but drinking water of Jar is provided.	95	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Vehicle washing in rivers/WB?</li> </ul>	Not allowed	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Chemical and cement slurry in rivers/water bodies?</li> </ul>	Chemical and cement slurry are not disposed in rivers/water bodies but handled properly.	100	Not instructed	
	<ul style="list-style-type: none"> <li>Direct drainage discharge from camps in rivers?</li> </ul>	Drainage are not directly discharged. But rivers are sometimes polluted	90	Not instructed	
	<ul style="list-style-type: none"> <li>Crusher plant with water spray and @ 500m away from settlements.</li> </ul>	N/A			
Noise level monitoring	<ul style="list-style-type: none"> <li>Noise monitoring at sensitive receptor? Noise level within NS?</li> </ul>	Noise level monitoring is not done.	0	Contractors are instructed but as noise level monitoring is not written in contract agreement, contractor are not ready to invest for noise level monitoring.	Noise level monitoring is allocated in bid document of new contracts.
	<ul style="list-style-type: none"> <li>Crusher plant @ 500m away from sensitive receptor?</li> </ul>	N/A			
Sedimentation	<ul style="list-style-type: none"> <li>Temporary sealing of backfilled trench to avoid muddy pool formation?</li> </ul>	Backfilled trenches are compacted properly	80	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>Workshop and garage have drainage facility?</li> </ul>	Drainage not available.	-	Not instructed in this reporting period.	
Blockage of natural drainage	<ul style="list-style-type: none"> <li>Natural drainage is not blocked?</li> </ul>	Natural drainage is not blocked.	100	Not instructed	

	<ul style="list-style-type: none"> <li>Construction material stockpile, chemicals store, and workshops &amp; garage have drainage facility?</li> </ul>	No drainage facility but waste is dumped in a pit.	70	Not instructed in this reporting period.	
Impacts due to quarry operation	<ul style="list-style-type: none"> <li>Is the quarry inside environmentally sensitive area?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Aggregates purchased from local suppliers? Volume in cum.</li> </ul>	Aggregates are purchased from local suppliers.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>Extraction of riverbed material done with a plan endorsed by Engr and local body. If yes, cum.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Quarry area has drainage, dust minimization, noise control and water pollution prevention measures.</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of tree cleared dur to quarry operation</li> </ul>	N/A			
Closing of work area	<ul style="list-style-type: none"> <li>Work area left dirty without properly closing?</li> </ul>	After completion of the work, the work areas are cleaned.	100		
	<ul style="list-style-type: none"> <li>Camp area left without properly closing?</li> </ul>	N/A			
<b>B. Biological environment</b>					
Clearing of trees	<ul style="list-style-type: none"> <li>No of tree cleared</li> </ul>	Trees are not cut yet.	100		
	<ul style="list-style-type: none"> <li>No. of tree planted</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Number of protected species felled?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Tree guarding and watering mechanism established?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Nursery established for long term maintenance, replacement and proper pruning and tending of trees?</li> </ul>	N/A			
Wildlife habitat destruction	<ul style="list-style-type: none"> <li>Any work inside forest area?</li> </ul>	N/A			

	<ul style="list-style-type: none"> <li>Any case of wildlife sighting? Record type and frequency of sighting (H, M, L)</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any case of poaching recorded, buying of wildlife meat by workers?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact on fishes due to project work?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any wildlife watering hole, grazing area, or movement corridor disturbed?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>No of orientation to workers, staff, community on need for environment and wildlife protection</li> </ul>	N/A			
<b>C. Socio-economic and cultural environment</b>					
Work inside World Heritage Site	<ul style="list-style-type: none"> <li>Heritage impact assessment prepared with monitoring plan, if relevant?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Consultation with government and CSO on planning and implementation?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Any impact due to vibration, excavation, transportation on heritage structures?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Information disseminated on working period to the tourists, businessmen, pilgrims?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>Infrastructure repaired back to original condition to the satisfaction of stakeholders?</li> </ul>	N/A			
Safety at work	<ul style="list-style-type: none"> <li>Contractor submitted OHS plan and engineer has approved?</li> </ul>	Contractor submitted OHS plan and DSC approved the plan.	100		
	<ul style="list-style-type: none"> <li>Contractor has mobilized safety staff? Number?</li> </ul>	1 safety officer appointed but does not fully perform his duty.	50	Not instructed in this reporting period.	

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	<ul style="list-style-type: none"> <li>• % compliance in use of PPEs by workers?</li> </ul>	PPEs are being given and used by the workers.	60	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Is the First Aid Box kept at site?</li> </ul>	First Aid Box kept at site and in the site office maintaining the ratio of 1:25	70	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Number of worker trained in first aid application</li> </ul>	No body is trained in first aid application	0	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Are the workers are insured?</li> </ul>	All the workers are insured.	100	Instruction is not required.	
	<ul style="list-style-type: none"> <li>• Medical room with asst. health worker?</li> </ul>	Only first aid box is available in the site.	50	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Ambulance/Vehicle is kept ready at site for emergency transport to hospital?</li> </ul>	A standby vehicle is kept ready at site for emergency transport to hospital.	80	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Safety protocol for working in deep trench established. % compliance?</li> </ul>	Not established but oriented in training by ADB OHS expert.	60	Not instructed	
	<ul style="list-style-type: none"> <li>• Safety protocol for working in confined space established, gas detector available. % compliance?</li> </ul>	Not established but oriented in training by ADB OHS expert. Gas detector is available in the site.	65	Not instructed	
	<ul style="list-style-type: none"> <li>• Safety protocol for working in height established and % compliance?</li> </ul>	N/A			
	<ul style="list-style-type: none"> <li>• Safety check on fire hazard established, fire extinguisher available at all sites?</li> </ul>	Not established but fire extinguisher is present in the site for emergency.	60	Not instructed in this reporting period.	
	<ul style="list-style-type: none"> <li>• Workers health regularly screened for Covid-19 and other communicable diseases, workers oriented and safety drill carried out?</li> </ul>	Health checkup for communicable disease was done but body temperature is not taken as the workers are not working during lockdown period.	100	Instructed via email.	
Labor camp	<ul style="list-style-type: none"> <li>• Camp is fenced, lighted and guarded?</li> </ul>	Camps is not fenced and guarded but is lighted properly	60	Instructed several times.	

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	<ul style="list-style-type: none"> <li>Quality of labor camp (Excellent, Good, Fair, Poor): Ventilated, Lighted, Cabin on raised impervious floor, Drainage available, Proper bed and mattress, Kitchen and eating area in separate room, Water supply and sanitation facility available, Solid waste is managed, Fire extinguisher and First Aid Box available?</li> </ul>	Fair	60	Instructed several times.	
	<ul style="list-style-type: none"> <li>Ditches and water pools around camp proliferating vector diseases?</li> </ul>	No	100		
	<ul style="list-style-type: none"> <li>Case of unsocial incidence inside camps?</li> </ul>	Not yet	100		
	<ul style="list-style-type: none"> <li>Firewood is used for heating and cooking?</li> </ul>	Fire wood is not allowed for cooking. LPG gas is used for cooking purposes.	100		
Child labor	<ul style="list-style-type: none"> <li>Any case of child labor?</li> </ul>	Child labor are prohibited.			
Grievance Redress Mechanism	<ul style="list-style-type: none"> <li>GRC established?</li> </ul>	GRC is established	100		
	<ul style="list-style-type: none"> <li>Number of complaints received this quarter</li> </ul>	No documented complaints in this quarter.	100		
	<ul style="list-style-type: none"> <li>Number of grievance resolved</li> </ul>	N/A			
Others (to be filled by site engineer if there are any other typical impacts.)					

Note: \* Compliance % is made with scoring system or professional judgement (full compliance = 100%)

## 8 Environmental Monitoring for Air, Noise and Water

### Air Quality Monitoring

Monitoring air quality is essential in a project site to know the emission due to different activities in a construction site. Emission of suspended particle and particulate matter is a major concern in the construction site that affects health of the people working in the construction site. None of the contractors have done the air quality monitoring in this reporting period. From the month of March, there is lockdown in the country due to the spread of COVID-19. Hence it was difficult to do the air quality monitoring and also the construction works were not carried in a rapid way during this period. However, water sprinkling is done regularly in the TP projects to prevent dust emission.



Figure: Water is being sprayed in TP02 for dust suppression

### Noise Level Monitoring

Measuring noise level in a site and noise exposure of workers working in that area is one of the most important things to monitor. Monitoring noise level helps to identify the work location which is dangerous, workers who might be affected and identify the workers who need PPE i.e. ear plug while working. Noise level monitoring was done at all the WWTP projects in this reporting period. The noise level monitoring result with the permissible limit of exposure of site TP-01 and TP-02 is presented in Table 8-1 and Table 8-2 respectively. It was found that some equipment like blower and centrifuge machine in TP01 and batching plant in TP02 produce sound greater than 85 dBA but the time of exposure is under the permissible limit. Hence the workers are safe in regard to the noise level exposure. But if the workers are exposed for a period of time greater than the permissible time limit, then ear plug should be used. The contractors are instructed to give ear plug in such cases.

**Table 8-1: Noise Level Monitoring Result in TP-01**

S.N	Description	Noise level (dBA)	Permissible exposure (Noise level-time)
1.	Office	62.1	under the permissible limit
2.	Blower Room	93.7	93 dBA- 5.3 hrs 96 dBA- 3.5 hrs
3.	Booster Pump-DCB	74.2	under the permissible limit
4.	RAS/WAS Pump	81.2	under the permissible limit
5.	Centrifuge	87.6	87 dBA- 12.3 hrs 90 dBA- 8 hrs

**Table 8-2: Noise Level Monitoring Result in TP-02**

S.N	Description	Noise level (dBA)	Permissible exposure (Noise level-time)
<b>Kodku</b>			
1.	Office	47.6	under the permissible limit
2.	Generator	68.5	under the permissible limit
3.	Batching Plant: ON condition	79.2	under the permissible limit
4.	Batching Plant: Concrete Pumping	87.9	87 dBA- 12.3 hrs 90 dBA- 8 hrs
5.	Normal working condition of site (I)	56.8	under the permissible limit
6.	Normal working condition of site (II)	61.5	under the permissible limit
7.	Concrete needle vibrator	75.3	under the permissible limit
8.	Rod and pipe cutter	71.4	under the permissible limit
9.	Loader	71.6	under the permissible limit
<b>Sallaghari</b>			
1.	Office	63.9	under the permissible limit
2.	Generator	69.8	under the permissible limit
3.	Batching Plant: ON condition	75.8	under the permissible limit
4.	Batching Plant: Concrete Pumping	82.4	under the permissible limit
5.	Normal working condition of site (I) (Gravel collecting area)	65.1	under the permissible limit
6.	Normal working condition of site (II) (Frame Fixing)	64.5	under the permissible limit
7.	Concrete mixer	69.5	under the permissible limit
8.	Rod and pipe cutter	80.2	under the permissible limit
9.	Rod and Pipe Cutter during operation	82.3	under the permissible limit
10.	Normal working time	61.3	under the permissible limit
11.	Saw Machine	81.3	under the permissible limit
<b>Dhobighat</b>			
1.	Generator	72.1	under the permissible limit
2.	Batching Plant: ON condition	80.2	under the permissible limit
3.	Batching Plant: Concrete Pumping	83.5	under the permissible limit

4.	Concrete mixer	58.8	under the permissible limit
5.	Rod and pipe cutter	62.4	under the permissible limit
6.	Normal working time	59.7	under the permissible limit
7.	Welder	63.3	under the permissible limit
8.	Saw Machine	77.1	under the permissible limit

### Water Quality Test

Water Quality Test is another important parameter that needs to be done regularly. Drinking contaminated water will directly hamper the health of the people consuming it. As per the EMP, the contractors are required to test the drinking water used by labors. The contractors of TP projects have conducted water quality test. The entire contractor provides jar water to the workers which are considered as a safe source of drinking water by the local community people. Drinking water quality of TP-01, TP-02 and TP-03 are presented below in Table 8-3, Table 8-4 and Table 8-5 respectively.

**Table 8-3: Drinking Water Quality Test at TP-01**

S.N.	Parameters	Observed Values		NDWQS, Nepal
		Sample 1	Sample 2	
1.	pH	6.5	6.5	6.5-8.5
2.	Electrical Conductivity, ( $\mu\text{S}/\text{cm}$ )	66	192.0	1500
3.	Turbidity, (NTU)	<1.0	1.0	5
4.	Color, (Hazen)	<5	<5	5
5.	Temperature, ( $^{\circ}\text{C}$ )	25.9	25.9	-
6.	Total Hardness as $\text{CaCO}_3$ , (mg/L)	26.0	78.0	500
7.	Total Alkalinity as $\text{CaCO}_3$ , (mg/L)	20.0	58.0	-
8.	Chloride, (mg/L)	3.9	11.7	250
9.	Ammonia, (mg/L)	0.2	0.19	1.5
10.	Iron, (mg/L)	0.02	0.04	0.3
11.	Arsenic	<0.005	<0.005	0.05
12.	Manganese, (mg/L)	<0.01	0.2	0.5(WHO)
13.	E. coli Count, (CFU/100 mL)	Nil	Nil	Nil
14.	Total Coliform, (CFU/100 mL)	Nil	Nil	Nil

**Table 8-4: Drinking Water Quality Test at TP-02**

S.N.	Parameters	Observed Values	NDWQS, Nepal
Kodku			

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1.	pH	6	6.5-8.5
2.	Total Hardness as CaCO <sub>3</sub> . (mg/L)	16.8	500
3.	Iron, (mg/L)	0.2	0.3
4.	Chloride, (mg/L)	5.5	250
5.	Residual free Chlorine, (mg/L)	<0.2	0.2
6.	Yeast	Nil	Nil
7.	Mold	Nil	Nil
8.	E. coli Count, (CFU/100 mL)	Nil	Nil
9.	Total Coliform, (CFU/100 mL)	Nil	Nil
<b>Sallaghari</b>			
1.	Appearance	Clear	-
2.	Color, (Hazen)	<5	5
3.	Turbidity, (NTU)	<5	5
4.	Temperature, (°C)	21	-
5.	pH	6.1	6.5-8.5
6.	Electrical Conductivity, (µS/cm)	10	1500
7.	Chloride, (mg/L)	3.0	250
8.	E. coli Count, (CFU/100 mL)	Nil	Nil
9.	Total Coliform, (CFU/100 mL)	Nil	Nil
<b>Dhobighat</b>			
1.	pH	6.3	6.5-8.5
2.	Electrical Conductivity, (µS/cm)	10	1500
3.	Turbidity, (NTU)	<4	5
4.	Total Dissolved Solids	Nil	1000
5.	Total Hardness as CaCO <sub>3</sub> . (mg/L)	Nil	500
6.	Total Alkalinity as CaCO <sub>3</sub> . (mg/L)	3.5	-
7.	Chloride, (mg/L)	4.2	250
8.	Ammonia, (mg/L)	0.03	1.5
9.	Iron, (mg/L)	0.7	0.3
10.	Arsenic	Nil	0.05
11.	Manganese, (mg/L)	0.10	0.5(WHO)
12.	E. coli Count, (MPN Index/100 mL)	Nil	Nil
13.	Total Coliform	Nil	Nil

**Table 8-5: Drinking Water Quality Test at TP-03**

S.N.	Parameters	Observed Values	NDWQS, Nepal
1.	Appearance	Clear	-
2.	Color, (Hazen)	<5	5
3.	Turbidity, (NTU)	<5	5
4.	Temperature, (°C)	25	-
5.	pH	7.7	6.5-8.5
1.	Electrical Conductivity, (µS/cm)	21.5	1500
2.	Total Hardness as CaCO <sub>3</sub> , (mg/L)	6.0	500
3.	Total Alkalinity as CaCO <sub>3</sub> , (mg/L)	8.0	-
4.	Calcium Hardness, (mg/L)	4.0	-
5.	Magnesium Hardness, (mg/L)	2.0	-
6.	Calcium	1.60	200
7.	Magnesium	0.49	-
8.	Chloride, (mg/L)	5.76	250
9.	Ammonia, (mg/L)	0.02	1.5
10.	Iron, (mg/L)	0.1	0.3

## 9 Consultations and Focal Group Discussions

Public consultation was organized on different location to inform the people about the works going on under Kathmandu valley wastewater management project, benefits of the projects and some environmental impact that may occur during the construction works. During the reporting period, 107 consultation programs were conducted with key stakeholders, in line with the requirements pertaining to social considerations of ADB. In the consultation meetings, community were informed the possibilities of disturbances and crop losses that might take place during construction period. These consultations provided inputs for identification of the felt needs of the communities, and the relevant stakeholders. During the consultation the participants put queries about the project and the project team briefed the information based on the scope of project. A detail of consultation program is in Table 9-1.

**Table 9-1: List of public consultation done during this reporting period**

Date	Location	No of Participants	Participants Attended	Main Topic/issues of discussion
10 June 2020	Bhaktapur Municipality ward no 4 office (Opposite of Ram mandir)	M-2 F-2 Total -4	Ward Chairman (local body) ,Local affected people DSC-6, CASSC	The constructed 52 and 53 manholes are needed to be shifted 6.5-meter center line form the river.

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Date	Location	No of Participants	Participants Attended	Main Topic/issues of discussion
15, June 2020	Bhaktapur Municipality ward no 4 office (Opposite of Ram mandir)	M-2 F-2 Total-4	Local Community people,DSC-6 CASSC	1. The constructed 52 and 53 manholes is need to be shifted 6.5-meter center line form the river. 2. Compensation has been determined by per sqm is Rs 30 .
26, June, 2020	Bhaktapur Municipality ward no 6 office	M-29 F-26 Total-55	Local people, and civil society DSC-6 CASSC	1. Compensation has been determined by per sqm is Rs 30 .
29 June 2020	Bhaktapur Municipality ward no 6 office	M-29 F-26 Total-55	Local people, and civil society women group ward representatives DSC-6 CASSC	1. Compensation has been increased Rs 5 and made Rs 35 per sqm.
<b>Total Participants -118</b>				
<b>Male- 62 and Female -56</b>				

## 10 Program and Training on Environment/Occupational Health and Safety

### 10.1 Hazard Identification Risk Assessment

Hazard Identification Risk Assessment should be done at least twice a year. Hazard Identification Risk Assessment of TP03 have been done in this reporting period. Risk assessment was done by forming a risk assessment team and visiting each site individually. At first, the construction area and labor camp was visited and walked around to gather information. Then the risk assessment checklist was filled by discussing about the risks/hazard that has arisen in the past and risks/hazards that are likely to happen in the future. Some of the major environmental /occupational health and safety (OHS) issues and the compliance status with their mitigation measure identified during the assessment are listed in Table 10-1. Sample of Hazard Identification Risk Assessment checklist is attached in Appendix 5.

**Table 10-1: Major Issues during Hazard Risk Assessment**

S.N	Type of Work/ Hazards	Further mitigation measure required	Compliance Status
<b>TP03</b>			
1.	Welding/cutting	-Welding helmet should be provided for welding as per standard. -Ear plug should be provided.	Welding helmet and ear plug is provided to the worker.
2.	Dust	-Sprinkling of water should be done at daily basis -Construction material should be covered if placed in site.	Water sprinkling is being done. They have made their own vehicle for water sprinkling which sprinkle water around the site.
3.	Excavation	-All structure should be barricaded by maintaining proper distance of 2 feet during barricading.	Some structures are barricaded while some are not barricaded.
4.	Scaffolding/ work at height	-At least 4-board platform, toe board should be installed. -Guardrail should be provided. -Harness should be well anchored.	2-3 board platforms are available. Safety harness has been provided.

## **10.2 Training on Occupational Health and Safety (OHS)**

Former OHS consultant of ADB has organized an online OHS training session on Incident Reporting and Investigation on 1<sup>st</sup> June 2020. The training was all about the ways to investigate an incident and to report it. The training was given to the safeguard unit of PID, CASSC, DSC-05, DSC-06 and OHS representative of all the contractors of PID. The attendance sheet of the training is attached in Appendix 6. There were total 25 number of participants from PID out of which 18 were male and 7 were female participant.

## **10.3 Awareness Program on Novel Coronavirus and its Preventive Measures**

In an effort to prevent the spread of the coronavirus in the projects under Kathmandu Valley Wastewater Management Project, DSC-06 had organized awareness program on COVID-19 to the labors of all the packages. The training was done in local language and training materials were also prepared in local language so that the worker could understand easily. The awareness program was conducted to describe about the basic information on COVID-19 and the necessary health and safety precautions to be taken and followed in order to help prevent the transmit of the disease. The attendance sheet of the awareness program is attached in Appendix 7. The contractors were also instructed to take daily body temperature of all the workers working in the site and they are taking the records on daily basis. Sample of body temperature reading record is attached in Appendix 8. Number of participants in awareness program is presented in Table 10-2 below. Some other major topics discussed during the awareness program are as follows:

1. As the virus gets transmitted between people who are in close contact, the labours were informed not to sleep close with each other and maintain a distance of 3 feet.
2. As the virus spreads through respiratory droplets produced when an infected person coughs/sneezes, the staffs were asked to cover mouth and nose with flexed elbow or tissue when coughing and sneezing.
3. As the virus spreads through contact with infected surfaces or objects, the contractors were asked to wash hands frequently by using alcohol-based hand rub or soap and water and maintain cleanliness of work sites and camp area and disinfect on daily basis.
4. As the most common symptom of coronavirus disease are fever, tiredness, dry cough and high fever, all the staffs were requested check the body temperature on daily basis.
5. Some general precautions such as to avoid close contact with sick people, avoid touching eyes, nose and mouth, stay home if you are sick, use facemask and hand sanitizer, often wash hand for at least 20 sec especially after going to the bathroom, before eating and after blowing your nose, coughing or sneezing were also discussed.

**Table 10-2: Number of Participants in Awareness Program**

Package/Site	Date Conducted	Total participants	Male participants	Female participants
TP01	21/03/2020	22	16	6
TP02 (Dhobighat)	21/06/2020	24	24	-
TP02 (Kodku)	15/06/2020	15	15	-

TP02 (Sallaghari)	16/06/2020	21	21	-
TP03	18/03/2020	20	20	-
TP03	17/06/2020	29	29	-
IS01	16/06/2020	3	3	-
IS02	16/06/2020	18	18	-

## 11 Grievance Redress Mechanism

A grievance redress mechanism (GRM) is established to receive, evaluate, and facilitate the resolution of affected people’s concerns, complaints, and grievances about the social and environmental performance of the project. The GRM aims to provide a trusted way to voice and resolve concerns linked to the project, and to be an effective way to address affected people’s concerns. The GRM for the project is outlined below and consists of four levels with time-bound schedules and specific persons to address grievances as shown in figure below.

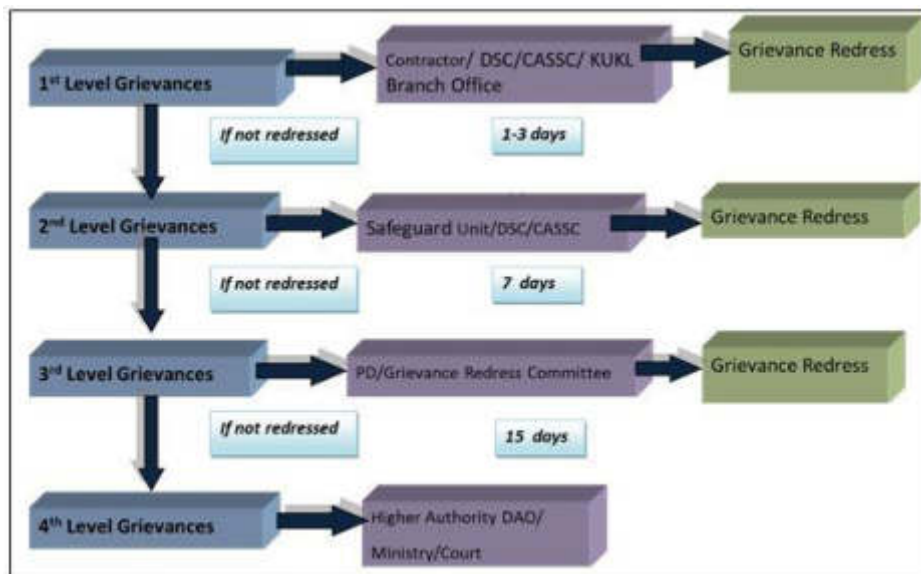


Figure 11-1: Grievance Redress Mechanism (GRM)

**Status of GRC:** Most of the grievances were solved in first level of GRM. If first level GRM was not able to solve the issues then it will be forwarded to second level of GRC. If grievances were not solved in second level GRC, then it will be forwarded to third level GRC. Status of grievances during this quarter is in Table 11-1.

**Table 11-1: Grievances and complains reported.**

Sn	Location	Date	Type of grievance	Status	Redress process	Time line ( if Pending)
1	Opposite Ram Mandir area	10 June 2020	The constructed 52 and 53 manholes is need to be shifted 6.5 meter center line form the river.	Solved	Coordination with local ward office, CSE and Contractor and Survey office	NA

2	Bhaktapur Municipality Ward no 6	29 June 2020	Compensation rate per sqm is to be needed increase.	Solved	Coordination with CSE and Contractor	NA
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## **12 Other Safeguard Related Activities Conducted During this Period**

### **I) Investigation of Solid waste at Sallaghari WWTP:**

ADB deployed a solid waste expert for investigating the solid waste at Sallaghari site of TP02 on December 2019. The entire site was visited by joint team i.e. ADB, PID, DSC and Contractor on 2nd December 2019. The ADB solid waste expert inspected the pit and excavated material. From the visual inspection and by checking the waste the material was seen as being widely stabilized and decomposed. The entire fill consists of plastic and fine material mostly sandy and clay. The smell was soil like material in upper zones which was relocated about a year ago.

ADB solid waste expert recommended for the verification of the rapid assessment. For this purpose, the sample was collected from deeper area (test pit) and given for test at laboratory in this reporting period. Report from the laboratory was received in this reporting period. The ultimate conclusion from the investigation and the test reports suggests that the waste can be managed in the site itself since it is fully stabilized and not significantly contaminated. It should be compacted, where necessary for further construction. If it has to be temporarily excavated, it can be stored anywhere. The waste does not need for special pile up (like composting windrow), since the material is not reactive at all. The waste can be made more rigid mechanically, for which screening can be done to remove the plastic and granular components can be used as subsoil. The bearing capacity of the waste can be increased by segregating the larger (soft) particles at a screen size of 40-60 mm. Hence the waste was also screened with a sieve size of 40 mm and found that that 74.91 % of the wastes in terms of mass are granular material and 25.07 % are the plastic materials.

### **II) IEE of Sallaghari WWTP updated:**

IEE report of Sallaghari WWTP has been updated in January including the mitigation measures to manage the existing solid waste in the site. A loan review mission was fielded by the ADB from 13-20 November 2019. One of the corrective actions set forth in Aide Memoire was to update the IEE of Sallaghari WWTP including the safe disposal of the waste present in the site. Hence the IEE of Sallaghari WWTP has been updated and submitted to ADB for review on 31st January 2020.

### **III) Approval of Heritage Impact Assessment (HIA) Report:**

Heritage Impact Assessment (HIA) Report has finally been approved from Department of Archaeology. The approval letter is attached in Appendix 3. Final HIA report has been uploaded in PID website.

### **IV) Approval of Initial Environmental Examination (IEE) Report of SN-03:**

IEE report of SN-03 has been approved from ADB and approval has been given on April 15. Final IEE report has been uploaded in PID website. IEE report is also approved by the Ministry of Water Supply (MoWS) on 11 February 2020. The approval letter is attached in Appendix 11.

**V) IEE Report of DEWATS:**

IEE report of DEWATS has been revised based on the comments given by ADB and has been submitted to ADB again. ToR of IEE report of DEWATS in government template has been approved and draft report of IEE of DEWATS has been prepared.

**VI) Focal Discussion for IEE Report of DEWATS:**

As a part of preparation of IEE report of Decentralized Waste Water Treatment System (DEWATS) focal discussions were done in Hanumanghat and Goakarna, to collect the opinion/suggestion of public. Focal discussion was done on 4th February in Hanumanghat and on 18<sup>th</sup> February in Gokarna. The list of people with their opinions/suggestions is tabulated in Appendix 9.

**VII) COVID-19 Committee:**

A committee is formed at PID level to deal with the issues of COVID-19. The committee is named as “Safe Construction work Operation committee during COVID 19” and includes members as listed in Table 12-1:

Table 12-1: PID COVID-19 Committee members

S.N	Designation/Office	Name	Email Address
1.	Chief, Safeguard Unit PID - Member Secretary	Laxmi Pant	<a href="mailto:laxmipant_007@yahoo.com">laxmipant_007@yahoo.com</a>
2.	Deputy Project Director - Coordinator	Ujjwol Prajapati	<a href="mailto:uprajapati@gmail.com">uprajapati@gmail.com</a>
3.	Project Manager, Loan 3000- Member	Surat Bam	<a href="mailto:bamsurat@hotmail.com">bamsurat@hotmail.com</a>
4.	Project Manager, Loan 2776/3255- Member	Lokendra Prasad Yadav	<a href="mailto:erlpyadav@gmail.com">erlpyadav@gmail.com</a>
5.	OHS Expert, CASSC - Invitee Member	Roojaa Darshan Bajracharya	<a href="mailto:rooja.bajracharya@gmail.com">rooja.bajracharya@gmail.com</a>

**VIII) Environmental Safeguard Meeting:**

Environment Safeguard Meeting is organized frequently in PID with the safeguard team of PID to discuss about the updates and issues of environment concern and plan about the way-out of the issues. Sample minute of the environmental safeguard meeting is attached in Appendix 12. Meeting with ADB is also done on monthly basis regarding Environment Safeguard updates. The sample of minute of meeting with ADB is also attached in Appendix 12.

**13 Summary of Key Issues and Corrective Action**

Table 13-1: List of Key Issues and Corrective Action

S.N	Key Issues	Description	Corrective Actions
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Semi-annual Environmental Monitoring Report (SEMR) January-June 2020

1.	Spread of COVID-19	As COVID-19 is spreading rapidly, contractors were instructed to take precaution to prevent the spread of the disease. But contractors are not taking it seriously.	Administration/management of all sites needs to enforce COVID-related safety measures more seriously. Visitors should be allowed into the sites only after temperature measurement and use of sanitizer
2.	Unhygienic labor camps	The labour camps are not in acceptable condition.	Labour Camp Standard has been given to the contractors and instructed to make labour camp as per standard.
3.	Tree cut	TP01 and IS02 has cut down trees during construction period.	IS02 has planted 200 trees and TP-01 has planted 117 trees inside the boundary of WWTP.
4.	Improper Housekeeping	Housekeeping in the labor camp of TP02 (Dhobighat, Sallaghri) and IS01 is not good..	Contractors were instructed to maintain a safe and clean area. Working area and labor camp area should be cleaned regularly.
5.	Incomplete use of PPEs	All required PPEs are often not worn by the workers and field staff. As per the contractor resources are not available adequately due to lockdown.	Worker should wear complete PPEs (job specific PPEs) during construction works. PPEs should be worn before starting the construction works.

## 14 Status of Corrective Action Plan from Previous Reporting Period

**Table 14-1: Status of Corrective Action Plan**

S.N	Action Planned in Previous Reporting Period	Remarks
1.	Preparation of IEE of DEWATS for GoN	Under process
2.	Update Environment Management Plan of SN-03	Completed
3.	Update and submit IEE of Sallaghari WWTP	Completed
4.	Hazard Risk Assessment	Done and will be continued
5.	Joint site inspection of all ongoing projects.	Done and will be continued
6.	Regular Monitoring	Done and will be continued

## 15 Action Planned for Next Reporting Period

The next reporting period will focus on safeguard activities:

**Table 15-1: List of Action Planned for Next Reporting Period**

S.N	Description	Responsible Unit	Time Schedule
1.	Preparation of IEE of DEWATS for GoN	DSC/CASSC	October

Semi-annual Environmental Monitoring Report (SEMR) January-June 2020

2.	Hazard Identification Risk Assessment	DSC/CASSC	September (1 <sup>st</sup> week)
3.	Training to contractors regarding OHS (COVID-19)	DSC/CASSC	August
4.	Joint site inspection of all ongoing projects.	PID-SU, DSC and CASSC	Continuous (Once in each month)
5.	Regular Monitoring	DSC	Continuous

## APPENDIX

### Appendix 1: Photographs



Figure: Water is being sprayed in TP02 for dust suppression.



Figure: Additional Septic tank made in labor camp of TP03.



Figure: Workers provided with harness during work at height (TP-02)



Figure: Safety signage board placed at TP03



Figure: PPEs worn by worker of TP03



Figure: Sloping method used while excavating in TP03



Figure: New labor camp made at Dhobighat site of TP02.



Figure: Poor Housekeeping but hard barricading done in Sallaghari site of TP02.



Figure: Food distributed to the workers in TP01.



Figure: Benching method applied in excavation in TP02

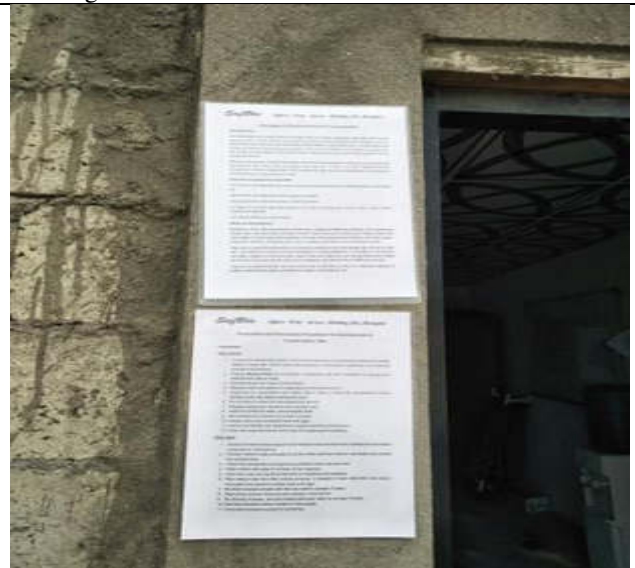


Figure: Information about coronavirus displayed in TP02(Sallaghari)



Figure: Awareness posters displayed in notice board of TP01



Figure: Body temperature being taken at Sallaghari site of TP02



Figure: : Body temperature being taken at Dhobighat site of TP02



Figure: Awareness program on COVID-19 on TP02 (Kodku)



Figure: Awareness program on COVID-19 on TP02 (Sallaghari)



Figure: Awareness program on COVID-19 on TP02 (Dhobighat)



Figure: Awareness program on COVID-19 on TP01.



Figure: Awareness program on COVID-19 on TP03



Figure: Awareness program on COVID-19 on TP03



Figure: Awareness program on COVID-19 on IS01



Figure: Awareness program on COVID-19 on IS02



Figure: Temporary isolation room for emergency made in TP01.



Figure: Temporary isolation room for emergency made in TP02



Figure: Focal Group Discussion carried out in Hanumanghat and Gokarna



Figure: Landscaping work done in TP01.



Figure: Screening of Solid Waste at Sallaghari site of TP-02

## Appendix 2: Road Cut Permit

### Road Cut Permit taken by IS-03



संघीय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय  
सडक डिभिजन भक्तपुर ।

visit Nepal  
2020  
फोन: ६६१२०७४, ६६२०२७५  
कटुन्जे, भक्तपुर ।  
e-mail: droadbhaktapur@gmail.com

पत्र संख्या ०७६/७७  
चलानी न. २४०

मिति : २०७६/०६/०८

विषय : सडक पुनस्थापना सम्बन्धमा ।

श्री काठमाडौं उपत्यका खानेपानी लिमिटेड  
आयोजना कार्यान्वयन निर्देशनालय  
काठमाडौं उपत्यका खानेपानी तथा सरसफाई आयोजना  
अनामनगर, काठमाडौं ।

PD Engineer  
[Signature]

उपर्युक्त विषयमा यस डिभिजनको पूर्व स्वीकृतिमा भक्तपुर न.पा. वडा न. २ तथा चाँगुनारायण न.पा. वडा न. ३ कालिघाट पुल नजिकै तहाँ आयोजनाबाट ढल विछ्याउने काम भईरहेको र सो सम्बन्धमा यस डिभिजनको प.स.०७६/७६ च.न. ६८६ मिति २०७५/१२/१९ (छायीप्रति संलग्न) को पत्रानुसारका सर्तहरू पालना गरी/गराइ सडक खजु भन्दा पूर्वकत अवस्थामा रहेका Pavement Wearing Coat (Asphalt Concrete), Side Drain, Footpath लगायतका संरचनाहरू यथास्थितिमा निर्माण गर्न गराउनु हुन अनुरोध छ ।

[Signature]  
[Signature]  
डिभिजन प्रमुख  
डिभिजन प्रमुख

बोधार्थ :  
श्री संघीय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, बबरमहल, काठमाडौं ।  
ई. श्री संजय कुमार ठाकुर - उपरोक्तानुसार गर्न/गराउनु हुन ।

NUMAL, PID, F-10-3890  
Page No. 1409  
Date 2019 Oct 18

English Translation of Road Cut Permit

**Department of Roads, Bhaktapur**

Date: 2076/06/08  
(25 September 2019)

**Subject: Regarding Reinstatement of Road**

Kathmandu Upatyaka Khanepani Limited,  
Project Implementation Directorate  
Kathmandu Valley Water and Wastewater Projects  
Anamnagar, Kathmandu.

In reference to above subject, as per the permission to cut the road from this division in Bhaktapur municipality ward no 2 and chagunarayan municipality ward no 3 near the bridge in Kalighat, the pipe laying works is going on. In this regard a letter has been issued with ref no 075/76/686 dated 2075/12/19 (17 March 2019) stating certain condition to cut the road and now you are aslo requested to reinstate the pavement wearing coat (asphalt concrete), side drain, foothpath, etc and maintain the condition as before.



नेपाल सरकार  
भौतिक पूर्वाधार तथा जलसंधारण मन्त्रालय  
संघीय सडक सुपरिवहन तथा अनुरक्षण कार्यालय  
सडक डिभिजन भक्तपुर ।

फोन: ६६९२०७४  
फ्याक्स: ९-६६९७९९०  
e-mail:  
droadbhaktapur@gmail.com

पत्र संख्या ०७५/७६  
चलानी न. ६८६

मिति : २०७५।१२।१९

विषय : ढलको पाइप विच्छपाउने सम्बन्धमा ।

श्री काठमाडौं उपत्यका खानेपानी लिमिटेड  
आयोजना कार्यान्वयन निर्देशनालय  
काठमाडौं उपत्यका खानेपानी तथा सरसफाई आयोजना  
अनामनगर, काठमाडौं ।

उपर्युक्त विषयमा तहाँको प.स. ०७५।७६ च.न. ८५० मिति २०७५।१२।१९ को पत्रबाट कालिघाट झोखेल जाने बाटोको पुलको दोयाबीया पिच सडक काटी ५०० एम. एम. को पाइप विच्छपाउन पिच सडक खन्ने स्वीकृति माग गरिएकोमा निम्न सर्तहरू त्यहाँबाट नै पालना गर्ने/गराउने गरी स्वीकृति दिइएको व्यहोरा अनुरोध छ ।

सर्तहरू:

१. सडक यातायात एवं सडक छिमेकीलाई बाधा नपुऱ्याउने गरी सम्बन्धित पार्टी/आयोजनाले उचित प्रबन्ध मिलाएर मात्र सडक काट्नु पर्नेछ ।
२. सडक काट्दा निस्केको मेटेरियल त्रयाभावी चुपार्न वा राख्न पाइने छैन र निश्चित रूपमा सुरक्षित स्थानमा आयोजनाले राख्न लगाउनु पर्नेछ ।
३. त.ई. अनुसारको क्षेत्रफल मात्र सडक खन्न स्वीकृति दिइएको छ ।
४. ढल पुनःस्थापनको काम सकिएपछि माटोले पुरी कम्पेक्सन गरी बढी भएको माटो उचित स्थानमा व्यवस्थापन गर्नु पर्ने छ । साथै सवारी आबागमन समेत सुचारु राख्ने व्यवस्था मिलाउनु पर्ने छ ।
५. निर्माण कार्य गर्दा Road Safety लाइ ध्यानमा राख्ने गर्नु पर्ने छ ।
६. तोकिएको क्षेत्रफल भन्दा बढी सडक खन्नु पर्ने भएमा पुन स्वीकृति लिएर मात्र सडक खन्ने काम गर्नु पर्ने छ ।
७. सडक विभागको Standard Specification को परिधिभित्र रही काम गर्नु/गराउनु पर्ने छ ।
८. तहाँको उल्लेखित पत्रमा उल्लेख भए अनुसार सडक पूर्ववत अवस्थामा न्याईदिने व्यवस्था गर्नु पर्ने छ ।
९. कार्य समाप्त भए पछि सो को सुचना यथाशक्ति यस डिभिजनलाई दिनु पर्नेछ ।

  
०६/१२/१९

(ई.बेल बहादुर भुजेल)

डिभिजन प्रमुख  
डिभिजन प्रमुख

बोधार्थ :

ई. श्री कर्णसिंह खत्री -उपरोक्तानुसार गर्न/गराउनु हुन ।

English Translation of Road Cut Permit

**Department of Roads, Bhaktapur**

Date: 2075/12/19  
(02 April 2019)

**Subject: Laying of sewer pipe**

Kathmandu Upatyaka Khanepani Limited,  
Project Implementation Directorate  
Kathmandu Valley Water and Wastewater Projects  
Anamnagar, Kathmandu.

In reference to above subject, we have received a letter with reference number 075/76/850 dated 2075/12/11 (25 March 2019) asking for the permission to cut the road in both side of the bridge in Kalighat, Jhaukhel for the laying of sewer pipe with 500 mm diameter. In this regard, we permit you to cut the road but the conditions listed below should be fulfilled accordingly.

Conditions:

1. Public people and the vehicles in the the road should not be obstructed.
2. Excavated soil and material while cutting the road should be stockpiled in safe place.
3. This road cut permit is given only to cut the estimated area.
4. After the laying of the sewer pipe, the excavated trench should be backfilled and compacted properly so that vehicles can move. And the remaining soil should be disposed in proper place.
5. Road Safety should be considered while doing the construction works.
6. If the road cut should be done outside the estimated area, then road cut permit should be taken again.
7. Works should be done within the boundary of Standard Specification of Department of Roads.
8. The road shall be reinstated as it was before.
9. After finishing the works, the information should be given to Department of Roads.

Appendix 3: HIA Approval Letter from Department of Archaeology



संस्कृति, पर्यटन तथा नागरिक उड्डयन मन्त्रालय  
पुरातत्व विभाग  
(विश्व सम्पदा संरक्षण शाखा)

E-mail: info@doa.gov.np  
website: www.doa.gov.np

४२४०६२, ४२४०६२  
४२४०६२, ४२४०६२  
४२४०६२, ४२४१४०

फासक: १७७-१-४२४२८२१  
अभियन्तालय भवन  
रामसाहपथ, काठमाडौं

मिति: २०७६/१०/१

प.सं. ०७६/०७

च.नं. ३५५

श्री काठमाडौं उपत्यका खानेपानी लिमिटेड  
आयोजना कार्यान्वयन निर्देशनालय,  
बनामनगर, काठमाडौं

विषय:- Sewer व्यवस्थापन गर्ने सहमति सम्बन्धमा ।

प्रस्तुत सम्बन्धमा तहाँ आयोजनाको प.सं. ०७६/०७ च.नं. २७९ मिति २०७६/७/०४ को पत्र बमोजिम पाटन दरवार क्षेत्र हुँदै निकास गर्नेगरी निर्माण हुन लागेको एकीकृत डल आयोजना (SN-03) को लागि स्वीकृती माग भई आएको सन्दर्भमा उक्त परियोजना कार्यान्वयनका समयमा पाटन दरवार क्षेत्रमा जमिन खाने जगावतका कार्यमा दस विभाग (पुरातत्व शाखा) का कर्मचारीको अतिवाप उपस्थितिमा गर्ने र सो क्रममा कुनै संरचना तथा पुरातात्विक वस्तुहरु प्राप्त हुन आएमा यस विभागलाई तत्काल जानकारी गराई सो को उचित संरक्षण व्यवस्थापन गर्नुपर्ने तथा HIA Report का कुराहरुलाई मध्यनजर गर्दै उक्त क्षेत्रको विश्वव्यापी महत्वमा कुनै नकारात्मक असर नपर्ने गरी प्राचीन स्मारक संरक्षण ऐन २०१३, प्राचीन स्मारक संरक्षण नियमावली २०४६ को परिधि भित्र रही उक्त स्थलको सांस्कृतिक पर्यावरणमा प्रतिकूल असर नपर्ने गरी गर्ने मिति २०७६/१०/१ को विभागीय निर्णयानुसार सहमती प्रदान गरिएको व्यहोरा जानकारीका लागि अनुरोध गर्दछु ।

बोधार्थ तथा कार्यार्थ :

श्री ललितपुर महा नगरपालिका,  
नगर कार्यचालिकाको कार्यालय  
दुल्खोक, ललितपुर ।

श्री पुरातत्व शाखा,  
पुरातत्व विभाग ।

श्री स्मारक संरक्षण तथा दरवार हेरचाह कार्यालय,  
मंगलबजार, पाटन ।

(३)mm/

०६९/१०/१९

(कुमन भट्टराई)

पुरातत्व अधिकृत

\*निकासाधी कर्मचारीको पतिकडतामा पारदर्शिता र कस्यता\*

English Translation of HIA Approval Letter from Department of Archaeology

Department of Archaeology

Date: 15/01/2020

To,  
Kathmandu Upatyaka Khanepaani Limited  
Project Implementation Directorate,  
Anamnagar, Kathmandu

Subject: Approval to Manage the Sewer Line

In reference to above subject, you had asked for the approval of the proposal of SN03 project that passes through the Patan Durbar Square. In this regard, a representative from DoA should be present during excavation works and if any archaeological things are found during excavation then DoA should be immediately informed and it should be preserved. The HIA report should be followed during the construction phase. Hence we approve your proposal in a condition that there is no negative impact to the world heritage site and if above mentioned conditions are agreed.

**Appendix 4: Package wise Contractor's Nodal person for Environmental Safeguard**

S.N	Sub-Project Name	Nodal Person (HSE officer)	Contact Details
1.	KUKL/WW/TP-01	Mohammed Mashoom	Email: <a href="mailto:mohammed_mashoom@wabag.in">mohammed_mashoom@wabag.in</a> Contact no: 9823094090
2.	KUKL/WW/TP-02	1. Narayan Gnawali (HSE coordinator) 2. Dharma Raj Thapa (HSE officer: Dhobighat) 3. Manish Giri (HSE officer: Kodku) 4. Pratik Phuyal (HSE officer: Sallaghari)	1. Email: <a href="mailto:ernarayang@gmail.com">ernarayang@gmail.com</a> Contact no: 9851188288 2. Email: <a href="mailto:rajthapa997@gmail.com">rajthapa997@gmail.com</a> Contact no: 9842382023 3. Email: <a href="mailto:manixgiri49@gmail.com">manixgiri49@gmail.com</a> Contact no: 9842538887 4. Email: <a href="mailto:phuyalpratik056@gmail.com">phuyalpratik056@gmail.com</a> Contact no: 9843741314
3.	KUKL/WW/TP-03	Khusmita Dangol	Email: <a href="mailto:kusudangol@gmail.com">kusudangol@gmail.com</a> Contact no: 9801904894
4.	KUKL/WW/IS-01	Eak Raj Shakya	Email: <a href="mailto:eakrajs@yahoo.com">eakrajs@yahoo.com</a>
5.	KUKL/WW/IS-02	Neyaz Alam	Email: <a href="mailto:imneyaz1996@gmail.com">imneyaz1996@gmail.com</a> Contact no: 9801240970
6.	KUKL/WW/IS-03	Ebin Shrestha	Contact no: 9801140074

## Appendix 5: Sample Checklist Of Hazard Identification Risk Assessment

### Hazard Identification Risk Assessment in TP-03

#### 1. Attendance sheet

Date: 13/02/2020

Attendance sheet  
(Hazard Identification Risk Assessment)

S.N	Name	Designation	Signature
1.	Roojara D. Bajracharya	OSH EXPERT /PID	[Signature]
2.	Madhukar Shrestha	Public Health Expert /PID/CASSC	[Signature]
3.	Ramesh M. Pradhan	CCE	[Signature]
4.	Sagar Chand	Site Engineer /W1016	[Signature]
5.	Arun Bhujel	ACSC /DSC-06	[Signature]
6.	Pushpa Koirala	Envnt Specialist CASSC/P33	[Signature]
7.	Mina chudali kharel	Enumerator CASSC	[Signature]
8.	Kusmita Dangol	HSE - CGICOC	[Signature]
9.	Dikshya Dhakal	Env & OHS Associate	[Signature]
10.			
11.			
12.			

#### 2. Risk Assessment Checklist

Date: 13 February 2020











Facility / Site: Construction of Wastewater Treatment Plant at Dhubighat												
Description of Area / Activity: Excavation, Work at height, Welding and cutting												
Risk Assessment Team:												
Consultants : DSC-06: Dikshya Dhakal, Ramesh Pradhan, Arun Bhujel												
: CASSC: Madhukar Shrestha, Roojara Bajracharya, Pushpa Koirala, Mina Chudali												
Contractor : Kusmita Dangol, Sagar Chand												
	Hazards in Absence of Control	No. of People Affected	Current Control Measures	Risk Assessment			Risk Acceptable (Y/N)	Further Controls Required	Risk Assessment			Risk Acceptable (Y/N)
				L	C	R			L	C	R	
1	Welding/cutting	5	-Plastic Glasses, disposable surgical mask are given	A	4	E	N	-Welding helmet will be provided for welding as per standard. -Ear plug will be provided.	E	1	L	Y
2	Excavation	15	-Bamboo barricade, tape barricade -Sloping done while excavating	C	3	H	N	-All structure will be barricaded by maintaining proper distance of 2 feet during barrication.	D	2	L	Y
3	Scaffolding/ work at height	25	-One board platform is used and harness with anchor is partially used.	A	5	E	N	-At least 4-board platform, toe board will be installed. -Guardrail will be provided. - Harness will be well anchored.	C	2	M	Y
4	Labor Camp	98	- Drinking water is	C	2	M	N	-Common platform with	C	1	L	Y






Semi-annual Environmental Monitoring Report (SEMR) January-June 2020

Date: 13 February 2020

			provided -Separate Kitchen -garbage bins are kept.					separate mattress per person will be given -Weekly cleaning and garbage management. -Ventilation will be managed.				
5	Dust	200	-Sprinkling of water at certain interval of time -Shifting of spoil material immediately after excavation.	C	2	M	N	-Sprinkling of water will be done at daily basis -Construction material will be covered if placed in site.	C	3	L	Y
6	Sanitation	200	-Cleaning of toilets is done using disinfectant -Soap is provided -Dustbin is provided.	C	2	M	N	-Liquid soap will be provided -Hand tissue will be provided	E	1	L	Y
7	Widespread of Coronavirus	200	-Planning for recording temperature of worker - Awareness program has been done for coronavirus	A	5	E	N	-Body temperature of each worker will be recorded. -if any symptoms of flu seen then the worker will be taken to the hospital.	A	5	E	Y
8	Emergency response	200	-Emergency contact number is posted	A	2	M	N	-Mock drills will be conducted	E	1	L	Y
9	Health of workers	98	-	A	2	M	N	-Health checkup of communicable diseases will be done to the all workers.	E	1	L	Y

Risk assessment index: L= Likelihood [A-E]      C=Consequences [1-5]      R=Risk (low, moderate, high, extreme)

Objective ID #	Description of Objectives	Responsibility for Achievement	Planned Completion Date	Actual Completion Date	Authorized Signature
1A	Welding helmet will be provided for welding as per standard.	CR/ Safety officer	19 <sup>th</sup> feb. 2020		
1B	Ear plug will be provided.	CR/ Safety officer	19 <sup>th</sup> feb. 2020		
2	All structure will be barricaded by maintaining proper distance of 2 feet during barrication.	CR/ Safety officer	19 <sup>th</sup> feb. 2020		
3	At least 4-board platform, toe board installed. Guantrail will be provided. Harness will be well anchored.	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
4A	Common platform with separate mattress per person will be given	CR/ Safety officer	19 <sup>th</sup> feb. 2020		
4B	-Weekly cleaning and garbage management.	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
4C	-Ventilation will be managed.	CR/ Safety officer	19 <sup>th</sup> feb. 2020		
5A	- Sprinkling of water will be done at daily basis	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
5B	- Construction material will be covered if placed in site.	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
6A	-Liquid soap to be provided	CR/ Safety officer	15 <sup>th</sup> feb. 2020		

6B	-Hand tissue to be provided	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
7A	Body temperature of each worker will be recorded.	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
7B	if any symptoms of flu seen then the worker will be taken to the hospital.	CR/ Safety officer	15 <sup>th</sup> feb. 2020		
8	Mock drills will be conducted.	CR/ Safety officer	27 <sup>th</sup> feb. 2020		
9	Health checkup of communicable diseases will be done to the all workers.	CR/ Safety officer	15 <sup>th</sup> mar. 2020		

Prepared By:  2020-2-19

Approved By: 

## Appendix 6: Attendance sheet of the training given by OHS expert

### Training Participants

**Trainer:** Muhammad Dawood

**Topic:** Incident Reporting and Investigation

**Venue:** Virtual - ZOOM

**Timing:** 13:30-15:00 hours Nepal time

**Date:** 01 June 2020

Sr No.	Full Name	Designation	Company Name	Email id
1.	Pramila Adhikari	Sociologist	PID	<a href="mailto:apramila27@gmail.com">apramila27@gmail.com</a>
2.	Prajan Hada	Engineer	PID	<a href="mailto:hadaprajan@gmail.com">hadaprajan@gmail.com</a>
3.	Madhukar Shrestha		CASSC	<a href="mailto:madhukarshrestha@gmail.com">madhukarshrestha@gmail.com</a>
4.	Pushpa Koirala	Env safeguard specialist	CASSC	<a href="mailto:pukoirala80@gmail.com">pukoirala80@gmail.com</a>
5.	Rooja Bajracharya	OHS expert	CASSC	<a href="mailto:rooja.bajracharya@gmail.com">rooja.bajracharya@gmail.com</a>
6.	Dikshya Dhakal	Environment and OHS Associate	DSC-06	<a href="mailto:dikshyadhakal842@gmail.com">dikshyadhakal842@gmail.com</a>
7.	Suman Bhattarai	ACSE TP-02, Sallaghari	DSC-06	<a href="mailto:civilengineerbhattarai@gmail.com">civilengineerbhattarai@gmail.com</a>
8.	Sarika Gharana	Environment Expert	DSC-06	<a href="mailto:sarikagharana@gmail.com">sarikagharana@gmail.com</a>
9.	Arun Bhujel	ACSE	DSC-06	<a href="mailto:abhuzel1079@gmail.com">abhuzel1079@gmail.com</a>
10.	Basanta Bhandari	Engineer	DSC-05	<a href="mailto:basantabhandari1995@gmail.com">basantabhandari1995@gmail.com</a>
11.	Aaron	Deputy Project Manager	CGCOC	<a href="mailto:heweiwei@cgowater.com">heweiwei@cgowater.com</a>
12.	Kusmita Dangol	OHS Engineer	CGCOC	<a href="mailto:kusudangol@gmail.com">kusudangol@gmail.com</a>
13.	Narayan Gnawali	Health and safety Supervisor	Safbon/TP02	<a href="mailto:gnawali@safbon.com">gnawali@safbon.com</a>
14.	Dharmaraj Thapa	Health and Safety Officer	Safbon/TP02	<a href="mailto:rathapa997@gmail.com">rathapa997@gmail.com</a>
15.	Manish Giri	Health and Safety Officer	Safbon/TP02	<a href="mailto:manixgiri49@gmail.com">manixgiri49@gmail.com</a>
16.	Pratik Phuyal	Health and Safety Officer	Safbon/TP02	<a href="mailto:phuyalpratik056@gmail.com">phuyalpratik056@gmail.com</a>
17.	Shivam Kumar Gupta	Mechanical Engineer	VA TECH WABAG LIMITED	<a href="mailto:ShivamKumar.Gupta@wabag.in">ShivamKumar.Gupta@wabag.in</a>
18.	Anil Man Singh	Engineer	BDS-03	
19.	Rashek Karmacharya	Engineer	BDS-03	<a href="mailto:rashikkarmacharya@gmail.com">rashikkarmacharya@gmail.com</a>
20.	Nivid Bajracharya	Safety Engineer	Hangzhou sharma JV	<a href="mailto:nividbairacharya07@gmail.com">nividbairacharya07@gmail.com</a>
21.	Basu Dev Dahal	Pipe line Team Leader	BDS 04/HAJV	<a href="mailto:saobara@gmail.com">saobara@gmail.com</a>
22.	Ashish Bista	Junior Engineer	DNI 7	<a href="mailto:aacs927@gmail.com">aacs927@gmail.com</a>
23.	Pradeep Chaurasiya	Engineer Trainee	VA TECH WABAG LIMITED	<a href="mailto:Pradeep.Chaurasiya@wabag.in">Pradeep.Chaurasiya@wabag.in</a>
24.	Dinesh Phuyal	Safety Officer	VA TECH WABAG LIMITED	<a href="mailto:phuyaldinesh@hotmail.com">phuyaldinesh@hotmail.com</a>
25.	Kabita Regmi	QA/QC Engineer	CGCOC	<a href="mailto:nepalom@cgowater.com">nepalom@cgowater.com</a>

Appendix 7: Attendance sheet of the awareness program on COVID-19 given by DSC

<p>TP01</p> <p style="font-size: small;">DSC04, Dohwa Engineering Co. Ltd. In Association with ERMC and BDA</p> <p style="text-align: right; font-size: small;">Health and Safety Manual</p> <p style="text-align: center;"><b>Safety, Health &amp; Environment Program (Tool Box Talk)</b></p> <p style="font-size: small;">Format No. C-2</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Date: 2020/5/22</td> <td style="width: 50%;">Time: 08.00 AM</td> </tr> <tr> <td colspan="2">Location/Project: IOPDC - WWTP Guherwari</td> </tr> <tr> <td colspan="2">Instructor/Trainer: Mohd. Masbony &amp; Dipendra Sharma</td> </tr> <tr> <td colspan="2">Subject (s) Covered: Awareness program on COVID-19</td> </tr> </table> <p style="font-size: small;">Participants</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 30%;">Name</th> <th style="width: 20%;">Designation</th> <th style="width: 45%;">Signature:</th> </tr> </thead> <tbody> <tr><td>1</td><td>Ram Kisan</td><td>Manag</td><td>[Signature]</td></tr> <tr><td>2</td><td>Narayan Rai</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>3</td><td>Shukhali</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>4</td><td>Magal</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>5</td><td>Alok</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>6</td><td>Raftar</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>7</td><td>Bimal</td><td>Manag</td><td>[Signature]</td></tr> <tr><td>8</td><td>Sagar</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>9</td><td>Lakhan</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>10</td><td>Bir Bahadur</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>11</td><td>Prem</td><td>Manag</td><td>[Signature]</td></tr> <tr><td>12</td><td>Joharidal</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>13</td><td>Manmaya</td><td>Helper</td><td>[Signature]</td></tr> </tbody> </table> <p style="font-size: small;">Signature: of Instructor / Trainer</p>	Date: 2020/5/22	Time: 08.00 AM	Location/Project: IOPDC - WWTP Guherwari		Instructor/Trainer: Mohd. 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In Association with ERMC and BDA</p> <p style="text-align: right; font-size: small;">Health and Safety Manual</p> <p style="text-align: center;"><b>Safety, Health &amp; Environment Program (Tool Box Talk)</b></p> <p style="font-size: small;">Format No. C-2</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Date: 2020/5/22</td> <td style="width: 50%;">Time: 09.00 AM</td> </tr> <tr> <td colspan="2">Location/Project: IOPDC - WWTP Guherwari</td> </tr> <tr> <td colspan="2">Instructor/Trainer: Mohd Masbony &amp; Dipendra Sharma</td> </tr> <tr> <td colspan="2">Subject (s) Covered: Awareness program on COVID-19</td> </tr> </table> <p style="font-size: small;">Participants</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 30%;">Name</th> <th style="width: 20%;">Designation</th> <th style="width: 45%;">Signature:</th> </tr> </thead> <tbody> <tr><td>1</td><td>Harsh</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>2</td><td>Dilmaya</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>3</td><td>Susida</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>4</td><td>Anu</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>5</td><td>Harka</td><td>Manag</td><td>[Signature]</td></tr> <tr><td>6</td><td>Govari</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>7</td><td>Bisham</td><td>Manag</td><td>[Signature]</td></tr> <tr><td>8</td><td>Lalita</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>9</td><td>Ram Thapa</td><td>Helper</td><td>[Signature]</td></tr> <tr><td>10</td><td></td><td></td><td></td></tr> <tr><td>11</td><td></td><td></td><td></td></tr> <tr><td>12</td><td></td><td></td><td></td></tr> <tr><td>13</td><td></td><td></td><td></td></tr> </tbody> </table> <p style="font-size: small;">Signature: of Instructor / Trainer</p>	Date: 2020/5/22	Time: 09.00 AM	Location/Project: IOPDC - WWTP Guherwari		Instructor/Trainer: Mohd Masbony & Dipendra Sharma		Subject (s) Covered: Awareness program on COVID-19		No.	Name	Designation	Signature:	1	Harsh	Helper	[Signature]	2	Dilmaya	Helper	[Signature]	3	Susida	Helper	[Signature]	4	Anu	Helper	[Signature]	5	Harka	Manag	[Signature]	6	Govari	Helper	[Signature]	7	Bisham	Manag	[Signature]	8	Lalita	Helper	[Signature]	9	Ram Thapa	Helper	[Signature]	10				11				12				13			
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TP02 (Dhobighat)



DOHWA

Attendance Sheet  
Awareness Program on COVID-19  
KUKL/WW/TP/02, Dhobighat

Tutor: Anur Bhujel, Dhormia Raj Thapa

Date: 21<sup>st</sup> June 2020

S.N.	Name	Designation	Signature
1	Tapus Shrestha	Carpenter	TAPAS
2	Rashik Shrestha	"	RASHIK
3	Sourabh Miya	Mason	SOURABH
4	Sushant Shrestha	Carpenter	SUSHANT
5	chandan Shrestha	Carpenter	CANDAN
6	Sapnon Shrestha	Carpenter	SAPNON
7	Kaloon Miya	labor	KALOON
8	Sulal Rajbanshi	labor	SULAL
9	Ripun Shrestha	Mason	RIPUN
10	Ananta Shrestha (1)	labor	ANANTA
11	Ananta Shrestha (2)	labor	ANANTA
12	Ripan el	steel	RIPAN
13	Munoon Miya	steel	MUNOON
14	Sanam Garmus	Supervisor	SANAM
15	Mhann Miya	cook	MHANN
16	Shanta seeth	Mason	SHANTA
17	Sahid Miya	labor	SAHID
18	Anar Bahadur Khatri	Security Guard	ANAR
19	charlie	Charito	CHARLIE
20	Mujant Miya	labor	MUJANT
21	gauri	labor	GAURI
22	Abhaji	labor	ABHAJI
23	Bishal Karmacharya	Site Engineer	BISHAL
24	Mukul Karmacharya	labor	MUKUL

TP02 (Kodku)



DOHWA

Attendance Sheet  
Awareness Program on COVID-19

Tutor: Prannu Pachhai (ACSE DSC-06)

Date: 15/06/20

S.N.	Name	Designation	Signature
1	प्राणु पाछै	कार्पोरेट	प्राणु
2	सुबिन नेपाल	मेन्टर	सुबिन
3	सुबिन नेपाल	मेन्टर	सुबिन
4	प्रसन्न चन्द	supervisor	प्रसन्न
5	सुबिन नेपाल	कार्पोरेट	सुबिन
6	शिव प्रसाद थामे	supervisor	शिव
7	भद्राबाबु सुब्बा	कार्पोरेट	भद्रा
8	सुबिन नेपाल	laborer	सुबिन
9	सुबिन नेपाल	कार्पोरेट	सुबिन
10	सुबिन नेपाल	कार्पोरेट	सुबिन
11	राम लामा	labour	Ratna
12	सुबिन नेपाल	मेन्टर	सुबिन
13	सुबिन नेपाल	मेन्टर	सुबिन
14	सुबिन नेपाल	कार्पोरेट	सुबिन
15	सुबिन नेपाल	Safety officer	सुबिन
16			
17			

## TP02 (Sallaghri)



Attendance Sheet  
Awareness Program on COVID-19 (TP-02, Sallaghri)



Tutor: Nitaj Marathe (ACGG)  
Pratik Phogat (DHS)

Date: 16/06/2020

S.N.	Name	Designation	Signature
1.	Krishna Chandra Dhasabary	Supervisor	-
2.	Chitman Tharu	Labour	✓
3.	Saivjan Chaudhary	Labour	✓
4.	Sanjay Chaudhari	"	✓
5.	Pachupati Chaudhari	"	✓
6.	Ramesh Thakuni	"	✓
7.	Sujan Thapa	"	✓
8.	Panchuram Shahi	"	✓
9.	Dadam Magar	"	✓
10.	Mahendra Sada	"	✓
11.	Ram Kumar Sada	"	✓
12.	Pradip Sada	"	✓
13.	Pramill Sada	"	✓
14.	Dev Charan Sada	"	✓
15.	Dipen Sada	"	✓
16.	Dilip Sada	"	✓
17.	Sundar Sada	"	✓
18.	Sundar Sada	"	✓
19.	Manadev Sada	"	✓
20.	Hira Lal Mandal	"	✓
21.	Dev Kant Sada	"	✓

## TP03


Date: 18 March 2020

Minutes of Meeting  
Awareness Programme for Novel Coronavirus  
Chobighat, TDA-3

S.N	Name	Designation	Signature
1.	Hem Kamsikrane	Labour	HK
2.	Renuka Magar	"	Renuka
3.	Suman Limbu	"	Suman
4.	Jabala Serpa	"	Jabala
5.	Pasang	"	Pasang
6.	Sambathum Tamang	"	Nima
7.	Nima Nima Sherpa	"	Nima
8.	Budha Tamang	"	Budha
9.	Rabinchandra Karmali Karki	"	Rabin
10.	Kedra Ghumira	"	Kedra
11.	Bimal Jimel	"	Bimal
12.	Maya Ram Rai	"	Maya
13.	Sandeep Samsar	"	Sandeep
14.	Jaggy Kumar	"	Jaggy
15.	Rakshi Labar	"	Rakshi
16.	Anup Jimel Rai	"	Anup
17.	Pragyan Rai	"	Pragyan
18.	Laxman Chaudhary	"	Laxman
19.	Nabin Shahi	"	Nabin Shahi
20.	Bhawan Pasijyar	"	Bhawan
21.			



IS01



**DOHWA**

Attendance Sheet  
 Awareness Program on COVID-19 (IS-01)

Tutor: Niraj Marattha (ACSE IS01) Date: 20/06/16

S.N.	Name	Designation	Signature
1.	Punam Udax	Supervisor	-
2.	Ranga Bir Namang	Labour	-
3.	Shel Bdr. Namang	Labour	-
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

IS02


**DOHWA**

Attendance Sheet  
 Awareness Program on COVID-19

Tutor: \_\_\_\_\_ Date: 16/06/2020

S.N.	Name	Designation	Signature	TEMP
1.	Rani prachin Ankhar	labour	[Signature]	30.8°C
2.	Bhan Bahadur Tamang	labour	[Signature]	32.1°C
3.	Bir Bahadur Samalinger	labour	[Signature]	36.5°C
4.	Prasang Tamang	labour	[Signature]	36.2°C
5.	Karan Rana	labour	[Signature]	36.5°C
6.	Kamran Shing Pun	labour	[Signature]	36.3°C
7.	Bhan Rana	labour	[Signature]	37.2°C
8.	Uma Bahadur Tamang	labour	[Signature]	36.2°C
9.	Bikram Tharu	operator	[Signature]	37.1°C
10.	Prabin Lama	helper	[Signature]	37.5°C
11.	Bhuban Lama	operator	[Signature]	36.5°C
12.	Sandesh Mudhari	Bar tender	[Signature]	36.5°C
13.	Tirthu Kojari	Bar tender	[Signature]	36.2°C
14.	Gagan Tamang	Bar tender	[Signature]	36.5°C
15.	Shyam Chaudhari	cook/painter	[Signature]	36.3°C
16.	Kishan Adhikari	Plumbing contractor	[Signature]	36.3°C
17.	Suresh Thakur	helper	[Signature]	36.2°C
18.	Ravi Prasad	Site supervisor	[Signature]	36.5°C
19.				
20.				

Appendix 8: Sample sheet of the body temperature records

Sample sheet of TP-01

VA TECH WABAG LIMITED			Temperature Reading																														
TP-01 WWTW Gukeshwar			23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Sl	Name	Designation																															
1	Mr. N. Venkateshwaran	Contractor Representative																															
2	Mr. Sanjeev Gupta	Reserve Construction Manager	98.6																														
3	Mr. Agni Shikha Mohanty	Electrical / Test Engineer	94.2																														
4	Mr. Sunil T Adhara	Mechanical/Plant Engineer	93.2																														
5	Mr. Sai Phani Bhusan	Store Incharge	95.7					91.3																									
6	Mr. Mohit Mahajan	HSE Engineer	95.9					93.8																									
7	Mr. Sunny Barwale	Billing / DG Engineer	94.2		91.2	91.6		93.9				98.0	92.6			96	85	74.7	98.1	99.7	96.4							92.7		94.2	89.4	91.7	96.4
8	Mr. Anil Kumar Jurel	Electrical Engineer	95.3					93.2																									95.9
9	Mr. Shivan K Gupta	Mechanical Engineer	95.5					91.2																									
10	Mr. Sam Nallathambi	Shift Incharge - O & M	94.7																														
11	Mr. Chandrasekhar T	Incharge Commissioning	94.2																														
12	Mr. Maheshwar Deka	Electrical Operator	94.4																														
13	Mr. Kalpis	Chemist - Commissioning	90.6											90.5		91.2	92.4	92.7	92.3													92.9	
14	Mr. Munagan K	Chemist - Commissioning	85.8																														92.9
15	Mr. Mahal	DET-Commissioning	90.8																														91.7
16	Mr. Nishan Kumar	DET-Commissioning	90.6																														90.2
17	Mr. Pradeep Choudhary	DET-Commissioning	93.4																														93.4
18	Arjun Ghoshal	Accountant	95.3																														94.2
19	Ranjana Srinivasa	Accountant	93.5																														
20	Pooja Sankharia	Document controller	93.7																														
21	Nimisha Ujwale	office assistant	94.6																														
22	Ashmita Chetti	office assistant	96.3																														
Sharma & co																																	
23	Brenda Kumar Jha		93.5																														
24	Bhimabhan Khote		93.5																														
25	Janardan Acharya																																
26	Indra Man Kafe		98.4																														
27	Dipendra Sharma		92.5																														
28	Kiran Cheti		93.9																														
Group-01																																	
29	Ram Krishna		93.9																														
30	Narayan Mai		97.2																														
31	Bhukhal		90.5																														
32	Magal		92.4																														
33	Ash		92.4																														
34	Hitar		90.3																														
35	Bimal		91.9																														
36	Dagar		93.5																														
37	Lakhan		90.5																														
38	Bir badnur		91.2																														
39	Priyan		91.4																														
40	Joharaj		92.4																														
41	Mannaya		94.4																														
42	Hataharan		94.3																														
43	Dinaya		93.2																														
44	Sushila		92.8																														
45	Anu																																
46	Hansa		93.2																														
47	Gowan		95.5																														
48	Bishara		93.7																														
49	Lafte		91.5																														
50	Ram Thapa		91.5																														
Group-02																																	
51	Sudam Myan	Master	96.4																														
52	Bhoo Myan	Master 2	96.1																														
53	Kalin San Myan	Master	95.9																														
54	Sansalar Myan	Helper	95.7																														
55	Winnar Myan	Helper	90.6																														

Sample sheet of TP-02

Site Kodku

Gopri

Group 1

S.N	Name	Designation	Feb																	March						
			17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7				
1	Ram bharosa tharu	Carpenter	97.5	97.5		97.6	97.6		97.5			96.5	95.8	95.2		97.6	95.0	97.0	97.6	97.0						
2	Bhagiram tharu	Carpenter	96.5		97.0	95.0	97.0	95.0	96.7			97.0	96.5	95.7		96.5	97.0	97.6	95.0	97.0						
3	Prem bd tharu	Carpenter		96.4	96.5										95.0	96.5	95.0	97.6	95.6	97.0						
4	Karam lal tharu	Carpenter	94.8	97.0	95.4	97.6	96.5	97.6	97.6						95.0	97.0	95.6	95.0	96.7	95.6						
5	Hari tharu	Carpenter	97.0	98.6	95.0	95.5	95.0	95.7				97.6	97.5	97.6		97.5	97.6	96.5	97.5	97.6						
6	Damar tharu	Carpenter	96.5	95.0				96.0	97.6				95.7	97.0	96.5		96.7	95.0	97.6	96.5	97.0					
7	Bandu ram tharu	Carpenter		96.1			97.6	97.6	96.7						97.6	95.7		97.6	97.5	97.6	96.5	97.5				
8	Ram kumar chaudhary	Carpenter			97.6	97.6	95.0	96.1	97.6						97.6	95.6	96.5									
9	Bal bahadur tharu	Carpenter	95.0	95.0	95.0	95.0	96.7	95.0	96.7						96.5	95.0		95.7	97.5		95.0	97.6				
10	Kalu ram tharu	Carpenter																		96.5	96.7					
11	Tikaram tharu	Carpenter	97.6	97.9	93.6	97.6	95.0	97.6	97.6				97.6	97.6	97.0		97.6	96.0	97.6		97.6					
12	Raju tharu	Carpenter	97.7	96.5	97.6	97.0		97.5							97.5		95.7	97.5	95.7	95.6						
13	Bir bahadur basnet	Carpenter	97.6	97.5	97.7	96.5	97.6	97.5	95.7				97.0	97.7	97.6		97.7	95.0	97.0	96.5	97.0					
14	Ratan bahadur khadka	Carpenter	95.6	95.0	95.7								97.0	95.6	96.5			96.5	97.5	97.5	96.5					
15	Himal bd tharu	Carpenter	97.0	96.1	96.8	95.0	95.0		96.0	95.0					96.7	96.1	97.5		97.6	97.6	95.0	95.6				
16	Shree prasad tharu	Carpenter	97.7	95.2														96.5	97.5	97.6	97.0	95.7				
17	Gurelal tharu	Carpenter	95.6				97.6	95.7	96.8						95.0						96.5					
18	Ram kumar tharu	Carpenter		97.7	95.1	95.7	97.0	96.7	95.2						97.6	96.5	95.0		97.0	95.7		97.0	96.7			
19	Sanjay tharu	Carpenter		96.5	96.2										96.5	97.6	97.6		97.6	97.6		97.6	95.0			
20	Sanjay tharu	Carpenter	96.5	95.6						97.0					97.0			97.6		96.5	97.0		95.7	97.6		
21	Kabiram gurgung	Carpenter	95.6	95.5	95.2	96.6	97.0	97.0	95.8						97.0	96.5	97.5		95.0	96.7		97.5	96.5			
22	Dahan bd tharu	Carpenter	93.7	96.5	95.1	96.2			97.6	96.5					96.5	97.6	95.7		97.6	98.6		95.4	95.0			
23	Dipak tharu	Carpenter	95.6																97.6	97.0		93.6	97.0			
24	Sunil tharu	Carpenter		95.6	96.1	97.5	95.6	95.0	97.0						97.6	97.6	97.6		95.0	96.7			96.5			
25	Daya ram tharu	Carpenter	97.6																97.0	97.6		95.7				

Sample sheet of TP-03

当地工人疫情封锁期间情况表

日期: 2020/ 4 / 23

TP03

序号 S.N	姓名 Name	身份证号码 ID NO	morning body temperature	afternoon body temperature	工种 TYPE OF WORK	房间号 room number	特基公司
✓1	Buddha tamang	09-01-71-02940	36.6		Carpenter	A3	A
2	Dhan Bahadur dhani	3521	35.6		Carpenter	C1	D
3	Yamjai rai	3427-2024	34.8		Carpenter	B3	D
4	BIR BAHADUR DAMAI	08906499	35.7		foreman	C4	
5	bishal pariyar	50-11-75-00330	35.2		labor	C1	
6	Ganga bahadur rai	04-2030-247	36.1		Labour	C6	C
7	Gokarna bahadur chhetri	16456	35.7		Labour	B5	D
8	Yagy Bahadur subedi	157	35.9		Labour	B4	D
9	Bimal timee	102034-2473	35.9		Labour	B4	D
✓10	Dixip bodhathoki	1006-994	36.3		Mason	A2	A
✓11	Suman sunam lixhu	01-3007-290	34.7		Mason	A3	A
12	Bishwa choudhary	96-01-76-02172	36.3		Steel Fixer	A4	A
13	saros poudel	4027312082	35.1		Labour	C6	C
14	Chandra sing lokthum	15603	35.8		Labour	A3	A
15	Man Bahadur	08359121			Welder	B1	
1	TOYA BAHADUR DAMAI	8194909	35.7		Bricklayer	C1	
2	Karan Bahadur Choudhary	2011-1057	35.8		foreman	A5	A
3	Tenji Sherpa	1028-125	36.1		Carpenter	A3	A
4	MULLIK SINGH RAUT	07061221	35.5		plumber	C1	
5	shankha pariyar	53334	35.6		Bricklayer	C4	
6	Urgen tamang	02-01-74-00584	35.7		Steel Fixer	A4	A
7	Parakha bahadur rai	030193-2377	35.7		Labour	A1	A
8	Pradip Rai	57899434	36.1		Labour	C6	C
9	Danodar Joshi	75-301-18-151	35.6		Electrician	B5	A
10	Uttam Bista	2018-5632	35.8		Electrician	C6	C
11	Prabin K.C	521019-152	35.1		Electrician	B3	D
12	RAJENDRA THAKU	65-01-72-05853	35.8		Welder	C1	
13	Agnidur neupane	14096	35.5		Carpenter	A4	A
14	Bikash Shrestha	17770			Steel Fixer	A4	A
15	Rabindra kumar karki	4427-18-1818	36.0		Mason	A1	A
✓16	Santosh kumar rai	74290	35.6		Labour	A2	A
17	Devilal Bhandari	57800495	35.6		Labour	C5	C
1	subash bion	31-01-75-02521	35.6		Steel Fixer	A4	A
2	Purna bahadur phuyal	143002-1870	35.4		Labour	C5	C
3	Anup Rai	102034-3173	35.7		Labour	B4	D
4	Sandeep sunar	75-01-74-13962	36.0		Labour	B4	D
5	Nabin shahi	65-05-71-03744	36.7		Steel Fixer	B4	D
6	RAM BAHADUR NEMBIANG	05.70.00424	34.6		Labour	B1	
7	Kailash waiba	31-18-75-00062	35.7		Labour		
8	Kiran basnet				cook	B3	
9	Boshan chettri		35.7		cook	A6	
10	Mansindra				cook	B7	
11	Sundar		36.3		cook	C7	
12	Devital bhandari	57800495	34.7		cook	C6	
13	ROJA		36.1			A6	

**Appendix 9: Focal Group Discussion**

1. Opinion/Suggestion of public people in Hanumaghat DEWATS area.

	Name	Opinion/Suggestion
1.	Jayapaal Hari Kayastha (Baalsewak Aadarbhut School)	I hope construction and rehabilitation of the current waste water treat plant would lead to clean and healthy environment. Moreover, we hope this project would be completed as soon as possible
2.	Nana Malla (Baalsewak Aadarbhut School)	The water flowing in Hanumante river would be treated. It is a great project. The treated water would prevent the environment from degrading and the water can be used in agricultural fields. I hope this project will be completed in short period of time. All the best.
3.	Mahanta Tamrakaar (Public in temple)	If the treatment plant is constructed and run then it will be ok but if it would be left as the previous plant then it would be better not to rehabilitate the plant.
4.	Hari Tuitui (Local resident)	It would be great if the plant is constructed. If the plant runs smoothly then the benefits will be to us.
5.	Punya Bahadur Chayaju (House owner)	Why to keep that land bare. Instead we can invest some money and do such projects. But we hope the constructed treatment plant would not be left as the previous one.
6.	Dhurba Prajapati (House owner)	Previously the people from Germany came and constructed the plant but now it is not operated. We hope the new treatment plant would not remain like the previous one.
7.	Buddi Bahadur (House owner)	Survey for other projects has been done many times but nothing has been started. I suggest that this project should be late as other projects.
8.	Krishna Prasad Usma (House owner)	If the waste water treatment plan is being constructed then we are with you.
9.	Hari Krishna Duwal (House owner)	This is a very nice project. Hope it starts at right time and ends at right time.

2. Opinion/Suggestion of public people in Gokarna DEWATS area.

	Name	Opinion/Suggestion
1.	Sangita Pandit (Three Star Driving Training Center)	The construction of Wastewater treatment is good but it should be made such that the the odour is controlled. We feel bad when the wastewater is directly disposed in Bagmati river, hence the treatment plant should be constructed.
2.	Man Kumari Shrestha (Vendor owner)	Treating waste water is a good thing. I think there will be no impact in my shop during the construction of WWTP. During construction we hope that there is not much generation of dust particles and other negative impact to the people. Work should be in such a way that everybody is benefitted.
3.	Jay Bahadur Rai (Lives in rent)	We should not dispose the wastewater generated in household directly in Bagmati river and hence the construction of treatment plant is great.
4.	Muna Shrestha (Jay Durga and Sons Enterprizes)	It will be fruitful to all around this area. Thank you.
5.	Rekha Rai	Dust particles are huge in the air around this area. So if during the construction of treatment plant dust particles are generated then it will not be big issue for us. Hence construction of treatment plant is should be done. But we hope that bad smell does not come from the treatment plant.
6.	Bhawana Rai	Gokarneshwor temple is nearby. Hence, construction work should be done in a way that there will be no impact to the temple. Thankyou.
7.	Lakpa Sherpa	Treatment plant is constructed in the same area before as well but I think that is not working properly. I hope after the construction of the new treatment plant it will not be as the old treatment plant.
8.	Asmita Thapa	It is a good job to treat wastewater. Hope the project completes soon.
9.	Pema Dorje (Food Shop)	Maybe the completion of this project is good. I don't know about that. But if the bagmati river would be clean ten maybe this project is good.
10.	Om Prakash Gautam (operator of existing treatment plant)	Treating waste water is a great job. We hope that the proposed project shall start and end at the right time.

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**Appendix 10: Some Filled Safety Checklists for Different Projects.**

**Environmental monitoring checklist of TP-01**

Kathmandu Valley Wastewater Management Project Project Implementation Directorate, Kathmandu Upatyaka Khanepani Limited Environmental Monitoring Checklist - Treatment Plant & Interceptor Sewer Projects						
Name of Work: <b>Construction of WWTP-TP01 Gubeshwori</b>		Monitoring Date: <b>12 pm</b>				
Name of Contractor: <b>Va Tech Wabag</b>		Time: <b>5th June 2020</b>				
Contract No: <b>KUKL/WWTP-01</b>						
Place: <b>Gubeshwori</b>						
SN	Activities	Yes	No	Fail Score	Achieved Score	Remarks
1	Available Sign Board with the Name of Project & Contractor			3	3	
2	Available Visible Sign Board for Traffic Alternative Route			2	N/A	
3	Available of authorized representative of contractor at work site (Engineer/Supervisor)			3	3	
4	Regular visit of work area for supervision by contractor's Safety supervisor			3	3	
5	Is the safety barricade placed around is adequate			3	3	
6	Has there been regular induction training carried out by the contractor to their labor (OHS measures, STDs and HIV/AIDS, human trafficking, community health & safety, control of epidemic disease)			3	3	
7	Is workers provided with regular health check - up			4	4	
8	Is there any emergency plan for the construction site			3	3	
9	Entry of Non-Authorized Person inside the area of Safety Barriers			4	4	
10	Does the contractor check his machinery regularly and is it in good condition					
11	Use of Personal Protective Equipments (PPEs) by Workers i.e. hard helmet, PPE vest, Gloves, Safety Glasses, Boots, Masks etc and mention in remarks the % of use and which PPEs is not used			5	5	
12	Grant of Permission for entry inside the work areas with safety barrier to the site engineer and other construction personnel without the use of PPEs such as Hard Helmets and Reflector Jacket			2	2	
13	Is the First Aid box on site and in good condition/First Aider			3	3	
14	Is temporary toilet established at labor camp in proper position and waste from the toilet & camp has been managed properly			3	3	
15	Are all the laborers above age 18 working on site			3	3	
16	Has potable water been provided to all the laborers			2	2	
17	Help Desk, Table, Chair and First Aid with Grievance Register Available visible by Public			3	3	
18	Helper at Help Desk Available			2		
19	Is the ground of working site clear and secure?			3	3	
20	Is the excavated material piled safely without earth falling into the trench again			3	N/A	
21	Are all the excavated trenches > 1.5m depth (Trench Shoring)			3	N/A	
22	Has construction activities affected the existing flora and fauna			4	4	
23	Are the construction materials stockpiled properly			4	4	
24	Are safety measures provided properly to avoid water pollution			3	3	
25	Has Ambient Air Quality Test being done			3	0	
26	Is water sprinkling done regularly			3	3	
27	Has noise level being monitored			3	3	
28	Is drinking water quality being tested or not			3	3	
29	Are all the areas free of spillage of diesel and other pollutants within the construction and around the campsite			3	3	
30	Segregation of waste and storage of toxic and hazardous materials in safe place (ware house)			3	3	
31	Is the housekeeping at the site good (sharp materials stored properly, safety signage in place)			2	2	
32	Availability of record keeping system for damages in private and social structure			3	3	
33	Rehabilitation of the work site/ Restoration of the community assets like: irrigation canal, electricity poles, telephone lines, water pipes)			3	3	
				100	92%	

If any item is answered with a "No", explain below:

**- Ambient air quality test has not be done**

OSC/CASSC Name: <b>Sarika Gharana</b> Signature: <i>Sarika</i> Date: <b>5th June 2020</b> Mobile No:	On behalf of contractor Name: <b>Mohammed Maslum</b> Signature: <i>Maslum</i> Date: <b>05th June 2020</b> Mobile No: <b>9823094090</b>
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**Environmental monitoring checklist of TP-02 (Kodku)**

Kattomanda Valley Wastewater Management Project  
Project Implementation Directorate, Kattomanda Upayuktu Khanepati Limited

Environmental Monitoring Checklist: Treatment Plant and Intake/Outlet Sewer Project

Name of Work: Construction of Wastewater Treatment Plant at Salyagan, Kodku and Dhangraha  
Name of Contractor: Salyan Water Services (Pvt) Ltd., Salyagan  
Contract No: K.V.W.M.P/02  
Monitoring Date: 7 June 2020 11:15 am  
Place: Kodku

Sl. No.	Activities	Full Score	Achieved Score	Remarks
1	Available Sign Board with the Name of Project & Contractor	3	3	
2	Available Visible Sign Board for Traffic Alternative Route	3	N/A	
3	Available of authorized representative of contractor at work site (Engineer/Supervisor)	3	3	
4	Regular visit of work area for supervisor by contractor's safety supervisor	3	3	
5	Is the safety barricade placed around is adequate	3	3	
6	Has there been regular induction training carried out by the contractor to their labor ( COVID measures, STDs and HIV/AIDS, disease trafficking, community health & safety, control of epidemic disease)	3	3	
7	Is workers provided with regular health check - up	2	2	not regular
8	Is there any emergency plan for the construction site	4	4	
9	Entry of Non-Authorized Person inside the area of Safety Barrier	3	3	
10	Does the contractor check his machinery regularly and is it in good condition	4	4	
11	Use of Personal Protective Equipments (PPE) by Workers (i.e. hard helmets, PPE vest, Gloves, Safety Glasses, Boots, Masks etc and mention in remarks the % of use and which PPE is not used)	3	3	PPE not completely used
12	Grant of Permission for entry inside the work areas with safety barrier to the site engineer and other construction personnel without the use of PPE (such as Hard helmets and Reflector Jacket)	2	2	
13	Is the First Aid box on site and in good condition/First Aid	3	3	
14	Is temporary toilet established at labor camp in proper position and water from the toilet & sewage has been managed properly	3	3	
15	Are all the laborers above age 14 working on site	3	3	
16	Has potable water been provided to all the laborers	3	3	
17	Help Desk, Table, Chair and First Aid with Green-wood Register Available visible by Public	2	2	not AR available
18	Helpier at Help Desk Available	3	3	
19	Is the ground of working site clear and secure?	3	3	
20	Is the excavated material piled safely without earth falling into the trench again	3	3	
21	Are all the excavated trenches 1.5m depth (Cover, Hoarding)	3	N/A	
22	Has construction activities affected the existing flora and fauna	4	4	
23	Are the construction materials stockpiled properly	4	4	
24	Are safety measures provided properly to ground water pollution	4	4	
25	Has Ambient Air Quality Test being done	3	3	not done
26	Is water sprinkling done regularly	3	3	
27	Has noise level being monitored	3	3	
28	Is drinking water quality being tested or not	3	3	
29	Are all the areas free of spilled of diesel and other pollutants within the construction and around the campus	3	3	
30	Segregation of waste and storage of toxic and hazardous materials in safe place (waste house)	3	3	
31	Is the housekeeping at the site good (sharp materials stored properly, safety signage in place)	3	1	not properly stored
32	Availability of record keeping system for damages to private and social structure	3	3	
33	Rehabilitation of the work site/ Reinstatement of the community assets like: irrigation canal, electricity poles, telephone lines, water pipes)	3	3	
		100	92%	

If any item is explained with a "No", explain below:  
 - Cutters not used by all, Boots and PPE vest found not used by all workers  
 - Health check-up not done regularly  
 - Ambient Air Quality Test not done

DISBURSANT Name: E. Sarika Ghosana Signature: <i>Sarika</i> Date: 7th June 2020 Mobile No:	On behalf of contractor Name: Manish Giri Signature: <i>Manish</i> Date: 10/06/2020 Mobile No: 981799169
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**Environmental monitoring checklist of TP-02 (Sallaghari)**

Kathmandu Valley Wastewater Management Project Project Implementation Directorate, Kathmandu Upatyaka Khanepani Limited				
Environmental Monitoring Checklist for Treatment Plant and Intensive Sewer Project				
Name of Work: Construction of Wastewater Treatment Plant at Sallaghari, Kaski and Dhulikhela				
Name of Contractor: Sallaghari Waste Service (SWS) Pvt. Ltd.				
Contract No: KSL/WWT-TP02				
Monitoring Date: 3 June 2020				
Place: Sallaghari				
Time: 2:12 PM				
Sl. No.	Activities	Full Score	Actual Score	Remarks
1	Available Sign Board with the Name of Project & Contractor	1	3	
2	Available Visible Sign Board for Traffic Alternative Route	1	N/A	
3	Available of authorized representation of contractor at work site (Engineer/Supervisor)	1	3	
4	Regular visit of work area for supervision by contractor's safety supervisor	1	1	not regular visit
5	Is the safety barriers placed around in adequate	1	1	not adequate
6	Has there been regular induction training carried out by the contractor to their labor ( OHS measures, STDs and HIV/AIDS, human trafficking, community health & safety, control of epidemic diseases)	1	3	
7	Is workers provided with regular health check -ups	1	0	not provided
8	Is there any emergency plan for the construction site	1	4	
9	Entry of Non-Authorized Person inside the area of Safety Barrier	1	5	
10	Does the contractor check his machinery regularly and is it in good condition	1	4	
11	Use of Personal Protective Equipments (PPE) by Workers (i.e. Hard helmet, PPE vest, Gloves, Safety Glasses, Boots, Masks on and mention in remarks the % of use and which PPE is not used	1	8	Boots not given to all worker
12	Grant of Permission for entry inside the work areas with safety barrier to the site engineer and other construction personnel without the use of PPEs such as Hard helmet and Reflector Jacket	1	1	not complete
13	Is the First Aid box on site and in good condition First Aider	1	3	
14	Is temporary toilet established at labor camp in proper position and waste from the toilet & camp has been managed properly	1	3	
15	Are all the laborers above age 18 working on site	1	3	
16	Has potable water been provided to all the laborers	1	2	
17	Help Desk, Table, Chair and First Aid with Grievance Register Available visible by Public	1	2	not placed at proper place
18	Helper at Help Desk Available	1	0	no helper
19	Is the ground of working site clear and steady?	1	2	not properly clear
20	Is the excavated material piled safely without earth falling into the trench again	1	3	
21	Are all the excavated trenches- 1.5m depth (Trench Shoring)	1	N/A	
22	Has construction activities affected the existing flora and fauna	1	N/A	
23	Are the construction materials stockpiled properly	1	3	
24	Are safety measures provided properly to avoid water pollution	1	3	
25	Has Ambient Air Quality Test being done	1	0	not done
26	Is water sprinkling done regularly	1	3	
27	Has noise level being monitored	1	3	
28	Is drinking water quality being tested or not	1	3	
29	Are all the areas free of spillage of diesel and other pollutants within the construction and around the campsite	1	3	
30	Segregation of waste and storage of toxic and hazardous materials in safe place (water house)	1	3	
31	Is the housekeeping at the site good (sharp materials stored properly, safety signage in place)	1	2	not good house keep
32	Availability of record keeping system for damage to private and social structure	1	3	
33	Rehabilitation of the work site/ Reinstatement of the community assets like: Irrigation canal, electricity poles, telephone lines, water pipes	1	3	
		(10)	83%	

If any items is explained with a "No", explain below:

- work area was not visited regularly by Safety supervisor,
- health check-ups was not provided regularly,
- no helper at help desk, Ambient air quality test not done

INCHARGE Name: <u>Bal. Ka. Gilarana</u> Signature: <u>[Signature]</u> Date: <u>3 June 2020</u> Mobile No:	On behalf of contractor Name: <u>Ujjwal Sarda</u> Signature: <u>[Signature]</u> Date: <u>3/6/20</u> Mobile No: <u>97790303</u>
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**Environmental monitoring checklist of TP-02 (Dhobighat)**

Kathmandu Valley Wastewater Management Project  
Project Implementation Directorate, Kathmandu Upanyaka Khanepani Limited

Environmental Monitoring Checklist - Treatment Plant & Interceptor Sewer Projects						
Name of Work: <u>Construction of Wastewater Treatment Plant</u>						
Name of Contractor: <u>Safbon Water Service</u>						
Contract No: <u>KUKL/IWW/TP-02</u>		Monitoring Date: <u>17 June 2020</u>				
Place: <u>Dhobighat</u>		Time: <u>2:00 pm</u>				
SN	Activities	Yes	No	Full Score	Achieved Score	Remarks
1	Available Sign Board with the Name of Project & Contractor			3	3	
2	Available Visible Sign Board for Traffic Alternative Route			2	N/A	
3	Available of authorized representative of contractor at work site (Engineer/Supervisor)			3	3	
4	Regular visit of work area for supervision by contractor's Safety supervisor			3	3	
5	Is the safety barricade placed around is adequate			3	3	
6	Has there been regular induction training carried out by the contractor to their labor ( OHS measures, STDs and HIV/AIDS, human trafficking, community health & safety, control of epidemic disease)			3	3	
7	Is workers provided with regular health check - ups			3	0	no regular health checkup
8	Is there any emergency plan for the construction site			4	4	
9	Entry of Non-Authorized Person inside the area of Safety Barriers			3	3	
10	Does the contractor check his machinery regularly and is it in good condition			4	4	
11	Use of Personnel Protective Equipments (PPEs) by Workers i.e. hard helmets, PPE vest, Gloves, Safety Glasses, Boots, Masks etc and mention in remarks the % of use and which PPEs is not used.			5	5	
12	Grant of Permission for entry inside the work areas with safety barrier to the site engineer and other construction personnel without the use of PPEs such as Hard helmets and Reflector Jacket.			2	2	
13	Is the First Aid box on site and in good condition/First Aider			3	3	
14	Is temporary toilet established at labor camp in proper position and waste from the toilet & camps has been managed properly			3	1	toilet not in proper position
15	Are all the laborers above age 16 working on site			3	3	
16	Has potable water been provided to all the laborers			2	2	
17	Help Desk: Table, Chair and First Aid with Grievance Register Available visible by Public			3	3	
18	Helper at Help Desk Available			2	2	
19	Is the ground of working site clear and secure?			3	3	
20	Is the excavated material piled safely without earth falling into the trench again			3	3	
21	Are all the excavated trenches > 1.5m depth ( Trench Shoring)			3	3	
22	Has construction activities affected the existing flora and fauna			4	4	(Slope cutting)
23	Are the construction materials stockpiled properly			4	4	
24	Are safety measures provided properly to avoid water pollution			3	3	
25	Has Ambient Air Quality Test being done			3	0	
26	Is water sprinkling done regularly			3	0	
27	Has noise level being monitored			3	0	
28	Is drinking water quality being tested or not			3	0	
29	Are all the areas free of spilled of diesel and other pollutants within the construction and around the campsite			3	3	
30	Segregation of waste and storage of toxic and bazarous materials in safe place ( ware house)			3	3	
31	Is the housekeeping at the site good ( sharp materials stored properly, safety signage in place)			2	2	
32	Availability of record keeping system for damages in private and social structure			3	3	
33	Rehabilitation of the work site/ Reinstatement of the community assets like: irrigation canal, electricity poles, telephone lines, water pipes)			3	3	
				100	89%	

If any item is answered with a "No", explain below:

Health checkup is not provided regularly;  
There is not trench Shoring (only slope cutting is done); Toilet not in proper position  
Ambient air Quality test and noise monitoring not done.

DSCOP/CASSC

Name: En Sarika Ahirana

Signature: Sarika

Date: 17 June 2020

Mobile No:

On behalf of contractor

Name: Charan Thapa

Signature: Charan

Date: 17.06.2020

Mobile No: 9842350222

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### Environmental monitoring checklist of TP-03

Kathmandu Valley Wastewater Management Project  
Project Implementation Directorate, Kathmandu Upatyaka Khanepani Limited

Environmental Monitoring Checklist- Treatment Plant and Interceptor Sewer Projects				
Name of Work: Construction of Wastewater Treatment Plant at Dhobighat				
Name of Contractor: CGCOC-ATAL JV				
Contract No: KUKL/WW/TP/03			Monitoring Date: 17 June 2020	
Place: Dhobighat			Time: 12:15 pm	
SN	Activities	Full Score	Achieved Score	Remarks
1	Available Sign Board with the Name of Project & Contractor	3	3	
2	Available Visible Sign Board for Traffic Alternative Route	2	N/A	
3	Available of authorized representative of contractor at work site (Engineer/Supervisor)	3	3	
4	Regular visit of work area for supervision by contractor's Safety supervisor	3	0	No supervisor at site
5	Is the safety barricade placed around is adequate	3	3	
6	Has there been regular induction training carried out by the contractor to their labor ( OHS measures, STDs and HIV/AIDS, human trafficking, community health & safety, control of epidemic disease)	3	2	Regularly not conducted
7	Is workers provided with regular health check - ups	3	0	Health check-ups not done
8	Is there any emergency plan for the construction site	4	4	
9	Entry of Non-Authorized Person inside the area of Safety Barriers	3	3	
10	Does the contractor check his machinery regularly and is it in good condition	4	4	
11	Use of Personnel Protective Equipments (PPEs) by Workers i.e. hard helmets, PPE vest, Gloves, Safety Glasses, Boots, Masks etc and mention in remarks the % of use and which PPEs is not used.	5	5	
12	Grant of Permission for entry inside the work areas with safety barrier to the site engineer and other construction personnel without the use of PPEs such as Hard helmets and Reflector Jacket.	2	2	
13	Is the First Aid box on site and in good condition/First Aider	3	2	
14	Is temporary toilet established at labor camp in proper position and waste from the toilet & camps has been managed properly	3	3	
15	Are all the laborers above age 16 working on site	3	3	
16	Has potable water been provided to all the laborers	2	2	
17	Help Desk: Table, Chair and First Aid with Grievance Register Available visible by Public	3	2	Not visible by Public
18	Helper at Help Desk Available	2	0	No helper at help desk
19	Is the ground of working site clear and secure?	3	3	
20	Is the excavated material piled safely without earth falling into the trench again	3	3	
21	Are all the excavated trenches > 1.5m depth (Trench Shearing)	3	3	(Slope cutting)
22	Has construction activities affected the existing flora and fauna	4	4	
23	Are the construction materials stockpiled properly	4	4	
24	Are safety measures provided properly to avoid water pollution	3	3	
25	Has Ambient Air Quality Test being done	3	0	Not done
26	Is water sprinkling done regularly	3	3	
27	Has noise level being monitored	3	0	Not done
28	Is drinking water quality being tested or not	3	3	
29	Are all the areas free of spilled of diesel and other pollutants within the construction and around the campsite	3	3	
30	Segregation of waste and storage of toxic and hazardous materials in safe place (ware house)	3	3	
31	Is the housekeeping at the site good (sharp materials stored properly, safety signage in place)	2	2	
32	Availability of record keeping system for damages in private and social structure	3	3	
33	Rehabilitation of the work site! Reinstatement of the community assets like: irrigation canal electricity poles, telephone lines, water pipes)	3	3	
		100	84%	

If any items is explained with a "No", explain below:

No supervisor at site, Health check-ups not done,  
No helper at help desk, air and noise monitoring not done

DSC06/CASSC

Name: Er. Sarika Gharana

On behalf of contractor

Name: Yho Adeng

Scaffold inspection checklist of TP02

**Safbon** Safbon Water Service (Holding) Inc., Shanghai

Scaffold Inspection Check List

Name of Work: construction of WWTP at Sallaghari Dhobighat and Kodku	
Name of Contractor: Safbon	
Contract No: KUKL/WW/TP02	Monitoring Date: 11/21/2020
Place: Sallaghari (Bio-Gas Building)	Time: 11:00 AM

S No.	Scaffold Inspection Check List	Compliant	Non-Compliant
1	Scaffold erection done by competent workers	✓	
2	All pipes and fittings are corrosion free and in good condition	✓	
3	No tubes or members over-extended and hazardous.		✓ (Some tubes are extended)
4	Base plates are at least 150 x 150 mm wide and 50mm high and sole plates used where required On firm ground – 450mm long x 225 x 35mm. On soft ground – 765mm long x 225 x 35mm. Under two (2) standards – 1.55m long x 225 x 35mm.	✓	
5	Base lift installed within 150 mm of base		✓ (at around 200mm)
6	Scaffold is tied to rigid support horizontally and vertically	✓	
7	Standards are at 90 degree and Gap between 2 standard does not exceed 2 meters	✓	
8	Lift height is kept at maximum 2 meters	✓	
9	Bracing installed with a gap of no more than 2.7 meter and starts from within 300mm from node point		✓ (not at node point)
10	Platform planking tied down securely using clamps. Overlap is always on transom	✓	
11	Is gap between work platform planks kept less than 25 mm	✓	
12	Work platform is at least 4 boards wide (3 feet minimum)	✓	
13	Gap between two transoms is maximum: 38mm thick board – 1.5 meter 50mm thick board – 2.5 meter	✓	
14	Vertical ladder securely fastened in place.	✓	
15	Ladder extended by 1 meter above work platform		✓ (Just at surface)
16	Separate ladders being used for scaffold access.	✓	
17	Tow board installed at least 150mm high and 50 lbs. strength	✓	
18	Guard rails (top rail at 1000mm). No more than 420mm gap in-between	✓	
18	Separate rope or hand line in place at all platforms to raise and lower tools or material.	✓	
20	Warning devices/signs provided if erected over walkways or roadways (flashing lights, reflective tape streamers, or area is roped off).	✓	
21	Minimum clearance of 3 meters from overhead power lines.	✓	
22	Scaffold more than 10 meters high constructed & maintained according to certified engineer specifications and drawings.	✓	

Checked By Name: <u>Pratik Phogat</u> Date: <u>11/21/2020</u> Signature: <u>[Signature]</u>	Verified By Name: Date: Signature:
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Trenching and Excavation inspection checklist of TP02

**Safbon** Safbon Water Service (Holding) Inc., Shanghai

Trenching and excavation inspection checklist

Name of Work: Construction of WWTP at Sallaghari, Dhobighat and Kodku	
Name of Contractor: Safbon	
Contract No: KUKL/WW/TP02	Monitoring Date: 11/21/2020
Place: Sallaghari (Aerobics Tank)	Time: 11:30 AM

**Pre Task**

Sr No.	Check	Yes/No/NA
	Permit to work available for excavation?	N/A
	Underground utilities identified in coordination with other companies as well as cable/pipe detector?	N/A
	Overhead utilities identified and controls applied?	N/A
	Nearby structures considered?	Yes
	Soil type identified and protection measures in place accordingly for collapse	N/A
	Trial pits used?	Yes
	Hard barricade installed in traffic movement area?	N/A

**During the Task**

Sr No.	Check	Yes/No/NA
	Permit to work available to enter excavation deeper than 1.2m?	N/A
	Hazardous atmosphere testing been completed for deep excavations? Results of hazardous monitoring? O <sub>2</sub> ----% LEL ----% Other ----	N/A
	Spoil piles are located proper distance from trench?	Yes
	No tension cracks observed in trench walls	Yes
	Are slopes cut to correct angle for soil type?	N/A
	No water seepage noted in walls or bottom	Yes
	No evidence of shrinkage cracks in wall or weak soil	Yes
	No evidence of sloughing or caving?	Yes
	Shoring installed in accordance with design?	N/A
	Safe crossing points provided?	Yes
	Excavation does not undermine existing structure	Yes
	Safe access provided every 25' for escape?	N/A
	Barricades in place to keep traffic away? (6 ft.)	N/A
	Trees, boulders or other hazards in area are controlled?	Yes
	Heavy equipment/traffic working close to an open excavation controlled?	N/A
	Arrangements in place for dewatering?	Yes
	Required PPE and first aid box available on site	Yes

Checked By Name: <u>Pratik Phogat</u> Date: <u>11/21/2020</u> Signature: <u>[Signature]</u>	Verified By Name: Date: Signature:
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## Appendix 11: IEE Report of SN03 Approval Letter from MoWS

Initial Environmental Examination (IEE) of Sewer Rehabilitation in the Core City Area of Lalitpur Metropolitan City is approved by the Ministry of Water Supply (MoWS) on 11 February 2020.

नेपाल सरकार  
**खानेपानी मन्त्रालय**  
खाद्यपानी मन्त्रालय  
सिंहदरबार, काठमाडौं

फोन नं.: ४२११६९३  
फ्याक्स : ९७७-१-४२११४३३  
सिंहदरबार,  
काठमाडौं, नेपाल ।  
मिति २०७६।१.०२८

पत्र संख्या:- ०६६/०६६  
चलानी नं:- ३४२

VISIT Nepal Year 2020

श्री काठमाण्डौं उपत्यका खानेपानी लिमिटेड  
आयोजना कार्यान्वयन निर्देशनालय,  
अनामनगर काठमाण्डौं ।

विषय : प्रारम्भिक वातावरणीय परीक्षण प्रतिवेदनको (IEE) स्वीकृती सम्बन्धमा ।

प्रस्तुत विषयमा तहां आयोजना मार्फत स्वीकृतिका लागि मन्त्रालयमा प्राप्त भएको काठमाण्डौं उपत्यका खानेपानी फोहोर व्यवस्थापन आयोजना अन्तर्गत ललितपुर महानगरपालिकाको भित्री क्षेत्रमा ढल प्रणाली सुधार कार्यको, परिमार्जित प्रारम्भिक वातावरणीय परीक्षण (IEE) प्रतिवेदन नेपाल सरकार (सचिवस्तर) को मिति २०७६।१.०२३ को निर्णयानुसार स्वीकृत भएको व्यहोरा निर्देशानुसार अनुरोध छ ।

संलग्न :  
स्वीकृत प्रारम्भिक वातावरणीय परीक्षण (IEE) प्रतिवेदन ।

(मधुसुधन खनाल)  
इन्जिनियर

Laxmi jee  
Pj

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<input type="checkbox"/> PM/LTR SI	<input type="checkbox"/> PM/LTR SJ
<input type="checkbox"/> PM/LTR SK	<input type="checkbox"/> PM/LTR SL
<input type="checkbox"/> PM/LTR SM	<input type="checkbox"/> PM/LTR SN
<input type="checkbox"/> PM/LTR SO	<input type="checkbox"/> PM/LTR SP
<input type="checkbox"/> PM/LTR SQ	<input type="checkbox"/> PM/LTR SR
<input type="checkbox"/> PM/LTR SS	<input type="checkbox"/> PM/LTR ST
<input type="checkbox"/> PM/LTR SU	<input type="checkbox"/> PM/LTR SV
<input type="checkbox"/> PM/LTR SW	<input type="checkbox"/> PM/LTR SX
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<input type="checkbox"/> PM/LTR TA	<input type="checkbox"/> PM/LTR TB
<input type="checkbox"/> PM/LTR TC	<input type="checkbox"/> PM/LTR TD
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<input type="checkbox"/> PM/LTR ZA	<input type="checkbox"/> PM/LTR ZB
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"नतिजामुखी प्रशासन:समृद्धि र सुशासन"

**Appendix 12: Minute of Meeting**

1. A meeting was organized to discuss about the issues and preventive measures to be taken in the site regarding COVID-19. Other issues regarding OHS were also discussed.

आज दिने २०६६ भएर व४ गते आइतवार सेफगाई युनिट प्रमुख श्री लक्ष्मी पत्तली उपस्थितेस। र अध्यक्षतामा देहाय बमोजिमको उपस्थितिसा देहाय बमोजिमको विषयमा छलफल गरियो।

**उपस्थित :**

काता - श्री लक्ष्मी पत्तली सेफगाई युनिट प्रमुख  
पु - श्री राम सुब्बा जिरी TL CASS/CPDS  
अ - सुब्बा बज्रपायी - O&H EXPERT  
प्रकाश - सुब्बा लिक - PH EXPERT  
सुब्बा कोठाराता - ENV. EXPERT  
अनिल केल्काले - C.M.E (GESI EXPERT)  
बम - विद्या भणारी सेफगाई युनिट सहायकारिणी

**छलफल :**

१. DMF / GESI target पूरा भए नभएकी, नभएकी target कसरी पूरा गर्ने सम्बन्धमा छलफल गरियो।
२. COVID-19 पढि आयोजनाको information dissemination कसरी गर्ने, विगतको प्रकृतिसा केही परिवर्तन गर्ने वा नगर्ने सम्बन्धमा छलफल गरियो।
३. OHS सँग सम्बन्धित विषयमा सबै कार्य स्थल (working site) को अवस्थाको बारेमा छलफल गरियो।
४. कोभिड-१९ (COVID-19) को संक्रमणबाट बच्नका लागि working site मा के कस्तो सर्तबन्त अपनएसको छ रको विषयमा छलफल गरियो।

Semi-annual Environmental Monitoring Report January-June 2020

**Loan 3000 NEP: Kathmandu Valley Waste Water Management Project  
Minutes of Environmental Safeguard Review Meeting (ESRM): No #1**

**Meeting Date:** 03 February 2020, Monday

**Venue:** SU/PID, KUKL, Anamnagar

**Presence:**

PID	ADB
Ms. Laxmi Pant, Chief, SU/Procurement Manager, PID	DB Singh, Senior Environment Officer, NRM
Ms. Vidya Bhandari, Sociologist SU	B. Khatri, Safeguard Analyst, NRM
Ms. Pramila Adhikari, Sociologist SU	

DSC	CASSC
Ms Sarika Gurugarana, Environment Expert, DSC-06	Mr. Ram Krishna Giri, Team Leader CASSC
Ms Dikshaya Dhakal, Environment Officer, DSC06	Ms. Roojaa Bajracharya ,OHS Expert, CASSC
Ms Smriti Sharma, Environment Expert, DSC05	Ms. Pushpa Koirala, Environment Safeguard Specialist, CASSC

**A. Project Progress**

**Physical Progress of Work  
(as of 3 February 2020)**

Package name and number	Contractor/ consultant	Commence- ment date	Completion date	Physical completion (%) as of December 2019
KUKL/WW/TP-01 Guheshwori WWTP (32.4MLD)	VA Tech Wabag	1-Aug-16	17-Dec-19	98.78 %
KUKL/ WW/ TP-02 Sallaghari (14.2MLD),Kodku (17.5MLD) & Dhobhighat (37 MLD) WWTP	Safbon Water Service (holding)	7-May-17	6-Nov-19	17.27%
KUKL/WW/TP-03 Dhobhighat WWTP (37 MLD)	CGCOC-Atal JV	14-Mar-18	14-Mar-20	9.67%
KUKL/WW/IS-01 Hanumante Interceptors	GIETC-Lama- Raman JV	3-May-16	31-Dec-19	42.42%
KUKL/WW/IS-02 Manohara Interceptors	ZIEC-SHARMA- BKOI-JV	2-Nov-16	16-Dec-19	41.9%
KUKL/WW/IS-03 Khasyang Khusung Interceptors	Lama-Raman, Golden Good JV	15-Dec-17	11-Oct-19	100%
KUKL/WW/EG-01 Supply of equipment	Maniar &Co.	19-Jun-19	18-Dec-19	75%
DSC06	Dohwa Eng. in association with ERMC and TAEC	15-Nov- 2018	14-May- 2021	
CASSC	ERMC, TAEC and SSECPG, Nepal	2-May-2017	31-Dec- 2020	

**B. Follow-up Action Plan Recorded in the Aide Memoire of Last ADB Project Review Mission, November 2019**

Follow-Up Action Agreed with Nov 2019 ADB Mission	Target Date	Responsible	Status as of 3 Feb 2020	Action Agreed in the ESRM #1
<ul style="list-style-type: none"> <li>• Appoint an environment expert in the Safeguard Unit/PID and train in OHS requirements.</li> <li>• Outsource a full-time environment consultant until the position is vacant</li> </ul>	<ul style="list-style-type: none"> <li>• 1 Feb 2020</li> </ul>	<ul style="list-style-type: none"> <li>• MWSS/PID</li> </ul>	<ul style="list-style-type: none"> <li>• The process of creating the position is on-going. PID has formally requested KUKL. The KUKL Board need to approve creation of the position.</li> <li>• Expected a decision from KUKL by 28 Feb 2020.</li> </ul>	<ul style="list-style-type: none"> <li>• ADB to request KUKL to expedite the decision.</li> <li>• The position shall be for senior environment expert with subject-matter education (minimum qualification shall be masters in environment science)</li> </ul>
<ul style="list-style-type: none"> <li>• PID to immediately instruct contractor of all contracts (TP and IS packages) to urgently replace the shanty camps constructed with tarpaulin/rusted old CGI sheet by following PID specification for camp, kitchen, cafeteria, toilets and shower rooms etc.</li> </ul>	<ul style="list-style-type: none"> <li>• 15 Dec 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors</li> <li>• SU/PID</li> </ul>	<ul style="list-style-type: none"> <li>• A labor camp specification draft was prepared and submitted to ADB (May 2019) for review. No response received by PID.</li> <li>• CASSC is again internally updating the specification following IFC standard.</li> <li>• Project is repeatedly sending notice to correct (NTC) to the contractors to improve labor camp standards. Some improvements but the noncompliance still persists</li> <li>• No clear provision in BOQ and CA.</li> </ul>	<ul style="list-style-type: none"> <li>• PID will prepare an inventory of type of camps being used under different contract packages and at various locations and recommend areas for improvements by 21 Feb 2020</li> <li>• Discuss among the alternatives by 28 Feb 2020</li> <li>• Discuss with contractors and agree for improvements and action for noncompliance by 6 March 2020.</li> </ul>
<ul style="list-style-type: none"> <li>• PID to immediately instruct contractor of all contracts (TP packages) to establish a medical bay with sick-bed, simple medical equipment and first-aid medicines managed by an assistant health worker</li> </ul>	<ul style="list-style-type: none"> <li>• 15 Dec 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors</li> <li>• SU/PID</li> </ul>	<ul style="list-style-type: none"> <li>• PID sent NTC in Dec 2019.</li> <li>• Contractors have provided modest medical bay, sick bed, stretcher and first aid.</li> <li>• First Aid training to contractor, PID staff organized by the project in Dec 2019.</li> <li>• Regular orientation to contractors by PID during site monitoring.</li> <li>• PID has plan to give orientation to 4 labor camps in each month for next 4 months (total 16)</li> </ul>	<ul style="list-style-type: none"> <li>• Partially achieved.</li> </ul>
<ul style="list-style-type: none"> <li>• PID to immediately instruct contractor of all contracts (TP packages) to submit air, water and</li> </ul>	<ul style="list-style-type: none"> <li>• 15 Dec 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Contractors</li> <li>• SU/PID</li> </ul>	<ul style="list-style-type: none"> <li>• Contract package does not have provision for air, water and noise testing.</li> </ul>	<ul style="list-style-type: none"> <li>• It is an EMP requirement, but not clearly costed in BOQ. PID will discuss with contractor and agree where tests are needed.</li> </ul>

## Semi-annual Environmental Monitoring Report January-June 2020

Follow-Up Action Agreed with Nov 2019 ADB Mission	Target Date	Responsible	Status as of 3 Feb 2020	Action Agreed in the ESRM #1
noise test report				<ul style="list-style-type: none"> <li>• Contractor agrees in written by 28 Feb 2020.</li> <li>• Keep test provision in new bidding and CA documents.</li> <li>• Report how to resolve noncompliance including taking financial action in new contracts.</li> </ul>
<ul style="list-style-type: none"> <li>• Consult with existing contractors and agree to urgently mobilize an environment cum OHS staff at every work site. Train the staff in OHS requirements through support of PID</li> </ul>	<ul style="list-style-type: none"> <li>• 31 Dec 2019</li> </ul>	<ul style="list-style-type: none"> <li>• PID/ Contractors</li> <li>• ADB</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor has safety officer appointed in all work sites.</li> <li>• Frequent turnover of the safety officer has been a problem.</li> </ul>	<ul style="list-style-type: none"> <li>• PID will assess safety officers mobilized in contract packages along with their performance assessment and recommend corrective action to be taken by 28 Feb 2020.</li> <li>• Work will not be allowed until safety officer is appointed in a contract package.</li> </ul>
<ul style="list-style-type: none"> <li>• Instruct contractors of all contract packages to spray water on dry area of work or vehicle operation inside or approach road to work sites in order to suppress dust</li> </ul>	<ul style="list-style-type: none"> <li>• Immediately</li> </ul>	<ul style="list-style-type: none"> <li>• PID</li> <li>• Contractors</li> </ul>	<ul style="list-style-type: none"> <li>• Complied.</li> <li>• Being closely monitored.</li> </ul>	
<ul style="list-style-type: none"> <li>• Grade the approach roads irrespective of responsible agency for maintaining or black-topping (eg. in TP Dhobighat, Kodku, and most of IS work areas)</li> </ul>	<ul style="list-style-type: none"> <li>• Immediately</li> </ul>	<ul style="list-style-type: none"> <li>• PID</li> <li>• Contractor</li> </ul>	<ul style="list-style-type: none"> <li>• Confusion among contractor of different contract packages regarding who is responsible to maintain the road.</li> <li>• Road section handed over to DOR, but the state of roads is poor.</li> <li>• Project cannot do anything since the road is handed over to DOR.</li> <li>• CASSC is informing local stakeholders regarding the responsibility handed over to DOR</li> </ul>	<ul style="list-style-type: none"> <li>• If no clarity in the contract document, then some provision can be incorporated. Instead of blacktopping, PID might consider temporary road with aggregates of gravels in old contracts.</li> <li>• Keep provision of blacktopping the road within the PID contract in new contract packages.</li> <li>• Keep cost for temporary sealing where immediate blacktopping is not possible.</li> <li>• Project explores possibility to run a grader and roller on the road and clean them to keep in a pliable condition in old contract packages.</li> </ul>
<ul style="list-style-type: none"> <li>• Instruct contractor to submit landscaping and vegetation plan in all the concerned contract packages</li> </ul>	<ul style="list-style-type: none"> <li>• 30 Nov 2019</li> </ul>	<ul style="list-style-type: none"> <li>• PID</li> </ul>	<ul style="list-style-type: none"> <li>• Completed in TP 01.</li> <li>• Process initiated in TP 02 and 03.</li> <li>• Project is communicating with local bodies regarding type of vegetation for planting..</li> </ul>	<ul style="list-style-type: none"> <li>• Upscale and encourage vegetation around WTP</li> <li>• Ensure keeping financial provision to guard and water them, either by the project or outsource to private nursery.</li> </ul>
<ul style="list-style-type: none"> <li>• PID to organize a joint meeting with ADB and the contractor of non-performing contract packages, and</li> </ul>	<ul style="list-style-type: none"> <li>• 15 Dec 2019</li> </ul>	<ul style="list-style-type: none"> <li>• PID/SU, ADB, Contractor</li> </ul>	<ul style="list-style-type: none"> <li>• Organized time to time</li> </ul>	<ul style="list-style-type: none"> <li>• Organize a joint meeting in first week of March 2020 after resolving above-said corrective actions.</li> </ul>

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Follow-Up Action Agreed with Nov 2019 ADB Mission	Target Date	Responsible	Status as of 3 Feb 2020	Action Agreed in the ESRM #1
agree to take urgent corrective actions and record in minutes				
<ul style="list-style-type: none"> <li>• ADB to finalize environmental safeguards and OHS guidelines, also including procedural guideline and “zero soil” concept</li> <li>• Customize the guidelines and get approval from MWSS and translate in Nepali</li> </ul>	<ul style="list-style-type: none"> <li>• 31 Dec 2019</li> <li>• 29 Feb 2020</li> </ul>	<ul style="list-style-type: none"> <li>• ADB/PID</li> <li>• KUKL/MWSS</li> </ul>	<ul style="list-style-type: none"> <li>• ADB has not yet submitted the draft for PID review.</li> <li>• Some of the contractor has started Zero Soil concept, which is a good indication. Need to ensure full compliance in all contract packages by keeping cost in BOQ.</li> </ul>	<ul style="list-style-type: none"> <li>• ADB to urgently inform PID by when the manual could be submitted.</li> <li>• Better management for collecting spoil is needed to be continued in agreement with contractor for on-going package, and include as a BOQ item in the new package.</li> </ul>
<ul style="list-style-type: none"> <li>• Review and update safeguards BOQ items and contract agreement provisions, and use in all future contract packages. The bidding and CA documents shall be screened for safeguard/OHS by SU.</li> </ul>	<ul style="list-style-type: none"> <li>• 31 Jan 2020</li> </ul>	<ul style="list-style-type: none"> <li>• PID/ADB</li> </ul>	<ul style="list-style-type: none"> <li>• Complied.</li> <li>• Bidding document being shared with safeguard and OHS for screening.</li> </ul>	<ul style="list-style-type: none"> <li>• Being complied and should be continued.</li> </ul>
<ul style="list-style-type: none"> <li>• Keep mandatory provision of SEMP and OHS submission in all future contracts prior to field mobilization</li> </ul>	<ul style="list-style-type: none"> <li>• On-going</li> </ul>	<ul style="list-style-type: none"> <li>• PID</li> </ul>	<ul style="list-style-type: none"> <li>• Being followed for new contract package.</li> </ul>	<ul style="list-style-type: none"> <li>• Being complied and should be continued.</li> </ul>
<ul style="list-style-type: none"> <li>• Mobilize a software designer to prepare a safeguard information management system (part of PPMS at PID level), which will be useful to manage multiple projects by PID. The system shall complimentary to the safeguards system prepared by SAUW and SARD safeguard tracking system.</li> </ul>	<ul style="list-style-type: none"> <li>• 15 Feb 2020</li> </ul>	<ul style="list-style-type: none"> <li>• PID/ADB</li> </ul>	<ul style="list-style-type: none"> <li>• Remaining to be initiated.</li> <li>• Automated software being filled.</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss between PID and ADB to explore possibility to mobilize a programming expert for 2 months inputs and prepare a project level EnvMIS.</li> </ul>

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Follow-Up Action Agreed with Nov 2019 ADB Mission	Target Date	Responsible	Status as of 3 Feb 2020	Action Agreed in the ESRM #1
<ul style="list-style-type: none"> <li>Explore national institutions to provide OHS training, and arrange for the training through appropriate source of funding</li> </ul>	<ul style="list-style-type: none"> <li>On-going activity</li> </ul>	<ul style="list-style-type: none"> <li>ADB</li> <li>PID</li> </ul>	<ul style="list-style-type: none"> <li>PID did consultation in several rounds.</li> <li>ADB requested to hold the process.</li> <li>The safety staff trained by ADB in the past are working, hence similar training may not add much value other than a refresher orientation.</li> </ul>	<ul style="list-style-type: none"> <li>PID will consult with ILO on organizing OHS training. ILO in the past had organized similar construction related OHS training in Nepal in collaboration with the Indian Academy of Highway Engineering, Noida. Embassy of India supported in arranging the training (both in India and Nepal).</li> <li>PID will brief the findings on consultation with ILO and if needed with Indian Academy of Highway Engineering with ADB and agree for future approach.</li> </ul>
<ul style="list-style-type: none"> <li>At the Sallaghari WWTP sites (TP-02 package) conduct an environmental due diligence with all required chemical tests to identify possibility of toxicity to pollute soil and surface/groundwater prior to managing solid waste mixed earth excavated for project work.</li> </ul>	<ul style="list-style-type: none"> <li>As and when required and before disposing</li> </ul>	<ul style="list-style-type: none"> <li>DSC</li> <li>PID</li> <li>Contractor</li> </ul>	<ul style="list-style-type: none"> <li>International SW expert reviewed, reported and confirmed that the waste is non-toxic and could be managed on-site.</li> <li>The findings of SW included in the IEE and forwarded to ADB.</li> </ul>	

**Other issues agreed during the Mission:**

**a) Overall**

- Labor registers to be maintained at all sites: PID informed the contractors to maintain labor register. Contractor submitting monthly logbook with all required details. PID is preparing gender and ethnicity disaggregated details based on those reports.
- TP-02 contractor to improve the quality of labor camp (tin sheds are not an acceptable material for habitation): Contractor have improved the quality of camps to some extent after the November 2019 Mission. Yet, more efforts are necessary. PID is meeting on this in Feb to discuss with contractors of on-going packages and agree to improve them to acceptable standard. Means to implement these shall be explored between PID and ADB.
- Shoring to be done for excavation works beyond 1.5 m depth: Training given to contractors by ADB appointed OHS expert. Contractor have gradually improved along with slope maintenance, proper benching and shoring after the training. Yet, these shall be clearly stated in contractors OHS plan and implemented following the EHS guidelines under drafting. Until then, contractors shall keep safety staff at all working site and strictly follow the instructions provided by OHS expert and monitoring team of PID. Shoring in excavation beyond 1.5m depth should be a must, and no work shall be allowed until the shoring is in place.
- Provisions of environmental management plan to be implemented and monitored strictly: An on-going activity which is systematically monitored by using the scoring checklist and daily/weekly and monthly monitoring checklists.

**b) TP-01 at Guheshwori**

- Establish safe sludge handling protocols at site: Technical management between PID and KUKL on going.
- Improve general housekeeping at site: Work completed at Guheshwori. A field verification of removal of all spoil from site, landscaping and leaving site at acceptable.

**c) TP-02 (Sallaghari, Kodku and Dhobhighat)**

- There were initial delays in securing site access due to community protests. However, progress has improved since March 2019, when the site access was finally granted to the contractor: Agreed with local community and work has started.
- The works at Sallaghari site have suffered due to unanticipated discovery of buried municipal solid waste during excavation: Resolved. Expert submitted the report few days back to PID. Issues included in IEE and submitted to ADB.
- IEE needs to be updated reflecting safe solid waste disposal practices: Updated IEE submitted to ADB.
- The site had a good practice example of secure barricading around earthworks (hard barricading that was painted red and white). The Mission advised that this should set an example for other contractors: PID will organize a contractor visit to the site for awareness by 28 February 2020.

**d) TP-03 (Dhobhighat)**

- The Mission also found that there are some encroachments in the boundary area of Dhobhighat site, which will have implications for the construction of boundary wall and park plan, the latter being a community benefit. The Mission advised PID to prepare a resettlement plan by to undertake a proper assessment of impact and risks. This is particularly sensitive as there was community hostility towards the project which was not

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resolved until March 2019: Resolved. A temple existing at site need not require shifting and falls in the public use zone.

### **C. Other issues agreed during the ESRM Meeting #1**

Issues Discussed on 3 Feb 2020	Responsible	Target Date	Action Agreed on 3 Feb 2020
1. Environment expert's input of DSC is only 2 months left. Environment expert's input of CASSC is 3 months left.	<ul style="list-style-type: none"> <li>• PID</li> </ul>		<ul style="list-style-type: none"> <li>• PID will internally review the inputs of the experts in the context of monitoring and safeguard coordination needed till the completion of work and suitable decision will be taken.</li> </ul>
2. PID resubmitted labor camp standards to ADB	<ul style="list-style-type: none"> <li>• ADB</li> </ul>		<ul style="list-style-type: none"> <li>• ADB will review and recommend to PID by 15 February 2020</li> <li>• PID will also review the standard based on IFC standard and jointly discuss with ADB.</li> </ul>
3. OHS training	<ul style="list-style-type: none"> <li>• PID</li> <li>• Consultant</li> <li>• Contractor</li> </ul>		<ul style="list-style-type: none"> <li>• ADB and PID will jointly decide on possibility to organize OHS training after the result of coordination with ILO and Academy of Highway Engineering, Noida.</li> <li>• PID is taking lead for coordination.</li> </ul>
4. Joint spot check by PID and ADB	<ul style="list-style-type: none"> <li>• PID</li> <li>• ADB</li> </ul>		<ul style="list-style-type: none"> <li>• Agreed to conduct joint spot check at construction sites before every bi-monthly ESRM.</li> <li>• A joint spot check will be organized on 7 February 2020.</li> </ul>

### **D. Next Project Review Mission by ADB and Joint Fortnightly Project Review (JFPR) Meeting**

- Next ESMR Meeting - 3 April 2020, 11:00 AM at PID

## **Appendix 12: Sample Site Inspection Report**

CASSC team comprising Environment and OHS Experts has conducted the monitoring to TP02 Kodku on 25<sup>th</sup> May 2020. Environmental monitoring checklist was filled to analyze the environmental compliance status of stone construction work at Balkumari, Kodku (TP-02). In general, the environment compliance status of construction work from the contractor is good.

The obtained score for the environmental compliance is 58 out of total score 88 (65%). This scoring represents the environment compliance is just acceptable. However, there is need for improvement in terms of PPE used by workers. Regarding present scenario PPE is of most important especially mask and gloves which was not in use at site. Also, first aid was not well equipped at site. Only half of the prescribed items were in place.



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Signage	Health & Safety	Site cleanliness & Housekeeping	GRM	Damage / repairs
❖ Project information board was in place.	❖ PPE was partially used by most of the workers (No Gloves and Masks for the workers). First Aid Box was available at Site but need to be re-equipped ❖ Safety officer was present at site In scaffold, platform was not wide enough only one board was in use. No Guardrail to prevent fall injury	❖ Labour camp was managed properly, Soap was provided to workers for handwash, temperature measured regularly through thermal gun ❖ Site cleanliness was lacking at site. excavated soil was not managed properly	❖ Help desk and grievance register was not present at site	No major issue

**Major recommendation from the monitoring team**

- Complete PPEs should be provided to workers especially gloves and mask
- Safe working platform and guardrails should be in place before work at height
- Well- equipped First aid box should be maintained t site

**OHS Report**

**Manish – OSH officer**

**Ankit Dahal- QAQC officer on sire present** and accompanied the team during the visit.

The following observations were made and recommendations provided to the site in charge.

SN	Item	Observation	Recommendations made to the site in charge
1.	Number of workers	72 workers 16 management staff -worker’s have been on site since before the lockdown - no entry or exit workers in and out of the site	-
2.	PPEs	- Sparsely worn by a few workers - Helmets worn by workers - Reflective jackets and masks not worn by workers -	- No work without PPEs policy to be adhered to - No workers should be allowed on site without PPE’s especially masks and gloves
3.	Site condition	- First aid boxes present on site- but not	- First aid boxes to be present on

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		<ul style="list-style-type: none"> <li>- well stocked</li> <li>- Drinking water jars available on just one site</li> <li>- Temperature checks conducted and reported</li> </ul>	<ul style="list-style-type: none"> <li>- site</li> <li>- Water jars to be present on each site</li> <li>- Temperature checks to be recorded prior to work in the morning and after work in the evening and records to be sent to the relevant officials daily</li> </ul>
4.	Labour Camp	<ul style="list-style-type: none"> <li>- Additional rooms made in accordance to the previous recommendations made during the last visit</li> <li>- Camp cleanliness needs to be maintained</li> <li>- Social distancing protocols should be maintained</li> </ul>	<ul style="list-style-type: none"> <li>- Social distancing should be maintained</li> <li>- Camps to be clean on a regular basis</li> <li>-</li> </ul>
5.	Washrooms and Toilets	<ul style="list-style-type: none"> <li>- No hand soaps provided to wash hands</li> </ul>	<ul style="list-style-type: none"> <li>- OSH officer alerted and instructed to provide regular supply of hand wash/ soaps</li> </ul>
6.	Food	<ul style="list-style-type: none"> <li>- Food and ration been provided by the labour suppliers (thekedars)</li> </ul>	<ul style="list-style-type: none"> <li>- Workers complained of vegetable shortages</li> </ul>
7.	Material delivery	<ul style="list-style-type: none"> <li>- Material delivery made with little to no contact with the deliverer</li> <li>- Assigned receivers responsible for unloading the materials</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>

### **COVID -19 Preparedness and management practices:**

	<b>Isolation room</b>	<ul style="list-style-type: none"> <li>- Isolation room assigned in case of workers being infected</li> <li>- Assigned isolation room not separate from the labour camp infact was a vacant room in the labour camp</li> </ul>	<ul style="list-style-type: none"> <li>- Isolation room should be a separate room assigned away from the labour camp</li> </ul>
	<b>Delivery Zones</b>	<ul style="list-style-type: none"> <li>- Delivery zones have been marked</li> <li>- No contact between the workers and delivers has been observed</li> <li>- Delivery truck drivers do not get out of the vehicle during unloading and assigned workers are responsible for unloading the trucks</li> </ul>	
	<b>Temperature checks</b>	<ul style="list-style-type: none"> <li>- Daily temperature checks being conducted, recorded, and reported to relevant authorities</li> </ul>	
	<b>Entry and exit</b>	<ul style="list-style-type: none"> <li>- Temperature of visitors being checked at the entry points</li> <li>- Hand sanitizers provided to visitors at gate</li> <li>- Visitor contact information</li> </ul>	

**Major recommendations:**

- Two workers who visited hospital for minor ailment treatments have been quarantined for 14 days separate from the rest of the workers and have not been allowed to work
- OSH officer oriented on the need to provided workers with COVID-19 orientation regularly
- Discussion with the OSH officer orienting them on the need to prepare for additional workers post lockdown- separate accommodation for new workers; separate work site from the current workers.

	
<p>Isolation room not separate from the other rooms</p>	<p>Hand wash/ disinfectants not provided</p>
	
<p>Gloves/ masks not work</p>	<p>First aid box not stocked</p>