

ORIGINAL

## **Building Design Authority (P) Ltd**



*in joint Venture with*

**B.N. Consultancy Pvt. Ltd and**

**PLUSH Engineering & Architects (P) Ltd Kathmandu.**

### **Semi-Annual Environmental Monitoring Report**

**(July-December 2019)**

### **Regional Urban Development Project (RUDP)**

#### **Project Implementation Unit**

**Biratnagar, Nepal**

**ADB Loan No. 47252- NEP**



January, 2020

**Biratnagar Metropolitan City (BMC), Nepal**

**PROJECT DESCRIPTION**

Project Name	Regional Urban Development Project (RUDP)
Project Number:	ADB Loan No.47252 - NEP
Report for:	Biratnagar Metropolitan City

**PREPARATION, REVIEW AND AUTHORIZATION**

Revision #	Date	Prepared by	Reviewed by	Approved by
5	January 2020	Dwarika Phuyal (Environmental Safeguard Expert)	Er. Giresh Chand (Team Leader)	Employer/ADB

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**ABBREVIATIONS**

ADB	=	Asian Development Bank
AP	=	Affected Persons
BMC	=	Biratnagar Metropolitan City
BS	=	Bikram Sambat
CDP	=	Community Development Program
CRIPPF	=	Combined Resettlement and Indigenous Planning Framework
DDR	=	Due Diligence Report
DSC	=	Design and Supervision Consultant
DUDBC	=	Department of Urban Development and Building construction
EMP	=	Environmental Management Plan
EPR	=	Environment Protection Regulation
IEE	=	Initial Environmental Examination
GoN	=	Government of Nepal
GRC	=	Grievance Redress Committee
ISWM	=	Integrated Solid Waste Management
MoUD	=	Ministry of Urban Development
NRs	=	Nepalese Rupees
NGO	=	Non-Government Organization
PCO	=	project coordination office
PIU	=	project implementation unit
PPE	=	Personal Protection Equipment
PPTA	=	Project Preparatory Technical Assistance
ROW	=	right of way
RP	=	resettlement plan
R&R	=	resettlement & rehabilitation
RUDP	=	regional urban development project
SDS	=	social development specialist
STIUEIP	=	Secondary Town Integrated Urban Environmental Improvement Project
SPS	=	Safeguard Policy Statement
SD	=	Safeguard Desk

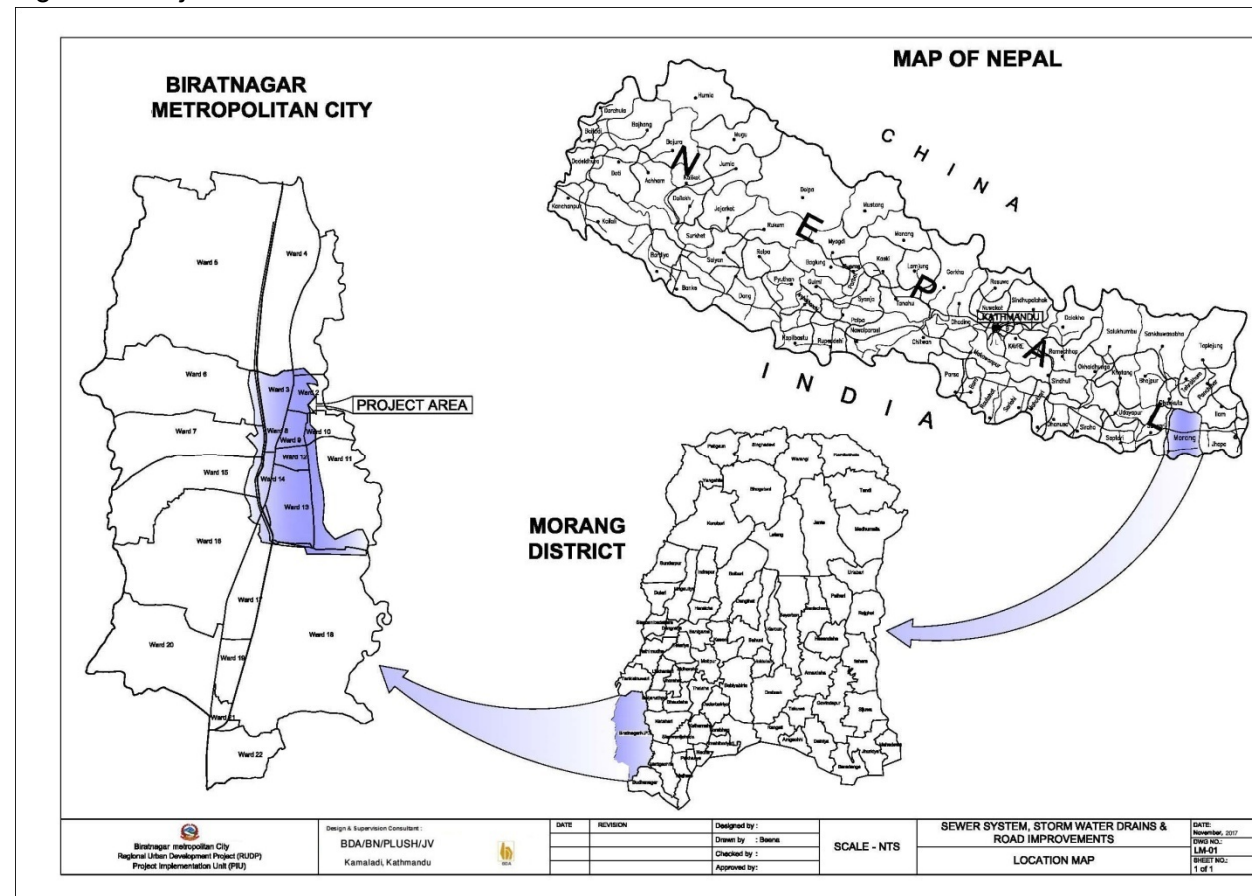
**WEIGHTS AND MEASURES**

Ha.	=	Hectare
Kg.	=	Kilogram
m.	=	meter
sqft.	=	Square fit
sqm.	=	Square meter
1 ha	=	1.47 bigha

## I. INTRODUCTION

1. The Regional Urban Development Project (RUDP) is designed with the aim to improve livability and urban services in the municipalities of Godawari, Bhimdatta, Biratnagar, Birgunj, Dhangadhi, Shuklaphanta, Nepalgunj and Siddharthanagar in the Terai Region of Nepal through planning, infrastructure investments, and institutional strengthening. The eight cities have high population growth rates, are severely lacking investment, and are experiencing a high level of environmental degradation. The project is also in line with ADB's Nepal Country Partnership Strategy (2013-2017), which supports the government's development objective of accelerated, sustainable, and inclusive economic growth, and with the Asian Development Bank's (ADB) water and urban operational plans.
2. Biratnagar is one of the eight municipal towns included in the RUDP. The subcomponent of the RUDP covers the construction and improvement of sewerage, drainage and roads and design of Integrated Solid Waste Management System (ISWMS) for Biratnagar Municipality. Building Design Authority (P) Ltd (Nepal), B.N. Consultancy Pvt.ltd and PLUS Engineers & Architects (P) Ltd Kathmandu as a design and supervision consultant (DSC) and have entered for a Contract of Consulting Services with Regional Urban Development Project (RUDP), Project Implementation Unit (PIU), Biratnagar Metropolitan City (BMC) on 28th August 2017 and design and supervision were commencement on September 6, 2017.
3. RUDP, the Department of Urban Development and Building Construction (DUDBC), under the Ministry of Urban Development(MoUD) through the Government of Nepal (GoN) has received the loan from ADB.
4. In line with ADB's Strategy 2020 and based on Nepal's fundamental long term needs and on the GoN's priority, the ADB is continuing to support the Government in(i) improving urban infrastructure; improving access to water supply and sanitation (ii) supporting urban environmental improvement(iii) strengthening the operation and management skills of local governments. The RUDP will forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010. *Figure 1* presented below shows project location of BMC.
5. This Semi-annual Environmental Monitoring Report (EMR) July-December, 2019 of RUDP, Biratnagar has been prepared on the basis of results of the regular environmental monitoring activities undertaken by the Contractor during the reporting period from July to December 2019 as required by the Environmental Management Plan (EMP).
6. Similarly regular monitoring visits by DSC Environmental Expert have been made and standard environmental monitoring checklist has been used to note the status of EMP compliance.

Figure 1: Project location of RUDP



## II. DESCRIPTION OF SUB PROJECT

7 Since 2012 STIUEIP is implementing (i) drainage and sanitation including wastewater treatment plants (facultative and anaerobic pond), public and school toilets, and storm water drainage; and (ii) roads and lanes including upgrading of roads, footpaths, side drain and walkways in BMC. In most of the sections the drainage construction and earthen works of the roads has been completed but pavement improvements could not be done under STIUEIP due to cost overrun.

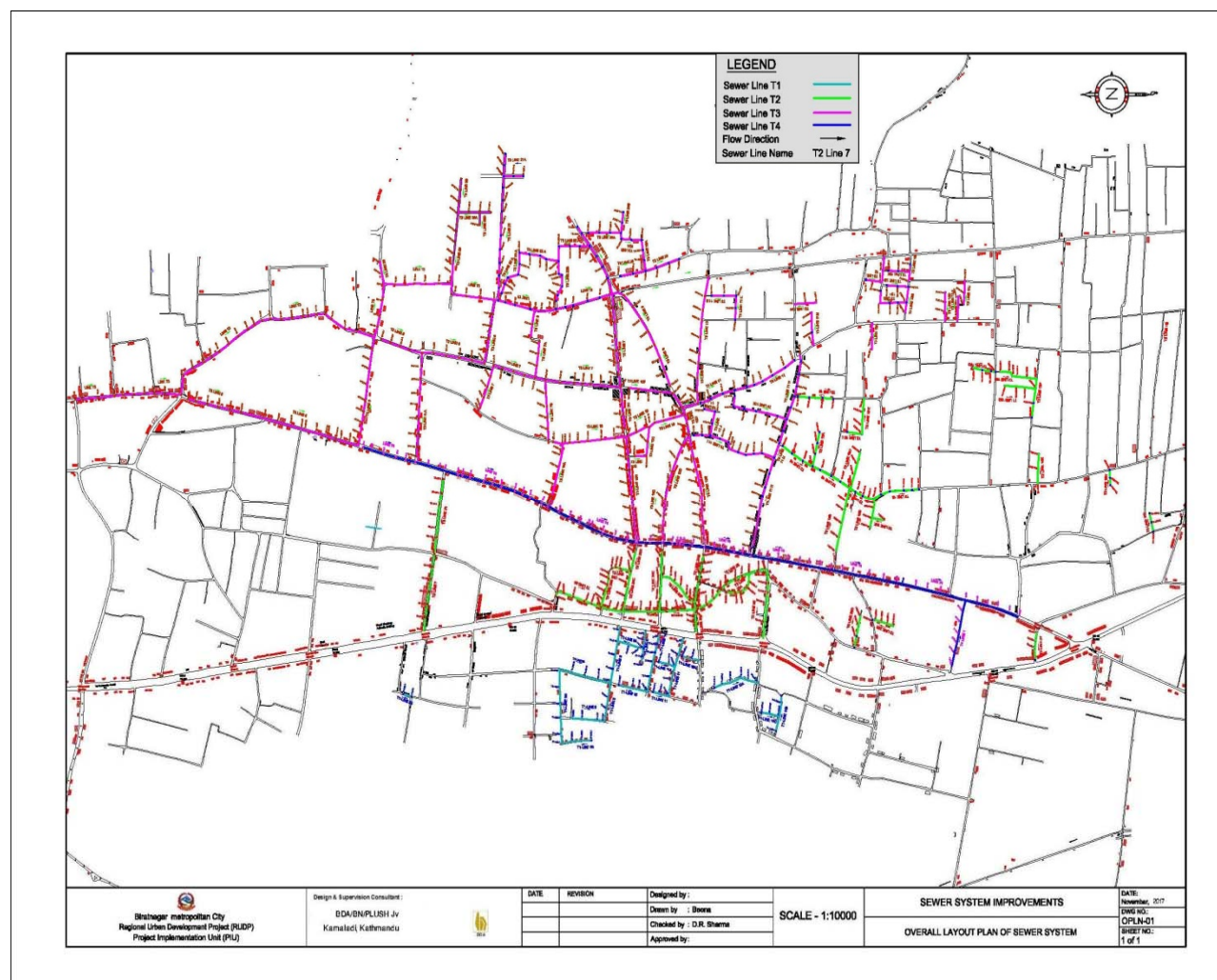
8 The additional works under RUDP are expected to complement STIUEIP and lead to increased efficiencies, greater improvement in service delivery, and higher impact on the livelihood outcomes of inhabitants of BMC. The pre-project construction activities, including land acquisition have been almost completed by the RUDP. In many cases, RUDP is working on the same alignment as STIUEIP. STIUEIP installed the drain and RUDP will rehabilitate the road and construct a footpath. The table 1 provides a summary of the proposed alignments where STIUEIP is also working to show synergies between the two projects. The shaded rows denote new/additional alignments under RUDP.

**Table 1: Summary of Project Components in Regional Urban Development Project  
Biratnagar**

11 Components	Description of the Activities	Quantification of major construction items/ activities	Location
<b>Drainage and sanitation</b>			
Sewerage network	Sewerage pipe supply and installation; manhole; sewer inlet; house connections	Installation of 18.559 km sewerage pipeline; construction of 606 manholes; 1,010 sewer inlets and 3,784 house connections	At the central line of the existing roads within clear road width
Storm water drainage	RCC drains	Construction of Chyangbari Nala = 585 m. Construction completed.	Within the clear width of existing Nala
<b>Roads and Lanes</b>			
Road improvements	Asphalt concrete, footpath and roadside drains	Road improvements with asphalt concrete: 66.718 km, including footpaths and roadside drains: 35.42km	Existing roads and footpaths

- 9 As indicated in design and drawings there will be 4 types of trunk and secondary sewerage system. Overall layout plan of the sewerage system as proposed for RUDP is given in *Figure 2*.

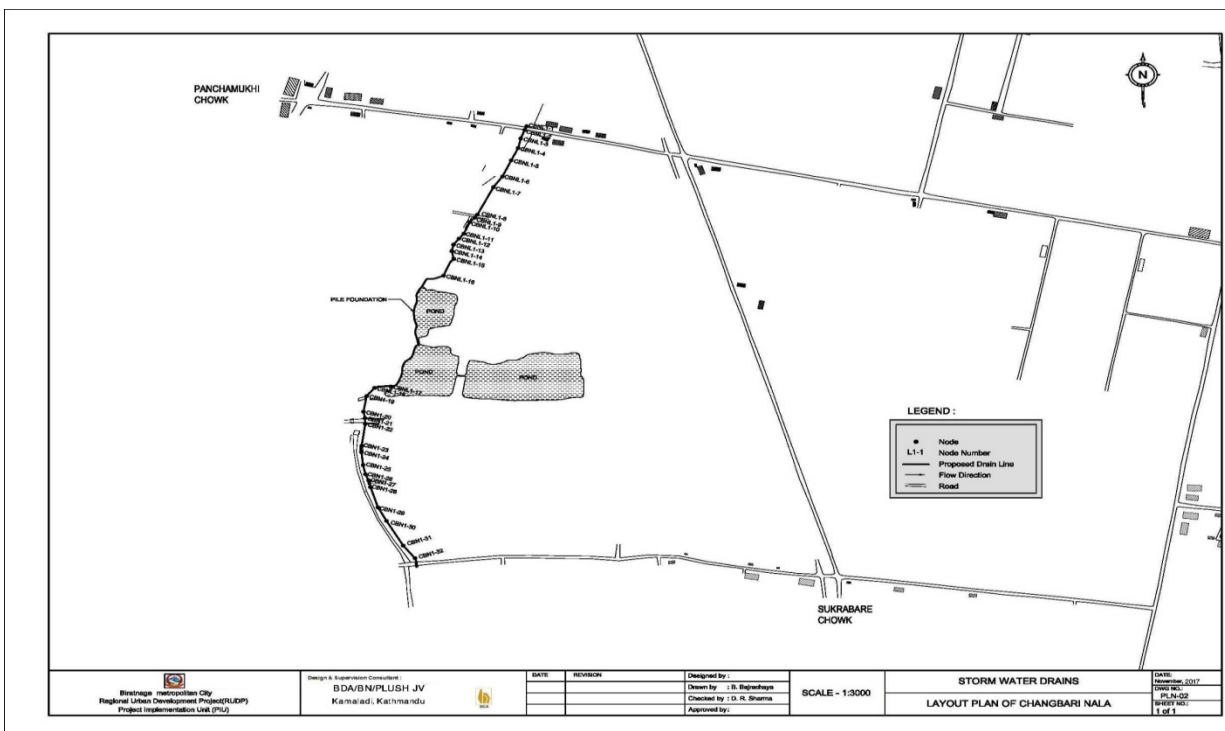


**Figure 2: Sewerage Layout Plan**

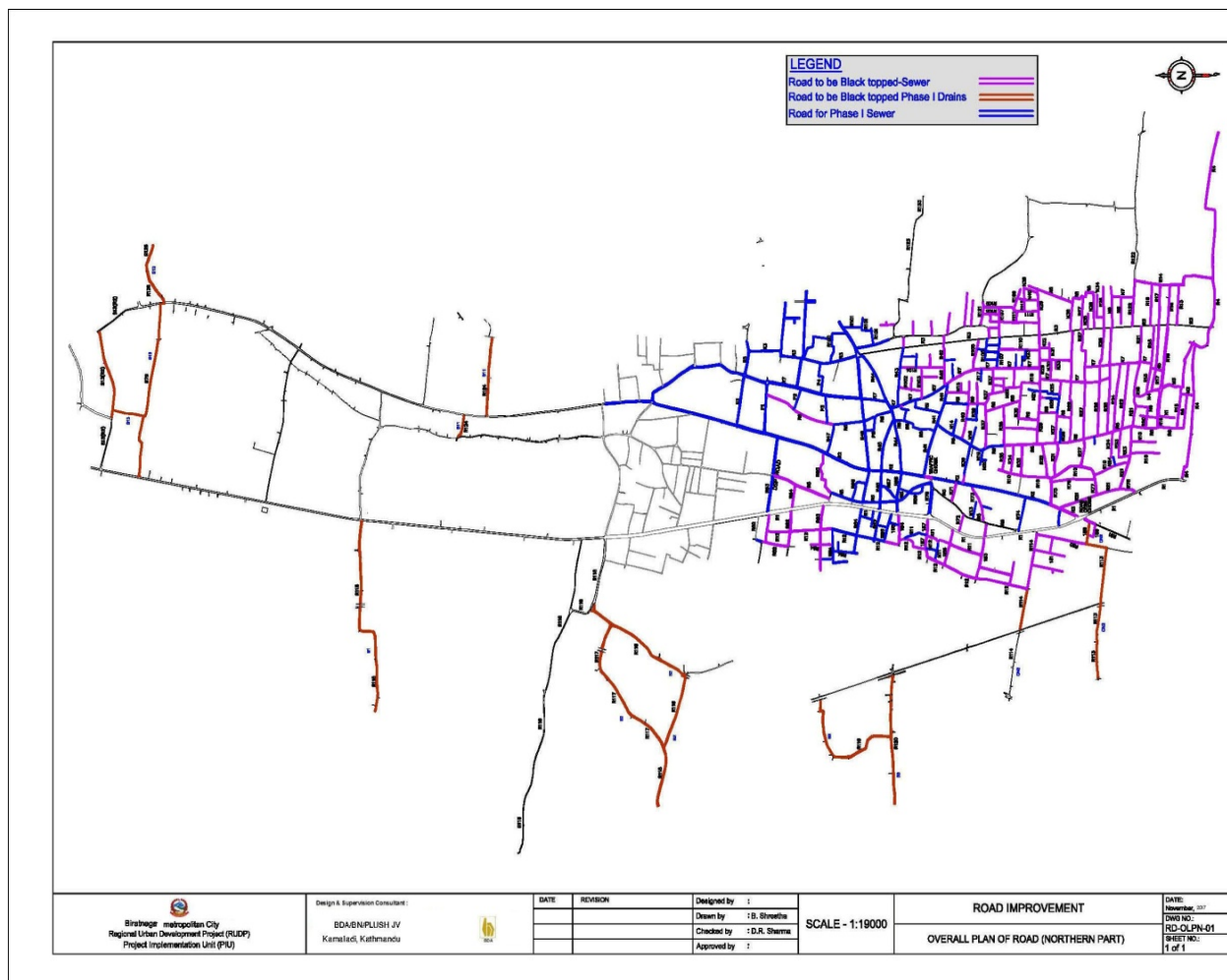
10 The construction of the storm drainage has already been completed. *Figure 3* presented below shows overall storm water drainage plan for BMC. All planned storm drainage system has already been constructed which passes through the existing Chyangbari Nala (Sagarmatha tole to Sukrabare Hatiya). The right side of blue shaded area in the *Figure 3* is proposed under the RUDP and constructed. The existing ROW of the drainage will be sufficient to improve the proposed section. There are no registered private lands, tenants and sharecroppers or seasonal encroachers at either site of the proposed drain.

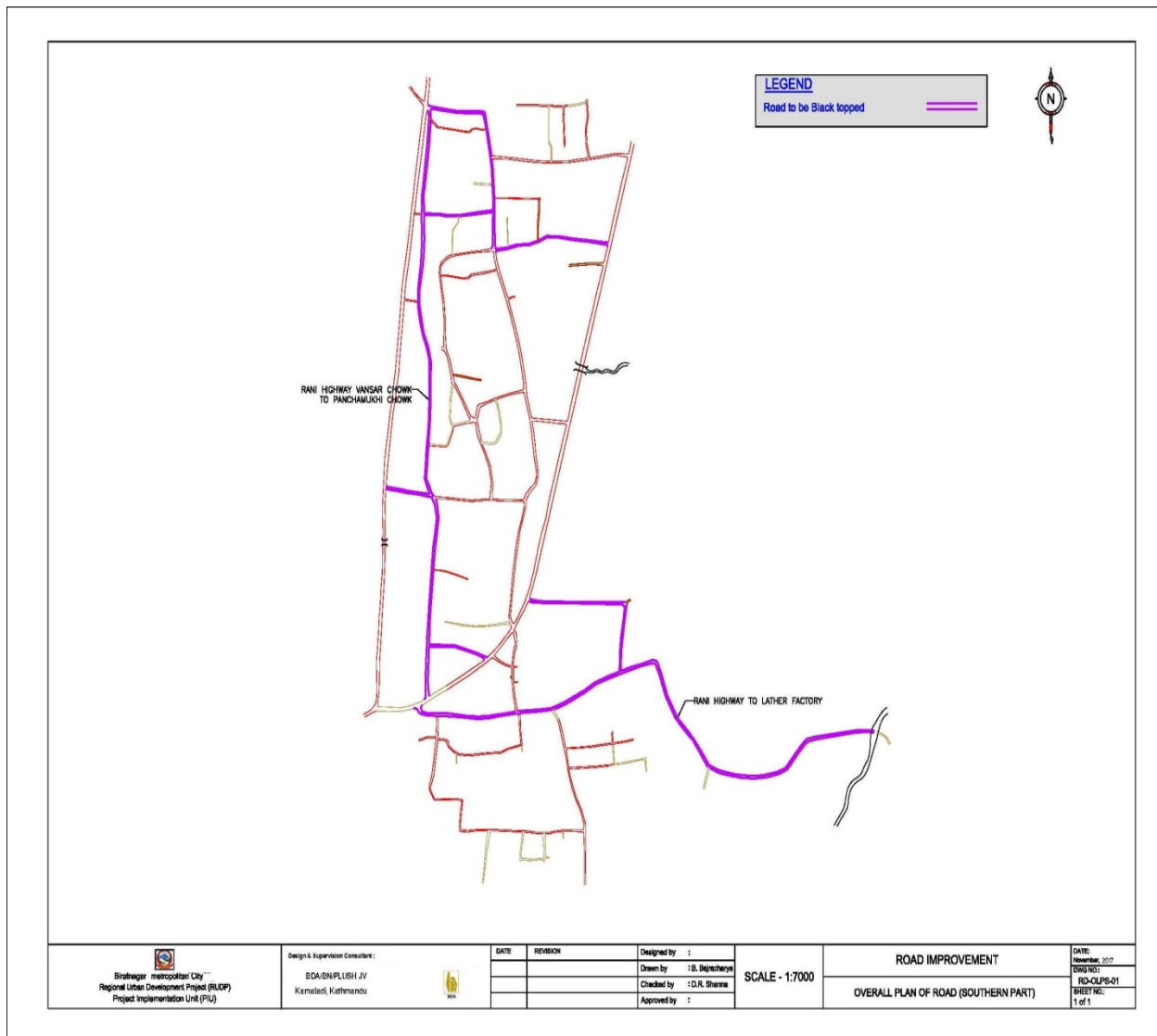


Figure 3: Storm Water Drainage Layout Plan



11 A total of 66.718km road improvement has been proposed in the RUDP. The roads included for improvements are those roads which were damaged due to pipeline installation, storm drain construction and other project related works of STIUEIP and couldn't be restored due to unavailability of funds. The overall road network layout plan is shown in *Figure 4a and 4b*.

**Figure 4a: Overall Layout Plan of Road Improvement Networks (Northern part/main road)**

**Figure 4b: Overall Layout Plan of Road Improvement Networks (Southern part/rani area)**

**SALIENT FEATURES OF CONTRACT PACKAGE – RUDP/ICB/BRT/2**

<b>General Features</b>	
Name of Project	Regional Urban Development Project(RUDP)
Executing Agency	Government of Nepal, Ministry of Urban Development Department of Urban Development and Building Construction (DUDBC)
Implementing Agency	Biratnagar Metropolitan City,
Funded By	Asian Development Bank & Government of Nepal
Components	Construction and Completion of Sewerage, Drainage, Road, Footpath and Road furniture works
Contract No.	RUDP/ICB/BRT/2
Location	Biratnagar Metropolitan City, Biratnagar, Morang, Province No-1
Consultant	Building Design Authority (P) LTD in Joint Venture With B.N. consultancy Pvt and PLUS Engineers and Architects (P) Ltd Kathmandu.
Contractor	ZHONGHENG Construction Group International Engineering co Ltd. Beijing, China.
Date of Commencement	<b>2<sup>nd</sup> November 2017</b>
Revised Completion Date	<b>18<sup>th</sup> May 2020</b>
Contract Amount including PS and VAT after VO-01	<b>NRs. 2,760,853,674.59</b>
Physical Progress up to date	Construction works are under progress. Overall physical progress till December 2019 is 73.12%
Financial Progress up to Date	70.83%, after VO-01

### a. Environmental category of Subprojects

12 The project is environmental improvement project, and mainly constitutes works on sewerage/ drainage improvement works Road works and design for Integrated Solid Waste Management in BMC besides others. As per ADB Safeguard Policy Statement (SPS), 2009 on Environmental Assessment requirements, this project is classified as Environment Category B.

13 According to GoN's Environmental Protection Rules, 2054 BS, schedule -1, IEE is required for Operations of Sewerage Schemes under Schedule 1.h.2.e (Pertaining to Rule 3). IEE report under STIUEIP was approved by MoUD on May 14, 2013.

14 The Due Diligence Report (DDR) has been prepared and submitted to PIU for approval for the additional works as a supplementary document for approved IEE report under STIUEIP.

15 The Inception report on Integrated Solid Waste Management (ISWM) has already been prepared and submitted to PIU. Similarly Stakeholder's analysis, communication strategy and consultation plan for ISWM also has been submitted.

### b. Project Safeguard Team

16 A Safeguard Desk (SD) of 4 members has already been formed to monitor the overall project's safeguard issues. The details of the safeguard team with their respective roles is as follows:

Name	Designation/Office	Email Address	Contact Number	Roles
<b>PIU</b>				
Mr. Bharat Kumar Neupane	Project Manager/ Biratnagar Metropolitan City	<a href="mailto:stiueip.brt@gmail.com">stiueip.brt@gmail.com</a>	9852026869	Overall management and monitoring of the project activities
Mr. Punam Kumar Dahal	Social Safeguard Officer/Biratnagar Metropolitan City	<a href="mailto:punamkdahal@yahoo.com">punamkdahal@yahoo.com</a>	9852022729	Monitoring the Issues of social safeguard, GESI and resettlement of the project, check and monitoring the safeguard activities of contractor and consultant
<b>Consultants</b>				
Mr. Prakash Bhakta	Social Safeguard	<a href="mailto:pbs026@gmail.com">pbs026@gmail.com</a>	9841329719	Monitoring the Issues of social safeguard, GESI and

Shrestha	Expert/ DSC			resettlement of the project, Prepare Social Monitoring Report and resettlement plan and check and monitor the safeguard activities of the contractor
Mr. Dwarka Phuyal	Environmental Safeguard Expert/ DSC	<a href="mailto:phuyaldwarka@gmail.com">phuyaldwarka@gmail.com</a>	9851086137	Monitoring the Issues of environmental safeguard of the project, Prepare Environmental Monitoring Report(EMR) check and monitor the safeguard activities of the contractor.

### c. Overall project and sub project progress and status

17 The Overall Project Progress till the month of December is **73.12% after Variation Order-01**. There are altogether **455** labours employed in construction including **25** nos female. Among those 97 are skilled labours. The progress till June, 2019 is as shown in table below:

#### The physical progress till December, 2019

S No	Sub Project Components	Progress % (as end of December after VO-01)
1	Road and Lane Rehabilitation with Asphalt	<b>69.78%</b>
2	Sewer Line	<b>99.46%</b>
3	Storm Drain	<b>100%</b>
4	Road Side Drain	<b>89.28%</b>
5	Design of Integrated Solid Waste Management (ISWM)	Inception Report as well as Stakeholder's Analysis, Communication Strategy and Consultation Plan has already been submitted. Due to Social Problem, Progress on design has been hindered.
6	Overall Physical Progress	<b>73.12%.</b>

**Description of subprojects (package wise) and status of implementation:**



Package Number	Component s/List of Works	Contract Status (specify if under bidding or contract awarded)	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M)	If On-going Construction	
				Physical Progress	Expected Completion Date
	Sewer lines	Contract awarded	On-going Construction	Construction under progress (99.46%)	18 <sup>th</sup> May 2020 (Revised Date)
	Storm Water Drainage	Contract awarded	Completed	100%	
	Roads and Lanes	Contract awarded	On-going Construction	Road pavement with asphalt concreting under progress (89.28%)	18 <sup>th</sup> May, 2020

### III. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

Environmental safeguard related project activities are in compliance with prevailing statutory environmental laws as regular follow up actions are being taken according to the provisions made in laws.

#### Compliance Status

Package Number	Sub project name	Statutory Environmental Requirements	Status of Compliance	Action Required	Specific Condition that will require environmental monitoring as per Environmental Clearance, Consent/Permit to establish
RUDP/ICB/BRT/2	Sewerage and Drainage Networks, and Road & Lane Improvement	As per ADB guidelines on Environmental Assessment requirements, this project is classified as Environment Category B GoN's Environmental Protection Regulations (1997) also stipulate that an IEE is necessary for the new sewerage project. The project is environmental improvement project,	Complied (IEE approved under STIUEIP) DDR has been prepared and		

		and mainly constitutes works on sewerage/ drainage improvement works in BMC besides others. According to Environmental Protection Regulation, 2054 BS1997, IEE has been carried out for Operations of Sewerage Schemes under Schedule 1 (Pertaining to Rule 3) under STIUEIP. However the sub project under RUDP is an additional of STIUEIP, Only DDR is sufficient and no environmental assessment required DSC prepared and submitted already the DDR to PIU.	submitted		
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#### IV. COMPLIANCE STATUS WITH ENVIRONMENTAL MANAGEMENT PLAN

##### a. Compliance Status

18 The IEE report under STIUEIP and Site Specific EMP as a part of Contract document have already been approved. The monitoring of sub project components under implementation has been carried out. The contractor has been mobilized since 2<sup>nd</sup> November, 2017 and construction work is under progress.

##### Compliance Status of IEE and EMP:

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director?(Yes/No)	Remarks
	Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		
RUDP/IC B/BRT/2	Final IEE approved on May 14, 2013 IEE.	Yes	<a href="https://www.adb.org/.../36188-023-je-07">https://www.adb.org/.../36188-023-je-07</a> <a href="http://www.biratnagar.mun.gov.np/en/content/regional-urban-developme">http://www.biratnagar.mun.gov.np/en/content/regional-urban-developme</a>	Yes	Yes	

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19 The internal environmental monitoring activity focuses on the current status of implementation of the environmental safeguard measures, effectiveness in implementation and provision of feedbacks and suggestions for the full compliance with ADB Environmental Safeguard Policy and GoN rules and regulations.

The EMR therefore is necessary to know the status of safeguard measures implementation and to recommend the corrective action for full compliance of safeguard measures.

20 For the contract package there is a provision of Accident Prevention Officer as a contractor's person for environmental safeguard. The contractor has appointed a safety officer to look after environment, health and safety issues.

### b. Summary of Environmental Monitoring Activities for the Reporting Period

The monitoring activities during this reporting period along with potential environmental impacts, mitigation measures, monitoring parameters, locations with responsible agencies is shown in the table below.

Table 2 Environmental Monitoring Activities

Impacts	Mitigation Measures	Parameters monitored	Method of monitoring	Location of Monitoring	Date of monitoring conducted	Monitored by
<b>Design Phase</b>						
<b>Pre -construction phase</b>						
No such impact is anticipated as the works involve only about review of detailed design, site investigation, detailed survey etc.						
<b>Construction Phase</b>						
Deterioration of air quality, increase in dust/suspended particulate matters	-Sprinkling of water on road surface, construction yard, over excavated soil and across diversion three to four times a day or as required -Cover stockpiled construction materials with tarpulin -Provision of dust masks to workers	Dust emission Frequency of Sprinkling of water  Use of dust preventive mask by	Observation	Construction Site	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Safeguard Expert

		workers	Observation	Construction Site		
Inconvenience to pedestrians and vehicles	<ul style="list-style-type: none"> <li>-Plan transportation route</li> <li>-Inform public about the nature and duration of construction</li> <li>-Do not block public road and pedestrian footpath</li> <li>-Provide diversion with proper traffic sign and signal boards</li> <li>-Coordinate with Municipal Traffic Office for temporary road diversion.</li> <li>-Place precast slab cover immediately as early as possible on completion of construction by cleaning the drain bed of side drain</li> </ul>	<p>Transportation Plan and schedule of working</p> <p>Proper diversion</p> <p>Traffic signs and barricades</p> <p>Road side drain cover</p>	Observation	Construction Site	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Safeguard Expert
Issue of management of excavated surplus and stockpiling of construction materials	<ul style="list-style-type: none"> <li>-Back fill of sewer line/side drain after laying of sewer lines and constructing road side drain,</li> <li>- Locate, peg and seek approval from the supervising consultant for the use of stockpile sites.</li> <li>-Stockpile should not be located on water courses; should not be within 50m of Schools, hospitals or public standpipes; and should not affect locals and their properties.</li> <li>-Obtain written permission from landowners and local bodies for stockpiling on their land.</li> <li>-Stockpiles should be covered with tarpaulins. For large stockpiles, it</li> </ul>	Proper excess surplus management	<p>Observation</p> <p>Observation</p>	<p>Construction Site</p> <p>Construction</p>	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Safeguard Expert

Insufficient number of labours	<p>should be enclosed with side barriers and also covered when not in use.</p> <p>-Clean area properly after completion.</p> <p>-Locate disposal sites on stable ground without excessive slope; that avoids water courses and wetlands; that will not promote instability and result in destruction of property, vegetation and local services.</p> <p>-Restrict disposal at approved locations with correct placement of fill.</p> <p>-Minimize the period of construction by increasing workers.</p>	No. of labours	Observation	Site Construction Site		
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Occupational Health and Safety Issues Accidents and Injuries	-Implement a site Health and Safety Plan -Provide adequate Personnel Protective Equipment (PPE) to workers (jackets, helmets, boots, gloves and masks etc.) to workers -Provision of First Aid Box with required medicines -Provide proper signage (sign board, diversion board, safety cone, etc).	-Provision of PPE on site	Observation	Construction Site	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Safeguard Expert
Issues of Labour camp establishment, waste management and Water Supply and Sanitation	-Provision of light and ventilation with safe and proper drinking water facilities, toilet and collection and proper management of solid waste and liquid wastes including good living environment - Awareness and training to workers. - Strictly prohibit to employ child or under aged person as per Labour Act, BS 2048.	Type and number of safety boards and protective tools Quality and quantity of drinking water, type of toilet and waste collection and management facilities Type and number of awareness Programs Nos. of Child labour				
Use of Bitumen / Combustible / and Toxic Materials	-Fuel wood shall not be used for heating bitumen. Bitumen shall be melted in heaters using kerosene, diesel or gas fuel. -Bitumen drums should be stored in dedicated areas, not scattered along the road and any small accidental spills should be cleared up immediately.	Use of fuel wood if any,  Location of bitumen stores	Observation	Construction site and yard	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Expert

	-No bituminous material shall be discharged into side drains. Bitumen shall not be applied in strong wind or rainy conditions.					
Noise pollution	-Avoid noise generating activities at night. Restrict work to day hours. -Noise barriers to be placed in sensitive locations i.e. schools, hospitals etc. -Consult with the local community to inform them of the nature, duration and likely effects of the construction work, and to identify any local concerns so that these can be addressed. -Minimization of period of construction. -Regular Maintenance of vehicles and equipments.	Condition of vehicles and equipments	Observation	Construction Site	September-22, 23 and 24 Nov.,-25, and 26, 2019	Environmental Safeguard expert
<b>Operation Phase</b>						
Construction phase under progress						

### c. Compliance Status with the Environmental Management and Monitoring Plans

#### Overall Compliance with EMP

Sub-Project Name	EMP Part of Contract Documents (Y/N)	EMP Being Implemented (Y/N)	Status of Implementation(Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required
Sewerage/Drainage Networks, Road & Lane Improvement	Y	Y	Satisfactory	

## V. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

21 This Environmental Monitoring Report has been prepared based on Environmental Management Plan (EMP) and observations made during monitoring visits by DSC Environmental Specialist. Contractor submits regularly monthly report along with Site-specific Environmental Monitoring Checklist to DSC. The DSC will check and verify the reports whether or not the EMP complied. The contractor nodal person (Accident Prevention Officer) who is involved in looking over health, safety and environmental issues and fills monitoring checklist.

A copy of the sample site specific monitoring checklist is attached in Annex 1.

Besides this, other major activities undertaken by the Environmental Specialist in ensuring environmental compliance and monitoring are listed as follows;

**Desk review:** National policies and legislations relevant to the projects sub-components were reviewed timely. Site specific Environmental Monitoring Checklist was prepared and used to note the status of project activities and EMP compliance.

**Field Work:** Potential environmental impacts identified by the contractors and the suggested mitigation measures' compliance or non-compliance mentioned in the Site-specific Monitoring Checklist was validated through field observations every month by the DSC.

**Interaction and consultation with the local community and other stakeholders:** A Safeguard Desk (SD) was established in the project for effective planning, monitoring and follow up of all environmental, social development/ safeguard issues. It was started as a functional mechanism consisting of PIU and DSC. The desk consists of the PM and Social Safeguard Officer of PIU, Environmental and Social Safeguard Experts of DSC.

Regular meeting of SD have been organized on monthly basis or as required. Till date 15 SD meetings have been organized. The desk will review, update and discuss the progress, issues, constraints and challenges of social and environmental aspects, Community Development Program and implementation of resettlement plan as well as monitoring of social development activities.

The Environmental Specialist of DSC also has made regular field monitoring visits to the project site, interact with the Contractor and verify that the mitigation activities are being carried out as required.

Labours and other Work-force are questioned each time during field visit about the environmental safeguard measures they are taking and materials being provided by the contractor along with direct observation of the work force camps for accommodation and the quality of water supply, hygiene and sanitation.

DSC prepares Semi-annual environmental monitoring reports and submits to PIU, PMC and ADB after reviewing the Contractor's reports.

## **VI. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS**

### **Dust Emission and Control**

22 Dust Pollution was noticed as a major problem in the initial stage of improvement of roads and lanes because of excavation of sewer/drainage lines, storage of construction materials and dumping excavated spoilage along roadside for a long time. Movement of vehicles over those materials and unpaved road surface within project area have been causing trouble of dust emission and air pollution. However, during this reporting period, almost excavated sewer lines, house connections and drains have been backfilled with reinstatement of road surfaces. Similarly spoil also has been dumped and managed properly in specified place i.e at Madhumara yard.

23 To minimize it, the contractor is instructed to store debris and materials properly when stored along roadside with the intention of reuse of the same immediately in filling and laying as road surface course and compacting with the use of sufficient water. Water spray should be continued at least two to three or more during the day as required.

24 The sprinkling of water has been done on access road surface and construction sites daily, however it is not sufficient. Therefore Contractor requested to increase the frequency of sprinkling water as required in dust prone area within construction sites and unpaved access road with diversion. The chances of emission of dust will be more during winter, dry and windy day.

There are no data with the Contractor on monitoring of environmental impacts on surrounding (ambient air, water quality and noise levels), which is reported to have not been performed.

### **Use of Sign Boards, Barricades and PPEs**

25 Sign boards with barricades and caution tape have been installed at construction sites, however in few sites these were not sufficient. Therefore the contractor is requested to install adequate signboards with safety information, barricade and caution tape for demarcation of project sites and its enclosure. Safeguard tools like helmets, gloves, boots and masks have been distributed to labours, but not adequately used by the labours.

26 Almost constructed road side drains have been covered with cover slab. The contractor requested to cover the open drain further after cleaning drain bed immediately with slab cover after completing the construction of road side drain.

### **Issues of Noise and Vibration**

27 Hot mix or Asphalt plant is located in the Rani area away from the population

centres. The contractor should take precautions to reduce the level of noise, vibration and dust emissions. No bituminous materials should be discharged into drains, nearby vegetation and property during spray over road surface. Place and compact hot asphalt mix immediately after spraying the prime and tack coat.

28 The crusher plant is not in operation in construction site. Contractor has made agreement with sand and aggregate supplier to supply the sand and aggregate as required for site.

### Water Quality Monitoring

29 Water quality of existing wells at DDC yard and labour camp, Madhumara yard, Lab office and Koshi Yard and labour camp were carried out on 9<sup>th</sup> of October 2018 and the results found satisfactory. The water quality tests reports were attached in the previous Semi annual report of period July-December 2018.

## VI.GRIEVANCE REDRESS MECHANISM

30 The subproject will utilize the GRM proposed in CRIPPF of RUDP to hear grievances and concerns raised from affected persons and project beneficiaries during construction of the project.

31 A Local/Metropolitan level grievance redresses committee (GRC) comprising 7 members is formed to receive grievances filed in relation to RUDP implementation in BMC. The Mayor of BMC is the chairperson of the GRC with CAO of BMC and Project Manager as member and chief, social development of PIU as member secretary of the committee. This committee has been effectively addressing grievances and concerns raised by the concerned stakeholders including project beneficiaries. The GRC composition is presented in the table 3 below.

**Table 3: Composition of GRC for RUDP**

Name	Designation	Portfolio
Mr. BhimPrasad Parajuli	Mayor, Biratnagar Metropolitan City Office	Chairperson
Ms. Indira Karki	Deputy mayor, Metropolitan City Office	Member
Mr. Pradip Kumar Niraula	CAO, Biratnagar Metropolitan City Office	Member
Er. Bharat Kumar Neupane	Project Manager, RUDP, PIU, Biratnagar	Member
Er. Prakash Chaudhary	Project Engineer/ PIU	Member
Er. Ghanendra Katuwal	Project Engineer/ PIU	Member
Mr. Punam Kumar Dahal	Chief; Social Development/ PIU	Member Secretary

During this reporting period the GRC meeting has not been held because of not appearing any serious grievances.

After the effectiveness of the RUDP in BMC, the structure of the committee will be reviewed and revised in line with the GRC structure and mechanism prescribed in Combined Resettlement and Indigenous People Planning Framework (CRIPPF) of the project. The CRIPPF has provision to form GRC at the municipal level with representation from affected persons/beneficiaries. The Grievance redresses committee (GRC) concerned representatives of affected persons with one male and one female (a representative of indigenous people, in case of indigenous peoples related issues), will be invited in the meeting. The GRC will meet as needed to determine the merit of each grievance, and resolve it within 7 days of receiving the complaint. The Committee thus appointed should be sanctioned by the municipal board. The responsibilities of the GRC at municipality will be:

i. to conduct subproject level public awareness campaign regarding grievance redress mechanism of the project. The social safeguards expert of the DSC will support the GRC by preparing and providing information/awareness material etc. to conduct the awareness campaign. The campaign will ensure participation of poor and vulnerable groups in the awareness campaign. The campaigns also cover information on entitlements policy provisions and their application; and

ii. To hear complaints and grievances at local level. The local people can approach the committee with their grievances related to the project which will be registered, categorized and discussed in the committee with the aim of amicable settlement. It is expected that the committee will provide an accessible forum for receiving and facilitating resolution grievances related to the project and grievances will be redressed within one week from the date of received complaints. The member of secretary of GRC committee will be representing as social safeguard focal person, and will be responsible for processing and placing all papers before the GRC, recording decisions, issuing minutes of the meetings and taking follow up action to see that formal orders are issued and the decisions carried out. Any unresolved or major issues at municipality level will be referred to the PCO level GRC for resolution. DSC social expert will be assisted to social safeguard focal person. Local/Municipality Level GRC mechanism chart in below figure 6 is shown detail process of Grievance redresses. The unresolved or major issues forwarded by the BMC level GRC will be reviewed at PCO level GRC for final solution. Decision has to be made within 15 days of receipt of complaint at this level. The PCO level GRC shall refers the complaints registered at the PCO to the BMC level GRC for initial hearing within 7 days of registration. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM. People who are, or may in the future be, adversely affected by the project and not satisfied with the established GRM may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operation department.



## VII. COMPLAINTS RECEIVED DURING THE REPORTING PERIOD

32 Till December 2019 total 19 written and 7 verbal complaints were received and all were addressed accordingly.

## VIII. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

33 The key issues of the project during this reporting period identified are as follows:

- Use of PPEs, installation of sign boards, barricades and caution tape etc.
- Dust emission and ambient air pollution

34 These are the major environmental issues of the Project identified during this reporting period, the corrective actions recommended to be taken and the analysis of compliance are presented in Table below.

**Table 4. Analysis of the Compliance of Corrective Actions and Recommendations**

SN	Key Issues	Corrective Actions Recommended to be taken	Responsibility	Analysis of Compliance
1.	Lack of proper and regular awareness to the labour and other staffs on use of PPEs.	Aware and orient to labours on PPE, health and safety issues and make it compulsory to use PPEs at the sites, supervise and monitor regularly..	Contractor, DSC	Partially complied.
	At fewer sites, negligence in use of PPEs including barricade, caution signs and signals was observed during construction.	Contractor enforced to place proper and sufficient, barricade, caution tape, sign boards at construction sites.	Contractor	Partially complied
2	Dust emission and air pollution	Sprinkling of water has been carried out by contractor on road surfaces but not sufficient,  Increase frequency of sprinkling water on construction sites and nearby other unpaved public roads used by transporting vehicles.	Contractor	Partially complied.

## Annex 1: Photograph

## Annex 1: Photographs



Photo 1,2: Road rehabilitation work with Safety Information board





Photo 3: completed road surface with road side plantation



Photo 4: Ongoing Installation of side drain cover and laying of base course





*Photo 5: Road side drain under construction*



*Photo 6: Joint meeting of PIU, PMC, DSC and Contractor in Metropolitan City Office during ADB Mission 23<sup>rd</sup> September 2019.*

## **Annex 2:**

**Environmental Monitoring Checklist Format**

**Meeting of Safeguard Desk**



**1. Environmental Monitoring Format**  
**Regional Urban Development Project (RUDP)/Biratnagar**

**Name of Sub Project:** RUDP/ Biratnagar

**Contract Package:** RUDP/ICB/BRT/02

**Sub-project Component:** Road Lanes Improvement/ Sewerage Drainage

**Month:** December,

**2019**

**Checklist**

S.No	Activity	Description/Present Status (Compliance/Partially Compliance/Non Compliance)	Remarks/ Corrective actions for Non- Compliance
<b>1</b>	<b>Training</b>		
1.1	Health, Safety and EMP trainings and awareness	Awareness training organised	
1.2	Others awareness and skill trainings	No	Enforce contractor to aware labours on environment, occupational health and safety issues and on use of PPEs regularly.
<b>2</b>	<b>Occupational health and safety</b>		
2.1	Insurance for workers	Yes	
2.2	Personal Protective Equipment (PPE) provided to labours and are using (helmet, facemasks, muffles, gloves, boots, jacke	Yes (distributed to labour but partially used)	Enforce contractor to fully use of PPE

2.3	t,gogglesetc.) Public notification Safety and warning signs and informative signboards in working sites for work safety	complied	
2.4	Use of barricades, caution tape and flag	Complied	
<b>3</b>	<b>Camp site management</b>		
3.1	Location	Yes/Partly complied	Enforce to place first aid kit with necessary medicines in working sites
3.2	First aid facilities available at camp and worksites	Yes	.
3.3	Drinking water supply and sanitation facilities/ pit latrines	No ( No waste management provision)	Provide separate Bins to collect biodegradable and non bio-degradable waste.
3.4	Waste Disposal and Management facilities Type of fuel used for cooking	LPG	
<b>4</b>	<b>Spoil and Construction material Management</b>		
4.1	Cut and fill balance maintained or not, Reuse of spoil materials	Reused in Backfilling, excess surplus managed in Madhmara yard	Instructed contractor to use spoil in backfilling immediately after laying sewers and constructing side drains and manage excess surplus safely at specified location
4.2	Use of safe spoil disposal locations	compliance	Provide sufficient traffic signs and information boards
4.3	Frequent Pedestrian and traffic movement,	Sign boards, Installation of drain cover immediately after completing drains,	Place immediately drain cover after cleaning the drain bed as drain construction completes.

<b>5</b>	<b>Air,Noise and Water Pollution</b>		
5.1	Dust emission and Noise pollution sites	Water has been sprinkled to minimize dust pollution but not enough	Instructed to increase the frequency of sprinkling water, mainly during dry and windy day.
5.2	Water quality monitoring result and locations	Drinking water quality test performed by contractor	Test the water quality of any new well prior to use
5.3	Blockage of natural drainages, waterlogging, drain water discharge into farm land/risky areas	No	
<b>6</b>	<b>Quarrying of construction materials and Plants Installment</b>		
6.1	Quarry/borrow operation sites	No	
6.2	Asphalt plant operation restoration	Yes	Asphalt plant is in Operation in Rani far from population centres. Care should be taken while sprinkling bitumen over road surface, prevent water drain, plants and property from contaminated by bitumen.
<b>7</b>	<b>Impact/Disruption of Private properties</b>		
7.1	Building structures	No	
7.2	Other utilities	No	

<b>8</b>	<b>Impact/disruption of public infrastructures</b>		
8.1	Irrigation canal	No	
8.2	Water supply pipe	Relocation of pipeline has been done by contractor	
8.3	Access road	Traffic diversion with sign boards have been placed to regulate traffic	
8.4	Electric/Telephone pole	Poles within RoW	Relocation of poles have been carried out
8.5	Others		
<b>9</b>	<b>Sites for cultural and religious values</b>		
9.1	Cultural and religious sensitive spots (if any)	N/A	
<b>10</b>	<b>Forest and vegetation</b>		
10.1	Number of trees removal	N/A	
10.2	No of tree plantation (Roadside)	Tree plantation along completed road sections has been done by contractor	
<b>11</b>	<b>Accident cases and records</b>	No cases of accident	
<b>12</b>	<b>Employment to local people</b>		Record of labour maintained
12.1	Men and women	Male-430 Female-25,	
12.2	Child labour (if any)	No	
<b>13</b>	<b>Establishment of Safeguard desk and meeting</b>	Yes	Meetings have been conducted regularly as required. Till date 15 <sup>th</sup> SD meetings have been conducted
<b>14</b>	<b>Grievances from local people and addressed</b>	Yes	GRM recorded and addressed

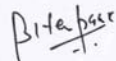
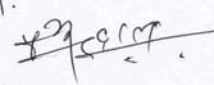

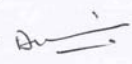
## **2. Safeguard Desk Meeting Minute of November 2019**

Meeting Minute: 15


**Regional Urban Development Project (RUDP), Biratnagar****15<sup>th</sup> Safeguard Desk (SD) Meeting,**

The 15<sup>th</sup> Safeguard Desk meeting was held on 27<sup>th</sup> November, 2019 at PIU office under the Chairmanship of Project Manager Er. Bharat Kumar Neupane, discussed over the following agendas and the decision were made.

**Participants:****Safeguard Desk members:**

Er. Bharat Kumar Neupane	Project Manager, PIU/RUDP, Biratnagar	
Mr. Punam Kumar Dahal	Chief, social Development, PIU/RUDP, Biratnagar	
Mr. Prakash Bhakta Shrestha	Social Safeguard Expert, DSC/RUDP, Biratnagar	
Er. Dwarika Phuyal	Environmental Safeguard Expert DSC/RUDP, Biratnagar	

**Invitee:**

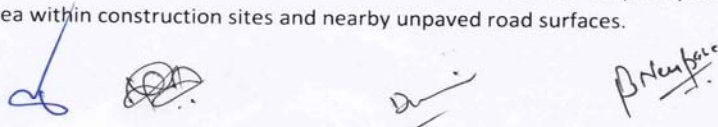
Er. Prakash Chaudhari	Deputy Project Manager	
Er. Giresh Chand	Team Leader, DSC/RUDP, Biratnagar	

**Discussion and Decisions:****Agenda no1: Progress Review and compliance issues meeting and Site Visit**

**Discussion and Decision:** Joint meeting and site visit of PMC, PIU and DSC was held on 26<sup>th</sup> and 27<sup>th</sup> November, 2019. The meeting was held at PIU Office under the chairmanship of Mayor Mr. Bhim Parajuli and discussed over the progress and compliance issues. In meeting presentation on Compliance issues of project were made by DTL/PMC Mr. Rajendra Giri. PM Er. Bharat Kumar Neupane and TL/DSC Er. Giresh Chand clarified the issues raised in meeting and agreed to fully comply the few non-complied and partially complied issues as according to the PAM and ToR.

**Agenda no2: Progress on Safeguard Measures****Discussion and Decision:**

Discussed over the dust emission during construction contractor has been sprinkling water over dust prone area; however was not sufficient, contractor therefore instructed to increase the frequency of water sprinkling in dust prone area within construction sites and nearby unpaved road surfaces.



Page 1

Discussed over the Use of personnel Protective Equipment like, helmet, boots, glove, and jackets by labors was found partly compliance. The contractor instructed for full compliance and provided the site and personnel safety tools, proper barricades and traffic signs.

Discussed over the matter of drain cover, almost completed road side drains found cover with RCC cover.

#### **Agenda-3: Encourage of Female employment**

##### **Discussion and Decision:**

Discussed over the low number of female employee; Contractor instructed to encourage employing as labor and skilled man power to local female.

Contractor instructed to manage separate camp and necessary facilities for female workers to encourage of employment.

Priority should be given to employ local labors.

#### **Agenda -4: Others**

##### **Discussion and Decision:**

The overall safeguard compliance found satisfactory.

*[Handwritten signatures and initials]*