

ORIGINAL



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

*in joint Venture with*

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

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

## **Monthly Progress Report**

**Regional Urban Development Project (RUDP)**

**Project Implementation Unit**

**Biratnagar, Nepal**



***November 2019***

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

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## EXECUTIVE SUMMARY

This Project Monitoring Report mainly covers the Progress achieved in the component of Regional Urban Development Project (RUDP) in Biratnagar Metropolitan City, Nepal. The information has been provided in the following Chapters are mentioned below:

1. **Introduction/ Background-** It provide brief Account on the Project and its Background stating why, how and when the Project was started in Biratnagar Metropolitan City.
2. **Salient Feature of Contract Package: RUDP/ICB/BRT/2-** It provides brief Account of Contract Data with Major components of works to be carried out.
3. **Sub Project Components-** It provides a brief Account on the various Sectors of the Project component summarizing the respective Progress such as Sewer Line, Storm Water Drain, Road side Drain, Roads and Lanes and Electrification Work if any. This Chapter further covers Environment Mitigation Measures and Social Safeguard measures.
4. **Objective and Scope of the Works-** This Chapter briefly describes the expected output of the Project and Scope of Consultant regarding execution of Work.
5. **Progress of Sub – Project Components-** This Chapter comprises the status of Work stating what kind of works are under Progress and how much Progress has been achieved till date. It further elaborates on the status of actual achievement versus the Targeted achievement till date. Sometimes, the project gets delayed due to unforeseen obstacles which are rampant in the case of Nepal. Such events are also enlisted to clarify the reason for delay in the project.
6. **Details of Pre Cast Activities-** In the urban area, as ongoing projects creates a lot of disturbances and difficulties in the life of the people living in the project area, the work has to be conducted in the speedy manner to finish it as soon as possible. Precast of the project components are the best alternative to overcome this issue and details of precast activities are provided in this chapter.
7. **Contractor's Manpower and Contractor's Equipment-** Chapter 7 and Chapter 8 deal with summary of Manpower and Equipment respectively stating whether Resources owned by the Contractor are sufficient for the execution of Contract.



## 1. PROJECT DESCRIPTION

### 1.1. INTRODUCTION/BACKGROUND

GoN has negotiated loan with Asian Development Bank for the Regional Urban Development Project (RUDP) in Nepal. The RUDP, in the line with ADB's water and urban operation plans, will construct and upgrade urban infrastructure in eight towns in the Terai Region of Nepal, improve operational effectiveness of these eight municipalities. The project will also build institutional capacity of DUDBC for urban planning, project planning and project preparation in order to proactively shape urbanization in Nepal and implement the National Urban development strategy. 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 for Biratnagar Municipality. Building Design Authority (P) Ltd (Nepal), B.N. Consultancy Pvt. Ltd and PLUS Engineers & Architects (P) Ltd Kathmandu and have entered for a Contract of Consulting Services with Regional Urban Development Project (RUDP), Project Implementation Unit (PIU), Biratnagar Metropolitan City on 28<sup>th</sup> October 2017.

Regional Urban Development Project (RUDP) the Department of Urban Development and Building Construction (DUDBC), under the Ministry of Urban Development (MUD) through the Government of Nepal (GoN) has received the loan from Asian Development Bank (ADB) Loan 47252-NEP.

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 Regional Urban Development Project (RUDP) is forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010.



## 2. CONTRACT DATA: - RUDP/ICB/BRT/2

General Features	
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, Biratnagar
Funded By	Asian Development Bank & Government of Nepal
Package	Construction and Completion of Sewerage, Drainage, Road, Footpath and Road furniture works
Contract No.	RUDP/ICB/BRT/2
Location	Biratnagar Metropolitan City, Biratnagar
Consultant	Building Design Authority (P) LTD in Joint Venture With B.N. consultancy Pvt and PLUS Engineers and Architects (P) Ltd Kathmandu.
Date of Sign of Design and Supervision Consulting Service	28th August 2017
Date of Commencement of Design and Supervision Consulting Service	6th September 2017
Date of Completion	5th September 2020
Contractor	ZHONGHENG Construction Group International Engineering Co Ltd. Beijing, China.
Date of Agreement Made	10 <sup>th</sup> October 2017
Date of Commencement	2 <sup>nd</sup> November 2017
Date of Completion (Scheduled)	1 <sup>st</sup> November 2019
Date of Completion (after EOT-1)	18 <sup>th</sup> May 2020
Contract Amount including PS and VAT	NRs. 2,611,092,249.63
Contract Amount including PS and VAT (Corrected)	NRs. 2,611,088,390.60
Contract Amount including PS and VAT (after approval of VO-1)	NRs. 2,760,853,674.59
Additional Financing (provisional items) 100% funded by BMC after VO-1	NRs. 39,999,893.49



General Features		
Progress	wrt to Original BOQ Quantity	wrt to the quantity after VO-1
Road Rehabilitation (Asphalt)	54.04%	59.83%
Sewer Line	91.92%	99.46%
Storm Drain	100.00%	100.00%
Road Side Drain	114.50%	84.20%
Integrated Solid Waste Management (ISWM) Design	Inception Report as well as Stakeholder's Analysis, Communication Strategy and Consultation Plan for Integrated Solid Waste Management (ISWM) has already been submitted. Due to Socio Environment Problem, Progress of Integrated Solid Waste Management (ISWM) design has been hindered.	
Physical Progress up to date	<b>With respect to Revised Work Program-01:</b> <b>Planned : 100%, Actual : 79.97%; Lead(+) or Lag(-) by (-) 20.03% Lag</b>  DSC asked the contractor to submit updated work program & S – Curve as per approved VO-1 to monitor the project smoothly.	
Financial Progress up to date ( <i>on the basis of IPC forwarded for disbursement</i> )	In Percentage: 72.46%, In Figure: NRs. <b>1,891,874,970.97</b> (including VAT and PS) up to IPC – 13 wrt to Original contract amount.  In Percentage: 68.52%, In Figure: NRs. <b>1,891,874,970.97</b> (including VAT and PS) up to IPC – 13 wrt to approved VO-1.  <b>In Words:</b> NRs. One Billion Eight Hundred Ninety One Millions Eight Hundred Seventy Four Thousand Nine Hundred Seventy and Ninety Seven Paisa Only.	

### 3. SUMMARY OF PROGRESS STATUS OF ALL MAJOR COMPONENTS

S. No.	Description	Unit	BoQ Quantity	Quantity after VO-1	Progress up to date	Remaining	Progress Status expressed in (%)	Progress Status expressed in (%)	Remarks
1	Sewer Line								
a	HDPE/RCC	m	20,082.00	18,559.80	17,818.50	2,263.50	88.73%	99.46%	
b	Manhole	No.	685.00	606.00	549.00	136.00	80.15%	98.84%	



S. No.	Description	Unit	BoQ Quantity	Quantity after VO-1	Progress up to date	Remaining	Progress Status expressed in (%)	Progress Status expressed in (%)	Remarks
c	Sewer Inlet	No.	1,010.00	1,010.00	604.00	406.00	59.80%	59.80%	
d	House Connection	No.	3,784.00	3,784.00	1,471.00	2,313.00	38.87%	39.40%	
<b>2</b>	<b>Storm Water Drain</b>								
a	RCC Drain	m	652.80	585.00	585.00	0.00		100.00%	
b	Piles	No.	132.00	138.00	138.00	0.00		100.00%	
<b>3</b>	<b>Road</b>								
a	Subgrade	m	73,860.00	66,718.00	52,305.31	21,554.69	70.82%	78.40%	
b	Sub base	m	73,860.00	66,718.00	52,076.21	21,783.79	70.51%	78.05%	
c	Base	m	73,860.00	66,718.00	47,238.66	26,621.34	63.96%	70.80%	
d	Prime	m	73,860.00	66,718.00	39,914.40	33,945.60	54.04%	59.83%	
e	Asphalt	m	73,860.00	66,718.00	39,914.40	33,945.60	54.04%	59.83%	
<b>4</b>	<b>Road Side Drain</b>	m	26,050.00	35,424.00	29,827.19	(3,777.19)	114.50%	84.20%	



### 3.1. SUB PROJECT COMPONENTS

#### 3.1.1. SEWER LINES

Trunk Line T1 & T2 were already completed in STIUEIP (Secondary Town Integrated Urban Environmental Improvement Project) and remaining part of sewer lines in T4 completed and T3 have been identified and necessary survey and construction works were performed, almost all the lines were completed except 100m length of secondary sewer lines of T3 east of Sanihat chowk. Details of proposed sewer lines are as below: -



Table 1: PROPOSED ALL MAJOR COMPONENTS OF THE PROJECT

S. No.	Description	Unit	Original Quantity	Quantity after VO-1
<b>1</b>	<b>Sewerage Pipe Supply and Installation</b>	m	<b>20,082.00</b>	<b>18,559.80</b>
	<b>Reinforced Concrete Pipe laying and jointing</b>		<b>2241.00</b>	<b>1,967.50</b>
	Line T2 (Secondary)	m	206.00	205.00
	Line T3 (Trunk)	m	1905.00	1,632.50
	Line T4 (Trunk)	m	130.00	130.00
	<b>HDPE laying and jointing</b>	m	<b>17,841.00</b>	<b>16,592.30</b>
	Line T1 (Secondary)	m	1,825.00	1,743.20
	Line T2 (Secondary)	m	3,927.00	3,153.40
	Line T3 (Secondary)	m	9,997.00	9,643.80
	Line T4 (Secondary)	m	2,092.00	2,051.90
<b>2</b>	<b>Manhole ( Brick / RCC)</b>	<b>no.</b>	<b>685.00</b>	<b>606.00</b>
<b>3</b>	<b>Sewer Inlet</b>	<b>no.</b>	<b>1,010.00</b>	<b>1,010.00</b>
<b>4</b>	<b>House Connection</b>	<b>no.</b>	<b>3,784.00</b>	<b>3,784.00</b>
<b>5</b>	<b>Reinstatement of Roads</b>	<b>km</b>	<b>73.86</b>	<b>66.718</b>
<b>6</b>	<b>Road side Drain</b>	<b>Km</b>	<b>26.05</b>	<b>35.424</b>
<b>7</b>	<b>Storm Water Drain</b>	<b>m</b>	<b>652.8</b>	<b>585.00</b>



**Table: - 2 PHYSICAL PROGRESS IN SEWER LINES till date**

SN	Description	BoQ		Up to Pre Month		This month		Total to date		Progress %
		Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	
Hume Pipe:										
1	Hume pipe (T2)	206.00	6.00	205.00	6.00			205.00	6.00	
2	Hume pipe (T3)	1,905.00	58.00	1,632.50	25.00			1,632.50	25.00	
3	Hume Pipe (T4)	130.00	4.00	130.00	4.00			130.00	4.00	
Subtotal in (m)		2,241.00	68.00	1,967.50	35.00			1,967.50	35.00	
HDPE Pipe:										
1	HDPE (T1)	1,825.00	57.00	1,743.20	54.00			1,743.20	54.00	
2	HDPE (T2)	3,927.00	147.00	3,153.40	121.00			3,153.40	121.00	
3	HDPE (T3)	9,997.00	316.00	8,902.50	283.00	641.30	50.00	9,543.80	333.00	
4	HDPE (T4)	2,092.00	68.00	2,051.90	56.00			2,051.90	56.00	
Subtotal in (m)		17,841.00	588.00	15,851.00	514.00	641.30	50.00	16,492.30	564.00	





SN	Description	BoQ		Up to Pre Month		This month		Total to date		Progress %
		Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	Length (m)	Manhole (Nos.)	
Total		20,082.00	656.00	17,818.50	549.00	641.30	50.00	18,459.80	599.00	91.92%
										99.46% wrt VO-1

SN	Description	BoQ (Nos.)	Up to Pre Month	This month	Total to date	Progress %
1	Sewer inlet	1,010.00	604.00	0.00	604.00	<b>59.80</b>
2	House connection	3,784.00	1,471.00	20.00	1,491.00	<b>39.40</b>



### 3.1.2. STORM WATER DRAIN

The storm water drain CN2, and CN3 has been provisioned in Regional Urban Development Project (RUDP). The Contractor has already completed the works except some minor works at inlet and outlet which have been proceeding soon. The detail of the progress is shown in the table:

**Table: 3 PROPOSED and PHYSICAL PROGRESS in STORM WATER DRAINS till date.**

S N	Name of Drain	Length in m				Length of Covered Drain in m	Remarks	
		Original	Revised after VO-1	Progress				Cumulative
				Previous	This Month			
1	CN2-CN3 (Chyangh Baari Nala)	652.89	585.00	585.00		585.00	585.00	100% Completed
2	CN2-CN3 (Chyangh Baari Nala)	132 Nos. of piles	138 Nos. of piles	138 Nos. of piles		138 Nos. of piles		100% Completed

### 3.1.3. ROADS AND LANES

Most of the roads/lanes in Biratnagar are in a poor state due to lack of periodic maintenance, and need improvement where as some of the roads are graveled and would benefit from upgrading. In the areas where drainage and sewerage works are proposed there will be significant impact on the existing roads. The Project has considered on design based on reinstatement, rehabilitation and upgrading of existing roads length 73.86 km. Some of the roads of the project has been completed and some of them are in the process of being upgraded.

Out of 73.86 km. about 52.07 Km. has been attempted for Sub Base but due to start unseasonal monsoon, asphalt work is delaying.

About 39.91 km. asphalt work is completed. The summary of physical progress is presented below: -



**Table No:-4 PROPOSED and PHYSICAL PROGRESS of pavement works till date**

SN	Road Number	Name of Road	Length in m			Work Completed				Paint	Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC		
			Previous (Revised)	This Month		m	m	m	m	m	
1	R42	Bhagwati Marg	218.00		218.00	218.00	218.00	218.00			
2	R5	College Road	650.00		650.00	650.00	650.00	544.50			
	R5	Chulachuli Road		230.00	230.00	230.00	230.00				
3	B2	Gauri Shankar Marg	2,152.00		2,152.00	2,152.00	2,152.00	2,152.00	210.00		
4	R65	Satghumti Marg	320.00		320.00	320.00	320.00				
5	R107		215.00		215.00	215.00	215.00	174.00			
6	R107 a		50.00		50.00	50.00	50.00				
7	R104	VIP Marg	273.00		273.00	273.00	273.00	273.00			
8	R8	Madhumara Marg	600.00		600.00	600.00	600.00	582.00			
9	B1	Kanchan Marg	1,173.00		1,173.00	1,173.00	1,106.00	1,106.00		1,106.00	
10	R21	Pratibha Marg	1,330.00		1,330.00	1,330.00	1,330.00	1,330.00		1,012.80	
11	B3	Keshaliya Marg	1,574.00		1,574.00	1,574.00	1,574.00	1,574.00			
12	S13		1,617.00		1,617.00	1,617.00	1,467.00	1,417.00		1,812.60	
13	R12		880.00		880.00	880.00	880.00	740.00			



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
14	R12	Kanchha Dai Marg	900.00		900.00	900.00	900.00	289.50			
15	Rani site	Rani	4,023.00		4,023.00	4,023.00	4,023.00	4,023.00			
16	R16	Satya Marg	604.00		604.00	604.00	604.00	604.00			
17	R26	Pasang Marg	654.00		654.00	654.00	654.00	654.00			
18	R28	Pustakalaya Marg	635.00		635.00	635.00	621.20	339.20			
19	R27	Peepal Marg	734.32		734.32	734.32	734.32	734.32		639.20	
20	R25	Devi Marg	580.00		580.00	580.00	580.00	561.70			
21	R24	Prabhat Marg	518.15		518.15	518.15	518.15	518.15			
22	R37	Banglamukhi Marg	477.00		477.00	477.00	477.00	477.00			
23	R7	Manakamana Marg	542.00		542.00	542.00	542.00	542.00			
24	R7	in between R18 to R27	400.00		400.00	400.00	400.00	375.00			
25	R30	Shanti Marg	123.10		123.10	123.10	123.10	123.10			
26	R9	Fadindra Marg	119.00		119.00	119.00	119.00	119.00			
	R9		150.00	80.00	230.00	230.00	230.00	140.00			
27	S11	Samrat Marg	660.00		660.00	660.00	504.60	504.60		504.60	



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
28	R22	Amar Marga	367.65		367.65	367.65	367.65	367.65			
29	R29	Shanti Marg	684.70		684.70	684.70	684.70	684.70		585.60	
30	R36	Gaurav Marg	220.00		220.00	220.00	220.00	220.00		440.00	
31	R33	Tarun Marg	280.00		280.00	280.00	280.00	280.00			
32	R64	Satya Narayan Marg	121.00		121.00	121.00	121.00	-			
33	R8		225.00		225.00	225.00	225.00	225.00			
34	N36		190.00		190.00	190.00	186.95	186.95			
35	R188	Shakti Marg	120.00		120.00	120.00	120.00	120.00			
36	R2	Main Road	2,800.00	-	2,800.00	2,800.00	2,488.20	937.11		350.00	
37	T3 Line 6A	Pandit Meghnath Marg	220.00		220.00	220.00	220.00	220.00			
38	T2 Line 24C	Nava Jyoti Marg	205.00		205.00	205.00					
39	T2 Line 24D	Nava Jyoti Marg	210.00		210.00	210.00					
40	R63 (DSP Road)	DSP Road	420.00		420.00	420.00	405.00	405.00			
41	R90	Shakti Marg	320.00		320.00	320.00	320.00	320.00		640.00	



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
42	R77	Arniko Marg	80.00		80.00	80.00	80.00	80.00			
43	R76	Mitra Marg	270.00		270.00	270.00	270.00	270.00		541.20	
44	R183	Nava Jyoti Marg	240.00		240.00	240.00	220.00	220.00			
45	T1 L16B	Xenial Front	210.00		210.00	210.00	205.00	205.00			
46	T1L16A	Xenial South	180.00		180.00	180.00	180.00	180.00			
47	R114	Dharanidhar Marg	560.00		560.00	560.00	560.00	560.00		560.00	
48	R113	Kavi Lekh Marg	740.00		740.00	740.00	740.00	740.00			
49	R5a		54.70		54.70	54.70	54.70	54.70			
50	Rani site B		520.00		520.00	520.00	520.00	520.00			
51	R3	Dharamban Marg	2,233.00	150.00	2,383.00	2,383.00	2,383.00	2,150.30		2,080.30	
	R3 - under STIUEIP	Tinpaini to Puspallal chowk			-					4,000.00	
52	R78	Sombare - Highway	92.00		92.00	92.00	92.00	92.00			
53	R84	West of school	473.20		473.20	473.20	236.00	236.00			
54	R85	Machha Line	160.00		160.00	160.00	160.00	160.00			
55	R87	Mahabir Chowk	148.00		148.00	148.00	110.00	110.00			



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
56	R86	Petrol pump side -R12	200.00		200.00	200.00	120.00	120.00			
57	R11	R18/R86	281.00		281.00	281.00	205.00	205.00			
58	N3	Jatuwa	117.00		117.00	117.00	117.00	117.00			
59	N4	Jatuwa	168.00		168.00	168.00	168.00	168.00			
60	R10	Ram Marga	292.00		292.00	292.00	292.00	292.00		853.20	
61	T2L26F	APF	55.00		55.00	55.00					
62	T2L27		80.00		80.00	80.00	80.00	80.00			
63	R122		265.55		265.55	265.55	265.55	265.55		497.40	
64	N9		220.42		220.42	220.42	220.42	220.42			
65	R17		365.00		365.00	365.00	365.00	365.00		730.00	
66	R18		370.00		370.00	370.00	370.00	180.00			
67	N2		75.84	30.00	105.84	105.84	105.84				
68	T3L6	Moti marga	170.00		170.00	170.00	170.00	170.00			
69	T3L6	Elite club - CDO Office	107.00		107.00	107.00					
70	T3L6	Balmandir - Ganesh Mandir	380.00		380.00	380.00					





SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
71	T3L6	CDO Office front	49.40		49.40	49.40					
72	T3L6A	Golchha Marga	220.00		220.00	220.00	220.00	220.00			
73	T3L23	Madhumara road	541.00		541.00	541.00	541.00	541.00		358.40	
74	R45	Bata road	505.00		505.00	505.00	315.00	315.00			
75	T3L21		400.00		400.00	400.00	400.00	400.00		774.00	
76	N5		70.00		70.00	70.00	70.00	70.00		122.00	
77	T3L39		400.00		400.00	400.00	245.80	245.80		491.00	
78	T3L39A		130.00		130.00	130.00	130.00	130.00		179.40	
79	T3L39B		80.00		80.00	80.00	80.00	80.00		117.60	
	T3L39C			100.00	100.00	100.00					
80	R68 - T2L24G		220.00		220.00	220.00					
81	N10		194.00		194.00	194.00	194.00				
82	T3L24C		170.00		170.00	170.00					
83	T3L9		278.00		278.00	278.00					
84	R6		1,228.20		1,228.20	1,228.20	1,228.20	1,228.20			
85	N24		136.00		136.00	136.00	136.00	136.00			



SN	Road Number	Name of Road	Length in m			Work Completed				Paint	Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC		
			Previous (Revised)	This Month		m	m	m	m	m	
86	R31		188.70		188.70	188.70	188.70	188.70			
87	Bindabasini Marga		352.28		352.28	352.28	352.28	352.80			
88	Bhattimode to Hartalihaat		166.50		166.50	166.50	166.50	166.50			
89	R73		217.00		217.00	217.00	217.00	217.00			
90	R6	Bata Galli	269.00		269.00	269.00	269.00	269.00			
	R6		280.00		280.00	280.00	280.00	194.80			
	R6	Pratibha chowk to N2	510.80		510.80	510.80	510.80	510.80			
91	R9 (R41-R7)		194.80		194.80	194.80	194.80	194.80			
92	R44	Thakurbari Road	357.50	125.00	482.50	482.50	482.50				
93	R102	Main	140.00		140.00	140.00	140.00				
94	R102	Branch	71.30		71.30	71.30					
95	R103		170.40		170.40	170.40					
96	R32		188.00		188.00	188.00	188.00	188.00			
97	T2L18Y		116.20		116.20	116.20	116.20				



SN	Road Number	Name of Road	Length in m			Work Completed				Paint	Remarks
			Progress		Total	Sub-base	Base	Asphalt	RCC		
			Previous (Revised)	This Month		m	m	m	m	m	
98	R20		108.00		108.00	108.00	108.00				
99	R82	Everest School	530.00		530.00	530.00	530.00	530.00			
100	T1L5		140.00		140.00	140.00	140.00	140.00			
	T1L5A		533.50		533.50	533.50	533.50	275.00			
101	T3L23C	Jay Nepal	220.20	52.00	272.20	272.20	272.20	65.20			
102	T3L25B		195.00		195.00	195.00					
103	T3L25C		140.00		140.00	140.00					
104	R3	T3 Trunk	465.00		465.00	465.00	370.00				
105	Nagmandir to R3		55.00		55.00	55.00	55.00	55.00			
106	R4			220.00	220.00	220.00					
107	R75		130.00		130.00	130.00	130.00	130.00			
108	R43		250.00		250.00	250.00					
109	T219P		124.80		124.80	124.80	124.80	124.80			
110	T219Q		113.70		113.70	113.70	113.70	113.70			
111	R106		130.00		130.00	120.90	120.90				
112	T3L12		80.00		80.00	80.00	80.00				



SN	Road Number	Name of Road	Length in m			Work Completed				Remarks	
			Progress		Total	Sub-base	Base	Asphalt	RCC		Paint
			Previous (Revised)	This Month		m	m	m	m		m
113	R46		340.00		340.00	200.00					
114	T3L11E		180.00		180.00	100.00	100.00				
115	T3L13D		70.00		70.00	70.00					
116	T3L13C			100.00	100.00	100.00	100.00	100.00			
117	R34		157.00		157.00	157.00	157.00				
118	T3L13E		80.00		80.00	80.00	65.00	65.00			
119	T3L13K		154.00		154.00	154.00	154.00	74.00			
120	R19		220.00	27.00	247.00	247.00	247.00				
121	R41		540.00		540.00	540.00	420.00	400.00			
122	R9B		90.00		90.00	90.00	90.00	83.85			
123	R67		119.40		119.40	119.40	119.40				
124	R74			100.00	100.00	100.00	100.00				
125	R9A		109.00		109.00	109.00	109.00	109.00			
126	T2L19F			120.00	120.00	120.00	120.00				
127	T3L7A		190.00		190.00	190.00	190.00	158.00			
	Total		50,971.31	1,334.00	52,305.31	52,076.21	47,238.66	39,914.40	210.00	18,395.30	



**Table No:-4.1 Footpath (Work Progress till date)**

SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
1	R2	Precast block	602.00		602.00	602.00	1.10	662.20	RHS
2	R2	Precast block	602.00		602.00	602.00	1.10	662.20	LHS
3	R29	Precast block	330.00		330.00	330.00	0.90	297.00	RHS
4	R29	Precast block	330.00		330.00	330.00	0.90	297.00	LHS
5	R28	Precast block	322.00		322.00	322.00	0.90	289.80	RHS
6	R28	Precast block	335.00		335.00	335.00	0.90	301.50	LHS
7	R28	Precast block	341.00		341.00	341.00	0.90	306.90	RHS
8	R21	Precast block	365.00		365.00	365.00	1.00	365.00	RHS
9	R21	Precast block	765.00		765.00	765.00	1.00	765.00	LHS
10	R78	Precast block	75.00		75.00	75.00	1.20	90.00	RHS
11	R78	Precast block	75.00		75.00	75.00	1.20	90.00	LHS
12	R77	Precast block	115.00		115.00	115.00	0.90	103.50	RHS
13	R77	Precast block	115.00		115.00	115.00	0.90	103.50	LHS
14	R76	Precast block	275.00		275.00	275.00	0.95	261.25	RHS
15	R76	Precast block	275.00		275.00	275.00	0.95	261.25	LHS
16	R75	Precast block	160.00		160.00	160.00	0.95	152.00	RHS
17	R75	Precast block	160.00		160.00	160.00	0.95	152.00	LHS



SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
18	R10	Precast block	700.00		700.00	700.00	0.95	665.00	RHS
19	R10	Precast block	700.00		700.00	700.00	0.95	665.00	LHS
20	R31	Precast block	175.00		175.00	175.00	0.95	166.25	RHS
21	R31	Precast block	175.00		175.00	175.00	0.95	166.25	LHS
22	R32	Precast block	185.00		185.00	185.00	0.30	55.50	RHS
23	R32	Precast block	185.00		185.00	185.00	0.30	55.50	LHS
24	R33	Precast block	285.00		285.00	285.00	0.90	256.50	RHS
25	R33	Precast block	170.00		170.00	170.00	0.90	153.00	LHS
26	R16	Precast block	170.00		170.00	170.00	1.20	204.00	RHS
27	R16	Precast block	170.00		170.00	170.00	1.20	204.00	LHS
28	R6	Precast block	700.00		700.00	700.00	1.20	840.00	RHS
29	R6	Precast block	700.00		700.00	700.00	1.20	840.00	LHS
30	B1	Precast block	490.00		490.00	490.00	1.20	588.00	RHS
31	B1	Precast block	490.00		490.00	490.00	3.40	1,666.00	LHS
32	B2 (2)	Precast block	715.00		715.00	715.00	0.59	421.85	RHS
33	B2 (2)	Precast block	715.00		715.00	715.00	1.65	1,179.75	LHS
34	B2 (1)	Precast block	131.00		131.00	131.00	2.60	340.60	RHS
35	B2 (1)	Precast block	131.00		131.00	131.00	0.90	117.90	LHS



SN	Road Number	Type*	Progress in m			Footpath			Remarks
			Previous	This Month	Cumulative	Length (m)	Avg. Breadth (m)	Quantity (m <sup>2</sup> )	
36	B3	Precast block	670.00		670.00	670.00	0.70	469.00	RHS
37	B3	Precast block	670.00		670.00	670.00	0.70	469.00	LHS
38	S11	Precast block	112.00		112.00	112.00	0.95	106.40	RHS
39	S11	Precast block	75.00		75.00	75.00	1.21	90.75	LHS
40	Rani	Precast block	425.00		425.00	425.00	1.00	425.00	RHS
41	Rani	Precast block	425.00		425.00	425.00	1.00	425.00	LHS
42	R3	Precast block	250.00		250.00	250.00	1.10	275.00	RHS
43	R3	Precast block	1,050.00		1,050.00	1,050.00	1.10	1,155.00	LHS
44	R27	Precast block	400.00		400.00	400.00	1.10	440.00	RHS
45	R27	Precast block	400.00		400.00	400.00	0.85	340.00	LHS
46	R26	Precast block	300.00		300.00	300.00	1.23	369.00	RHS
47	R26	Precast block	285.00		285.00	285.00	1.10	313.50	LHS
48	R25	Precast block	205.00		205.00	205.00	1.00	205.00	RHS
49	R25	Precast block	201.00		201.00	201.00	1.00	201.00	LHS





**Table No:-4.2 Road improvement Works (Work Progress till date)**

<b>SN</b>	<b>Description</b>	<b>Unit</b>	<b>Proposed</b>	<b>Total Up to Previous Month</b>	<b>This Month</b>	<b>Total Up to this Month</b>	<b>Progress</b>
1	Subgrade	m	73,860.00	50,971.31	1,334.00	<b>52,305.31</b>	<b>70.82%</b>
2	Sub Base	m	73,860.00	50,642.21	1,434.00	<b>52,076.21</b>	<b>70.51%</b>
3	Base	m	73,860.00	43,917.42	3,321.24	<b>47,238.66</b>	<b>63.96%</b>
4	Prime/Tack	m	73,860.00	39,784.40	130.00	<b>39,914.40</b>	<b>54.04%</b>
5	Asphalt	m	73,860.00	39,784.40	130.00	<b>39,914.40</b>	<b>54.04%</b>
6	Paint	m	73,860.00	18,395.30	-	<b>18,395.30</b>	<b>24.91%</b>

### 3.1.4. ROAD SIDE DRAIN

Most of the roads under this project for upgrading is without drain or existing drain are in poor condition, on instruction from the employer at various stretches the construction works were ongoing and some of them have been completed. The project has provisioned drain at either sides or one side as per available RoW of the road. The contractor has already started drain works at many locations. The progress for the drain works is listed below:

**Table No:-4a PROPOSED and PHYSICAL PROGRESS of Road side drain works till date.**

SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
1	B1	Kanchan Marg	90.00		90.00	90.00		
2	R29	Shanti Marg	256.52		256.52	256.52		
3	N36		185.88		185.88	185.88		
4	R8		219.83		219.83	219.83		
5	R7	Devi Marg and Pipal Marg	149.58		149.58	149.58		
6	R63	DSP Road	418.79		418.79	418.79		
7	R9	Baglamukhi path	103.20		103.20	103.20		
8	S13	Udaya Marga	158.10		158.10	158.10		
9	N33		70.00		70.00	70.00		
10	R28	Pustakalaya Marg	278.00		278.00	278.00		
11	R90	Shakti Marg	313.25		313.25	313.25		
12	R114	Dharanidhar Marg	312.33		312.33	312.33		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
13	R11	Om Shiv Marg	225.17		225.17	225.17		
14	R18		381.50		381.50	381.50		
15	R17		75.00		75.00	75.00		
16	R113	Kavi Lekhnath Marg	72.45		72.45	72.45		
17	R77	Arniko Marg	80.00		80.00	80.00		
18	R76	Mitra Marg	270.00		270.00	270.00		
19	N9	Devi Marga	22.70		22.70	22.70		
20	N4		146.38		146.38	146.38		
21	R33	Tarun Marg	264.48		264.48	264.48		
22	R36	Gaurav Marg	216.45		216.45	216.45		
23	R86	Janpath Marg	187.55		187.55	187.55		
24	R183	Nava Jyoti Marg	211.05		211.05	211.05		
25	R7a		65.00		65.00	65.00		
26	Rani site	Rani B	530.00		530.00	530.00		
27	Rani site	Rani A	270.00		270.00	270.00		
28	N3		110.00		110.00	110.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
29	N5		65.00		65.00	65.00		
30	R21	Binayak Marga	388.25		388.25	388.25		
31	R2	Main Road	2,092.50		2,092.50	2,092.50		
32	T1L16B	Xenial Front	205.68		205.68	205.68		
33	T1L16A	Xenial South	150.20		150.20	150.20		
34	R75	Tintoliya Marga	127.50		127.50	127.50		
35	R122	Amar Marga	250.48		250.48	250.48		
36	R18 Branch		30.00		30.00	30.00		
37	R7(b) (Neuro to sidhartha chowk)	Siddhartha Marga	330.00		330.00	330.00		
38	R12	Sukra Path	290.00		290.00	290.00		
39	R42	Jahada Marga	171.00		171.00	171.00		
40	R6	Shahi Marg	760.00		760.00	-	760.00	
41	R21(a)	DharamBadh Junction	80.00		80.00	80.00		
42	R78	Binayak Marga	70.00		70.00	70.00		
43	R188	Shakti Marg	115.60		115.60	115.60		
44	R40	Brahma Kumari Marga	350.00		350.00	350.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
45	Rani Site C		97.50		97.50	97.50		
46	Ranit Site D		131.45		131.45	131.45		
47	T3L21	Moti Marga	385.95		385.95	385.95		
48	T3L39	Gaheli Marga	340.00		340.00	340.00		
49	T3 Line 39A		90.00		90.00	90.00		
50	T3 L39B		90.00		90.00	90.00		
51	T2L27	Bhumi Prashasan Junction	79.50		79.50	79.50		
52	T4 Line 1	Sailesh Marg	100.00		100.00	100.00		
53	N2		95.00		95.00	95.00		
54	T2 Line 26E	College Road	90.00		90.00	90.00		
55	T2 Line 18C	Maisthan Marga	102.00		102.00	102.00		
56	T2Line 18A	Makalu Marga	60.00		60.00	60.00		
57	R6 (T3L11i)		247.50		247.50	247.50		
58	R9 (T3L11k)	Tathasthu Marga	180.00		180.00	180.00		
59	R45 (T3Line10D)	Dadhiram Marga	260.00		260.00	260.00		
60	R9, T2 L19	Fanindra Marga	380.00		380.00	380.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
61	R7c (Neuro to Shanti Chowk)	Siddhartha Marga	305.00		305.00	305.00		
62	R84	School Marga	663.00		663.00	663.00		
63	R85	Lekhanath Marga	150.00		150.00	150.00		
64	R87	Byas Marga	150.00		150.00	150.00		
65	Rani B (Bus park)		90.00		90.00	90.00		
66	R8(a)	Madhumara Marg	285.00		285.00	285.00		
67	T3L23A		280.00		280.00	280.00		
68	Rani E		85.00		85.00	85.00		
69	R102	Hamro Marg	132.50		132.50	132.50		
70	R10/R10a	Ram Marga	940.36		940.36	940.36		
71	N10	APF	150.00		150.00	150.00		
72	R23	Bani Marg	200.00		200.00	200.00		
73	R103	Vibuti Marga	162.50		162.50	162.50		
74	T3L6	Sahid Marga	350.00		350.00	350.00		
75	P1, T3L6A	Pandit Meghnath Marga	260.00		260.00	260.00		
76	T2 L24C & D	Hanuman Das Marga	130.00		130.00	130.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
77	R99	APF	187.00		187.00	187.00		
78	T2 L25		300.00		300.00	300.00		
79	R20		60.00		60.00	60.00		
80	T2L24F		60.00		60.00	60.00		
81	R105		150.00		150.00	150.00		
82	R34	Prabhu Marg	158.35		158.35	158.35		
83	R35	Garima Marg	138.00		138.00	138.00		
84	R107		160.00		160.00	160.00		
85	T3L13D		70.63		70.63	70.63		
86	T3L13E		62.40		62.40	62.40		
87	T3L11E		110.00		110.00	110.00		
88	B2		76.50		76.50	76.50		
89	R78		35.00		35.00	35.00		
90	R7b	in between R26 & R27	288.50		288.50	288.50		
91	T3L21A		25.00		25.00	25.00		
92	R74		96.00		96.00	96.00		





SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
93	R46		120.00		120.00	120.00		
94	R101		160.00		160.00	160.00		
95	T3L7A		125.00		125.00	125.00		
96	T3L8		75.00		75.00	75.00		
97	R20		100.00		100.00	100.00		
98	R5		200.00		200.00	200.00		
99	R67		110.00		110.00	110.00		
100	R82		350.00		350.00	350.00		
101	T1L13A		100.00		100.00	100.00		
102	T1L14A		150.00		150.00	150.00		
103	R68		200.00		200.00	200.00		
104	T3L22A		335.00		335.00	335.00		
105	T3L22B		120.00		120.00	120.00		
106	T3L25C		130.00		130.00	130.00		
107	T3L11B		60.00		60.00	60.00		
108	T3L11M		50.00		50.00	50.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
109	R106		70.00		70.00	70.00		
110	R41		520.00		520.00	520.00		
111	T2L19B		110.00		110.00	110.00		
112	R30		180.00		180.00	180.00		
113	T3L13C		225.00		225.00	225.00		
114	T3L13J		72.53		72.53	72.53		
115	T2L18Y		100.00		100.00	100.00		
116	T2L19P		114.38		114.38	114.38		
117	T2L19Q		126.55		126.55	126.55		
118	R9A		208.73		208.73	208.73		
119	R9B		25.00		25.00	25.00		
120	T3L7	Sahid Marga	355.00		355.00	355.00		
121	T2L18K		40.00		40.00	40.00		
122	T3L23C		105.00		105.00	105.00		
123	T2L24E	Mahabir Marga	60.00		60.00	60.00		
124	R44		390.00		390.00	390.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
125	R110		150.00		150.00	150.00		
126	Parichaya Marga		130.00		130.00	130.00		
127	T3L25B		200.00		200.00	200.00		
128	T1L5, 5A		590.00		590.00	590.00		
129	R82		110.00		110.00	110.00		
130	T2L19Y		150.00		150.00	150.00		
131	T3 Trunk	Tinpaini to Devkota Chowk	1,140.00		1,140.00	1,140.00		
132	T2L19F		55.00		55.00	55.00		
133	T2L18D		20.00		20.00	20.00		
134	R19		175.00		175.00	175.00		
135	R83	Shiva Marga	125.00		125.00	125.00		
136	T310B, T3L7D (R46)	Rangeli Road	400.00		400.00	400.00		
137	T2L19G		60.00		60.00	60.00		
138	R4 (T2 Trunk)	Jatuwa Marga	130.00		130.00	-	130.00	
139	T3L22	Rangeli Road	70.00		70.00	70.00		
140	T3L25B, Outlet	Madhumara	96.00		96.00	96.00		



SN	Road Number	Name of Road	Length in (m)			Work Completed		Remarks
			Progress		Total	Brick	RCC	
			Previous (Revised)	This Month		m	m	
141	T3L7B	Matrika Marga	75.00		75.00	75.00		
142	T3L5	Sanihat Marga	280.00		280.00	280.00		
143	T2L19X	Parichaya Marga	210.00		210.00	210.00		
144	T2L19H		75.00		75.00	75.00		
145	R181		150.00		150.00	150.00		
146	N38		150.00		150.00	150.00		
	<b>Total</b>		<b>29,827.19</b>		<b>29,827.19</b>	<b>28,937.19</b>	<b>890.00</b>	



### 3.2. ENVIRONMENTAL ASPECT

The environment has been defined to mean surrounding area including human and natural resources to be affected by execution and after completion of works. The Contractor shall take all precautions for safeguarding the environment during the course of the construction of the works. He shall abide by all prevalent laws, rules and regulations governing pollution and environmental protection mitigation measure specified in the latest publication of “Environmental Management Guidelines” published by the GoN and Projects Environmental management plan.

The Contractor shall prohibit employees from unauthorized use of explosives, poaching wildlife and cutting trees. The contractor shall be responsible for the action of his employees. Environmental protection works, among others, shall also include the following.

#### 3.2.1. BORROW/ QUARRY SITES

The engineer shall have the power to disallow the method of construction and / or the use of borrow or quarry area, if in this opinion, the stability and safety of the works or any adjacent structure is endangered, or there is undue interference with the natural or artificial drainage or the method or use of area will promote undue erosion.

Since the contractor has made agreement with the owner of crusher plant for the supply of required materials from the crusher, no approval for quarry and borrow sites are required till date.

#### 3.2.2. DISPOSAL OF SPOIL AND CONSTRUCTION WASTE

Material excess of the requirements for permanent works and unsuitable materials shall be disposed off in location and in the manner as agreed with the Engineer. The location of disposal site shall be such as not to promote instability, destruction of properties and public service system. Exposed area of such disposal site shall be suitably dressed and be planted with suitable vegetation.

The contractor has already provided the safe tipping sites and the excess materials are dumped as per the approved tipped sites. Spoil and construction wastes are disposed at Madhumara site similarly excess construction materials are stocked at Madhumara site and at the open space of north side of Degree College (Rani Site).

##### **Provision for maintenance of Camps/Office/Stores/Equipment.**

This section describes about the works related to maintenance and upgrading of labor camps, contractor's employees camp, contractor's site office, contractor's equipment store yards, contractor's equipment store yards, contractor's precast production yards. The camp should have the proper roofing system. Besides that, it should be spacious, should have proper circulation of the fresh air, should be hygienic, and should have proper electric lightening system & water supply system. It should be neat and clean.

Labor camps are provided at various locations as per requirement and these sites are frequently visited and monitored. The condition is found to be satisfactory. The details of the labor camp is provided in annex.



### **3.2.3. PROVISION AND MAINTENANCE OF TOILETS**

Provision of toilets for labor and employees shall be made to avoid public nuisance as well as pollution of water courses and air. The Contractor shall construct suitable septic tanks and soak pit along with rooms for pit type latrines. Sufficient water must be provided and maintained in the toilets.

Toilets have been provided at each labor camp. The contractor has been instructed to improve the toilet conditions where required.

Toilets in all the camps are found to be in the acceptable condition.

### **3.2.4. CRUSHING PLANTS**

Crushing plants shall be located away from the population centers, water intakes, and should not disturb the sensitive echo system. Suitable dust control device should be fitted with crusher to control emission of dust from plant. The crusher plant is located at around 42 km north-east of Biratnagar at a place called Chis yang.

Since the contractor has made agreement with the owner of crusher plant for the supply of required materials from the crusher, no approval for quarry and borrow sites are required till date certainly minimize the dust pollution.

### **3.2.5. ASPHALT PLANTS AND BATCHING PLANTS**

Hot mix plant and batching plant shall be located away from the population centers. The Contractor shall take every precaution to reduce levels of noise, vibration, dust and emission from his plants. No Bituminous material shall be discharged in to drains, nearby trees vegetation; property shall be protected during spray of bitumen etc.

As the concrete quantity of the project is very minimal, there is no need of the separate batch plant for concrete mixing. However, as there are a lot of asphalt concrete works to be done in the project, a separate asphalt plant has been installed, especially for the project, at about 6 Km south of the Biratnagar DSC office at a place called Rani.

### **3.2.6. OCCUPATIONAL HEALTH AND SAFETY MEASURES**

The contractor shall provide personnel protective equipment (PPE) (Helmet, Boots, masks, gloves, jacket, protective glasses etc.) to use. Public notification, safety and warning signs and informative signboards in working sites for work safety shall be provided. The DSC engineer and DSC Environmental safeguard expert supervise and monitor the use of PPEs and other necessary safety measures regularly.

The project is the environmental improvement project and mainly constitutes sewerage and drainage improvement works in BMC besides others. As per ADB guide-lines on Environmental Assessment requirements, this project is classified as Environment Category B. According to Environmental Protection Regulation-2054BS, First Revised (2055 BS) schedule-3, IEE is required for Operations of Sewerage Schemes under Schedule 1.h.2.e (pertaining to Rule3). The final report was submitted to MoUD on 14th May, 2013 and has already been approved.

Installation of functioning sewers and functioning drainage system including roads/lanes improvement in BMC does not possess any adverse environmental impacts to its surrounding. In fact, these will greatly enhance the living conditions/hygiene of the inhabitants and facilitate transportation. Nevertheless, it is imperative to look into positive as well as negative impacts of such infrastructure development works in the urban area.



Training and awareness program regarding health, safety and disease at Labour camps and yards on 3 and 4 March 2018 by Safety Prevention Officer Er. Dhiraj Sardar.

A regular monitoring visit by DSC was carried out and a standard site specific environmental monitoring checklist was used to record the present status of the project to verify if work has been done as per EMP Guidelines. A sample of environmental checklist is attached herewith as Annex.

### **3.3. SOCIAL ASPECT**

Regional Urban development Project (RUDP) in Biratnagar has implemented to improve the quality of life and help to achieve higher and more socially inclusive economic growth of people through effective, efficient, and reliable delivery of improved and affordable municipal services. Infrastructure development of drainage and sewerage system as well as roads and lane improvement are the major components of RUDP in Biratnagar Metropolitan City (BMC). Establishment and functioning of Social Safeguard Desk in PIU is a major milestone of social development aspect which has been effective to address all social/community development issues and concerns with active initiation of the DSC. Local labors have been deployed in civil construction works (i.e. in Road side drain / Sub grading works). The Engineer has issued the format of Social Safeguard Monitoring plan which is attached here with.

### **3.4. SAFEGUARD/ GESI COMPONENT**

#### **3.4.1. COMMUNITY AWARENESS:**

Conduct regular Community Awareness Consultations within Project Areas to build awareness on Project Objectives, Activities and implementation during site observation, Monitoring and Meetings. Different site visit has been conducted during May, 2018 such as DDC Pre cast yard, Chyangbari Naala Biratnagar-16, Asphalt work at Sai Marg, Sewer Line construction work at Hanumandas Road and Asphalt Plant at Rani Site. Except of Minor, no any major conflict has been found during construction work. The visit was conducted jointly with Environment Safeguard Expert and Social Safeguard Expert. Before commissioning of any works at any stretches, we paste the information templates at certain interval and provide sufficient information to the users regarding it.

#### **3.4.2. GRIEVANCE REDRESSES MECHANISM:**

Although many grievances were received verbally, only 9 (Nine) grievances have been registered formally which have immediately been addressed and resolved. This month, some grievances for some stretches were received verbally and were addressed immediately. Refer semi - annual report for details.

#### **3.4.3. GENDER EQUITY AND SOCIAL INCLUSION (GESI):**

Activities related to GESI has been monitored and supervised in all Construction sites. During site visit female workers were found in significant minority (7 numbers) at Construction sites, thus Contractor was instructed as follow:

- i. Encourage to Local female Employment as Labor and skilled man power.
- ii. Manage separate Camp and necessary facilities for female workers to encourage of female Employment. Camps and construction sites are regularly been monitored to find the status of



working force.

### 3.4.4. STATUS OF SOCIAL AND ENVIRONMENTAL SAFEGUARD MEASURES

The present status to this regard has been reported as below:

During the site visit for Socio Environment monitoring by DSC Environmental and Social Safeguard Expert on date 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> December, 2018 following issues were found. Social Safeguard revisited the site on 29<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup> December.

- Efforts are being made to control dust emission at construction site by sprinkling water. As personal safety was given prime importance, construction workers were made to use helmet, globe and jacket while on the construction site.
- Besides that, special attentions were given on the placement of safety board and traffic signboards, safety tools, barricades, tapes, etc. and special care were taken to make sign boards big enough to make them visible from distant.
- Taking into consideration of the fact that the involvement of the significant numbers of female as employee in ADB project is the main project objective of ADB, contractor paid especial attention to have a separate toilet and separate labor camp for female that facilitates and encourages female to get work in the construction field.
- Significant improvement was found to be done in health and sanitation issues in the labor camp than in the previous monitoring visit; like, quality and quantity of drinking water was improved and condition of toilet was found to be enhanced. However, to meet the sanitation condition to predetermined level, further instructions were given by contractor to make provision for sufficient water in toilet and soap for hand-wash. Furthermore, yard in charge was suggested to have sufficient medications, bandages and other necessary first aid equipment's.

The implementation of Social and Environmental Safeguard measures during this month were found partially satisfactory.

### 3.4.5. STATUS OF RELOCATION OF SERVICES

Relocation of water supply pipe lines were ongoing at R2, Tinpaini chowk, B2 and at Pratibha chowk, etc. The supply has been providing temporarily as per site condition where required. Relocation of electric poles in R2, Jahada road, R7 (Neuro to shanti chowk) & R3 are going on.

**Table – 5: Status of Labor at Site**

Labour class	Labour		Composition		Ethnic composition				
	Skilled	Unskilled	Male	Female	Janjati	Dalit	Muslim	Madhesi	Brahmin/Chhetri
Local	20	62	82	0	0	0	0	82	0
Non local	53	177	210	20	55	29	14	132	0
Indian	7	27	34	0	0	0	17	17	0
<b>TOTAL</b>	<b>80</b>	<b>266</b>	<b>326</b>	<b>20</b>	<b>55</b>	<b>29</b>	<b>31</b>	<b>231</b>	<b>0</b>





### 3.5. FINANCIAL PLAN

The Sub-project cost will be disbursed in three years starting from FY2074/2075 to 2076/2077

#### 3.5.1. DISBURSEMENT RECORDS IN CONSTRUCTION

**Table – 6: DISBURSEMENT RECORDS in CONSTRUCTION**

S. No.	Description	Submission date	Covering date	Submitted Amount(NRs)	Remarks
1	IPC 01	15 <sup>th</sup> October 2017		339,105,000.00	Mobilization Advance
2	IPC 02	2 <sup>nd</sup> April 2018	2nd November 2017 to 31st March 2018	261,501,492.21	
3	IPC 03	1 <sup>st</sup> July 2018	1st April 2018 to 30th June 2018	316,582,708.58	
4	IPC 04	1 <sup>st</sup> October 2018	1st July 2018 to 31st September 2019	105,227,887.16	
5	IPC 05	2 <sup>nd</sup> December 2018	1st October 2018 to 30th November 2018	95,951,603.44	
6	IPC 06	31 <sup>st</sup> January 2019	1st December 2018 to 31st January 2019	264,937,394.98	
7	IPC 07	12 <sup>th</sup> April 2019	1st February 2019 to 31st March 2019	308,805,662.97	
8	IPC 08	9 <sup>th</sup> May 2019	1st April 2019 to 30th April 2019	106,210,198.68	
9	IPC 09	10 <sup>th</sup> June 2019	1st May 2019 to 31st May 2019	90,419,375.33	
10	IPC 10	11th July 2019	1st June 2019 to 30th June 2019	67,863,056.59	
11	IPC 11	30 <sup>th</sup> September 2019	1 <sup>st</sup> July 2019 to 30 <sup>th</sup> September 2019	95,296,297.30	
12	IPC 12	3rd November 2019	1st October 2019 to 31st October 2019	53,113,369.86	



<b>S. No.</b>	<b>Description</b>	<b>Submission date</b>	<b>Covering date</b>	<b>Submitted Amount(NRs)</b>	<b>Remarks</b>
13	IPC 13	30th November 2019	4th June 2019 to 30th June 2019	125,965,923.87	
<b>Total amount excluding PA &amp; Mobilization advance till date =</b>				<b>1,891,874,970.97</b>	



## 4. OBJECTIVES AND SCOPE OF WORKS

### 4.1. OBJECTIVES

The following are the expected physical infrastructure improvement outputs of the project in Biratnagar:

- Drainage and sewerage systems improvement.
- Urban roads and lanes improvement.

Reference to the deliverables identified in the Project, indicates that there are a number of deliverables related specifically to the design aspects of the above infrastructure improvements with construction works.

### 4.2. SCOPE OF WORKS

The scope of works for consultant's services is fairly detailed in the TOR attached with contract Agreement. The main points are summarized below:

- Detailed Design and Procurement Assistance Phase for integrated solid waste management design (ISWM)
- Monthly progress report and quarterly progress report.
- Semi- annual Environmental monitoring report.
- Semi-annual Safeguard monitoring report.
- Annual progress report including annual Environmental / Social safeguard monitoring report, assets.
- Detailed draft final report for our puts, including to assist the PIU (Employer), status of all supervision and construction works issues, all deliverables under the contacts.
- Sub project completion report, and summary of all other reports, progress and issues under the project.

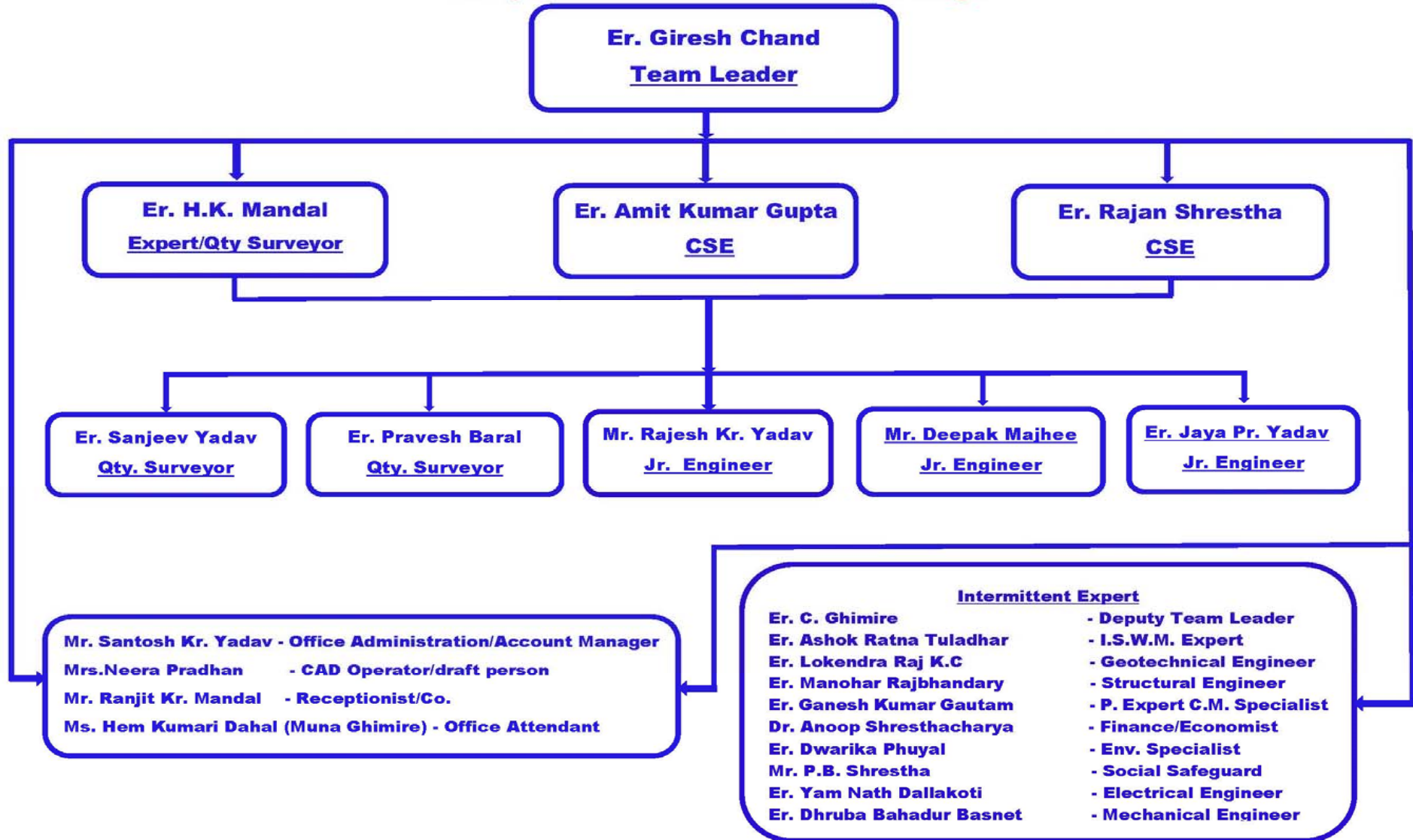
#### 4.3. ORGANIZATION AND STAFFING

Attached



## ORGANIZATION CHART

RUDP (ADB Loan No - 47252 Site Office, Biratnagar)



## 4.4. CONSULTANT'S ACTIVITIES IN CONSTRUCTION PHASE

The current staffing of the consultant at project site is as follows:

**Table 7: CONSULTANT'S STAFF at Project Site, Biratnagar**

SN	Name	Designation	Joining date	Remarks
1	Mr. Giresh Chand	Team Leader	6 <sup>th</sup> Sep 2017	
2	Mr. Ashok Ratna Tuladhar	ISWM ( Designer)	6 <sup>th</sup> Sep 2017	Intermittent
3	Mr. Dwarika Phuyal	Environmental Safeguard Expert	1 Nov 2017	Intermittent
4	Mr. Prakash Bhakata Shrestha	Social Safeguard Monitoring Expert	26 <sup>th</sup> dec-2017	Intermittent
5	Mr. Hare Krishna Mandal	Expert/Quantity surveyor	1 <sup>st</sup> Nov 2017	
6	Mr. Amit Kumar Gupta	Construction Supervision Engineer	1 <sup>st</sup> March 2018	
7	Mr. Rajan Shrestha	CSE/Quantity Surveyor	7 <sup>th</sup> Nov 2017	Working as CSE from 1 <sup>st</sup> May 2019.
8	Mr. Rajesh Kumar Yadav	Junior Engineer-1	6 <sup>th</sup> Sep 2017	
9	Mr. Sanjeev Yadav	Qty. Surveyor	5 <sup>th</sup> Nov 2017	
10	Mr. Santosh Kumar Yadav	Office Administration/Account Manager	6 <sup>th</sup> Sep 2017	
11	Mr. Hem Kumari Dahal (Muna Ghimire)	Office Attendant	6 <sup>th</sup> Sep 2017	
12	Mr. Ranjit Kumar Mandal	Receptionist	10 <sup>th</sup> Dec 2017	
13	Mr. Pravesh Baral	Junior Engineer-2	10 <sup>th</sup> Dec 2017	
14	Mr. J.P Yadav	Junior Engineer-3	1 <sup>st</sup> March 2018	
15	Mr. Deepak Majhi	Junior Engineer-4	1 <sup>st</sup> March 2018	
16	Mrs. Neera Pradhan	CAD operator/Draft Person	10 <sup>th</sup> Dec 2017	
17	Mr. Yubraj Poudel	Driver	10 <sup>th</sup> Feb-2019	

The consultant has been constantly supervising the contractor's work in daily basis. The consultant is mainly focusing in construction management, contract administration and the following activities but not limited as listed below:

- i. Daily Construction supervision/Surveying works etc.
- ii. Quality control, cost control and time control
- iii. Measurement and Certification of Interim Payment Certificates (IPC)
- iv. Modification and design of Road side drain, storm drainage and sewer lines, manholes etc. as per site condition and approve working drawings as discussed/advised by employer.
- v. Supervise construction material testing and sampling
- vi. Monitor Environment Management Plan and its compliance
- vii. Monitor Social safeguard and Resettlement Plan and its compliance
- viii. Prepare Due Diligence Report of the Project
- ix. Maintain correspondences with the Employer and the Contractor
- x. Assisting PIU

## 5. PROGRESS OF SUB – PROJECT COMPONENTS

### 5.1. CONSTRUCTION MATERIALS.

Before using any construction material in the project, as per clause 7.3, engineer gave prior notice to contractor for joint inspection of the construction materials and all materials have been jointly checked and verified. Team leader issued letter to contractor to do the lab test of the construction materials from the authorized organizations and lab reports of the tested materials have been submitted by contractor. Engineer has emphasized on the production of the pre-cast item like (Kerb stone, drain cover slab, manhole etc.) for better work progress of the project. The Contractor has established three production yards at Koshi project, Madhumara and Judi contractor camp for pre-cast items like Kerb stone, drain cover slab, sewer precast elements, etc. but as more than 75% work done so that the production yard at Koshi project has been closed and production are going on.

The Contractor has informed to borrow RCC NP-3 pipes from Itahari Hume pipe factory or other location and also requested for three Edge bearing test. It has been tested in presence of consultant TL, PIU and contractor representative.

### 5.2. PROGRESS ACHIEVED TILL DATE

Month	Target This Month		Achievement This Month		Leading		Lagging		Remarks
	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	
July-18	0.15%	25.17%	0.78%	25.18%	0.63%	0.01%			Leading
August-18	0.15%	25.32%	2.32%	27.50%	2.17%	2.18%			Leading
September-18	5.71%	31.03%	1.22%	28.72%				-2.31%	Lagging
October-18	7.72%	38.75%	2.30%	31.03%				-7.72%	Lagging
November-18	7.72%	46.47%	5.20%	36.22%				-10.25%	Lagging
December-18	7.95%	54.41%	3.40%	39.62%				-14.79%	Lagging
January-19	7.96%	62.37%	5.65%	45.27%				-17.10%	Lagging
<del>February-19</del>	<del>7.96%</del>	<del>70.33%</del>	<del>5.11%</del>	<del>50.38%</del>				<del>-19.95%</del>	Lagging
February-19 (after Revision)	5.33%	50.03%	5.11%	50.38%		0.35%			Leading
March -19	7.75%	57.77%	7.84%	58.21%		0.44%			Leading
April-19	6.82%	64.59%	4.53%	62.74%				-1.85%	Lagging
May-19	6.49%	71.08%	4.54%	67.28%				-3.80%	Lagging
June-19	3.95%	75.03%	2.05%	69.33%				-5.70%	Lagging





Month	Target This Month		Achievement This Month		Leading		Lagging		Remarks
	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	Monthly	Accumulated	
July-19	3.90%	78.93%	2.19%	71.52%				-7.41%	Lagging
August-19	4.97%	83.90%	2.01%	73.53%				-10.37%	Lagging
September-19	7.45%	91.35%	4.97%	78.50%	NA	NA	-2.48%	-12.85%	Lagging
October-19	8.56%	99.91%	1.14%	79.64%	NA	NA	-7.42%	-20.27%	Lagging
November-19	0.09%	100.00%	0.33%	79.97%	0.24%	NA	NA	-20.03%	Lagging

### 5.3. KEY EVENTS

The consultant has noted the following key dates for this month.

**Table 8: KEY DATES of EVENTS / ACTIVITIES**

S. No.	Date	Activities/Events	Remarks
1		Frequent visit of sites by the representatives of the employer.	
2	10 <sup>th</sup> November 2019	Expert visit to Biratnagar Site, Prof. Dr. Bhagwan Ratna Kansakar, Wastewater Treatment Specialist, Mr. Lokendra K.C., Geotechnical Engineer and Mr. Ganesh Gautam, Contract Management specialist from BDA.	

## 6. DETAILS OF PRE CAST ACTIVITIES.

**Table 9: PHYSICAL PROGRESS in PRODUCTION OF PRECAST ITEMS till date,**

Physical Progress till date							
S.N.	Description	Unit	Progress			Total to Date (RM.)	Remarks
			BoQ	Up to Previous month (RM.)	This Month (RM.)		
1	Precast Slab	No		79,871.00	2,000.00	81,871.00	Under progress
2	Kerb Stone	Rm	147,729.68	92,293.30	1,000.00	93,293.30	63.15%

**Table 10: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF RCC Hume Pipe at Itahari till date,**

Physical Progress till date							
S.N.	Description	Diameter (mm)	BoQ (RM)	Progress		Total to Date (RM.)	Remarks
				Up to Previous month (RM.)	This Month (RM.)		
1	RCC Pipe	300	336.00	336.00	-	336.00	
2	RCC Pipe	450	681.00	681.00	-	681.00	
3	RCC Pipe	500	842.00	842.00	-	842.00	
4	RCC Pipe	600	382.00	382.00	-	382.00	
	<b>Total</b>						

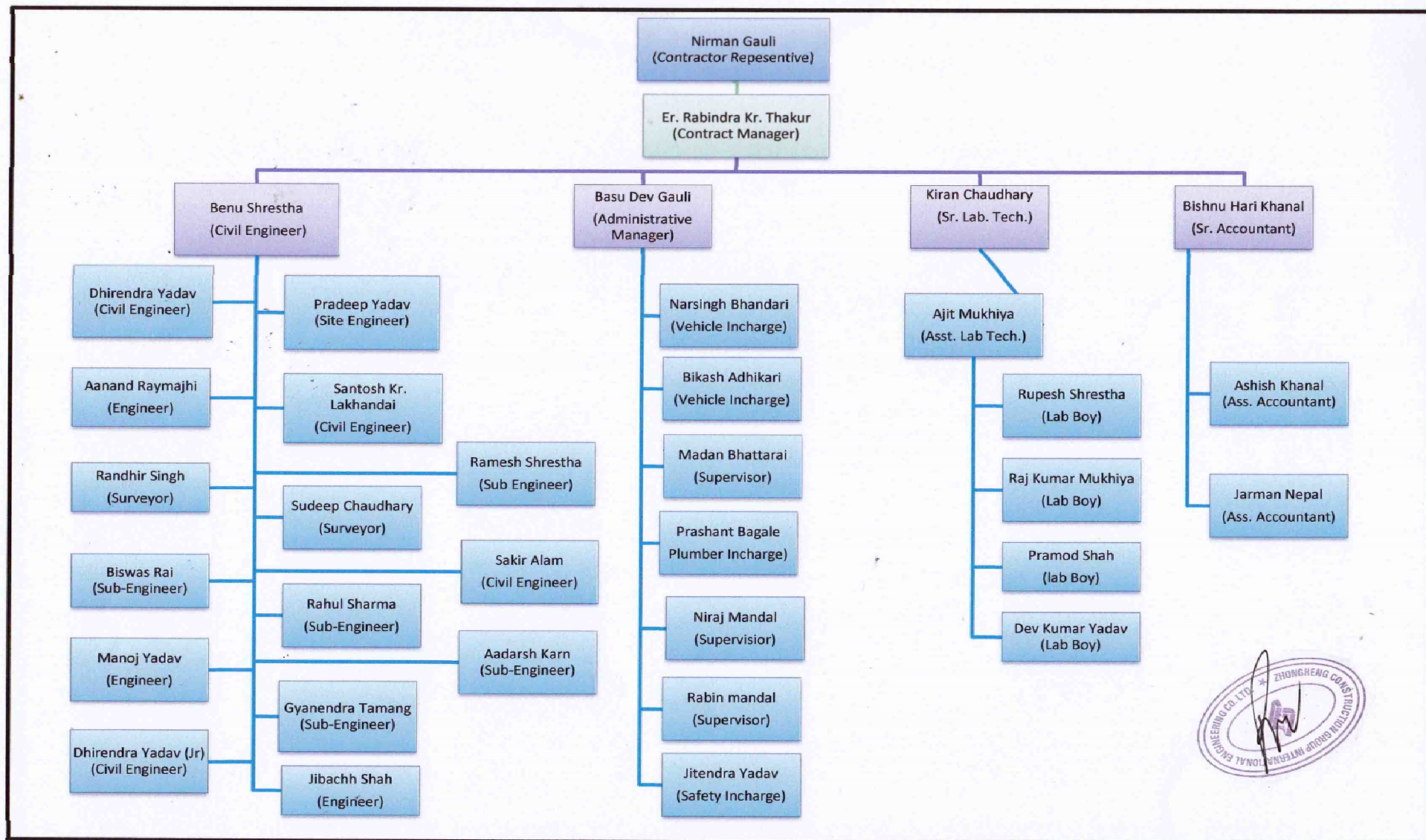
**Table 11: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF HDPE Pipe till date.**

<i>Physical Progress till date</i>							
<i>S.N.</i>	<i>Description</i>	<i>Diameter (mm)</i>	<i>Progress</i>			<i>Total to Date (RM.)</i>	<i>Remarks</i>
			<i>BoQ (RM)</i>	<i>Up to Previous month (RM.)</i>	<i>This Month (RM.)</i>		
1	HDPE Pipe	110.00	1,987.20	4,487.20	-	4,487.20	<b>Under process</b>
2	HDPE Pipe	200.00	16,656.00	16,500.00	-	16,500.00	
3	HDPE Pipe	250.00	115.00	450.00	-	450.00	
	<b>Total</b>						

**Table 12: PHYSICAL PROGRESS in PRODUCTION/PURCHASE OF UPVC Pipe till date.**

<i>Physical Progress till date</i>							
<i>S.N.</i>	<i>Description</i>	<i>Diameter (mm)</i>	<i>Progress</i>			<i>Total to Date (RM.)</i>	<i>Remarks</i>
			<i>BoQ (RM)</i>	<i>Up to Previous month (RM)</i>	<i>This Month (RM.)</i>		
1	UPVC Pipe	160.00	5,050.00	5,050.00		5,050.00	
2	UPVC Pipe	110.00	5,050.00	5,050.00		5,050.00	

**Details of Contractor's Site Personnel**



## 7. CONTRACTOR'S MANPOWER

Table 13: CONTRACTOR'S KEY STAFFS

S. No.	Position	Minimum Number Required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
1	Project/Contract Manager (1 No) 15/10 Yrs. (Total/Similar Exp.)	1	1	
2	Civil Engineer-10/6	2	2	
3	Sanitary Engineer- (1no.)-12/8	1	-	
4	Road Engineer- (1no.)-12/8	1	1	
5	Electromechanical Engineer-(1no)-10/5	1	-	
6	Safety Engineer	-	1	
7	Site Engineer	-	8	
8	Sub- Engineer	-	7	
9	Accountant	-	3	
10	Lab Technician	-	6	
11	Store Keeper	-	1	
12	Vehicle In charge	-	2	
13	Skilled Labors		80	
14	Unskilled Labors		266	

## 8. CONTRACTOR'S EQUIPMENT

**Table 14: CONTRACTOR'S EQUIPMENT**

S. No.	Equipment Type and Characteristics	Min Number required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
1	Excavator (200 above)	5	1	Backhoe loader-9 nos.
2	Crane (10 ton capacity)	3	-	
3	Asphalt plant of adequate capacity	1	1	
4	Asphalt pavers	1	1	
5	Vibrating roller	2	4	Among 4nos., 2ton rollers -2nos.
6	Pneumatic tyre roller 8 to 10 ton	2	1	
7	Smooth wheeled roller 8 to 10 ton	1	1	
8	Grader	1	3	
9	Track Dozer (120 to 180 HP)	1	-	
10	Bitumen distributor (4 to 6 Kilo Litres)	1	1	
11	Water browser ( minimum 5000 Litres)	3	9	
12	Chips spreader	1	-	
13	Bitumen decanter minimum 4000 Litres. ( preheating container)	2	2	
	Air compressor	2	2	
14	Tipping Trucks	5	2	
15	Service vehicle	15	4	
16	Survey equipment (Total station with accessories)	2	1	



S. No.	Equipment Type and Characteristics	Min Number required as per Contract	ZHONGHENG CONSTRUCTION Group	Remarks
17	Theodolite	1	-	
18	Levelling	2	27	
19	Mobile Generator 15-20 KVA	5	10	
20	Mixer Machine	3	5	
21	Concrete Batching Plant	1	-	
22	Concrete pump	1	-	
23	Drain cleaner/ Nala cleaner	2	-	
24	Broomer	-	1	
25	Motor Bike	-	11	
26	Plate Compactor	-	5	
27	Water Pump	-	14	

## 9. WORK PLAN FOR THE NEXT MONTH

Following are the Contractor's works in the next month program.

- Detail Surveying works at various Road sections.
- Road works
- Precast elements production works at contractor's yard.
- Road Side drain works.
- Laying of Kerb Stone, cover slab and interlocking tiles.
- Placement of Sewer inlet and House Connection works.
- Relocation of electric poles and water supply works, etc.

## ANNEX-1: Photographs of November, 2019







Sub base at R4



Laying of Sewer pipes at T3Line7





Laying of Sewer pipes at T3Line7



Brick Manhole of Sewer line at T3Line7





Experts with Team Leader at WWTP



Precast work at Yard

## ANNEX-2: Minutes of Meeting November, 2019



Meeting Minute: 15

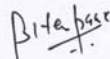
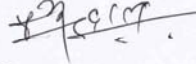


## Regional Urban Development Project (RUDP), Biratnagar

### 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:

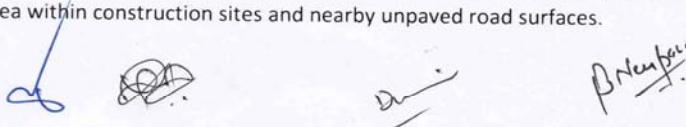
##### **Agenda no1: Progress Review and compliance issues meeting and Site Visit**

**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.

A large blue checkmark is drawn to the left of the text. To the right, there are handwritten initials 'B.P.' and a signature 'B. K. S. Prasad'.

ANNEX-3: Laboratory Test Results of November, 2019  
**ATTACHED**



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**  
Summary Sheet of Monthly Test Report







### Summary Sheet of Monthly Test Report

[illegible]





## Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

### Summary Sheet of Monthly Test Report

Location :-Rani-prajatantra marg(B)																	
Sn.	Lab.Ref no.	Location of Sample	Source of Sample	Date of Testing	Sieve Size in mm / passing % By Weight								MDD	Sub-base			
					63.0	37.5	20.0	10.0	5.0	2.36	1.18	0.075		OMC	Pt%	CBR%	Remarks
1	RUDP-SB-01	Rani-prajatantra marg(B),0+100	Chisang Khola	11-Nov-19	100	89.84	71.26	48.82	34.91	28.28	16.53	5.18	2.214	5.15	0.84	42.10	
2	RUDP-SB-02	Rani-prajatantra marg(B),0+200	Chisang Khola	11-Nov-19	100	90.95	73.04	47.30	31.87	27.36	16.63	6.06			1.85		

Spec. Limit:	
--------------	--

	$>30$
--	-------

4~15

85	40
----	----

Spec

1

1

Contractor

Contractor  
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO.  
100000, Beijing, China  
Tel: 86-10-62111111  
Fax: 86-10-62111111  
E-mail: zhongheng@163.com

Consultant

**BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY  
PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL.**

Checked By  
Engineer  
Dhirendra vadav


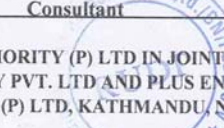
Submitted By  
Contract Manager  
Rabindra Kr. Thakur

.....  
**Verified By**  
 Expert Qty Surveyor/CSE  
 H K Mandal/Rajan Shrestha

**Approved By**  
Team Leader  
Gireesh Chand

### Summary Sheet of Field Density Test

Month	November
Year	2019
Type of Material	Sub-Base

<p><b>Contractor</b></p> <p><b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b></p> 	<p><b>Consultant</b></p> <p><b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b></p> 
<p><i>Dhirendra</i></p> <p>..... <b>Checked By</b> Engineer</p> <p><b>Dhirendra Yadav</b></p> <p><i>R. Thakur</i></p> <p>..... <b>Submitted By</b> Contract Manager</p> <p><b>Rabindra Kr. Thakur</b></p>	<p><i>H.K. Mandal</i></p> <p>..... <b>Verified By</b> Export Qty Surveyor/CSE</p> <p><b>H.K. Mandal/Rajan Shrestha</b></p> <p><i>G. Chand</i></p> <p>..... <b>Approved By</b> Team Leader</p> <p><b>Gireesh Chand</b></p>





**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**  
**Summary Sheet of Monthly Test Report**

## Summary Sheet of Monthly Test Report

**Location :-R-74**

[illegible]

**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-74**

<p><b>Contractor</b></p> <p>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p> <p><i>(Circular Stamp: ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD)</i></p>	<p><b>Consultant</b></p> <p>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p> <p><i>(Circular Stamp: Building Design Authority (P) Ltd, B.N. Consultancy Pvt. Ltd, Plus Engineers &amp; Architects (P) Ltd, Kathmandu, Nepal)</i></p>
<p><i>(Signature: Dhirendra yadav)</i></p> <p>..... Checked By Engineer Dhirendra yadav</p> <p><i>(Signature: Rabindra Kr. Thakur)</i></p> <p>..... Submitted By Contract Manager Rabindra Kr. Thakur</p>	<p><i>(Signature: H.K. Mandal/Rajan Shrestha)</i></p> <p>..... Verified By Export Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p> <p><i>(Signature: Gresh Chand)</i></p> <p>..... Approved By Team Leader Gresh Chand</p>

**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report

**Location :-R-4**

[illegible]

Spec. Limit:	10
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Consultant

Contractor:

**ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL  
ENGINEERING CO. LTD**

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY  
PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL

Checked By \_\_\_\_\_

Checked By \_\_\_\_\_  
Engineer

Dhirendra yadav

Submitted By \_\_\_\_\_

Submitted By  
Contract Manager

Rabindra Kr. Thakur

Verified By

Verified By

Expert Qtv Survivor/CSE

H.K. Mandal/Rajan Shrestha

..... Approved By

..... Approved By

Team Leader

Team Leader  
Gireesh Chand



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-4**



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**  
**Summary Sheet of Monthly Test Report**

**Location :-R-30**

[illegible]



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-30**

<p><b>Contractor</b></p> <p><b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b></p> 	<p><b>Consultant</b></p> <p><b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b></p> 
<p><i>Dhirendra</i></p> <p>..... <b>Checked By</b> Engineer</p> <p><i>Ra</i></p> <p>..... <b>Submitted By</b> Contract Manager</p> <p><b>Dhirendra Yadav</b></p> <p><b>Rabindra Kr. Thakur</b></p>	<p><i>H.K.</i></p> <p>..... <b>Verified By</b> Export Qty Surveyor/CSE</p> <p><b>H.K. Mandal/Rajan Shrestha</b></p> <p><i>G</i></p> <p>..... <b>Approved By</b> Team Leader</p> <p><b>Giresh Chand</b></p>



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report

[illegible]



### Summary Sheet of Field Density Test

[illegible]

Contractor

**ZHONGHENG CONSTRUCTION GROUP  
INTERNATIONAL ENGINEERING CO. LTD**

Consultant

**BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &  
ARCHITECTS (P) LTD, KATHMANDU, NEPAL**

Checked By  
Engineer  
Dhirendra Yadav

Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Verified By  
Export Qty Surveyor/CSE  
H.K. Mandal/Rajan Shrestha

Approved By  
Team Leader  
Giresch Chand

### Summary Sheet of Monthly Test Report

Consultant  
SECURITY (P) LTD IN JOINT  
ENGINEERS & ARCHITECTS



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-T3L13C**

<p><b>Contractor</b></p> <p><b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b></p> 	<p><b>Consultant</b></p> <p><b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b></p> 
<p><i>Shirendra</i></p> <p>.....</p> <p><b>Checked By</b> Engineer</p> <p>Dhirendra yadav</p>	<p><i>Shirendra</i></p> <p>.....</p> <p><b>Submitted By</b> Contract Manager</p> <p>Rabindra Kr. Thakur</p>
<p><i>Shirendra</i></p> <p>.....</p> <p><b>Checked By</b> Engineer</p> <p>Dhirendra yadav</p>	<p><i>Shirendra</i></p> <p>.....</p> <p><b>Verified By</b> Export Qty Surveyor/CSE</p> <p>H.K. Mandal/Rajan Shrestha</p>
<p><i>Shirendra</i></p> <p>.....</p> <p><b>Checked By</b> Engineer</p> <p>Dhirendra yadav</p>	<p><i>Shirendra</i></p> <p>.....</p> <p><b>Approved By</b> Team Leader</p> <p>Giresh Chand</p>



## Biratnagar Metropolitan City

**Contract No: RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report

**Location:-R-74**

[illegible]

Sp

Contractor

ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO.

## LYND

Consultant

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS  
(P) LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Dhirendra vadav

Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Verified By  
Export Qty Surveyor/CSE,  
H.K. Mandal/Rajan Shrestha

**Approved By**  
**Team Leader**  
**Gireesh Chand**



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-74**

## Biratnagar Metropolitan City

**Contract No: RUDP/ICB/BRT-02**

## Summary Sheet of Monthly Test Report

**Location:-R-7,PIU Front)**

[illegible]

contractor


ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS  
(P) LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Dhirendra vadav



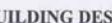

.....PW.....  
Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Verified By  
Export Qty Surveyor/CSE  
H.K. Mandal/Raian Shrestha

  
Approved By  
Team Leader  
Gireesh Chandra

**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-7,(PIU Front)**

<p align="center"><b>Contractor</b></p> <p align="center">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p>	<p align="center"><b>Consultant</b></p> <p align="center">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD KATHMANDU, NEPAL</p>
<p align="center"> ..... Checked By Engineer Dhirendra yadav</p> <p align="center"> ..... Submitted By Contract Manager Rabindra Kr. Thakur</p>	<p align="center"> ..... Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p> <p align="center"> ..... Approved By Team Leader Giresh Chand</p>





**Biratnagar Metropolitan City**  
**Contract No: RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report

**Location:-R-2**

[illegible]

Contractor

ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS  
(P) LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Dhirendra vadav

Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Verified By  
Export Qty Surveyor/CSE  
H.K. Mandal/Rajan Shrestha

Approved By  
Team Leader  
Gireesh Chand

## REGIONAL URBAN DEVELOPMENT PROJECT



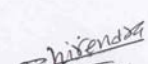

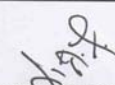

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

Summary Sheet of Field Density Test

Location:-R-2									
Sn.	Lab.Ref.no	Testing Date	Chainage	Moisture content %		Density(gm/cc)		Compaction %	
				OMC%	Field MC%	Max.Dry density	Field Dry density,	Compaction %	Specified %
1	RUDP-B-FD-1, L/S	4-Nov-19	0+800	5.10	5.32	2.247	2.206	98.19	98
2	RUDP-B-FD-1, C/L	4-Nov-19	0+830	5.10	5.89	2.247	2.228	99.17	98
3	RUDP-B-FD-1, L/S	4-Nov-19	0+860	5.10	5.83	2.247	2.233	99.38	98
4	RUDP-B-FD-1, C/L	4-Nov-19	0+890	5.10	5.44	2.247	2.221	98.82	98
5	RUDP-B-FD-1, L/S	4-Nov-19	0+920	5.10	4.87	2.247	2.230	99.24	98
6	RUDP-B-FD-1, R/S	4-Nov-19	0+950	5.10	5.99	2.247	2.214	98.54	98
7	RUDP-B-FD-1, C/L	4-Nov-19	0+980	5.10	5.82	2.247	2.246	99.97	98
8	RUDP-B-FD-1, L/S	4-Nov-19	1+020	5.60	5.76	2.243	2.211	98.57	98
9	RUDP-B-FD-1, R/S	4-Nov-19	1+100	5.60	5.19	2.243	2.233	99.55	98
10	RUDP-B-FD-1, R/S	4-Nov-19	1+150	5.60	5.59	2.243	2.211	98.55	98
11	RUDP-B-FD-2, C/L	4-Nov-19	1+200	5.60	5.07	2.243	2.209	98.47	98
12	RUDP-B-FD-2, L/S	4-Nov-19	1+250	5.60	5.23	2.243	2.234	99.60	98
13	RUDP-B-FD-2, C/L	4-Nov-19	1+300	5.60	5.81	2.243	2.221	99.03	98
14	RUDP-B-FD-2, L/S	4-Nov-19	1+340	5.60	5.80	2.243	2.212	98.63	98
15	RUDP-B-FD-2, C/L	4-Nov-19	1+400	5.60	5.47	2.243	2.232	99.52	98
16	RUDP-B-FD-2, R/S	4-Nov-19	1+450	5.60	5.60	2.243	2.225	99.20	98
17	RUDP-B-FD-2, C/L	4-Nov-19	1+500	5.60	5.96	2.243	2.205	98.30	98
18	RUDP-B-FD-2, R/S	4-Nov-19	1+590	5.60	4.90	2.243	2.234	99.61	98
19	RUDP-B-FD-3, L/S	15-Nov-19	2+050	5.40	5.78	2.248	2.248	99.99	98
20	RUDP-B-FD-3, R/S	15-Nov-19	2+080	5.40	5.37	2.248	2.225	98.56	98
21	RUDP-B-FD-3, L/S	15-Nov-19	2+120	5.40	5.36	2.248	2.225	98.96	98
22	RUDP-B-FD-3, C/L	15-Nov-19	2+150	5.40	5.94	2.248	2.240	99.63	98
23	RUDP-B-FD-3, L/S	15-Nov-19	2+180	5.40	6.45	2.248	2.240	99.66	98
24	RUDP-B-FD-3, R/S	15-Nov-19	2+210	5.40	5.57	2.248	2.238	99.54	98
25	RUDP-B-FD-3, C/L	15-Nov-19	2+250	5.40	5.32	2.248	2.218	98.68	98
26	RUDP-B-FD-3, L/S	15-Nov-19	2+290	5.40	6.06	2.248	2.241	99.68	98
27	RUDP-B-FD-3, R/S	15-Nov-19	2+320	5.65	6.93	2.245	2.239	99.72	98






<b>Contractor</b>  <b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>	<b>Consultant</b>  <b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b>
 <b>Checked By</b> Engineer Dharendra yadav	 <b>Submitted By</b> Contract Manager Rabin Krishna Thakur
 <b>Verified By</b> Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha	 <b>Approved By</b> Team Leader Giresch Chand





**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-2**

<p align="center"><b>Contractor</b></p> <p align="center">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p>	<p align="center"><b>Consultant</b></p> <p align="center">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p>
<p></p> <p>Checked By Engineer Dhirendra yadav</p>	<p></p> <p>Submitted By Contract Manager Rabindra Kr. Thakur</p> <p></p> <p>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>
<p></p> <p>Approved By Team Leader Girish Chand</p>	<p></p>



## Summary Sheet of Monthly Test Report

**Location:-R-44,(T3L10E)**

[illegible]

5

Contractor

**ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO.**

**BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS  
(P) LTD, KATHMANDU, NEPAL**

Checked By  
Engineer  
Dhirendra vadav

...../IX.....  
Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Export Qty Surveyor/CSE  
H.K. Mandal/Rajan Shrestha

Approved By  
Team Leader  
Gireesh Chand



### Summary Sheet of Field Density Test

Month	November
Year	2019
Type of Material	Base

<p style="text-align: center;"><b>Contractor</b></p> <p style="text-align: center;">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p>	<p style="text-align: center;"><b>Consultant</b></p> <p style="text-align: center;">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p>
<p style="text-align: center;">               Checked By              Engineer              Dharendra yadav         </p> <p style="text-align: center;">               Submitted By              Contract Manager              Rabinra Kr. Thakur         </p>	<p style="text-align: center;">               Verified By              Expert Qty Surveyor/CSE              H.K. Mandal/Rajan Shrestha         </p> <p style="text-align: center;">               Approved By              Team Leader              Giresh Chand         </p>





## Biratnagar Metropolitan City

**Contract No: RUDP/ICB/BRT-02**

## Summary Sheet of Monthly Test Report

**Location:-T3L13C**

[illegible]

### Summary Sheet of Field Density Test

Month	November
Year	2019
Type of Material	Base

<p align="center"><b>Contractor</b></p> <p align="center">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p>	<p align="center"><b>Consultant</b></p> <p align="center">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p>
<p>Checked By Engineer Dhirendra yadav</p>	<p>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>
<p>Submitted By Contract Manager Rabindra Kr. Thakur</p>	<p>Approved By Team Leader Giresh Chand</p>



## Biratnagar Metropolitan City

**Contract No: RUDP/ICB/BRT-02**

## Summary Sheet of Monthly Test Report

**Location:-R-3,(T3 Trunk line)**

[illegible]

Contractor	BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL	Consultant
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD	Export Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha	Approved By Team Leader Giresch Chand
Dhirendra yadav Engineer	Contract Manager Rabindra Kr. Thakur	Verified By Export Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha

### Summary Sheet of Field Density Test

Month	November
Year	2019
Type of Material	Base

<p><b>Contractor</b></p> <p><b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b></p>	<p><b>Consultant</b></p> <p><b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b></p>
<p><i>[Signature]</i></p> <p>Checked By Engineer Dhirendra yadav</p>	<p><i>[Signature]</i></p> <p>Submitted By Contract Manager Rabindra Kr. Thakur</p>
<p><i>[Signature]</i></p> <p>Checked By Engineer Dhirendra yadav</p>	<p><i>[Signature]</i></p> <p>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>
<p><i>[Signature]</i></p> <p>Approved By Team Leader Giresh Chand</p>	<p><i>[Signature]</i></p> <p>Approved By Team Leader Giresh Chand</p>



**Biratnagar Metropolitan City**  
**Contract No: RUDP/ICB/BRT-02**

## Summary Sheet of Monthly Test Report

**Location:-R-5,Chulachuli**

[illegible]

### Summary Sheet of Field Density Test

Month	November
Year	2019
Type of Material	Base

<p><b>Contractor</b></p> <p><b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b></p>	<p><b>Consultant</b></p> <p><b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b></p>
<p> Checked By Engineer Dhirendra Yadav</p> <p> Submitted By Contract Manager Rabindra Kr. Thakur</p>	<p> Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p> <p> Approved By Team Leader Gireesh Chand</p>



## Summary Sheet of Monthly Test Report

[illegible]



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

**Location:-R-28**





**Biratnagar Metropolitan City**  
**Contract No: RUDP/ICB/BRT-02**

## Summary Sheet of Monthly Test Report

**Location:-Rani Prajatanantra Marg(B)**

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Sp

Contractor

Consultant

ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N.  
CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P)  
LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Dhirendra Yadav

.....  
Submitted By  
Contract Manager  
Rabindra Kr. Thakur

Export Qty Surveyor/CSE  
H.K. Mandal/Raigan Shrestha

**Approved By**  
Team Leader  
Gireesh Chand

**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Field Density Test

**Location:-Rani Prajatantra Marg(B)**

[illegible]



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No: RUDP/ICB/BRT-02

## Daily Application Rate Check for Priming work

## SUMMARY FOR THE MONTH OF NOVEMBER 2019



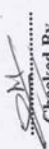

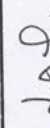

Type of Bitumen: 80/100 P.G

Cutter Percentage: MC 70/MC 30

Page no 1 of 1

SN NO	Location	Date of Priming	Station From	Station to	Side of Priming	Area of Priming (m <sup>2</sup> )	Intersection Area m <sup>2</sup>	Total Area M <sup>2</sup>	Bitumen Consumption (Ltr)	Application Rate By Deep Ltr/m <sup>2</sup>	Application Rate Bt Tray Test Ltr/m <sup>2</sup>
1	R-2	4-Nov-19	1+860	2+030	Both side	1785.00	0.00	1785.00	1950	1.09	1.06
2	R-2	4-Nov-19	0+730	0+940	Both Side	2230.20	0.00	2230.20	2400	1.08	1.05
3	R-2	5-Nov-19	1+780	1+860	Both Side	812.00	0.00	812.00	850	1.05	1.04
4	T3L11B	5-Nov-19	0+000	0+073	Both Side	274.48	0.00	274.48	300	1.09	1.03
5	T3L13D	06-Nov-19	0+000	0+074	Both Side	222.00	0.00	222.00	225	1.01	1.04
6	R-7	09-Nov-19	0+300	0+357	Both Side	433.20	0.00	433.20	450	1.04	1.06
7	T3L3	09-Nov-19	0+000	0+031	Both Side	162.75	0.00	162.75	175	1.08	1.08
8	R-2	11-Nov-19	0+940	1+075	Both Side	1385.10	0.00	1385.10	1450	1.05	1.04
9	P-2	13-Nov-19	1+160	1+350	Both Side	2024.00	0.00	2024.00	2200	1.09	1.04


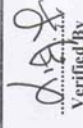

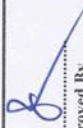
Required specification for Prime coat 1.0 Lit/M<sup>2</sup> ± 5% Specific Gravity of Bitumen 1.034

Contractor	Consultant
<b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO., LTD</b> 	<b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b> 
<b>Checked By</b>  <b>Engineer</b> Dharendra Yadav	<b>Submitted By</b>  <b>Contract Manager</b> Rabindra Kr. Thakur
	<b>Verified By</b>  <b>Expert Qty Surveyor/CSE</b> H.K. Mandal/Rajan Shrestha
	<b>Approved By</b>  <b>Team Leader</b> Gireesh Chand







REGIONAL URBAN DEVELOPMENT PROJECT Biratnagar Metropolitan City Contract No: RUDP/ICB/BRT-02 Daily Application Rate Check for Priming work SUMMARY FOR THE MONTH OF NOVEMBER 2019											
Type of Bitumen: 80/100 P.G Cutter Percentage: MC 70: MC 30											
SN NO	Location	Date of Priming	Station From	Station to	Side of Priming	Area of Priming (m <sup>2</sup> )	Intersection Area m <sup>2</sup>	Total Area M <sup>2</sup>	Bitumen Consumption (Ltr)	Application Rate By Deep Ltr/m <sup>2</sup>	Application Rate By Tray Test Ltr/m <sup>2</sup>
10	T3L6	14-Nov-19	0+000	0+050	Both side	375.00	0.00	375.00	400	1.07	1.06
11	R-7, PIU	14-Nov-19	0+000	0+130	Both Side	1215.50	0.00	1215.50	1300	1.07	1.05
12	R-2	16-Nov-19	1+075	1+145	Both Side	701.40	0.00	701.40	750	1.07	1.05
13	T2L24G	17-Nov-19	0+000	0+206	Both Side	1293.68	0.00	1293.68	1400	1.08	1.07
14	R-28	21-Nov-19	0+320	0+577	Both Side	907.21	0.00	907.21	975	1.07	1.06
15	R-2	23-Nov-19	1+460	1+780	Both Side	3264.00	0.00	3264.00	3550	1.09	1.06
16	R-44	25-Nov-19	0+000	0+175	Both Side	1592.50	0.00	1592.50	1700	1.07	1.05
17	R-44	26-Nov-19	0+175	0+320	Both Side	1319.50	0.00	1319.50	1400	1.06	1.05

Required specification for Prime coat 1.0 Lit/M<sup>2</sup> ± 5% Specific Gravity of Bitumen 1.034

Contractor		Consultant	
<b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>  Checked By Engineer Dhirendra Yadav		<b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b>  Verified By Expert Qty Surveyor/CSE H.K. Mandal/RajamShreshtha	
 Submitted By Contract Manager Rabindra Kr. Thakur		 Approved By Team Leader Gireesh Chand	



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REGIONAL URBAN DEVELOPMENT PROJECT Biratnagar Metropolitan City Contract No: RUDP/ICB/BRT-02 Daily Application Rate Check for TACK COAT SUMMARY FOR THE MONTH OF NOVEMBER 2019										Page no 1 of 1	
Type of Bitumen: 80/100 P.G											
S.N.	Location	Date of Tack coat	Station From	Station to	Side of Tack coat	Area of Tack coat	Intersection Area m <sup>2</sup>	Total Area M <sup>2</sup>	Bitumen Consumption	Application Rate By Dip Lit/m <sup>2</sup>	Application Rate Bt Tray Test Lit/m <sup>2</sup>
1	R-2	7-Nov-19	0+730	0+940	BHS	2230.2	0	2230.20	1300	0.58	0.55
2	R-2	8-Nov-19	1+780	2+030	BHS	2655	0	2655	1500	0.56	0.54
3	T3L11B	9-Nov-19	0+000	0+073	BHS	274.48	0	274.48	150	0.55	0.55
4	T3L13D	9-Nov-19	0+000	0+074	BHS	207.2	0	207.20	125	0.60	0.52
5	R-7	10-Nov-19	0+300	0+357	BHS	299.82	0	299.82	175	0.58	0.58
6	R-2	15-Nov-19	1+160	1+360	BHS	2024	0	2024.00	1200	0.59	0.54
7	R-2	15-Nov-19	0+940	1+075	BHS	1323	0	1323.00	800	0.60	0.52
Required tack coat is 0.40 to 0.60 Lit/M <sup>2</sup> According to Road Note -3, Section 711.2											
Specific Gravity of Bitumen 1.034											
Contractor ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD						Consultant BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL					
Checked By  Dhirendra Yadav Engineer						Submitted By  Rabindra Kr. Thakur Contract Manager					
						Verified By  H.K. Mandal/Rajan Shrestha Expert Qty Surveyor/CSE					
						Approved By  Gireesh Chand Team Leader					







**REGIONAL URBAN DEVELOPMENT PROJECT**  
Biratnagar Metropolitan City  
Contract No: RUDP/ICB/BRT-02  
**Daily Application Rate Check for TACK COAT**  
**SUMMARY FOR THE MONTH OF NOVEMBER 2019**

Type of Bitumen: 80/100 P.G. Page no 1 of 2

S.N.	Location	Date of Tack coat	Station From	Station to	Side of Tack coat	Area of Tack coat	Intersection Area m <sup>2</sup>	Total Area M <sup>2</sup>	Bitumen Consumption	Application Rate By Dip Lit/m <sup>2</sup>	Application Rate Bt Tray Test Lit/m <sup>2</sup>
8	R-7	16-Nov-19	0+000	0+130	BHS	1215.5	0	1215.50	700	0.58	0.55
9	T3L6	16-Nov-19	0+000	0+050	BHS	375	0	375	200	0.53	0.53
10	T3L8	16-Nov-19	0+000	0+031	BHS	204.6	0	204.60	125	0.61	0.57
11	R-2	19-Nov-19	1+075	1+145	BHS	690.2	0	690.20	400	0.58	0.54
12	T2L24G	19-Nov-19	0+000	0+206	BHS	1293.68	0	1293.68	750	0.58	0.53
13	R-19	25-Nov-19	0+000	0+220	BHS	968	0	968.00	550	0.57	0.52
14	R-28	27-Nov-19	0+320	0+577	BHS	925.2	0	925.20	550	0.59	0.54

**Required tack coat is 0.40 to 0.60 Lit/M<sup>2</sup> According to Road Note -3, Section 711.2**  
**Specific Gravity of Bitumen 1.034**

<p style="text-align: center;"><b>Contractor</b></p> <p style="text-align: center;">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p> <p style="text-align: right;">Checked By Engineer Dhirendra Yadav</p>	<p style="text-align: center;"><b>Consultant</b></p> <p style="text-align: center;">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p> <p style="text-align: right;">Submitted By Contract Manager Rabindra Kr. Thakur</p>
	
<p>..... Approved By Team Leader Gireesh Chand</p>	<p>..... Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</p>







## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No: RUDP/ICB/BRT-02

## Test Result BY MARSHALL METHOD (AASHTO T 245-78)

## SUMMARY FOR THE MONTH OF NOVEMBER 2019

S. No.	LAB REF. No.	Date of Laying	Location of Work ch:	Mix Agg Gradation % Passing Sieve Sizes mm							Blossom Content From Extraction Test %	Mix Density gm/cc	Air Voids %	VMA %	Stability N	Flow mm
				20	16	9.5	4.75	2.36	0.6	0.075						
1	138	7/11/2019	R-2,(0+730 to 0+940)	100	100	78.78	56.80	35.28	17.46	6.85	5.74	2.373	3.13	16.30	10746	2.43
2	139	8/11/2019	R-2,(1+780 to 2+030)	100	100	78.24	56.79	36.94	18.68	7.01	5.80	2.377	3.02	16.35	10735	2.48
3	140	9/11/2019	T3L11B,(0+000 to 0+073)	100	100	78.35	55.74	34.9+4	17.00	6.92	5.78	2.374	3.18	16.45	11432	2.43
4	141	9/11/2019	T3L13D,(0+000 to 0+074)	100	100	78.26	55.57	34.36	16.76	6.58	5.69	2.373	3.36	16.42	11365	2.52
5	142	10/11/2019	R-7,(0+300 to 0+387)	100	100	78.57	55.43	34.74	16.91	6.92	5.76	2.373	3.29	16.51	11620	2.37
6	143	15/11/2019	R-2,(1+160 to 1+360)	100	100	78.04	54.91	33.69	16.30	6.32	5.74	2.376	3.06	16.25	11985	2.62
7	144	15/11/2019	R-2,(0+940 to 1+075)	100	100	78.99	56.07	35.90	16.80	6.19	5.77	2.456	3.34	16.58	11675	2.48
8	145	16/11/2019	R-7,(0+000 to 0+130)	100	100	78.89	56.08	35.92	16.72	6.22	5.74	2.370	3.27	16.43	11565	2.35
9	146	16/11/2019	T3L6 CDO,(0+000 to 0+050)	100	100	79.10	56.41	35.62	16.31	6.02	5.72	2.375	3.24	16.38	11199	2.22
10	147	16/11/2019	T3L8,(0+000 to 0+031)	100	100	78.25	56.28	36.44	16.70	6.41	5.76	2.372	3.32	16.53	11321	2.17
11	148	19/11/2019	R-2,(1+075 to 1+145)	100	100	78.12	56.07	36.45	16.60	6.42	5.75	2.372	3.32	16.51	11067	2.48
12	149	19/11/2019	T2L24G	100	100	79.41	56.27	35.89	15.84	5.96	5.78	2.370	3.22	16.47	11354	2.43
13	150	27/11/2019	R-28,(0+000 to 0+206)	100	100	78.04	54.92	35.83	16.95	6.55	5.72	2.379	3.10	16.26	11509	2.28
14	151	28/11/2019	R-2,(1+460 to 1+587)	100	100	78.80	56.22	36.07	16.67	6.39	5.68	2.373	3.39	16.41	12107	2.35
15	152	29/11/2019	R-2,(1+587 to 1+780)	100	100	78.26	55.57	34.37	16.76	6.58	5.69	2.371	3.41	16.46	10945	2.33
16	153	29/11/2019	R-2,(2+040 to 2+325)	100	100	78.15	55.14	35.09	16.53	6.03	5.71	2.369	3.47	16.55	11841	2.58
17	154	29/11/2019	R-2,(2+325 to 2+580)	100	100	78.90	56.31	36.27	16.76	6.36	5.70	2.370	3.44	16.51	79.14	2.27
18	155	29/11/2019	R-44,(0+000 to 0+135)	100	100	77.07	57.96	36.94	19.74	8.16	5.81	2.374	3.07	16.41	11731	2.30
Specifications				100	100-100	76-82	54-59	33-37	16-21	6 to 9	5.703	Min2.358	3-6%	≥ 16	≥ 8500	2-3
Job Mix Tolerances from RUP Specification Table2-4-10				±5%	Nil	±5%	±3%	±2%	±1%	Nil	±0.3%	For (25-51)mm Thickness W/C Course				

## REMARKS:

Contractor

ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD

Consultant

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL

Checked By  
Engineer  
Dhirendra Yadav






Submitted By  
Contract Manager  
Rabindra Kr. Shakur

Verified By  
Expert City Surveyor/CSE  
H.K. Marol

Approved By  
Team Leader  
Gresh Chand



REGIONAL URBAN DEVELOPMENT PROJECT										Month	November		
Biratnagar Metropolitan City										Year	2019		
Contract No:- RUDP/ICB/BRT-02										Type of Material	Concrete Sand		
Summary Sheet of Monthly Test Report of Concrete Sand													
S.n.	Lab. Ref no.	Date of Testing	Location of Sample	Source of Sample	Sieve Size in mm / % Passing by weight						Clay Content%	Remarks	
					10	5.0	2.36	1.18	0.600	0.300	0.150		
1	RUDP-CS-521	1-Nov-19	R-4	Chisang Khola	100.00	92.65	73.36	59.91	24.13	14.80	6.82	1.05	
2	RUDP-CS-522	3-Nov-19	N-38	Chisang Khola	100.00	95.23	67.69	35.46	22.13	14.54	7.67	1.12	
3	RUDP-CS-523	5-Nov-19	T3L19F	Chisang Khola	100.00	93.96	63.31	33.10	23.91	15.24	7.44	1.15	
4	RUDP-CS-524	6-Nov-19	T3L10A	Chisang Khola	100.00	94.13	76.83	55.35	40.25	29.25	8.39	1.49	
5	RUDP-CS-525	7-Nov-19	T3L10	Chisang Khola	100.00	91.62	69.14	51.32	36.77	24.78	8.55	1.71	
6	RUDP-CS-526	7-Nov-19	N-38	Chisang Khola	100.00	92.48	63.07	47.88	28.97	14.45	6.70	1.42	
7	RUDP-CS-527	8-Nov-19	R-12	Chisang Khola	100.00	92.64	66.10	51.09	35.79	14.89	5.18	1.62	
8	RUDP-CS-528	8-Nov-19	R-12	Chisang Khola	100.00	93.30	66.41	50.82	35.39	18.71	7.01	1.41	
9	RUDP-CS-529	9-Nov-19	R-2	Chisang Khola	100.00	94.41	62.83	50.28	33.77	18.79	7.94	1.78	
10	RUDP-CS-530	9-Nov-19	R-2	Chisang Khola	100.00	93.70	73.37	45.85	30.30	15.95	2.71	1.96	
11	RUDP-CS-531	10-Nov-19	R-40	Chisang Khola	100.00	94.13	74.71	51.76	42.28	24.30	5.78	2.30	
12	RUDP-CS-532	11-Nov-19	R-7	Chisang Khola	100.00	95.30	74.79	42.98	35.54	22.35	8.44	2.05	
13	RUDP-CS-533	11-Nov-19	R-28	Chisang Khola	100.00	92.48	70.13	35.43	27.54	16.15	8.74	1.21	
14	RUDP-CS-534	12-Nov-19	R-4	Chisang Khola	100.00	90.76	69.06	40.24	33.73	18.60	6.51	1.05	
15	RUDP-CS-535	13-Nov-19	N-38	Chisang Khola	100.00	93.04	69.91	42.68	32.47	18.89	6.96	1.62	
16	RUDP-CS-536	14-Nov-19	T3L10A	Chisang Khola	100.00	92.97	81.32	54.79	37.28	22.40	12.41	1.50	
17	RUDP-CS-537	15-Nov-19	R-44	Chisang Khola	100.00	95.63	79.92	63.13	36.17	21.80	9.77	1.42	
19	RUDP-CS-538	16-Nov-19	R-40	Chisang Khola	100.00	96.49	77.32	57.42	34.58	19.09	10.93	1.84	
					Spec. Limit :						5-70	0-15	<3%

<b>Contractor</b>  <b>ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</b>	<b>Consultant</b> <b>BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</b>
<b>Checked By</b>  <b>Engineer</b> Dharendra Yadav	<b>Submitted By</b>  <b>Contract Manager</b> Rabindra K. Thakur
<b>Verified By</b>  <b>Expert Qty Surveyor/CSE</b> H.K. Mandal/Rajan Shrestha	<b>Approved By</b>  <b>Team Leader</b> Giresch Chand





## Biratnagar Metropolitan City

**Contract No:- RUDP/ICB/BRT-02**

### Summary Sheet of Monthly Test Report of Concrete Sand

[illegible]

## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

Summary Sheet of Monthly Test Report of 20mm Agg.

Summary Sheet of Proportional Test Report										Month Year	November 2019		
S.n.	Lab.Ref no.	Date of Testing	Location of Sample	Source of Sample	Sieve Size in mm / % Passing by weight					Type of Material		Remarks	
					37.5	20	14	10	5	L.A.A. %	Fl and El %		A.I.V. %
1	RUDP-CA-451	2-Nov-19	R-4	Chisang Khola	100.00	95.31	39.18	5.09	2.43	30.96	14.25/12.87	21.32	
2	RUDP-CA-452	3-Nov-19	N-38	Chisang Khola	100.00	94.70	14.98	5.14	1.90	30.20	14.14/12.79	21.86	
3	RUDP-CA-453	3-Nov-19	T3L19F	Chisang Khola	100.00	94.92	15.68	6.16	1.71	28.60	14.09/12.67	22.51	
4	RUDP-CA-454	4-Nov-19	T3L10	Chisang Khola	100.00	93.71	23.01	9.71	3.04	30.02	21.46/20.48	18.81	
5	RUDP-CA-455	4-Nov-19	T3L10A	Chisang Khola	100.00	92.89	23.15	9.80	2.69	28.26	20.26/18.73	15.61	
6	RUDP-CA-456	5-Nov-19	R-2	Chisang Khola	100.00	93.70	22.03	9.79	3.67	31.78	20.22/19.60	19.05	
7	RUDP-CA-457	5-Nov-19	R-40	Chisang Khola	100.00	94.00	23.25	10.81	3.27	28.06	20.21/18.87	19.78	
8	RUDP-CA-458	6-Nov-19	R-40	Chisang Khola	100.00	94.38	27.19	9.85	3.58	30.78	21.09/19.47	17.19	
9	RUDP-CA-459	6-Nov-19	Madhumara Yard	Chisang Khola	100.00	92.96	43.58	5.00	2.41	26.10	20.68/16.81	17.19	
10	RUDP-CA-460	7-Nov-19	R-44	Chisang Khola	100.00	97.43	34.42	4.37	2.33	22.50	17.84/16.26	20.80	
11	RUDP-CA-461	7-Nov-19	R-28	Chisang Khola	100.00	97.54	29.21	4.73	2.07	27.76	21.31/17.49	20.32	
12	RUDP-CA-462	8-Nov-19	Koshi Yard	Chisang Khola	100.00	98.13	32.08	4.28	1.93	29.18	19.60/17.54	21.02	
13	RUDP-CA-463	8-Nov-19	R-28	Chisang Khola	100.00	97.18	36.83	6.76	2.32	27.58	20.03/15.51	19.71	
14	RUDP-CA-464	9-Nov-19	R-4	Chisang Khola	100.00	96.97	39.39	7.09	2.32	28.10	18.46/16.16	21.51	
15	RUDP-CA-465	10-Nov-19	N-38	Chisang Khola	100.00	96.86	40.78	7.34	2.41	32.10	17.01/16.16	21.40	
16	RUDP-CA-466	10-Nov-19	T3L10	Chisang Khola	100.00	97.37	42.04	5.69	2.63	26.02	17.32/16.55	19.14	
17	RUDP-CA-467	13-Nov-19	T3L10A	Chisang Khola	100.00	97.16	44.64	4.94	1.89	27.50	16.44/14.01	21.84	
18	RUDP-CA-468	19-Nov-19	R-2	Chisang Khola	100.00	96.16	40.62	6.69	2.25	26.82	23.91/16.34	21.36	

Spec. Limit :

100

85-100

0-70

0-25

0-5

&lt;25

&lt;25

&lt;25

Contractor

ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL  
ENGINEERING CO. LTD

Consultant

BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH  
B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &  
ARCHITECTS (P) LTD, KATHMANDU, NEPALChecked By  
Engineer  
Dhirendra YadavSubmitted By  
Contract Manager  
Rabindra K. ThakurVerified By  
Expert Qty Surveyor/CSE  
H.K. Mandal/Rajian ShresthaApproved By  
Team Leader  
Giresch Chand



## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City  
Contract No:- RUDP/ICB/BRT-02  
Summary Sheet Of Monthly Test Report

S.N.	Lab Ref.No.	Testing Date	Location of Sample	Source of Brick	Name of Brick	Water Absorption of Brick(%)	Month	November
							Year	2019
							Type of Material	Brick
							Strength of Brick(N/mm <sup>2</sup> )	Remarks
1	846	1-Nov-19	T3L10F	Dadarbairya	ACC	13.50	15.11	
2	847	1-Nov-19	N-38	Dadarbairya	ACC	14.74	15.98	
3	848	2-Nov-19	T3L19F	Dadarbairya	ACC	13.53	13.78	
4	849	2-Nov-19	T3L10	Dadarbairya	ACC	12.32	14.75	
5	850	3-Nov-19	T3L10A	Dadarbairya	ACC	13.35	14.47	
6	851	3-Nov-19	T3L19F	Dadarbairya	ACC	11.55	15.40	
7	852	4-Nov-19	N-38	Dadarbairya	ACC	13.07	13.27	
8	853	5-Nov-19	T3L10	Dadarbairya	ACC	12.42	14.96	
9	854	6-Nov-19	N-38	Dadarbairya	ACC	14.52	13.11	
10	855	6-Nov-19	T3L10A	Dadarbairya	ACC	14.86	13.72	
11	856	7-Nov-19	T3L10	Dadarbairya	ACC	14.13	14.79	
12	857	7-Nov-19	N-38	Dadarbairya	ACC	12.93	13.12	
13	858	8-Nov-19	T3L Trunk Line	Dadarbairya	ACC	13.90	14.08	
14	859	8-Nov-19	T3L10A	Dadarbairya	Anand	13.82	14.57	
15	860	9-Nov-19	T3L10	Dadarbairya	ACC	14.33	13.26	
16	861	9-Nov-19	T3L19F	Dadarbairya	ACC	14.25	13.63	
17	862	10-Nov-19	T3L10A	Dadarbairya	ACC	13.90	14.76	
18	863	10-Nov-19	N-38	Dadarbairya	ACC	12.97	14.29	
19	864	11-Nov-19	N-38	Dadarbairya	Anand	14.90	13.81	
20	865	11-Nov-19	T3L10	Dadarbairya	Anand	14.31	13.78	
21	866	12-Nov-19	T3L10A	Dadarbairya	Anand	16.75	14.37	
22	867	13-Nov-19	N-38	Dadarbairya	Anand	15.11	14.31	
23	868	14-Nov-19	T3L19F	Dadarbairya	Anand	13.12	14.43	
24	869	15-Nov-19	T3L10	Dadarbairya	ACC	12.66	14.51	
25	870	16-Nov-19	T3L10A	Dadarbairya	ACC	14.24	14.73	
26	871	17-Nov-19	N-38	Dadarbairya	ACC	13.90	14.28	
27	872	17-Nov-19	T3L19F	Dadarbairya	ACC	15.48	12.81	
28	873	18-Nov-19	T3L10	Dadarbairya	ACC	13.14	12.51	
29	874	19-Nov-19	N-38	Dadarbairya	ACC	13.61	12.01	
30	875	20-Nov-19	T3L19F	Dadarbairya	ACC	15.35	14.26	
31	876	21-Nov-19	T3L10	Dadarbairya	ACC	11.87	14.31	
32	877	22-Nov-19	N-38	Dadarbairya	Anand	13.96	12.60	
33	878	22-Nov-19	N-38	Dadarbairya	Anand	15.11	13.01	
Sp. Limit						<20%	>8 to 10 N/mm <sup>2</sup>	

Comments:-

<p align="center"><b>Contractor</b></p> <p align="center">ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD</p>	<p align="center"><b>Consultant</b></p> <p align="center">BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS &amp; ARCHITECTS (P) LTD, KATHMANDU, NEPAL</p>		
<p>Checked By Engineer Dhirendra Yadav</p>	<p>Submitted By Contract Manager Rabindra Kr. Thakur</p>	<p>Verified By Expert Qty Surveyor/CSE H.K.Mandal/Rajan Shrestha</p>	<p>Approved By Team Leader Girish Chand</p>



**Biratnagar Metropolitan City**  
**Contract No:- RUDP/ICB/BRT-02**  
**Summary Sheet Of Monthly Test Report**





## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Concrete Cube Test Report

							Month		November		
							Year		2019		
							Type of Material		Conc. Cube		
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand+Agg.	Date of Casting	Date of Testing		Strength, N/mm2		Concrete Grade
							7 Days	28 Days	7 Days	28 Days	
1	R-3 (Telecom)	RUDP-2663	Shalimar Gold	OPC	Chisang Khola	4-Oct-19	11-Oct-19	1-Nov-19		22.58	M20
2	R-2	RUDP-2664	Shalimar Gold	OPC	Chisang Khola	4-Oct-19	11-Oct-19	1-Nov-19		22.18	M20
3	Judi yard	RUDP-2665	Shalimar Gold	OPC	Chisang Khola	4-Oct-19	11-Oct-19	1-Nov-19		23.27	M20
4	R-4	RUDP-2666	Shalimar Gold	OPC	Chisang Khola	5-Oct-19	12-Oct-19	2-Nov-19		17.14	M15
5	R-8	RUDP-2667	Shalimar Gold	OPC	Chisang Khola	5-Oct-19	12-Oct-19	2-Nov-19		22.59	M20
6	Madhumara-yard	RUDP-2668	Shalimar Gold	OPC	Chisang Khola	15-Oct-19	22-Oct-19	12-Nov-19		28.20	M25
7	Madhumara-yard	RUDP-2669	Shalimar Gold	OPC	Chisang Khola	15-Oct-19	22-Oct-19	12-Nov-19		27.00	M25
8	R-4	RUDP-2670	Shalimar Gold	OPC	Chisang Khola	16-Oct-19	23-Oct-19	13-Nov-19		22.95	M20
9	T3L10C	RUDP-2671	Shalimar Gold	OPC	Chisang Khola	16-Oct-19	23-Oct-19	13-Nov-19		22.66	M20
10	R-8	RUDP-2672	Shalimar Gold	OPC	Chisang Khola	17-Oct-19	24-Oct-19	14-Nov-19		23.50	M20
11	R-41	RUDP-2673	Shalimar Gold	OPC	Chisang Khola	17-Oct-19	24-Oct-19	14-Nov-19		23.03	M20
12	R-7	RUDP-2674	Ambe Hi-tech	OPC	Chisang Khola	18-Oct-19	25-Oct-19	15-Nov-19		23.77	M20
13	R-6	RUDP-2675	Ambe Hi-tech	OPC	Chisang Khola	19-Oct-19	26-Oct-19	16-Nov-19		22.41	M20
14	Judi yard	RUDP-2676	Ambe Hi-tech	OPC	Chisang Khola	19-Oct-19	26-Oct-19	16-Nov-19		22.78	M20
15	R-4	RUDP-2677	Ambe Hi-tech	OPC	Chisang Khola	19-Oct-19	26-Oct-19	16-Nov-19		22.73	M20
16	N-38	RUDP-2678	Ambe Hi-tech	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	15.60	23.36	M20
17	T3L19F	RUDP-2679	Ambe Hi-tech	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	16.47	23.88	M20
18	T3L10A	RUDP-2680	Ambe Hi-tech	OPC	Chisang Khola	26-Oct-19	2-Nov-19	23-Nov-19	14.84	23.18	M20
19	R-12	RUDP-2681	Ambe Hi-tech	OPC	Chisang Khola	26-Oct-19	2-Nov-19	23-Nov-19	15.57	23.28	M20
20	R-2	RUDP-2682	Ambe Hi-tech	OPC	Chisang Khola	26-Oct-19	2-Nov-19	23-Nov-19	14.31	23.13	M20
21	R-7	RUDP-2683	Ambe Hi-tech	OPC	Chisang Khola	27-Oct-19	3-Nov-19	24-Nov-19	15.43	23.43	M20
22	R-28	RUDP-2684	Ambe Hi-tech	OPC	Chisang Khola	28-Oct-19	4-Nov-19	25-Nov-19	15.57	23.43	M20
23	R-44	RUDP-2685	Ambe Hi-tech	OPC	Chisang Khola	29-Oct-19	5-Nov-19	26-Nov-19	15.65	21.71	M20
24	T3L19F	RUDP-2686	Ambe Hi-tech	OPC	Chisang Khola	29-Oct-19	5-Nov-19	26-Nov-19	16.02	24.47	M20
25	R-4	RUDP-2687	Ambe Hi-tech	OPC	Chisang Khola	30-Oct-19	6-Nov-19	27-Nov-19	12.68	17.14	M15
26	R-40	RUDP-2688	Ambe Hi-tech	OPC	Chisang Khola	30-Oct-19	6-Nov-19	27-Nov-19	15.43	22.73	M20
27	R-7	RUDP-2689	Ambe Hi-tech	OPC	Chisang Khola	30-Oct-19	6-Nov-19	27-Nov-19	15.80	22.51	M20
28	N-38	RUDP-2690	Ambe Hi-tech	OPC	Chisang Khola	1-Nov-19	8-Nov-19	29-Nov-19	14.53	23.18	M20
29	R-44	RUDP-2691	Ambe Hi-tech	OPC	Chisang Khola	2-Nov-19	9-Nov-19	30-Nov-19	14.98	22.73	M20
30	R-4	RUDP-2692	Ambe Hi-tech	OPC	Chisang Khola	2-Nov-19	9-Nov-19	30-Nov-19	12.31	16.54	M15
31	T3L19F	RUDP-2693	Ambe Hi-tech	OPC	Chisang Khola	4-Nov-19	11-Nov-19	2-Dec-19	14.38		M20
32	T3L10	RUDP-2694	Ambe Hi-tech	OPC	Chisang Khola	6-Nov-19	13-Nov-19	4-Dec-19	14.68		M20
33	T3L19F	RUDP-2695	Ambe Hi-tech	OPC	Chisang Khola	6-Nov-19	13-Nov-19	4-Dec-19	15.80		M20
34	R-28	RUDP-2696	Ambe Hi-tech	OPC	Chisang Khola	8-Nov-19	15-Nov-19	6-Dec-19	17.00		M20
35	N-38	RUDP-2697	Ambe Hi-tech	OPC	Chisang Khola	11-Nov-19	18-Nov-19	9-Dec-19	15.58		M20
36	R-44	RUDP-2698	Ambe Hi-tech	OPC	Chisang Khola	12-Nov-19	19-Nov-19	10-Dec-19	15.21		M20
37	R-7	RUDP-2699	Ambe Hi-tech	OPC	Chisang Khola	12-Nov-19	19-Nov-19	10-Dec-19	17.15		M20
38	R-4	RUDP-2700	Ambe Hi-tech	OPC	Chisang Khola	14-Nov-19	21-Nov-19	12-Dec-19	15.65		M20
39	R-44	RUDP-2701	Ambe Hi-tech	OPC	Chisang Khola	14-Nov-19	21-Nov-19	12-Dec-19	14.23		M20
40	R-2	RUDP-2702	Ambe Hi-tech	OPC	Chisang Khola	14-Nov-19	21-Nov-19	12-Dec-19	15.80		M20
41	T3L19F	RUDP-2703	Ambe Hi-tech	OPC	Chisang Khola	16-Nov-19	23-Nov-19	14-Dec-19	17.90		M20
42	R-12	RUDP-2704	Ambe Hi-tech	OPC	Chisang Khola	16-Nov-19	23-Nov-19	14-Dec-19	15.72		M20
43	R-40	RUDP-2705	Ambe Hi-tech	OPC	Chisang Khola	16-Nov-19	23-Nov-19	14-Dec-19	14.98		M20
44	T3L10	RUDP-2706	Ambe Hi-tech	OPC	Chisang Khola	18-Nov-19	25-Nov-19	16-Dec-19	14.90		M20
45	T3L19F	RUDP-2707	Ambe Hi-tech	OPC	Chisang Khola	18-Nov-19	25-Nov-19	16-Dec-19	15.20		M20
46	R-4	RUDP-2708	Ambe Hi-tech	OPC	Chisang Khola	18-Nov-19	25-Nov-19	16-Dec-19	16.32		M20
47	R-4	RUDP-2709	Ambe Hi-tech	OPC	Chisang Khola	18-Nov-19	25-Nov-19	16-Dec-19	12.46		M15
Contractor						Consultant					
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD						BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL					
<div>Checked By Engineer Dhirendra Yadav</div>						<div>Submitted By Contract Manager Rabindra K.Thakur</div>					
						<div>Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha</div>					
						<div>Approved By Team Leader Gireesh Chand</div>					



### Summary Sheet of Concrete Cube Test Report





## REGIONAL URBAN DEVELOPMENT PROJECT

Biratnagar Metropolitan City

Contract No:- RUDP/ICB/BRT-02

## Summary Sheet of Mortar Test Report

							Month		November		
							Year		2019		
							Description of Sample		Brick Wall		
S.N.	Location	Lab Ref.no.	Type of Cement	Brand of Cement	Source of Sand	Date of Casting	Date of Testing		Strength, N/mm2		Type of Grade
							7 Days	28 Days	7 Days	28 Days	
1	T3L10C	MR-2302	Shalimar Gold	OPC	Chisang Khola	17-Oct-19	24-Oct-19	14-Nov-19		8.94	7.5
2	R-8	MR-2303	Shalimar Gold	OPC	Chisang Khola	17-Oct-19	24-Oct-19	14-Nov-19		9.50	7.5
3	R-3	MR-2304	Shalimar Gold	OPC	Chisang Khola	19-Oct-19	26-Oct-19	16-Nov-19		9.36	7.5
4	T3L10C	MR-2305	Shalimar Gold	OPC	Chisang Khola	21-Oct-19	28-Oct-19	18-Nov-19		8.66	7.5
5	R-3	MR-2306	Shalimar Gold	OPC	Chisang Khola	21-Oct-19	28-Oct-19	18-Nov-19		9.36	7.5
6	R-8	MR-2307	Shalimar Gold	OPC	Chisang Khola	21-Oct-19	28-Oct-19	18-Nov-19		9.50	7.5
7	T3L10C	MR-2308	Shalimar Gold	OPC	Chisang Khola	22-Oct-19	29-Oct-19	19-Nov-19		9.92	7.5
8	N-38	MR-2309	Shalimar Gold	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	6.71	9.92	7.5
9	R-3	MR-2310	Shalimar Gold	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	6.71	8.94	7.5
10	T3L19F	MR-2311	Ambe Hi-tech	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	6.99	8.52	7.5
11	T3L10	MR-2312	Ambe Hi-tech	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	6.99	8.94	7.5
12	T3L10	MR-2313	Ambe Hi-tech	OPC	Chisang Khola	25-Oct-19	1-Nov-19	22-Nov-19	7.13	8.80	7.5
13	T3L10A	MR-2314	Ambe Hi-tech	OPC	Chisang Khola	26-Oct-19	2-Nov-19	23-Nov-19	7.13	8.94	7.5
14	R-3	MR-2315	Ambe Hi-tech	OPC	Chisang Khola	27-Oct-19	3-Nov-19	24-Nov-19	7.41	9.64	7.5
15	T3L19F	MR-2316	Ambe Hi-tech	OPC	Chisang Khola	27-Oct-19	3-Nov-19	24-Nov-19	6.29	7.69	7.5
16	R-12	MR-2317	Ambe Hi-tech	OPC	Chisang Khola	28-Oct-19	4-Nov-19	25-Nov-19	6.71	8.38	7.5
17	R-3	MR-2318	Ambe Hi-tech	OPC	Chisang Khola	28-Oct-19	4-Nov-19	25-Nov-19	7.13	9.64	7.5
18	N-38	MR-2319	Ambe Hi-tech	OPC	Chisang Khola	28-Oct-19	4-Nov-19	25-Nov-19	6.71	8.80	7.5
19	R-12	MR-2320	Ambe Hi-tech	OPC	Chisang Khola	29-Oct-19	5-Nov-19	26-Nov-19	7.13	9.22	7.5
20	R-12	MR-2321	Ambe Hi-tech	OPC	Chisang Khola	29-Oct-19	5-Nov-19	26-Nov-19	7.27	9.08	7.5
21	T3L10	MR-2322	Ambe Hi-tech	OPC	Chisang Khola	29-Oct-19	5-Nov-19	26-Nov-19	6.99	9.78	7.5
22	R-12	MR-2323	Ambe Hi-tech	OPC	Chisang Khola	30-Oct-19	6-Nov-19	27-Nov-19	6.85	8.80	7.5
23	T3L19F	MR-2324	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	7.27	8.80	7.5
24	T3L19F	MR-2325	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	6.57	9.92	7.5
25	N-38	MR-2326	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	7.27	9.78	7.5
26	T3L10F	MR-2327	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	6.57	9.36	7.5
27	T3L10	MR-2328	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	9.13	9.22	7.5
28	N-38	MR-2329	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	6.57	8.94	7.5
29	R-12	MR-2330	Ambe Hi-tech	OPC	Chisang Khola	31-Oct-19	7-Nov-19	28-Nov-19	7.13	9.50	7.5
30	T3L10A	MR-2331	Ambe Hi-tech	OPC	Chisang Khola	1-Nov-19	8-Nov-19	29-Nov-19	6.85	9.78	7.5
31	N-38	MR-2332	Ambe Hi-tech	OPC	Chisang Khola	1-Nov-19	8-Nov-19	29-Nov-19	6.29	9.08	7.5
32	T3L19F	MR-2333	Ambe Hi-tech	OPC	Chisang Khola	2-Nov-19	9-Nov-19	30-Nov-19	6.71	9.08	7.5
Contractor							Consultant				
ZHONGHENG CONSTRUCTION GROUP INTERNATIONAL ENGINEERING CO. LTD							BUILDING DESIGN AUTHORITY (P) LTD IN JOINT VENTURE WITH B.N. CONSULTANCY PVT. LTD AND PLUS ENGINEERS & ARCHITECTS (P) LTD, KATHMANDU, NEPAL				
Checked By Engineer Dhirendra Yadav							Verified By Expert Qty Surveyor/CSE H.K. Mandal/Rajan Shrestha				
Submitted By Contract Manager Rabindra Kr. Thakur							Approved By Team Leader Giresch Chand				





### Summary Sheet of Mortar Test Report



## ANNEX-4: SOCIAL & ENVIRONMENT SAFEGUARD

### **Monitoring Formats Attached – November 2019**

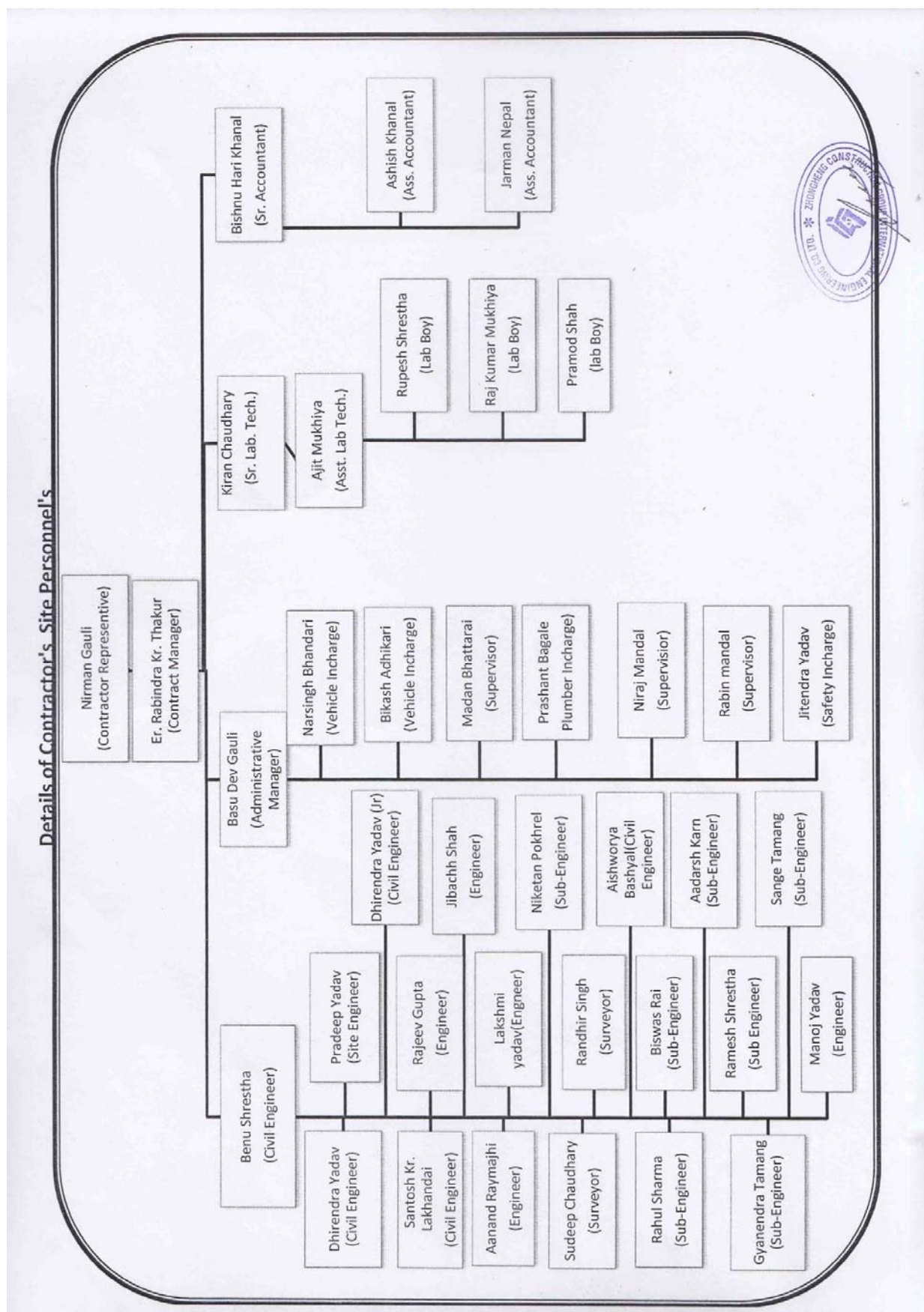


## B. Details of Equipment at Site / Contractor's yard

S.N	Equipment Type and Characteristics	ZHONGHENG CONSTRUCTION GROUP
1	Excavator	1
2	Backhoe Loader	9
3	Asphalt plant of adequate capacity	1
4	Asphalt pavers	1
5	Vibrating roller	5
6	Pneumatic tyre roller 8 to 10 ton	1
7	Smooth wheeled roller 8 to 10 ton	2
8	Tipper	4
9	Crane	1
10	Water Tank	4
11	Grader	3
12	Bitumen distributor (4 to 6 Kilo litre)-	2
13	Water browser ( minimum 5000 Litres)	10
14	Chips spreader	0
15	Bitumen decanter minimum 4000 Litres.	3
16	Air compressor	2
17	Tipping Trucks	2
18	Service vehicle	5
19	Total station	1
20	Auto Level	15
21	Mobile Generator 15-20 Kva	18
22	Mixer Machine	5
23	Broomer	1
24	Plate Compactor	5
25	Water Pump	18
26	Motorbike	12
27	Tractor	22







**Regional Urban Development Project (RUDP)**  
**Social Safeguard Monitoring**  
**Status of Key Social Issues Compliance**

Subproject Road : -RUDP/ICB/BRT/2

Month/Year: November. 2019

Name of Contractor :-ZHONGGHENG Construction  
 Group International Engineering Co pvt Beijing China.

Contract Package: RUDP/ICB/BRT/2

S.N	Key Social Issue	Compliance Status			Implementing Agency	Note of Remarks	Deadline
		Full	Partial	None			
1	Availability of drinking water services	✓					
2	Availability of toilet facility in campsite	✓					
3	Legal source of fuel wood use			✓			
4	Legal document of fuel wood source			✓			
5	Use of safety accessories	✓					
6	Availability of first aid facility	✓					
7	Basic wage rate to construction workers	✓					
8	Equal wage rate to male and female workers		✓				
9	Compensation of temporarily occupied land	✓					
10	Compensation of temporarily occupied buildings	✓					
11	Legal document of temporarily occupied assets	✓					
12	Non use of child labour in construction activities	✓					

Prepared by: 

Verified by:

Monitored by:



**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: November. 2019

**Checklist**

SN	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	Yes	
1.2	Others awareness and skill trainings	No	
<b>2</b>	<b>Occupational health and safety</b>		
2.1	Insurance for workers	Yes	
2.2	Personal Protective Equipment (PPE) provided to labors and is using (helmet, facemasks, muffles, gloves, boots, jacket, goggles etc.)	Daily Provided	
2.3	Public notification Safety and warning signs and informative signboards in working sites for work safety	Yes Provided	
2.4	Use of barricades, caution tape and flag	Daily Used	
<b>3</b>	<b>Campsite management</b>		
3.1	Location	Pichra, Judi, Shanti Chowk, Rani	
3.2	First aid facilities available at camp and worksites	Yes	
3.3	Drinking water supply and sanitation facilities/ pit latrines	Tap water/ Hand Pump	
3.4	Waste Disposal and Management facilities	Yes	
3.5	Type of fuel used for cooking	L.P.G	
<b>4</b>	<b>Spoil and Construction material Management</b>		
4.1	Cut and fill balance maintained or not, Reuse of spoil materials	Cut & Fill balance maintained	
4.2	Use of safe spoil disposal locations	Not Applicable	
4.3	Disturbance to Pedestrian and traffic movement	No any disturbance to pedestrians & traffic	





4.4	Use of private land and agreement with land owners	movement Yes	
5	<b>Air, Noise and Water Pollution</b>		
5.1	Dust emission and Noise pollution sites	Water sprinkled by tanker on such sites.	
5.2	Water quality monitoring result and locations	ok	
5.3	Block age of natural drainages ,water logging, drain water discharge into farmland/risky areas	Not Applicable	
6	<b>Quarrying of construction materials and Plants Installment</b>		
6.1	Quarry/borrow operation sites	Not Applicable	
6.2	Crusher plant and Asphalt plant operation restoration	Asphalt Plant	
7	<b>Impact/Disruption of Private properties</b>		
7.1	Building structures	Not Applicable	
7.2	Other utilities	Not Applicable	
8	<b>Impact/disruption of public infrastructures</b>		
8.1	Irrigation canal	Not Applicable	
8.2	Water supply pipe	Not Applicable	
8.3	Access road	Not Applicable	
8.4	Electric/Telephone pole	Not Applicable	
8.5	Others	Not Applicable	
9	<b>Sites for cultural and religious values</b>		
9.1	Cultural and religious sensitive spots (if any)	Not Applicable	
10	<b>Forest and vegetation</b>		
10.1	Number of trees removal	00	
10.2	No of tree plantation (Roadside)	Not Applicable	
11	<b>Accident cases and records</b>	No any records	
12	<b>Employment to local people</b>		
12.1	Men and women	Yes, both men and women	
12.2	Child labor (if any)	No	
13	<b>Establishment of Safeguard desk and meeting</b>	Yes	
14	<b>Grievances from local people and addressed</b>	Yes	





Regional Urban Development Project (RUDP) Project Implementation Unit (PIU) Biratnagar, Nepal <u>LABOUR DATA SUMMARY</u>											
LABOUR CLASS	LABOUR		COMPOSITION			ETHNIC COMPOSITION					
	SKILLED	UNSKILLED	MALE	FEMALE		JANJATI	DALIT	MUSLIM	MADHESI	BRAHMIN/CHHETRI	
LOCAL	20	62	82	0		0	0	0	82	0	
NON LOCAL	53	177	210	20		55	29	14	132	0	
INDIAN	7	27	34	0		0	0	17	17	0	
TOTAL	80	266	326	20		55	29	31	231	0	



Regional Urban Development Project (RUDP) Project Implementation Unit (PIU) Biratnagar, Nepal LABOUR DATA													Month/Year: November 2019	
S.NO	LOCATION	TYPES OF WORK	TYPES OF WORKERS	LABOUR		COMPOSITION		DALIT	ETHNIC COMPOSITION			BRAHMIN/CHHETRI		
				SKILLED	UNSKILLED	MALE	FEMALE		MUSLIM	MADHESI				
1	R2	Brooming	LOCAL											
			NON LOCAL		25	5	20	15		10				
			INDIAN											
			TOTAL	25										
2	R2	Weep Hole	LOCAL											
			NON LOCAL		5	7				7				
			INDIAN											
			TOTAL	7										
3	TL10A	Drain	LOCAL											
			NON LOCAL		8	11				11				
			INDIAN											
			TOTAL	11										
4	Madhumara Yard	Production	LOCAL											
			NON LOCAL		22	27		7	5	15				
			INDIAN											
			TOTAL	27										
5	Koshi Yard	Production	LOCAL											
			NON LOCAL		31	41		11		25				
			INDIAN						5					
			TOTAL	41										
6	R12	Drain	LOCAL		15	19								
			NON LOCAL											
			INDIAN											
			TOTAL	19										
7	B3-3	Drain Rise	LOCAL		12	16								
			NON LOCAL							16				
			INDIAN											
			TOTAL	16										
8	R2	House Connection	LOCAL		9	13								
			NON LOCAL							13				
			INDIAN											
			TOTAL	13										
9	R46	House Connection	LOCAL		9	12								
			NON LOCAL							12				
			INDIAN											
			TOTAL	12										



Regional Urban Development Project (RUDP) Project Implementation Unit (PIU) Biratnagar, Nepal LABOUR DATA													Month/Year: November 2019		
S.NO	LOCATION	TYPES OF WORK	TYPES OF WORKERS			LABOUR		COMPOSITION		JANUATI	DALIT	ETHNIC COMPOSITION			BRAHMIN/CHHETRI
			LOCAL	NON LOCAL	INDIAN	SKILLED	UNSKILLED	MALE	FEMALE			MUSLIM	MADHESI		
10	R43	House Connection	LOCAL			3	8	11					11		
			NON LOCAL												
			INDIAN												
			TOTAL			11									
11	R8	Drain	LOCAL												
			NON LOCAL			5	12	17				7	10		
			INDIAN												
			TOTAL			17									
12	T3L10(R6)	Drain	LOCAL												
			NON LOCAL			3	16	19					10		
			INDIAN			19						9			
			TOTAL												
13	N38	Drain	LOCAL			4	13	17		5	4		8		
			NON LOCAL												
			INDIAN			17									
			TOTAL												
14	R83	Kerbstone	LOCAL			5	15	20		10	5		5		
			NON LOCAL												
			INDIAN			20									
			TOTAL												
15	R2	Prime	LOCAL			2	4	6		1	3	2			
			NON LOCAL												
			INDIAN												
			TOTAL			6									
16	R4	RCC Drain	LOCAL			4	13	17		2	5		10		
			NON LOCAL												
			INDIAN			17									
			TOTAL												
17	T3L7	Sewer Line	LOCAL			2	4	6			2		4		
			NON LOCAL												
			INDIAN			6									
			TOTAL												
18	R2	Sewer Manhole & Inlet Rising	LOCAL			2	5	7					7		
			NON LOCAL												
			INDIAN			7									
			TOTAL												





Regional Urban Development Project (RUDP) Project Implementation Unit (PIU) Biratnagar, Nepal LABOUR DATA													Month/Year: November 2019		
S.NO	LOCATION	TYPES OF WORK	TYPES OF WORKERS		LABOUR		COMPOSITION		ETHNIC COMPOSITION				BRAHMIN/CHHETRI		
			LOCAL	NON LOCAL	SKILLED	UNSKILLED	MALE	FEMALE	JANJATI	DALIT	MUSLIM	MAJHESI			
19	R2	Tick Drain (Gutter Drain)	LOCAL												
			NON LOCAL		4	10	14						14		
			INDIAN												
			TOTAL		14										
20	R2	Electrical Work	LOCAL												
			NON LOCAL		5	10	15		4	5		6			
			INDIAN												
			TOTAL		15										
21	R2	Asphalt	LOCAL												
			NON LOCAL		4	11	15				8	7			
			INDIAN		15										
			TOTAL		19										
22	R15	Kerbstone Laying	LOCAL		2	9	11						11		
			NON LOCAL												
			INDIAN												
			TOTAL		11										
LABOUR CLASS			LABOUR		COMPOSITION		ETHNIC COMPOSITION				ETHNIC COMPOSITION				
			SKILLED	UNSKILLED	MALE	FEMALE	JANJATI	DALIT	MUSLIM	MAJHESI	BRAHMIN/CHHETRI				
LOCAL			20	62	82	0	0	0	0	82	0				
NON LOCAL			53	177	210	20	55	29	14	132	0				
INDIAN			7	27	34	0	0	0	17	17	0				
TOTAL			80	266	326	20	55	29	31	231	0				

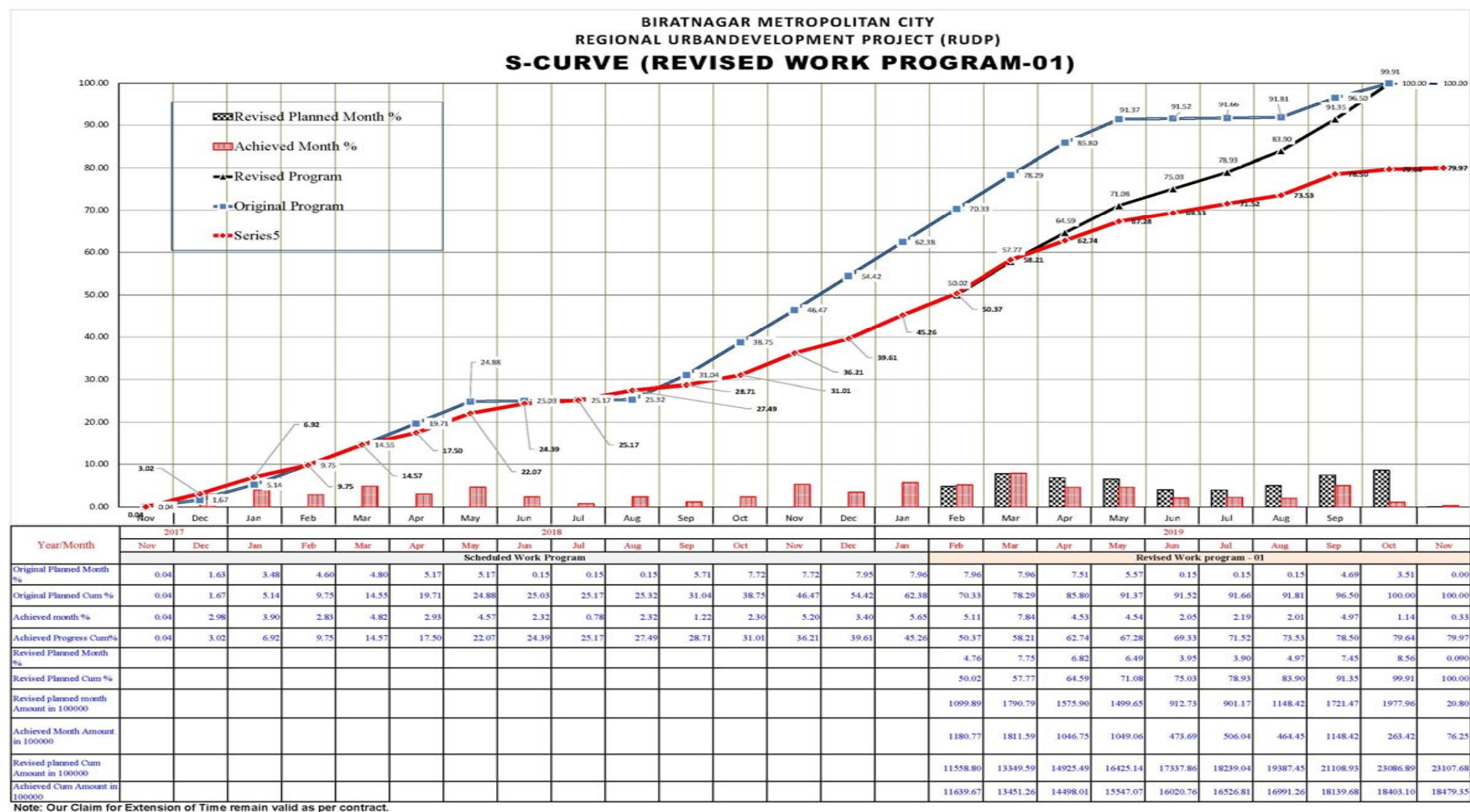




ANNEX-5: S-Curve

**ATTACHED – November 2019**





## Annex-6: Master Plan of RUDP Project



