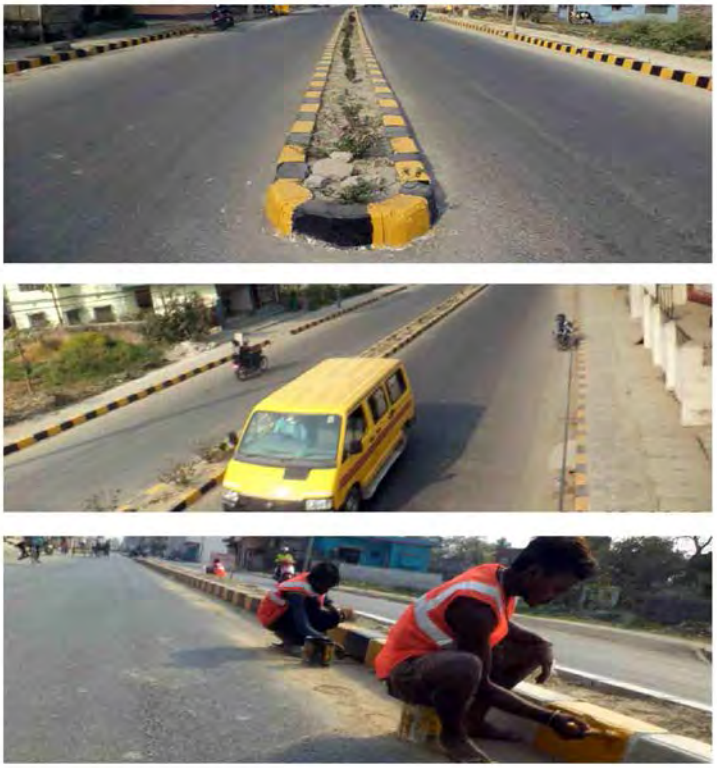
In association with

Brisbane City Enterprise Pty Ltd, Australia
AQUA Consultant and Associates Ltd, Bangladesh
Building Design Authority, Nepal
CEMAT Consultants, Nepal

Monthly Progress Report (February, 2017)

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar, Nepal



05 March, 2017

Biratnagar Sub - Metropolitan City, Nepal

AUSTRALIA | ASIA | MIDDLE EAST | AFRICA | PACIFIC

Project Name:	Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP)
Project Number:	56064023
Report for:	Biratnagar Sub Metropolitan City, Nepal

PREPARATION, REVIEWand AUTHORISATION

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1. SALIENT FEATURE of Contract Package: STIUEIP/W/BRT/ICB-01

General Features	
Name of Project	Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP)
Executing Agency	Government of Nepal, Ministry of Urban Development Department of Urban Development and Building Construction (DUDBC)
Implementing Agency	Biratnagar Sub-Metropolitan City, Biratnagar
Funded By	Asian Development Bank &Government of Nepal
Package	Sewerage and Drainage Network, Wastewater Treatment Plant and Road and Lanes Improvement Sub Project
Contract No.	STIUEIP/W/BRT/ICB-01
Location	Biratnagar Sub-Metropolitan City, Biratnagar
Consultant	SMEC in association with Brisbane/AQUA/BDA/CEMAT
Contractor	CTCE-KALIKA Joint Venture
Date of Commencement	08 December, 2013
Revised date of Completion	09 March, 2017
Revised Contract Amount including PS and VAT (VO-03 Under process)	NRs. 2,977,784,619.92
Recommendation Amount up to IPC 22 (End of Jan 2017)	NRs. 2,027,380,684.17 (Including PS & VAT)
Physical Progress till February, 2017	71.44 (wrt to vo-03)
Financial Progress	68.08% (wrt to vo-03)

2 INTRODUCTION/BACKGROUND

1. SMEC International Pty (Australia)in association with Brisbane City Enterprise Pty Ltd (Australia), AQUA Consultant and Associates Ltd (Bangladesh),Building Design Authority (Nepal) and CEMAT Consultants(Nepal) have entered for a Contract of Consulting Services with Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP),Project Implementation Unit(PIU), Biratnagar Sub metropolitan City on 7th December 2011. This monthly Progress Report of February, 2017 has been submitted to the PIU as per the Work Program proposed in the consultant's technical proposal as well as TOR of the consultant.

2 Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP), 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 2650-NEP. As per PAM contribution from GoN is 3.99 million USD, Asian Development Bank (ADB) 18.86 million USD and Biratnagar Sub-metropolitan City (BSMC) 1.99 million USD while contingency is 2.88 million USD for Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar. The cost sharing has been revised in April, 2013as: Government of Nepal (GoN) is 5.960 Million USD, Asian Development Bank(ADB)24.214 Million USD, TDF loan 4.098 Million USD and Biratnagar Sub-metropolitan City(BSMC)2.980 Million USD and in total **37.252** Million USD.

3. 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 proposed project Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) is another step forward to promote healthy cities by creating healthier urban environments and was formulated under the PPTA 2010.

- Contract of consulting services signed on 07December 2011.
- Design works commenced on 01 January 2012.
- Final design works submitted to the Client on March 2013
- Contract of construction works signed on 02 December 2013
- Construction works commenced on 08 December 2013
- Due to VO-03 under process the contractor is not able to submit the revised work programme with S-curve and Resource plan (only submitted daily work programme).

3. SUB-PROJECTCOMPONENTS

3.1 SEWER LINES

4. The prioritized sewer lines for Final Detailed Engineering Report of BSMC are as follows:

Table1: Proposed Sewer Lines in BSMC

S N.	Description	Unit	Quantity
1	**Sewerage Pipe Supply and Installation**	m	**63,964.0**
	Reinforced Concrete Pipe laying and jointing		**16,612.0**
	Line T1 (Secondary Line T2 (Trunk)	m m	3,788.0 8,370.0
	Line T3 (Trunk)	m	4,136.0
	Line T4 (Secondary)	m	318.0
	HDPE laying and jointing	m	**47,352.0**
	Line T1 (Secondary	m	7,124.0
	Line T2 (Trunk)	m	19,410.0
	Line T3 (Trunk)	m	18,606.0
	Line T4 (Secondary)	m	22,12.0
2	**Manhole (Brick / RCC)**	**no.**	**2,036**
3	**Sewer Inlet**	**no.**	**3,766.00**
4	**House Connection**	**no.**	**5,930.00**
5	**Reinstatement of Roads**	**km**	**66.06**

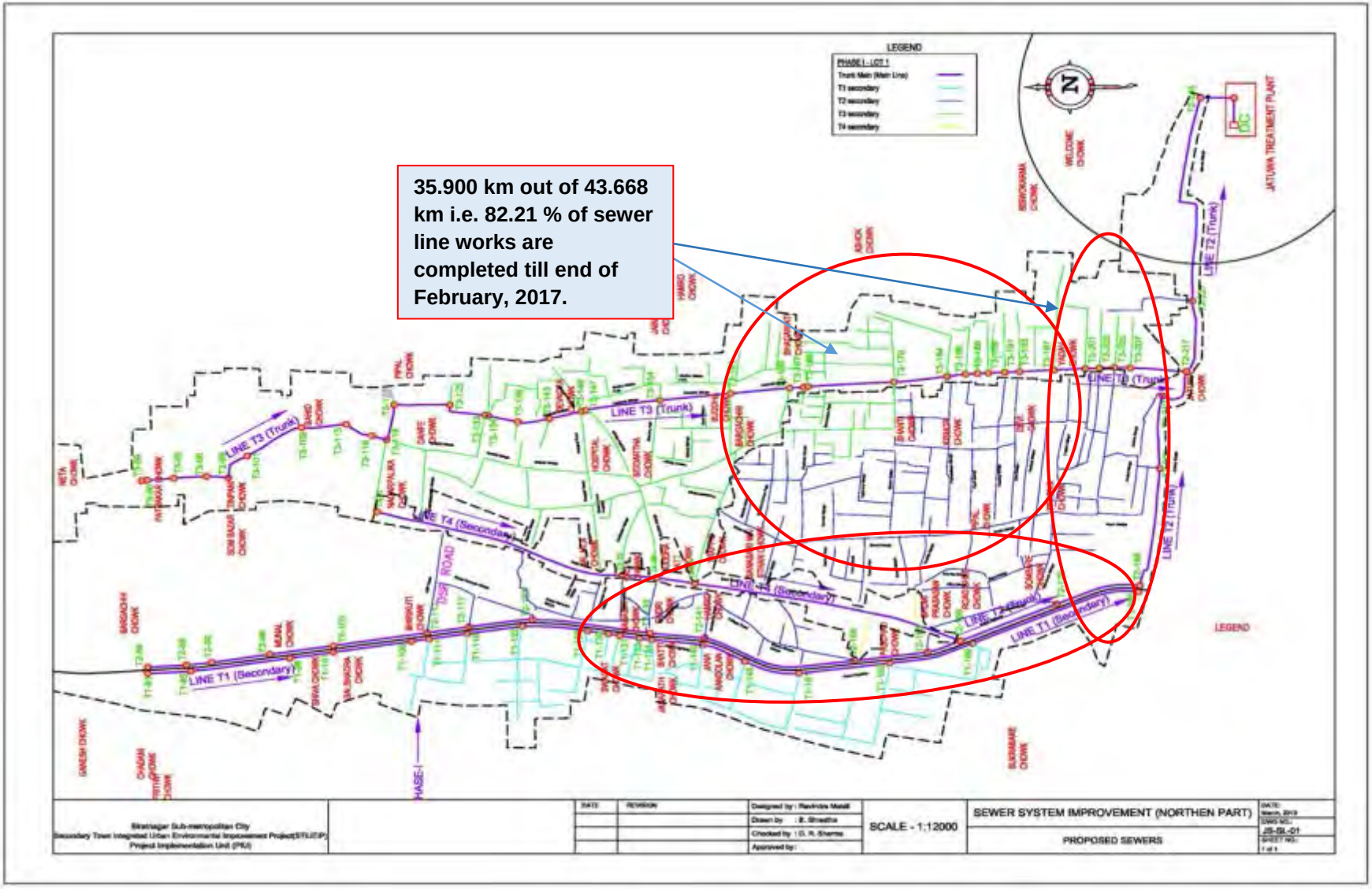


FIGURE. 1PROPOSED SEWER LINES IN BSMC

3.2 Storm Water Drains

5. Most of the storm drains(S13,S11,S9,S5,B1,B2,B3,CN2,CN3 and southern parts) have been provisioned as Phase I priority works. The major storm drain outlets as planned are14 numbers and catchment areas and discharges are respectively1, 324.2Ha and 73.21 cum/sec.

Table2: Proposed Storm Water Drains in BSMC

S.No.	Description	Unit	Quantity
A	**Storm Drain for Northern Parts**		**28,491.00**
I	Storm Drain Lines	m	28,491.00
II	Culvert	no	41
III	Outfall	no	15
IV	Rain Inlet	no	30
V	Manhole	no	30
VI	Canal Crossing	no	11
B	**Storm Drain for Southern Part**		
I	Brick Masonry Drain	m	8,483
II	Cleaning and Maintenance of Existing Drain	m	7,273
III	Culverts	no	38
C	**Rehabilitation of Existing Drain**		
I	Drain Cover	M	30,467
II	Cleaning and Maintenance of Existing Drain	M	33,601

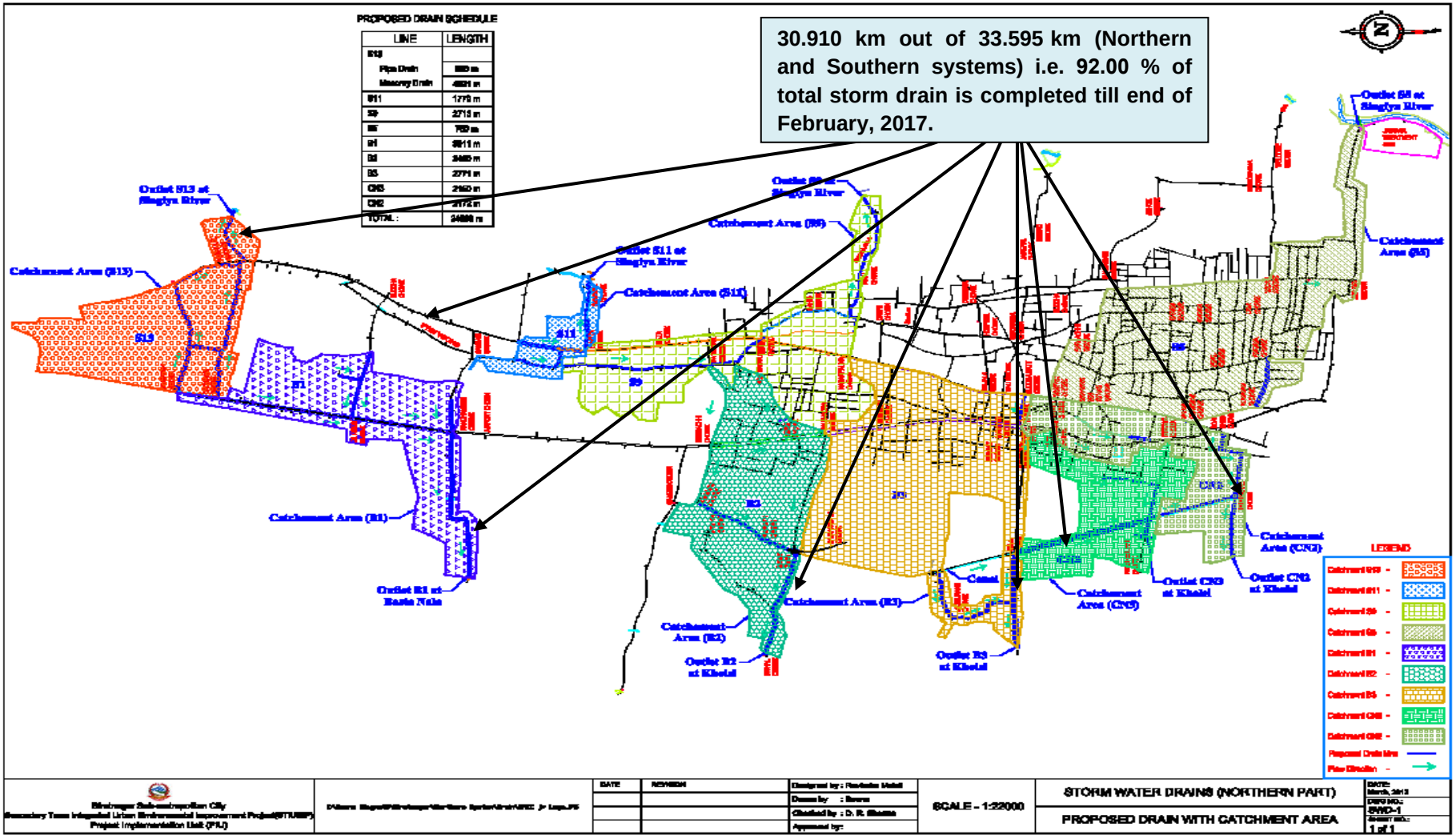


Figure 2: Proposed Storm Water Drains in BSMC (Northern Drainage System)

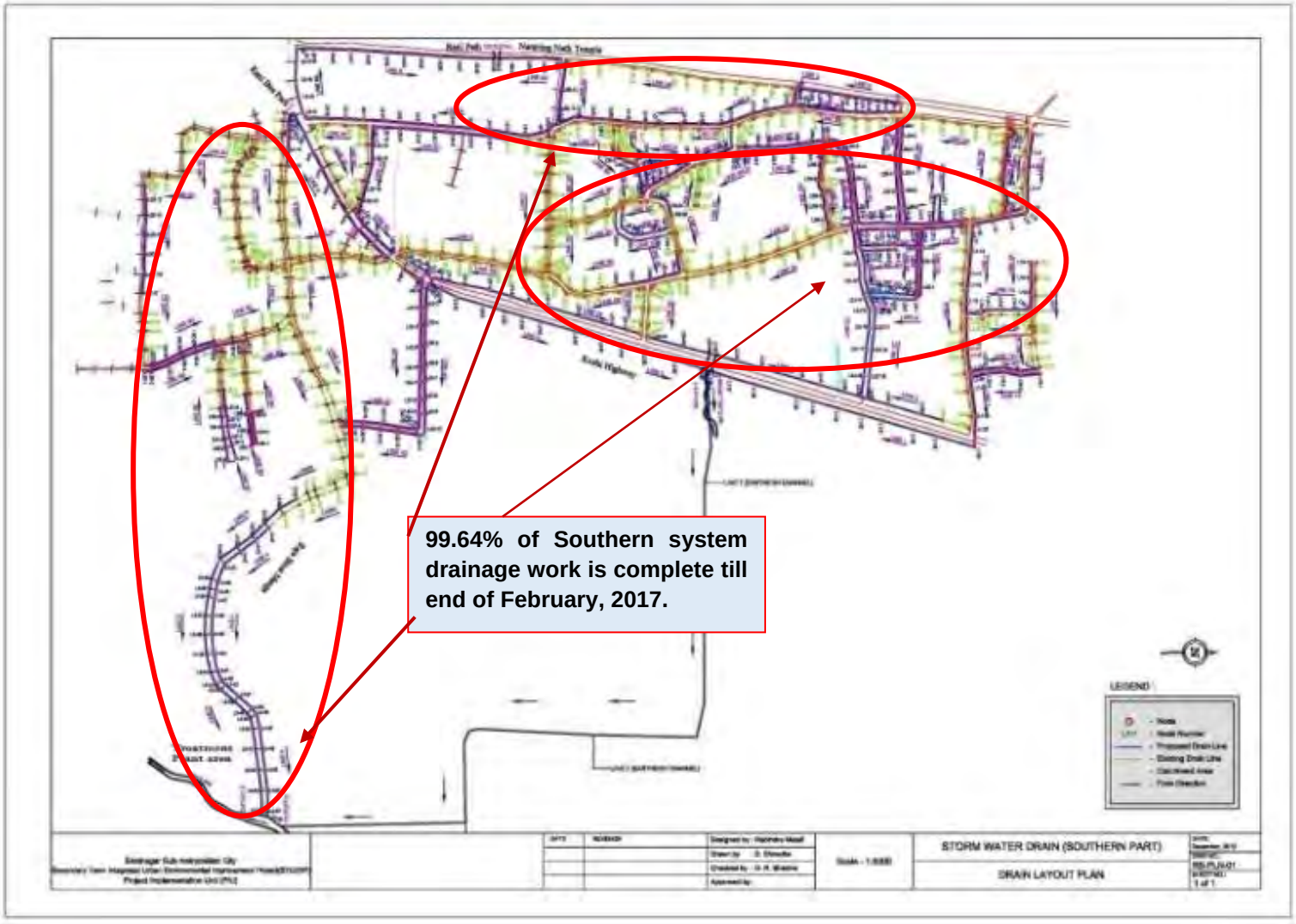


Figure 3: Proposed Storm Water Drains in BSMC (Southern Drainage System)

3.3 WASTE WATER TREATMENT PLANTS

6. The quantity of domestic waste water is calculated using water supply rate at 90 liters per person per day in the design year 2035, out of which 80% is converted into waste water. Maximum quantity of waste water is calculated taking peak factor of 1.99 to 2.5. Minimum quantity of sewage is taken as 30% of the average quantity. Commercial / Institutional / Industrial waste water quantity is calculated as 0.10 LPS/ha. While infiltration quantity is calculated as 0.14 LPS/ha in the design year 2035.The total quantity of commercial / institutional / industrial and infiltration waste water estimated as 237.79 LPS in the design year 2035 which is very large in comparison with domestic waste water quantity of 207.18 LPS. The maximum quantity (peak flow) of waste water in the design year 2035 for both Phase I and Phase II are as is estimated at 650.08 LPS. The maximum quantity of the waste water for Phase I are as only is estimated at 213.97 LPS. The capacity of the Phase I WWTP has been adopted as 214 LPS. The capacity of the Phase II WWTP will be thus 436 LPS. Features of WWTP at Jatuwa are as follows:

Table 3: Proposed Waste Water Components in BSMC

S.N.	Description	Unit	No
	Waste Water Treatment Plant Component		
1	By Pass Chamber	No	1
2	Distribution Chamber	No	1
3	Bar Screen Chamber	No	2
4	Sump well with Pumping Station	No	2
5	Collection Chamber1	No	1
6	Oil &Grease Chamber	No	2
7	CollectionChamber2	No	1
8	Grit Chamber	No	2
9	CollectionChamber3	No	1
10	Anaerobic Pond	No	3
11	Facultative Pond	No	3
12	Collection Chamber4	no	1
13	Outfall Structure	no	1
14	Sludge Drying Bed	no	10
15	Enclosure Chamber Shed	no	1
16	Guard House	no	1
17	Office Cum Lab Building	no	1
18	Workshop Building	no	1
19	Generator/Changing House	no	1
20	Entrance Gate	no	1
21	Boundary wall	m	1,340
22	Shallow Tube Well with water Tank	set	1
23	Landscaping and Plantation works	sqm	99,915
24	Site clearance, grubbing, surface dressing	sqm	99,915
25	Road and Drain Improvement	m	1,440

26	River training works	m	600
27	Electromechanical works	Set	1
28	Lab Equipment and installation	Set	1

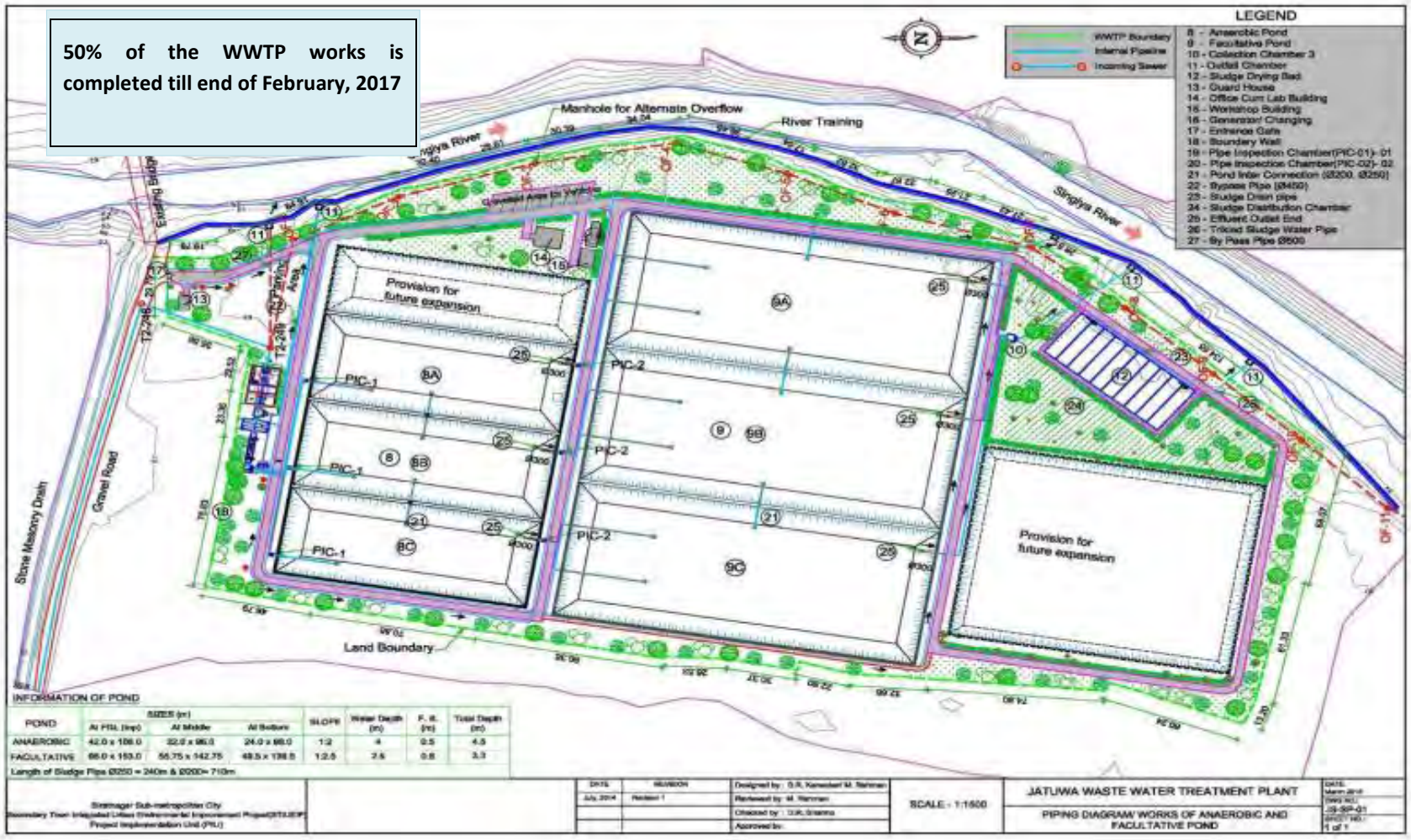


Figure 4: Proposed Waste Water Treatment Plant at Jatuwa in BSMC

3.4 Roads and Lanes

7. 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 3.224 Km road improvement with Asphalt from Pushpalal chowk to Pani Tanki chowk is completed where as in other roads, 7.837 Km Sub-grade and Sub-base is completed till this month and hence the Project has considered on design based on reinstatement, rehabilitation and upgrading of existing roads and lanes.

Table 4: Proposed Roads in BSMC

Description of Item	Quantity
Main Road Improvements(Road from Pushpalal Chowk to Panitanki)	3.224 Km
Reinstatement and Road Improvements (under sewer line installation) and WWTP	43.83 Km

3.5 Environmental Aspect

8. The project is environmental improvement project and mainly constitutes works on sewerage and drainage improvement works in BSMC besides others. As per ADB guide lines on Environmental Assessment requirements, this project is classified as Environment Category B. According to Environmental Protection Guidelines, 2054BS, First Revised (2055BS) schedule-3, IEE is required for Operations of Sewerage Schemes under Schedule1.h.2.e (pertaining to Rule3). The final report on IEE was submitted and MoUD had approved the IEE on May14, 2013.

9. Installation of functioning sewers and functioning drainage system including roads/lanes improvement in BSMC does not possess any adverse environmental impacts to its surrounding. In fact, these will greatly enhance the living conditions/hygiene of the in habitants 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.

10. DSC has prepared and submitted Environmental Progress Reports (Semi-Annual) October 2014 – March 2015 and Quarterly Updated Environmental Report, January – March on 27 May 2015.Recently, the DSC has received comments from PCO to revise semi-annual environmental report. The next Quarterly Updated Environmental Report for the months of April, May and June 2016 and semi –annual report has been submitted in July, 2016. The Quarterly Updated Environmental Report for the months of June 2016- December 2016 semi –annual report has been submitted in Jan 2017.

3.6 Social Aspect

11. Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) in Biratnagar has commenced from 2010 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 STIUEIP in Biratnagar Sub-Metropolitan City (BSMC). Besides this, community development and institutional strengthening components, the two other objective focused components of STIUEIP Biratnagar are running various social development programs and activities.

Social development component is one of the major components of STIUEIP Biratnagar that comprises of various social development programs and activities like community development

program (CDP), awareness raising, skill development, health and sanitation. Social Development Specialist (SDS) in Design and Supervision Consultant (DSC) is deputed to assist the Project Implementation Unit (PIU) in implementing effectively the social activities to achieve the project goal as envisaged by the project. Monitoring of ongoing social development activities and consultation meetings with community people are the general tasks to be accomplished as regular basis.

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.

Based on the poverty indicators, all details have been documented and shown in the social map. The program area for community development programs has been extended to most poverty stricken area scattered across several wards of the BSMC. The Community Development Program includes meetings, orientation, awareness activities, skill development trainings and health, hygiene and sanitation activities which are conducted and organized by the NGO (Fri PAD).

12. As there is slack period of the construction due to monsoon, currently, the drain work has been stopped due to rain water and construction materials.

The next Quarterly Report for the months of June 2016- December 2016 semi –annual report has been submitted in Jan 2017.

3.7 Financial Plan

13.The Sub-project cost will be disbursed in three years starting from FY2013/14 to 2015/16.It has estimated that 20 percent of the Sub-project cost will be disbursed in first year. Similarly, in second year, 50 percent will be disbursed. Finally, remaining 30 percent of Sub-project cost will be disbursed in third year. Actual disbursement in the first fiscal year was 4.3 %(up to July 2014); 34.3% (up to July 2015 inclusive VO1) in second fiscal year was 56.72% so total was 63.78% (up to January, 2017). Hence the remaining disbursement 36.22 % will be done in third year.

3.8 DISBURSEMENT RECORDS IN CONSTRUCTION

Table 5: Disbursement Record in Construction to Date

.N.	Description of Payment	Total Bill Amount with VAT & PS (Recommendation)	Remark
1	IPC 01		
2	IPC 02	29,553,479.92	
3	IPC 03	50,406,775.75	
4	IPC 04	44,819,505.68	
5	IPC 05	23,380,168.96	
6	IPC 06	90,796,339.68	
7	IPC 07	80,854,600.52	
8	IPC-08	122,334,488.86	
9	IPC-09	116,092,187.14	
10	IPC-10	132,327,417.89	
11	IPC-11	169,853,829.07	

12	IPC-12	23,121,515.46	
13	IPC-13	85,563,926.44	
14	IPC-14	163,562,505.71	
15	IPC-15	139,008,112.96	
16	IPC- 16	137,640,413.95	
17	IPC-17	135,118,714.02	
18	IPC-18	39,288,088.98	
19	IPC-19	76,081,596.87	
20	IPC-20	74,522,638.96	
21	IPC-21	152,577,081.94	
22	IPC-22	140,477,295.40	
	Grand Total	**2,027,380,684.17**	
	Total payment to date including PS & VAT and Excluding mobilization	**2,027,380,684.17**	

4. OBJECTIVES AND SCOPE OF WORKS

4.1 OBJECTIVES

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

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

15. 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

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

A. Detailed Design and Procurement Assistance Phase
   1. Surveys verification of Feasibility Studies and GIS Base Maps
   2. Finalization of Design Criteria, Preparation of Manuals, Guidelines and Systems.

   3. Specific design requirements for the sub-projects
      - Improvement and development of drainage and sewerage systems
      - Improvement of urban roads and lanes

   4. Project Planning and Management Support to PIU
   5. Detailed Engineering Design

B. Construction and Post Construction Management Phase
   1. Construction Management and Contract Administration
   2. Environmental and Social Compliance Monitoring

3. Implementation of Community Development Program, Community Mobilization and GESI Action Plan

4. Capacity Building of the Municipality and Service Providers for Operational Sustainability

C. Communications, Reporting and Deliverables (Inception Report, Monthly Progress Reports, Interim Report for each of the outputs, Annual Progress Report, Draft Final Report for each of the outputs and Final Report).

5 PROGRESS OF SUB-PROJECT COMPONENTS

5.1 STORM WATER DRAINS

17. The Contractor has resumed the works from mid December 2015 in difficult situation due to Madesh Strikes and partial fuel supply. Storm drains at S9 are being continued.

The contractor has completed storm water drain about 30.910 km out of 33.595km, 92.59% till February, 2017.

5.2 SEWER LINES

18. The Contractor has resumed the sewer works from mid December 2015 in difficult situation due to Madesh Strikes and partial fuel supply. Sewer lines with HDPE pipes as well as RCC pipes have been resumed in this month.

The Contractor has completed sewer lines with HDP and RCC pipes about 35.900 km out of 43.668 km which is 82.21%, till February, 2017.

The proposal of the precast concrete manholes, sewer inlets and house connection chambers had been submitted for review and approval. Approval in consultation with the Employer has been given to the Contractor to execute at site because the proposal comes out to be economical, time effective and environmental friendly and structurally strong enough to carry out the function of their respective items.

The precast concrete house connection chambers, sewer inlets and manholes were installed at sites and found to be effective and we were able to open traffic at the shortest possible time. Especially where the business center with crowds (in R5 and R65 Roads) were very efficient and effective. This has reduced disturbances to the local people and road users, dumping of construction materials, workers and working for long period. This is found to be environment friendly too. Hence, the adaptation of precast units for sewer lines found to be effective and efficient.

During the site visit of delegate at different time in the construction period from BSMC, PMSC, ADB, PCO, local political representatives, TLO Executive Director of TDF and the Secretary of Ministry of Urban Development have commended.

The payment for the respective item of works as appropriate is being paid under each IPCs for the cash flow and to account disbursement in ADB's disbursement book.

5.3 WASTE WATER TREATMENT PLANT

19. Office cum laboratory building, workshop building and generator / changing house at WWTP, Jatuwa are completed. The Contractor has been continued all activities except Bio-engineering of WWTP.

Now the Contractor is carrying out Sump well, remaining boundary wall at WWTP from mid December 2016. Structure work in Sump well has been revised as per site condition and work started as per revised drawing.

5.4 ROAD AND LANES IMPROVEMENT WORKS

20.The Contractor has completed the rehabilitation / repair of existing drain of about 6.6 km in R2 road. The Contractor has completed the shifting/ relocating electric poles up to Pani tanki both sides.
The Contractor has been completed sub-grade preparation, sub-base, base course, prime and Tack coat and asphalt concrete in R2 road up to Pani Tanki Chowk. Recently contractor has completed 11061m sub-base in other roads. Road works have been frequently disturbed due to the existing water supply network and house connection pipes. The Contractor has completed 100% of road side drain of R2 road up to Pani tanki and along the sewer lines about 23.939km out of 36.050 km, 66.41% till February, 2017.

5.5 CONSTRUCTION MATERIALS

21. The fabrication of steel moulds for precast units- manholes, sewer inlets and house connection chamber are continuing in this month also. Similarly, other item of works inside the Contractor's yard is also going on smoothly.

The Contractor has resumed to produce the precast items (manholes, sewer inlets, house connection chambers, kerb stones, drain cover slabs etc.) at the Contractor's Camp, Katahari from mid December 2015.

5.6 CONSTRUCTION MATERIAL TESTING LAB

22. Construction material testing laboratory has been set up at the Contractor's camp at Katahari. Cube Test, Brick Compressive Strength, Cement Test is conducted in the Laboratory. Besides these tests, Aggregate Crushing Value (ACV), Flakiness Index (FI), Los Angeles Abrasion (LAA), CBR tests are also conducted.

As regular, Three Edge Bearing Test for RCC pipes of different diameter has been conducted on 20 January 2016 at Itahari in presence of Consultant (TL, CSE) and PM/PIU. And results were found satisfactory.

Now, construction material testing lab is working in full swing for testing of sub grade material, sub base material, base material, Bituminous items, concrete, brick, sand and aggregates.

5.7 PHYSICAL PROGRESS TILL FEBRUARY, 2017.

23. Total physical progress till February, 2017 is about 71.44% w.r.t vo-3. The Contractor has to submit revised work schedule with respect to variation order no-03.

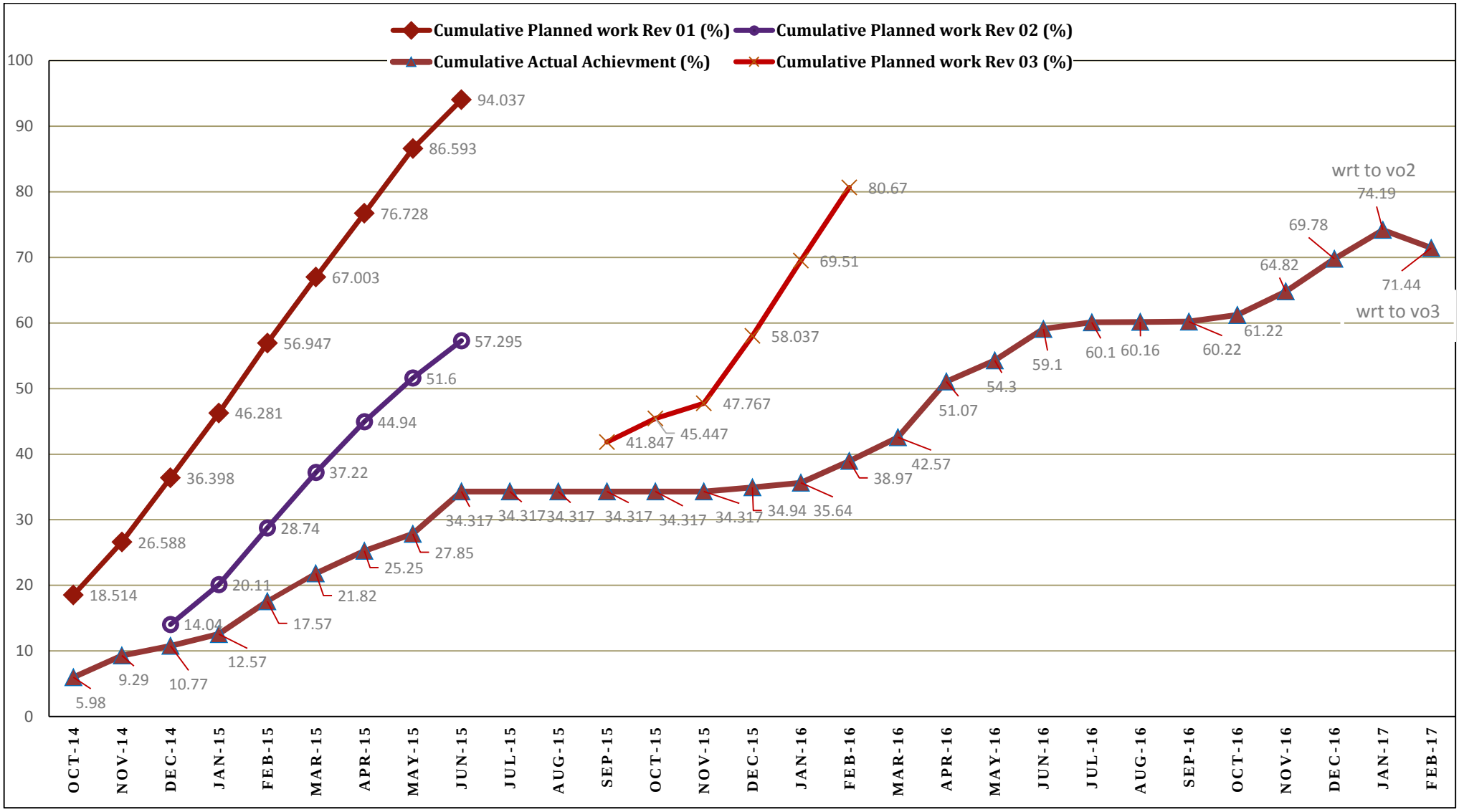
Table 6: Plan vs. Actual Progress till February, 2017

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar Plan Vs. Progress																
Month	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Jan-15**	**Feb-15**	**Mar-15**	**Apr-15**	**May-15**	**Jun-15**	**Jul-15**	**Aug-15**	**Sep-15**	**Oct-15**	**Nov-15**	**Dec-15**
Cumulative Planned work Rev 01 (%)	17.098	18.514	26.588	36.398	46.281	56.947	67.003	76.728	86.593	94.037	95.75	95.99	96.16	96.3	96.45	96.59
Cumulative Planned work Rev 02 (%)				14.04	20.11	28.74	37.22	44.94	51.60	57.295	59.33	60.92	60.99	61.07	64.65	71.29
Cumulative Planned work Rev 03 (%)													41.847	45.447	47.767	58.037
Cumulative Actual Achievements (%)	5.81	5.98	9.29	10.77	12.57	17.57	21.82	25.25	27.85	34.317	34.317	34.317	34.317	34.317	34.317	34.94
Progress lagging to date wrt the revised work plan rev 03 (%)		(12.53)	(17.30)	(3.27)	(7.54)	(11.17)	(15.40)	(19.69)	(23.75)	(22.98)	(22.98)	(22.98)	(7.53)	(11.13)	(13.45)	(23.09)

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), Biratnagar

Plan Vs. Progress

Month		Jan-16	Feb-16	Mar-16	Apr-16	May-16	June-16	July-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17
Cumulative Planned work Rev 01 (%)		96.74	97.38	97.18												
Cumulative Planned work Rev 02 (%)		79.29	88.71	96.41												
Cumulative Planned work Rev 03 (%)		69.51	80.67	91.46	97.82	100.00										
Cumulative Actual Achievements (%)		35.64	38.97	42.57	51.07	54.30	59.10	60.10	60.16	60.22	61.22	64.82	69.78/63.12	74.19/67.53	71.44 (wrt Vo-03)	
Progress lagging to date wrt the revised work plan rev 03 (%)		(33.87)	(41.70)	48.89	46.75	45.70										


Cumulative Planned work Rev 01 (%)
Cumulative Planned work Rev 02 (%)
Cumulative Actual Achievment (%)
Cumulative Planned work Rev 03 (%)
100
90
80
70
60
50
40
30
20
10
0
94.037
86.593
76.728
67.003
56.947
46.281
36.398
26.588
18.514
57.295
51.6
44.94
37.22
28.74
20.11
14.04
80.67
69.51
58.037
47.767
45.447
41.847
34.317
34.317
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34.317
34.94
35.64
38.97
42.57
51.07
54.3
59.1
60.1
60.16
60.22
61.22
64.82
69.78
74.19
71.44
27.85
25.25
21.82
17.57
12.57
10.77
9.29
5.98
wrt to vo2
wrt to vo3
OCT-14
NOV-14
DEC-14
JAN-15
FEB-15
MAR-15
APR-15
MAY-15
JUN-15
JUL-15
AUG-15
SEP-15
OCT-15
NOV-15
DEC-15
JAN-16
FEB-16
MAR-16
APR-16
MAY-16
JUN-16
JUL-16
AUG-16
SEP-16
OCT-16
NOV-16
DEC-16
JAN-17
FEB-17

6 SUMMARY OF ACTIVITIES CARRIED OUT UP TO PREVIOUS MONTHS

6.1 ORGANIZATION AND STAFFING

The Project has involvement of different organization and the staffing as shown below.

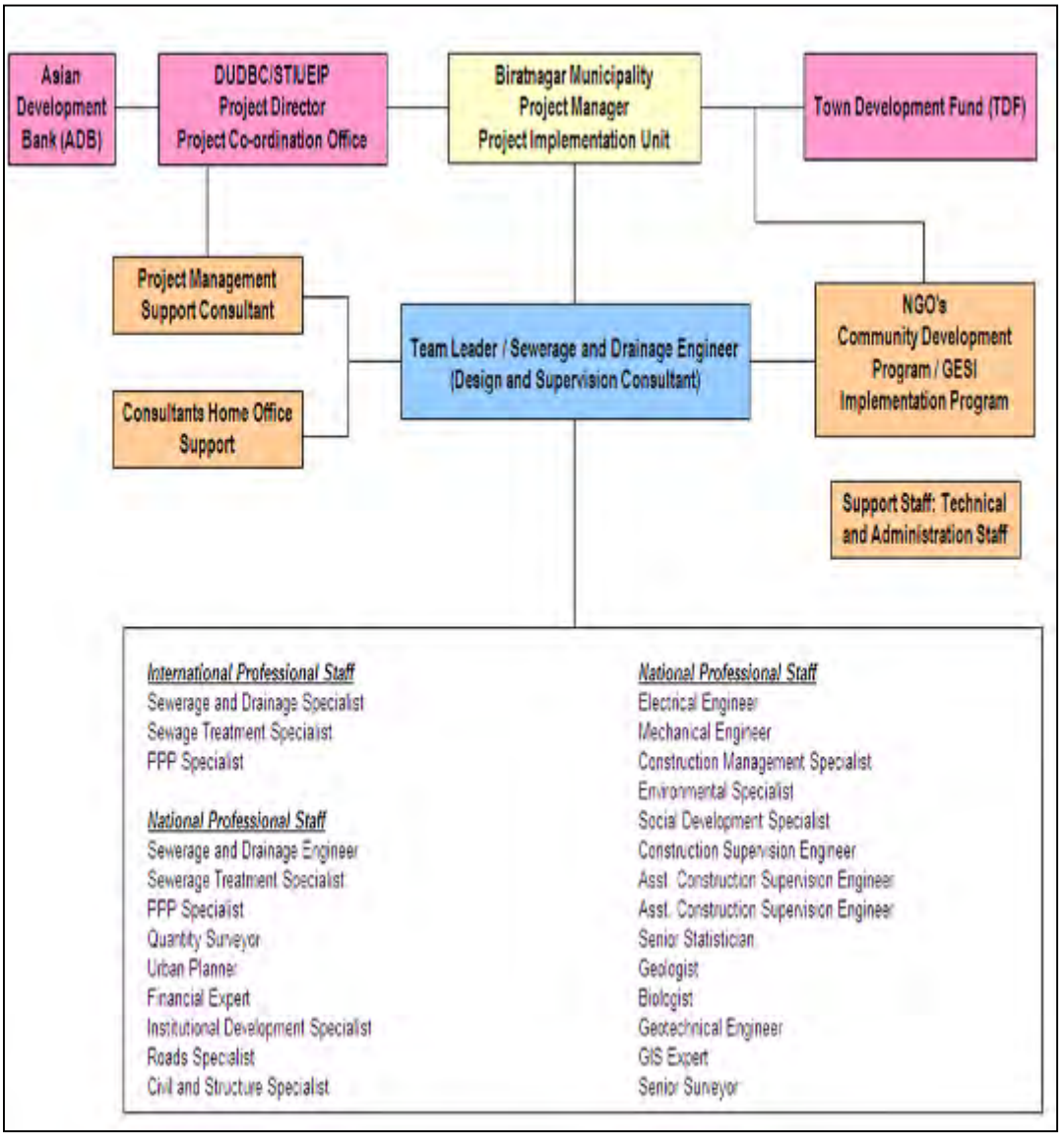

Figure 6: Organization and Staffing of STIUEIP, Biratnagar

6.2 Inception Report

24. The Inception Report was prepared and submitted on 29 February, 2012.

6.3 Conceptual Catchment Plan and Design Criteria

25. The Conceptual Catchment Plan and Design Criteria was prepared and presented in PCO on 30March, 2012.

6.4 Survey

26. The survey was completed in August, 2012

6.5 Design

27. The design of sewer lines, storm drains, WWTPs and appurtenances and final detailed design and estimates were submitted in March 2013.

28. During construction B2, B3 and S5 alternate design was also submitted. Similarly, CN2 and CN3 were submitted as the community request to reduce the size. The size was reviewed with 1 year return period as per the suggestion made by PMSC during field visit. Minor modifications in drawings are being carried out for considering the site condition and progress.

6.6 Pre-construction Activity

29. After successful completion of one stage two envelope bidding procedure the construction contract for STIUEIP/W/BRT/ICB-01 was signed on December 2, 2013 with M/S CTCE-Kalika JV, Baluwatar, Kathmandu.

6.7 Draft Report

30. The construction/contract timing schedule was needed to incorporate some additional time of about 4-5 months to account for decision re-making process, tender award procedures.

31. The total cost as per PPTA and earlier designs increased drastically and came to be NRs.**7, 274,465,206.69** and therefore needs curtailments and revisions had to be made as per suggestions by PIU in final report.

32. The overall works proposed in the PPTA and the area coverage with connection was thus needed to be phased out.

6.8 Final Report

33. The DSC submitted the Final Reports adopting cost reduction exercise by phasing out of the works. The estimated cost of the Project was reduced and kept as NRs.**3, 278, 140, 000, 00 with a lot of exercises in March 2013.**

34. The sharing of cost by concerned institutions is as follows

Table7: Agency-wise Financial Contribution to BSMC

Contributors	Amount(US$)	Amount (NRs.)	%
Government of Nepal (GoN)	5,960,256	524,502,513	**16.0%**
Asian Development Bank (ADB)	24,213,539	2,130,791,460	**65.0%**
Biratnagar Sub-Metropolitan City (BSMC)	2,980,128	262,251,257	**8.0%**
Town Development Fund (TDF)	4,097,676	360,595,478	**11.0%**

6.9 CONSULTANT'S ACTIVITIES IN CONSTRUCTION PHASE

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

Table 8: Consultant's Staff at Project Site, Biratnagar

S. No	Name	Position
1	Giresh Chand	Officiating Team Leader/CSE
2	Jaya Prakash Yadav	Asst. Construction Supervision Engineer-1
3	Dikendra Katwal	Asst. Construction Supervision Engineer-2
4	Rajesh Yadav	Junior Engineer-1
5	Deepak Majhi	Junior Engineer-2
6	Arun Kumar Yadav	Junior Engineer-3
7	Jay Prakash Yadav	Junior Engineer-4
8	Santosh Kumar Yadav	Office Manager/Computer Operator
9	Ramji Gimire	Driver-1
10	Suman Ghimire	Driver-2
11	Ramila Ghimire	Office Assistant

36. 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

ii. Quality control, cost control and time control

iii. Measurement and Certification of Interim Payment Certificates (IPC)

iv. Modification and design of storm drainage and sewer lines, manholes etc. as per site condition and approve working drawings

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. Meet obligation of reporting requirement – Updated Environmental Progress Report, Updated Resettlement Progress Report, Monthly Progress Report, Semi-Annual Updated Resettlement Progress Report

ix. Prepare Due Diligence Report of the Project

x. Maintain correspondences with the Employer and the Contractor

xi. Assist to PIU

6.10 KEY DATES

The consultant has noted the following key dates for the month of February, 2017

Table 9: Key dates of events /activities:

S. No	Date	Activities/Events	Remarks
1			
2			

7 DETAILS OF ACTIVITIES CARRIED OUT IN THIS MONTH

7.1 PHYSICAL PROGRESS IN THIS MONTH

The Employer has discussed/agreed/decided to curtail (base and Asphalt) the scope of the work due to some works were missed in original contract itself, some works were not foreseen in original contract, some works due to local demand etc.
Therefore, following are the physical progress with respect to variation order no-03 which is under process:

Table 10: Physical Progress in Storm Water Drains

Physical Progress till February 2017						
S.N.	Location	Proposed Length (m)	Progress		Total to Date (m)	Progress (%)
			Up to Jan. 2017 (m)	This Month (m)		
1	B1	4,003.55	3758.00		3758.00	93.87
2	B2	3,539.68	3,539.68		3,539.68	100
3	B3	3505.02	3463.00		3463.00	98.80
4	S5	1178.00	1178.00		1178.00	100
5	S9	3558.22	2508.00	15	2523.00	70.91
6	S11	1350.60	1350.60		1350.60	100.00
7	S13	5000.21	4864.00		4864.00	97.28
8	CN2	2197.30	2142.00		2142.00	97.48
9	CN3	2563.77	1122.00	300	1422.00	55.47
10	Rani	6486.70	6463.28		6463.28	99.64
	Total	**33,383.05**	**30,388.56**	**315**	**30,703.56**	**91.97**

Table 11: Physical Progress in Road Side Drains:

Physical Progress till February 2017							
S.N.	**Location**	**Length (m)**	**Total Length (m)**	**Progress**		**Total to Date (m)**	**Progress (%)**
				Up to Jan. 2017 (m)	**This Month (m)**		
1	**R2**	**3420**	**6840**	**6325**	**0**	**6325**	**92.47**
2	**R3**	**2233**	**2993**	**2874**	**0**	**2874**	**96.02**
3	**R4**	**1246**	**2212**	**660**	**0**	**660**	**29.84**
4	**R5**	**1068**	**2136**	**1540**	**220**	**1760**	**82.40**
5	**R6**	**1280**	**2560**	**0**	**0**	**0**	**0**
6	**R7**	**485**	**615**	**260**	**172.70**	**432.70**	**70.36**
7	**R8**	**370**	**740**	**332**	**236**	**568**	**76.76**
8	**R9**	**116**	**232**	**0**	**108.50**	**108.50**	**46.77**
9	**R13**	**220**	**440**	**400**	**0**	**400**	**90.91**
10	**R16**	**580.0**	**1160**	**1000**	**150**	**1150**	**99.14**
11	**R21**	**2420**	**2420**	**1450**	**196.20**	**1646.20**	**68.02**

12	R22	359	718	676	0	676	94.15
13	R24	390	780	720	48	768	98.46
14	R25	594	1188	980	151.10	1131.10	95.21
15	R26	620	1240	898	272.20	1170.20	94.37
16	R27	977	1954	950	72	1022	52.30
17	R28	620	1240	700	45	745	60.08
18	R29	620	1240	206	186	392	31.61
19	R30	328	656	0	80	80	12.20
20	R31	187	374	170	0	170	45.45
21	R32	189	378	0	0	0	0.00
22	R37	785	1570	600	0	600	38.22
23	R64	121	121	121	0	120	100
24	R78	92	184	82	0	82	44.57
25	R107	157	314	155	25	180	57.32
26	R108	96	192	170	22	192	100
27	R109	90	360	355	0	355	98.61
28	T2L18O	143	286	268	0	268	93.71
29	T3L26E	93	186	48	15	63	33.87
30	T2L19R	177	354	0	0	0	0.00
31	T2L19P	103	206	0	0	0	0.00
32	T2L19U	81	162	0	0	0	0.00
	Road Side Drain	20259	36050	21940	1999.70	23939.70	66.41

Table 12: Physical Progress in Sewer Lines:

S.N	Location	As per estimate		This month		Up to Previous Month		Total to Date		Progress (%)	
		Distance (m.)	MH (no.)	Distance (m.)	MH (no.)	Distance (m.)	MH (no.)	Distance (m.)	MH (no.)	Distance (m.)	MH (no.)
1	HDPE(T1)	3817.10	127	18.00	0	3364.50	116	3382.50	116		
2	HDPE(T2)	13595.40	485	80.00	3	12655.45	443	12735.45	446		
3	HDPE(T3)	7030.30	258	0	0	6571.10	238	6571.10	238		
4	HDPE(T4)	117.30	3	0	0	112.00	3	112	3		
5	Sub Total(HDPE)	24476.90	873	**98.00**	3	**22703.05**	800	**22801.05**	803	93.15	91.98
6	Hume Pipe(T1)	5026.80	144	462.50	9	1780.50	53	2243	62		
7	Hume Pipe(T2)	9488.00	276	1146.00	30	7383.00	175	7383.00	175		
8	Hume Pipe(T3)	4493.30	136	0	0	2851.50	63	2851.50	63		

9	Hume Pipe(T4)	183.50	5	0.00	0	185.00	5	185.00	5		
10	Sub Total Hume Pipe	19191.60	561	**1084.5**	18	**12015.00**	321	**13099.50**	339	68.26	60.43
11	Total (HDPE+Hume pipe)	**43668.50**	1434	1182.50	21	34718.05	1121	**35900.55**	1142	**82.21**	79.64

Table 13: Physical Progress in Manhole, sewer inlet and House connection chamber

S.N.	Description	Proposed Quantity(no.)	This month	Up to Previous Month	Total to Date	Progress (%)
1	Manhole	1434	21	1121	1142	79.64
2	Sewer inlet	2924	125	1331	1456	49.79
3	House connection chamber	4500	1 50	389	536	11.91

Table 14: Physical Progress in Roads and Lanes:

Physical Progress till February 2017						
S.N.	Location	Proposed Length (m)	Progress		Total to Date (m)	Progress (%)
			Up to Jan. 2016 (m)	This Month (m)		
1	**R2**	**3224**	**0**	**0**	**3224**	**100**
2	**R3**	**2233**	**1205**	**0**	**1205**	
3	**R4**	**2163**	**608**	**0**	**608**	
4	**R13**	**220**	**220**	**0**	**220**	
5	**R14**	**485**	**525**	**0**	**525**	
6	**R16(east)**	**215**	**221**	**0**	**221**	
7	**R16(west)**	**540**	**200**	**0**	**200**	
8	**R17(east)**	**222**	**225**	**0**	**225**	
9	**R17(west)**	**375**	**160**	**215**	**375**	
10	**R18**	**464**	**311**	**153**	**464**	
11	**R19**	**236**	**232**	**0**	**232**	

12	**R22**	**358**	**376**	**0**	**376**	
13	**R24**	**384**	**384**	**0**	**384**	
14	**R25**	**599**	**408**	**0**	**408**	
15	**R26(east)**	**244**	**244**	**0**	**244**	
16	**R26(west)**	**617**	**200**	**0**	**200**	
17	**R27**	**810**	**183**	**0**	**183**	
18	**T3L32**	**235**	**231**	**0**	**231**	
19	**T3L33A**	**134**	**134**	**0**	**134**	
20	**T3L33B**	**170**	**164**	**0**	**164**	
21	**R122**	**280**	**254**	**0**	**254**	
22	**T3L30**	**205**	**0**	**205**	**205**	
23	**T3L31A**	**177**	**0**	**164**	**164**	
24	**R20**	**108**	**0**	**108**	**108**	
25	**T2L19O**	**71**	**0**	**71**	**71**	
26	**R15**	**210**	**0**	**235.7**	**235.7**	
27	**R16 to R15**	**100**	**0**	**126.2**	**126.2**	
28	**R15 to R4**	**74.4**	**0**	**74.4**	**74.4**	
29	**All roads including WWTP and remaining lines**	**32652.6**				
30	**Total Length**	**44582**	**6485**	**1352.3**	**11061.3**	

Table 15: Physical Progress in Waste Water Treatment Plant (WWTP), Jatuwa

Physical Progress till February 2017						
S.N.	Description	Proposed Quantity	Progress		Total to Date	Remarks
			Up to Dec 2016	This Month		
1	Anaerobic Pond	3 nos	3 (excavation)	0	3 (excavation)	Slope finishing work under

						progress
2	Facultative Pond	3 nos	2.5 (excavation)	0	2.5 (excavation)	Slope finishing work under progress
3	River Training Work	600 m	600 m	0	600 m	100%
4	Boundary Wall	1340m	1278 m	5	1283 m	96.47%
5	Office cum Lab Building	1 no	1 no	0	1	95%
6	Workshop Building	1 no	1 no	0	1	95%
7	Generator / Changing House	1 no	1 no	0	1	95%
8	Sump Well	1 no	0.4	0.1	0.5	Upto 6.90 m height R.C.C work completed remaining work under progress
9	Sludge Drying Bed	1no	0.75	0	0.75	Brick Masonary work completed pipe,sand and gravel packing work under progress
10	Road Side Drain	2880	150	975	1125	39.06%
11	Guard House	1	0	0.2	0.2	20%

Table 16: Physical Progress in Production of Precast Items at Katahari:

Physical Progress till February 2017						
S.N.	Description	Unit	Progress		Total to Date (no)	Remarks
			Up to Jan. 2017 (no)	This Month (no)		
1	Precast Slab	No	93055	1350	94405	
2	Precuts	No	11209	0	11209	
3	Kerb Stone	No	23135	0	23135	
4	Manhole	No	2200	0	2200	
5	Sewer Inlet	No	2224	0	2224	
6	House Connection Chamber	No	1346	0	1346	

Table 17: Physical Progress in Production of RCC Pipes at Itahari

Physical Progress till February 2017						
S.N.	Description	Diameter (mm)	Progress		Total to Date (no)	Remarks
			Up to Jan. 2017 (no)	This Month (no)		
1	RCC Pipe	200	2,123	0	2,123	
2	RCC Pipe	300	328	0	328	
3	RCC Pipe	350	216	0	216	
4	RCC Pipe	400	370	0	370	
5	RCC Pipe	450	84	0	84	
6	RCC Pipe	500	551	0	551	
7	RCC Pipe	600	963	0	963	
8	RCC Pipe	700	1,296	0	1296	
9	RCC Pipe	900	278	0	278	
10	RCC Pipe	1000	1011	0	1011	
11	RCC Pipe	1600	373	0	373	
	Total		**7,593**	**0**	**7,593**	

Contractor's Manpower

Table 18: Contractor's key staffs in February 2017:

Designation	No	Remarks
Project / Contract Manager	1	
Planning Engineer/Construction Engineer	1	
Construction Engineer	2	
Site Engineers	8	
Quality Control Manager	1	
Office/Bill Engineer	0	
Junior Engineer	5	
Sub Overseers	2	
Safety Manager / Senior Site Supervisor	1	
Accountant / Office Manager	1	
Lab Assistant	3	
Store Keeper	7	
Light Drivers	4	
Machine Operator	32	
Site Supervisor	4	
Other Supporting Staff	41	
Skilled Labor at Site	>350	
Unskilled Labor at Site	>500	

Contractor's Equipment:

Table 19: Contractor's Equipment: At Judi camp

Equipment	No	Remarks
Excavator	6	
Back Hoe JCB	13	
Grader	2	
Crane / Teller	1	
Water Tanker	5	
Tractor	16	
Tipper	4	
Light Vehicle	4	
Motorbike	10	
Kerb Stone Machine Set	1	
Generator	4	
Welding Machine	3	
Diesel Tank with Pump	1	
Stand Drill Machine	1	
Gas Cutter Set	1	
Pipe Cutter	1	
Hand Grinder	1	
Plate Compactor	2	
Monkey Jumper	1	
Concrete Batching Plant	1	
Electric Vibrator	3	
Bar Bending Machine	3	
Bar Cutter Machine	3	
Transit Mixer	0	
Concrete Mixer (Hydraulic)	2	
Concrete Mixer (Manual)	2	
Asphalt Concrete Plant	1	
Asphalt Paver Machine	1	

8 DETAILS OF SAFEGUARD ACTIVITIES (SOCIAL, ENVIRONMENTALANDRESETTLEMENT ACTIVITIESANDISSUES)

8.1 SOCIAL ISSUES

8.1.1 OPERATIONAL GUIDE LINES FOR COMMUNITY MOBILIZATION AND IMPLEMENTATION OF CDP

- **VISIT, INTERACTION AND CONSULTATION WITH COMMUNITY PEOPLE**

37. Social Development Specialist (SDS) of the DSC is closely monitoring the social issues resulted due to the project activities. Visiting and interacting with people, Tole Lane Organizations (TLOs) and formal and informal consultation meetings are going on in this regard.

The project is regularly disseminating the information and message to community people about the project features, its purpose, methods of use and functionality of infrastructure under construction by the project through such consultation meetings. These meetings are fruitful to provide prior information regarding the project construction activities before execution at the community level. It is an appropriate platform to interact and make dialogue between 4 Cs (The Client, Consultant, Contractor and Community) about the project features, prime objectives, purpose, work methodology and potential threats/ cautions to be adopted during the project implementation.

The visits, meetings and consultations with community people at TLOs have provided many opportunities to obtain people's views and perception towards the project. Community people of those particular localities used to discuss extensively in the project features and have been provided some suggestions for efficient carryover of the project components and assured cooperation and coordination in the project execution in their localities.

Social Development Specialist (SDS)/ DSC along with of PIU, NGO staffs have been actively participated in the meetings. SDS/DSC as usual facilitate the consultation meetings, support to prepare meeting minutes and obtain decisions.

Apart from of this, many field visits and observations with community are also important to disseminate project message and monitor project features in the community. Monitoring visits along with Project Manager (PM), TL/DSC and TL/CDP to the core project area, community development program area and construction sites have been beneficial to make insight to the project progress, its effectiveness and challenges.

- **SAFEGUARD DESK**

38. A Safeguard Desk established in the project has been effective in planning, monitoring and follow up of all social development/ safeguard issues including the resettlement plan. It has been started as a functional mechanism consisting of PIU, NGO and DSC for this purpose. The desk consists of the Social Development Chief of PIU, Team Leader of CDP/ NGO and SDS of DSC with close consultation and guidance of PM/ PIU. It is in compliance with the Aide Memoire of last ADB Mission (21 April-12 May 2014). It is decided that the desk will review, update and discuss the progress, issues, constraints and challenges of social aspects, Community Development Program and implementation of resettlement plan as well as monitoring of social development activities.

- **ToT on Gender and Social Inclusion (GESI) Mainstreaming**

39. The project has been envisaged a 'Training of Trainers (ToT) on GESI Mainstreaming' for Biratnagar Sub Metropolitan City (BSMC) Office and STIUEIP project staff. The Aide Memoir Report of the ADB Review Mission has also noted about the training to be conducted in Biratnagar for the staff of municipality and related agencies. The Mission has recommended for conducting GESI training relating to urban infrastructure development to staff of municipality, municipal steering committee, PIU, local stakeholder agency and make them accountable for the better results. In line with this, the project is going to conduct Gender and Social Inclusion (GESI) Sensitization Training when it is approved. The revised ToT has been submitted to PIU, STIUEIP, Biratnagar incorporating the comments from PMSC and PCO.

Safeguard desk members discussed and reviewed the proposed 'ToT on GESI Mainstreaming' proposal. Social Development Specialist (SDS) of DSC has reviewed the detail proposal and adjusted budget accordingly for the 'Training of Trainers (ToT)' model. The training arrangement will be decided after the approval of this proposal by the project authority. Primarily it will be a 5 days training focusing mainly on Gender and Social inclusion Action Plan (GESIAP) comprising other project elements. About 35 participants from Biratnagar Sub Metropolitan City (BSMC) office and project staffs will participate in the training.

- **Update of Small Facilities Construction and other Activities in CDP/STIUEIP**

40. The latest safeguard desk meeting has reviewed all ongoing and completed small facilities infrastructure and other activities implemented under the Community Development Program (CDP), a component of STIUEIP. It provided a common understanding and status information of infrastructures and activities under the CDP program to all safeguard desk members.

A glimpse of community development program has been obtained by the presentation in the appraisal and interaction meeting. Total 7,417.36 m. roads and 13,246.32 m. drains are under construction through small facilities infrastructure by CDP/STIUEIP. Regarding on the household toilet, total 458 nos. such toilets has been built by May 2015. Similarly 10 hand pumps have been installed, 45 hands pump platforms built and 5 public toilets are complete.

- **Employment in Project**

41. The core activities of the project i.e. sewerage pipe laying, drain construction and road/ lane improvement provided employment to about 270 in a day this month. The employed human resources varied from skilled engineer/ project manager to general labor, supervisor, (sub) overseers and mechanics. However, a very few women (16%) are working in the construction activities as skilled and unskilled labor but they are paid equal to men for similar type of work. Three women Assistant Sub-Engineers are also working at construction sites after completing OJT (on the job training) successfully at the same sites from different CTEVT affiliated institutes of nearby districts. The contractor has been suggested to increase the work opportunity to women in different types of works.

- **General**

42. Sewer/ Drainage lines are being laid in the public rights of way (RoW). During construction, if any trees or crops or structures demolished, it shall be properly addressed with compensation. Private individuals or shopkeepers will also be looked into if their livelihood is affected by the disturbance during constructions/ pipe laying works.

Apart from this, the project did not encounter any resettlement or re-location and any compensation issue..

9KEY ISSUES AND REMARKS/REASONFOR DEVIATION (IFANY) AFFECTINGPROGRESS

43. Following are the key issues affected in progress:

- Disturbance from existing water supply pipe lines network, under-ground cables, electric poles etc.

10 WORK PLAN FOR THE NEXT MONTH

44. Following are the Contractor's works in the next month **(Please refer to the contractor's progress report for quantitative plan works for next month) the revised work program shall be submitted after the approval of Variation order no-03 as discussed/agreed between three parties-3C.**

- Road side drain construction
- Road Works at R2 Road and other Roads
- Sewer line construction
- WWPP
- Maintenance work as per instruction/required.

ANNEX2: PHOTOGRAPHS – FEBRUARY 2017

Cube box casting at R5

Curing at R26

WWTP Boundary wall

Concreting work sump well

Annex-7

: Laboratory Test Results of February, 2017

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
1	Granular Material/Gravel material	Sieve analysis	90	0	0	0		90	
2	SUB GRADE Preparation	MDD & OMC	30	6	6	0		36	
	asPere Specifacation	Field density	404	54	54	0		458	
		C.B.R	32	5	5	0		37	
3	BRICK WORK	Water Absorption	195	0	0	0		195	
	Required Test	Compressive Strength	2681	115	115	0		2796	
4	Masonry Mortar (CM 7.05)	Compressive strength	3753	348	348	0		4101	
5	CONCRETE AGGREGATE								
	Coarse aggregate (20 mm)	Sieve analysis (20 mm)	320	12	12	0		332	
		LAA	233	12	12	0		245	
		Specific Gravity	16	0	0	0		16	
		FI	246	12	12	0		258	
		ACV	270	12	12	0		282	
	Fine aggregate (Sand)	Sieve analysis	294	36	36	0		330	
6	CONCRETE MIX DESIGN	Concrete mix Design	76	0	0	0		76	
	ConcreteM15/20,M20/20	Compressive strength	456	0	0	0		456	
	M25/20,&M30/20	Slump test	73	0	0	0		73	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
7	CEMENT Required Test								
	OPC Cement	Setting time	229	29	29	0		258	
		Normal Consistency	229	29	29	0		258	
8	CONCRETE								
	Work Mix Test M15,M20,M25,M30	Compressive strength	10957	288	288	0		11245	
9	REINFORCEMENT	Required Test							
	Reinforcement tore steel	As per Specifacation	80	0	0	0		80	
10	PAVEMENT MATERIALS								
	Sub Base Materials	Sieve analysis	124	12	12	0		136	
		MDD & OMC	22	1	1	0		23	
		CBR	18	1	1	0		19	
		Field density	258	45	45	0		303	
11	CS Base	Sieve analysis	110	0	0	0		110	
	Crushed Stone Base	MDD & OMC	20	0	0	0		20	
	Material Laying	C.B.R	18	0	0	0		18	
		FI & C.Ratio	110	0	0	0		110	
		LAA	111	0	0	0		111	
		SSS	53	0	0	0		53	
		AIV	110	0	0	0		110	
		Field Density & OMC	179	0	0	0		179	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA

Contractors: CTCE- KALIKA J/V

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
12	ASHPHALT CONCRETE	Sieve analysis	39	0	0	0		39	
	Combine Mixed	FI	24	0	0	0		24	
		ACV	24	0	0	0		24	
	Individual Ca&FA Test Mix Design	LAA	24	0	0	0		24	
		Sp gravity	4	0	0	0		4	
13	BITUMEN TEST	Penetration at25.c	2	0	0	0		2	
	80/100 Bitumen	Softeing point(ring ball)	2	0	0	0		2	
	As per DORbook section	Flash point/Fire Point	2	0	0	0		2	
	600 Table 6.14/is 73	Ductility at25.c	2	0	0	0		2	
		Specific at 25.c	2	0	0	0		2	
		Water Content	2	0	0	0		2	
		Loss on Heating for 5 hrs	2	0	0	0		2	
		Pen-of residue afte loss on Heating	2	0	0	0		2	
		Solubility in tricloroethylene	2	0	0	0		2	
14	Humpipe Test	Three Edge Bearing Load Test	7	0	0	0		7	200mm to 1600mm 1 each
15	MARSHALL MIX DESIGN	WEARING COURSE	1	0	0	0		1	
16	Marshall Stability Test	Bulk density	102	0	0	0		102	
		Stability	102	0	0	0		102	
		Flow	102	0	0	0		102	
		Air voides	102	0	0	0		102	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
		Bitumen extraction	36	0	0	0		36	
		Voids in Mineral Agg	102	0	0	0		102	
		Job mix in AC Plant	64	0	0	0		64	
17	BITUMEN SPREAD TEST								
	Prime coat	Application rate	20	28	28	0		48	
	Tack coat	Application rate	10	28	28	0		38	
18	Machines/Equipment								
	Caliberation of compressive	1000KN Manuall	3	0	0	0		2	
	Testing machine	500 KN Manuall	3	0	0	0		2	
	C.B.R Machine	50KN/30KN	2	0	0	0		2	
	Marshall Stability Machine	50KN/25KN	2	0	0	0		2	
19	MISCELLANEOUS								
	G.I Wire(Gabion Boxes)		5	0	0	0		5	
	Factory Test Report of Cement		8	0	0	0		8	
	Factory Test Report of Iron Steel		4	0	0	0		4	
	Factory Test Report of 80/100 Bitumen		2	0	0	0		2	
	Factory Test Report of UPVC/HDP Pipe		2	0	0	0		2	
	UPVC/HDP Pipe Test Result		2	0	0	0		2	

MDD/OMC = Max Dry Dennsity
Optimum Moisture Content
SSS = Sodium Sulphate Soundness
ACV = Aggregtae Crushing Value
CBR=California Bearing Ratio

LAA = Los Angeles Abrasion
SE=Sand Equivqlent
AIV=Aggregate Impact Value
JMC=Job Mix Formula
C.R=Crushing Ratio

SMEC-Brisbane-AQUA-BDA-CEMAT
Approved by C.S.E
Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Prepaid by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-13 & R-18 Line

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 48	1/2/2017	0+010CL	1.91	97.18	6.00	10
2			0+040 RHS	1.93	98.12	7.00	10
3			0+080 LHS	1.89	96.17	6.00	10
4			0+120 RHS	1.92	97.64	5.00	10
5			0+160 CL	1.92	97.64	6.00	10
6			0+190 RHS	1.88	95.25	6.00	10
Required Specifacation				1.97	95.00	OMC <11.0	
1	FD 49	2/2/2017	0+010 CL	1.93	96.84	6.00	10
2			0+040 LHS	1.94	97.42	6.00	10
3			0+070 RHS	1.91	95.89	6.00	10
4			0+100 CL	1.92	96.31	5.50	10
5			0+130 LHS	1.92	96.31	6.00	10
6			0+150 RHS	1.90	95.62	6.00	10
7			0+180 CL	1.93	96.80	6.0	10
8			0+200 RHS	1.93	96.80	6.00	10
9			0+230 LHS	1.92	96.33	6.00	10
10			0+260 CL	1.95	97.99	6.00	10
11			0+290 RHS	1.93	96.80	6.00	10
12			0+310LHS	1.90	95.49	6.00	10
Required Specifacation				1.99	95.00	OMC <10.25	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-25,R-15,R-17&R17 Line

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 50	3/2/2017	0+010 LHS	1.94	97.91	6.00	10
2			0+050 RHS	1.93	97.16	6.00	10
3			0+090 CL	1.95	98.40	6.00	10
4			0+130 RHS	1.90	95.52	6.00	10
5			0+170 LHS	1.93	97.16	6.00	10
6			0+210 CL	1.90	95.52	6.00	10
Required Specifacation				1.99	95.00	OMC <10.25	
1	FD 51	3/2/2017	0+010 LHS	1.91	96.54	5.00	10
2			0+050 RHS	1.92	97.13	6.00	10
3			0+090 CL	1.94	97.81	5.00	10
4			0+120 RHS	1.89	95.54	6.00	10
5			0+160 LHS	1.92	97.13	6.00	10
6			0+190 CL	1.94	97.81	6.00	10
Required Specifacation				1.98	95.00	OMC <9.25	
1	FD 52	3/2/2017	0+010 LHS	1.90	95.71	5.00	10
2			0+050 RHS	1.95	98.67	5.00	10
3			0+090 CL	1.94	97.82	5.00	10
4			0+120 RHS	1.92	96.82	5.50	10
5			0+160 LHS	1.91	96.53	6.00	10
6			0+190 CL	1.90	95.71	6.00	10
Required Specifacation				1.98	95.00	OMC <9.50	
1	FD 53	7/2/2017	0+240 CL	1.97	99.56	6.00	10
2			0+300 RHS	1.96	99.17	5.00	10
3			0+340 LHS	1.96	99.17	5.50	10
4			0+380 CL	1.93	97.72	5.50	10
5			0+400 RHS	1.93	97.72	5.00	10
6			0+410 LHS	1.92	97.20	5.00	10
Required Specifacation				1.98	95.00	OMC <9.50	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-20 & R-8 Sahayogi Marg

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 54	8/2/2017	0+010 LHS	1.95	98.65	5.00	10
2			0+040 RHS	1.94	97.95	5.00	10
3			0+070 CL	1.94	97.95	5.00	10
4			0+100 LHS	1.95	98.65	5.50	10
5			0+150 RHS	1.96	98.85	5.00	10
6			0+190 CL	1.94	97.95	4.00	10
Required Specifacation				1.980	95.00	OMC <9.50	
1	FD 55	9/2/2017	0+010 RHS	1.91	96.44	4.00	
2			0+050 LHS	1.96	99.02	5.00	
3			0+090 CL	1.95	98.48	5.00	
4			0+120 RHS	1.94	97.86	4.00	
5			0+160 LHS	1.95	98.63	5.00	
6			0+190 CL	1.89	95.36	4.00	
Required Specifacation				1.98	95.00	OMC <9.70	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractors Reps

Annex-8

: Contractor's progress report-February, 2017

Government of Nepal
Biratnagar Sub-Metropolitan City, Biratnagar, Nepal
Secondary Towns Integrated Urban Environment Improvement Project (STIUEIP)
Project Implementation Unit(PIU)
Biratnagar, Nepal

Project Directorate (ADB)

Sewerage and Drainage Network, Wastewater Treatment Plant, and Road and Lanes Improvement Subproject
STIUEIP/W/BRT/ICB-01

Monthly Progress Report – 39

February 2017

Consultants:

SMEC

in association with
Brisbane City Enterprise Pty Ltd – Australia
AQUA Consultant and Associates Ltd – Bangladesh
Building Design Authority – Nepal
CEMAT Consultants – Nepal

Submitted by:

CTCE/KALIKA JOINT VENTURE

Address: Kalika tower-6thfloor, Baluwatar, Kathmandu, Nepal. Tel: 01-4439152, 4439153, 4439154, Fax: 01-4439155.
E-mail: info@kalikagroup.com, Site Office: Katahari Tel. 9852024596 E-mail: kalikabrt@gmail.com

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4. Scope of Work
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    c. Road and lane
    d. Waste Water Treatment Plant
    e. Production of Precast Slab at yard
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6. Financial Progress and Cash Flow
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    c. Material at Site

10. Conclusion

ANNEX

i. Organization Chart
ii. Site Photographs
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1 Introduction

Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP), 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 2650-NEP. STIUEIP includes construction of Sewerage and Drainage Network, Wastewater Treatment Plant, Road and Lanes Improvement and additional of road side drain & water supply work. The main purpose of this project is to fascinate with better improvement of greenery urban city.

2 Project Components

The Town Integrated Urban Environmental Improvement Project (STIUEIP) consists of following Sub-Project Components:

- **Drainage Network**
  The main aim of drainage network is to drain out storm water to the river side during the monsoon season and minimized the water pounding in the city
- **Sewerage Network**
  Management of household sewerage project to the treatment plant in connection with chambers, manhole and pipes
- **Wastewater Treatment Plant Subproject**
  Treatment of sewer product in plant located at Jatuwa. The treated water is drain out to singhya river and solid waste project used as fertilizer in farming.
- **Road and Lanes Improvement Subproject**
  Existing road sections at different part of Biratnagar will be upgraded by extending road width and providing footpath.
- **Road Side Drain and Water Supply Network (Additional)**
  Road side drain and water supply network is addition of scope of work in this project. Road side drain is proposed to discharge the rain water. Whereas water supply work is for relocation of existing water pipe lines to appropriate location as well as repair of damaged pipe lines during construction

3 Salient Feature

A. General Features	
Employer	Government of Nepal(GoN), Ministry of Urban Development Department of Urban Development and Building Construction
Funded By	Asian Development Bank & Government of Nepal
Project	Biratnagar Sub-Metropolitan City Secondary Towns Integrated Urban Environmental Improvement Project(STIUEIP)
Contract No.	STIUEIP/W/BRT/ICB-01
Location	Biratnagar Sub-Metropolitan City
Consultant	SMEC-Brisbane-AQUA-BDA-CEMAT
Contractor	CTCE-KALIKA JV.
Commencement Date	December 8th, 2013
Original Completion Date	25 May 2016
Revised Completion Date	09 March 2017
Original Contract Period	900 Days
Original Contract amount with PS & VAT	NRs 2,391,332,117.06
Revised Contract amount after VO # 03. with PS & VAT	NRs 2,974,788,517.62

4 Scope of works

The activities to be undertaken according to the Contract Agreement are as follows:

a. To carry out all necessary topographic surveys, soils investigations, laboratory analysis or related investigations where necessary to supplement the data provided by the Employer.
b. To prepare working drawings for all elements of the Works.
c. To undertake all steps necessary for upgrading of roads and bridges, all related to access to the Site, or other related matters, where his opinion differ significantly from
d. Preparation of stockyards for pipes, fittings and other materials and equipment.
e. To take all steps necessary for the temporary or permanent diversion of services and the maintenance of services during the execution of the Works, including diversion of overhead with underground power lines, telephone ducts, water supply mains and distribution lines (pipes), sewers and other underground services as required along the route of the pipelines.
f. To supply all pipes, valves, fittings and other materials and equipment required for construction of the Works. The Contractor's supply items may include manufacture, collection, transportation and delivery to Site. The Contractor will be responsible for ensuring that all procedures are adequately covered and that the materials fully confirm to the Contract requirements. These responsibilities will include all necessary charges or dues related to insurance, freight, taxes (including customs and excise duties, surcharges etc.) and all testing and inspections for quality control.
g. To provide all necessary staff (including civil engineers, specialists, administrators, site supervision personnel) and workmen (including all necessary specialists, operators, tradesmen, artisans etc. in addition to semi-skilled and unskilled workers) necessary for execution of the Works through to completion. Where appropriate, the contractor shall provide all suitable facilities and accommodation for the staff and workmen and he shall make provision for all costs related to such provisions and for medical, re-location, taxes or other expenses.
h. To provide all equipment, machinery, tools etc. and related spares, maintenance and consumables necessary for implementation of the Works.
i. To provide all site offices, stores, workshops and facilities necessary for use by the Employer, Engineer and support staff and for the Contractor himself and his supporting staff.
j. To undertake all operations necessary to complete the Works. These operations shall include: excavation, provision, haulage and installation of suitable bedding and backfill material and disposal of surplus excavated material; distribution, laying adjoining of pipes; installation of

all special pipe work, valves etc. and construction of all related concrete or other activities together with all testing and disinfection of completed Works. The Contractor's attention is drawn to the restricted working space between Rajbanshi Chowk to Rani, Biratnagar where the sewer pipes, drains and road/lane is to be laid in a narrow road. In this section work in addition to that associated with the trunk main, will include but not be limited to, removal and replacement of a sewer laid in the road and reinstatement of road surface.

k. To liaise with other contractors on the site and to ensure harmonious co-operation with them so that conflicts are avoided and areas of common interest, constructional interface or potential overlaps are addressed without cost to the Employer or delays in completion.

l. To prepare documentary records of the Works in the form of "as-built" drawings and GIS data, schedules etc., and to train staff of the Employer in the procedures for laying pipes, valves and fittings.

m. All the above activities shall be performed in a professional way and with good engineering and/or constructional practice. Upon completion of the Works the scheme shall be fully operational with minimum disruption or inconvenience to interested parties, including land owners, and there shall be no outstanding matters requiring attention.

5. Physical Progress (Achievement till the month)

A. Storm Water Drain and Road Side Drain Sub-Project (Work Progress till the date)

SN	Description	Unit	Total Up to Previous Month	This Month	Total Up to to this Month	Remarks
1	Northern Part	Rm	23996.56			
2	Southern Part	Rm	5669.00	0	**5669**	
3	Road Side Drain	Rm	21940.00	1960	**23900.00**	

B. Sewerage Sub-Project (Work Progress till the date)

SN	Description	Unit	Total Up to Previous Month	This Month	Total Up to this Month	Remarks
1	Hume Pipe	Rm	12015.00	1084.50	**13099.50**	
2	HDPE Pipe	Rm	22703.05	98.00	**22801.05**	
3	uPVC Pipe	Rm	6127.52	1875	**5002.52**	

4	Manhole (Brick and RCC)	Nos	1121.00	21.00	**1142.00**	
5	Sewer Inlet	Nos.	1331.00	125	**1456.00**	
6	House Connection	Nos.	389.00	150	**536.00**	

C. Road improvement Works (Work Progress till the date)

SN	Description	Unit	Total Up to Previous Month	This Month	Total Up to this Month	Remarks
1	Asphalt pavement in R2 Road with access road	Rm	**3201.00**	0	**3201.00**	
2	Gravel road	Rm	**4184.00**	3653.3	**7837.30**	

D. Wastewater Treatment Plant Sub-Project (Work Progress till the date)

S.N.	Description of Work	Progress	This month	Remarks
1	Anaerobic Pond	Excavation completed		
2	Facultative Pond	Excavation Completed		
3	Boundary wall construction	1278.00m		
4	Office cum lab building, WWTP, Jatuwa	Completed		
5	Workshop Building & Generator/Changing Building, WWTP, Jatuwa	Completed		
6	Sump Well	Under construction		
7	Sludge Drying Bed	Under construction		
8	Guard House	Under construction		
9	Road side drain	1020m completed		
10	Outfall of diversion chamber	completed		
12	Chamber gates	2 Nos		
13	River training work	600m		
14	Entrance Gate	Under Construction		

D. Production of Precast Items from Slab Casting Contractor's Yard, Katahari

SN	Description	Unit	Total Up to Previous Month	This Month	Total Up to this Month	Remarks
1	Slab	Rm	**93055**	1350	**94405**	
2	Precuts	Rm	11209	0	**11209**	
3	Kerb stone	Rm	23135	0	**23135**	
4	Manhole	Nos	2200	0	**2200**	
5	Sewer inlet	Nos	2224	0	**2224**	
6	House chamber	Nos	1346	0	**1346**	

F. Hume Pipe Production from Hume Pipe Production Factory, Itahari

SN	1	2	3	4	5	6	7	8	9	10	11
Diameter	200mm ?	300mm ?	350mm ?	400mm ?	450mm ?	500mm ?	600mm ?	700mm ?	900mm ?	1000mm ?	1600mm ?
No of Moulds	38	3	2	2	2	3	8	8	2	4	2
Production Till Previous Month	2123	328	216	370	84	551	963	1296	278	1011	373
This Month Production	0	0	0	0	0	0	0	0	0	0	0
Total Production	2123	328	216	370	84	551	963	1296	278	1011	373

H. Next month program

1. Road side drain.

2. Laying of sub base with proper compaction in roads

3. Precast production at contractor's yard.

4. Laying of sewerage pipe and installation of manhole, sewer inlet, house chamber

5. Relocation of water supply pipe and laying of newly water supply pipe line

6. Construction work of components of waste water treatment plant

6. Financial Progress and Cash Flow

Financial Progress

Installment Number	Total Bill Amount With Vat and PS(NRs)	Net Payable Amount (NRs.)	%	Remarks
IPC 01		200,940,000.00		Advance Payment 01
IPC 02	29,553,479.92	27,853,500.98		IPC 2
IPC 03	50,406,775.75	47,507,270.95		IPC 3
IPC 04	44,819,505.68	42,241,392.52		IPC 04
IPC 05	23,380,168.96	22,035,291.99		IPC 05
IPC 06	90,796,339.68	85,573,541.38		IPC 06
IPC 07	80,854,600.52	76,203,672.17		IPC 07
IPC 08	122,334,488.86	115,297,549.23		IPC 08
IPC 09	116,092,187.14	109,414,317.97		IPC 09
IPC 10	132,327,417.89	124,715,663.77		IPC 10
IPC 11	169,853,829.07	160,083,476.07		IPC 11
IPC 12	23,121,515.46	16,931,906.24		IPC 12
IPC 13	85,563,926.44	62,658,539.06		IPC 13
IPC 14	163,562,505.71	119,776,967.67		IPC 14
IPC 15	139,008,112.96	101,795,764.14		IPC 15
IPC 16	137,640,413.95	100,794,196.94		IPC 16
IPC 17	135,118,714.02	98,947,553.85		IPC 17
IPC 18	39,288,088.98	28,770,702.32		IPC 18
IPC 19	76081596.87	55,714,620.72		IPC 19
IPC 20	74,522,638.96	54,572,994.46		IPC 20
IPC 21	152,577,081.94	118,075,775.83		IPC 21
IPC 22	140,477,295.40	132,396,742.98		IPC 22
Total amount of Ipc=	**2,027,380,684.17**	**1,902,301,441.22**	**68.15%**	Progress Percentage WRT Contract amount after VO .03 With Vat and PS

Note: Withheld payment of IPC 21 and IPC 22 is 76,775,775.84 and 73,976,066.47 respectively.

Physical Progress

Installment Number	Total Bill Amount With Vat and PS(NRs)	Net Payable Amount (NRs.)	%	Remarks
IPC 01		200,940,000.00		Advance Payment 01
IPC 02	29,553,479.92	27,853,500.98		IPC 2
IPC 03	50,406,775.75	47,507,270.95		IPC 3
IPC 04	44,819,505.68	42,241,392.52		IPC 04
IPC 05	23,380,168.96	22,035,291.99		IPC 05
IPC 06	90,796,339.68	85,573,541.38		IPC 06
IPC 07	80,854,600.52	76,203,672.17		IPC 07
IPC 08	122,334,488.86	115,297,549.23		IPC 08
IPC 09	116,092,187.14	109,414,317.97		IPC 09
IPC 10	132,327,417.89	124,715,663.77		IPC 10
IPC 11	169,853,829.07	160,083,476.07		IPC 11
IPC 12	23,121,515.46	16,931,906.24		IPC 12
IPC 13	85,563,926.44	62,658,539.06		IPC 13
IPC 14	163,562,505.71	119,776,967.67		IPC 14
IPC 15	139,008,112.96	101,795,764.14		IPC 15
IPC 16	137,640,413.95	100,794,196.94		IPC 16
IPC 17	135,118,714.02	98,947,553.85		IPC 17
IPC 18	39,288,088.98	28,770,702.32		IPC 18
IPC 19	76081596.87	55,714,620.72		IPC 19
IPC 20	74,522,638.96	54,572,994.46		IPC 20
IPC 21	152,577,081.94	118,075,775.83		IPC 21
IPC 22	140,477,295.40	132,396,742.98		IPC 22
Feb 2017	100,000,000.00			
Total amount of Ipc=	**2,127,380,684.16**	**1,902,301,441.24**	**71.51%**	Progress Percentage WRT Contract amount after VO .03 With Vat and PS

7. Details of Safeguard activities

Contractor's is fascinating to apply safety measure at site during construction phase. Safety board, Diversion board, safety barriers, personnel's protection equipment to worker, spraying of water to minimize dust pollution

8. Key Issues and Remarks

Following issues were raised in this month

- Construction work activities are halted due to site security and threats.
- Submitted Claim No.01 to 07 has not addressed up to this month.
- Lack of major BoQ item such as; Reinforcement, Brickwork, M25 Concrete, shoring etc.
- Delay in approval of VO.03
- Delay in relocation of telecom pole, cable and chamber in Koshi highway west side
- Damages of water supply pipe during excavation of drain and sewer line
- Difficult to maintain cash flow due to withheld of payment of IPC 21 till end of this month. (IPC 21 Approved dated 12 January 2017)

9. Mobilized Resource

A. Details of Contractor's Personnel at Site

SN	Contractor's Personnel's	Degination
1	Ujjwal Prasai	Project Manager
2	Mahesh Subedi	Engineer
3	Bishesh Prasai	Engineer
4	Suresh Maharjan	Engineer
5	Santosh Yadav	Engineer
6	Sanjay Bhattarai	Engineer
7	Gaurav Bikram Shah	Engineer
8	Ankit Dahal	Engineer
9	Bhupendra Yadav	Engineer
10	Aryogya Gawali	Engineer
11	Pradip Kumar Mandal	Engineer
12	Randhir Kumar Singh	Engineer
13	Narayan Rijal	Sr. Supervisor
14	Uttar Karki	Supervisor
15	Yog Raj Kafle	Supervisor
16	Prasasan Rajbansi	Supervisor
17	Hari Shrestha	Supervisor
18	Saroj Adhikari	Oversear
19	Suraj Chaudahary	Oversear
20	Sanjay Shrestha	Oversear
21	Mukesh Kumar Gachhadar	Oversear

22	Bibekananda Yadav[Nikhil]	Oversear
23	Prakash Bhattarai	Sub Oversear
24	Sandesh Sunam	Sub Oversear
25	Rohit Kumar Yadav	Computer operator
26	Pritam Sunrait	Sub Oversear
30	Vishwa Bandhu Mainali	Finance Officer
31	Yagya Kafle	Junior Accountant
32	Indramani Bhattarai	Sr. Marketing
33	Anil Pokharel	Store Keeper/Material Incharge
34	Sunil Chaudhary	Quality Control Manager
35	Shanker Chaudhary	Lab Technician
36	Dipesh Dahal	Lab Assistant
37	Rabin Pandit	Lab Assistant
38	Mahesh Pandit	Store Keeper
39	Saroj Bhattarai	Store Keeper
40	Sailesh Paudel	Store Keeper
41	Dipendra Karki	Store Assistant
42	Rabin Bdr Gurung	Store Keeper
43	Dhurba Raj Bhattarai	Store Keeper
44	Nil Prasad Neupane	Store Keeper
45	Ananda Rajbansi	Electrician
46	Ajay Chaudhary	Welder
47	Mechanics	4
48	Plumber	6
49	Light Vehicle Driver	4
50	Tipper Driver	4
51	Water Tanker Driver	5
52	Tractor Driver	15
53	Heavy Equipment operator	32
54	Helper	41
55	Cook (Casting yard and jatuwa)	8
56	Security Guard (casting yard and jatuwa)	4
	Labors	
57	Skilled	380
58	Unskilled	510

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

SN	Equipment	Capacity	Nos
A.1	**Excavators**		
	Komatsu PC200 "A"	148HP /0.97m3	1
	Komatsu PC 200 "B" (longboom)	148HP /0.97m3	1
	Hundai PC 200 "C"	148HP /0.97m3	1
	Cat Excavator 320DL "A"	148HP /0.97m3	1
	JCB Excavator-140	148HP /0.97m4	3
	Komatsu PC 120		1
	JCB Excavator-220LC		3
A.3	**Back Hoe Loader**	92HP/0.30m3	13
A.4	**Grader**		
	Komatsu GD405A-2	115HP	1
	Komatsu GD405A-3	115HP	1
A.5	**Jeep/Pickup**		
	Pajero-Na2Cha 1086	5 door	1
	Tata Sumo Gold-Ba11Cha 782	5 door	2
	Pickup - Ko1Cha 2544	4 door	1
A.6	**Water Browser**		
	Water Tanker Na1Kha 8549	Up to 12KL	1
	Water Tanker Ko1Kha 3465	Up to 12KL	1
	Water Tanker Na1Kha 2595	Up to 12KL	1
	Water Tanker Me1Kha 275	Up to 12KL	1
	Water Tank (Joined with Tractor)	10Kl	1
A.7	**Motorbikes**		
	Shine Bike Ko 17 Pa-3394	125cc	1
	Shine Bike Ko 17 Pa-3395	125cc	1
	Shine Bike Ko 20 Pa-215	125cc	1
	Shine Bike Ko 20 Pa-230	125cc	1
	Shine Bike Ko 20 Pa-1155	125cc	1

	Shine Bike Ko 20 Pa-1167	125cc	1
	Shine Bike Ko 11 Pa-8157	125cc	1
	Honda Shine Ve 1 Pa 8845	125cc	1
	Glamor (Ko 24 3802	100 cc	1
	Glamor (Ko 24 3804)	100 cc	1
A.8	**Tractors**		
	Tractor Ko 1Ta 5868	85HP/Hydraulic	1
	Tractor Na 3 7936	85HP/Hydraulic	1
	Tractor Ko1Ta 1127	85HP/Hydraulic	1
	Tractor Ko 2 Ta 1755	85HP/Hydraulic	1
	Tractor Ko1Ta 4579	85HP/Hydraulic	1
	Tractor Ko1Ta 4546	85HP/Hydraulic	1
	Tractor Na1Ta 1119	85HP/Hydraulic	1
	Tractor Ko1Ta 4145	85HP/Hydraulic	1
	Tractor Ko1Ta 6204	85HP/Hydraulic	1
	Tractor Ko1Ta 1730	85HP/Hydraulic	1
	Tractor Ko1Ta 3430	85HP/Hydraulic	1
	Tractor Ko1Ta 4045	85HP/Hydraulic	1
	Tractor Ko1Ta 2244	85HP/Hydraulic	1
	Tractor Ko1Ta 1856	85HP/Hydraulic	1
	Tractor Ko1Ta 8882	85HP/Hydraulic	1
	Tractor sa 1Ta 2073	85HP/Hydraulic	1
A.9	**Roller & Compactor**		
	JCB Vibromax	Upto 16Ton	1
	Case Compactor 450 DX	Upto 5Ton	1
	Single Drum Hand Roller [Honda GX160]	4Kw	1
	Monkey Jumper[Honda GX 160]	6.5Ps/10000N	3
	Plate Compactor		3
	Hydraulic Compactor		1

A.10	**Tipper Truck**		
	AMW Tipper-Na1Ka 3489	150HP/10m3	1
	AMW Tipper-Na1Ka 3494	150HP/10m3	1
	AMW Tipper-Na1Ka 3491	150HP/10m3	1
	AMW Tipper-Na1Ka 3493	150HP/10m3	1
B	**Bituminous Plant/Crane & Others**		
	Asphalt Hot Mix Plant Set -Keshar DM45	40 to 60 Ton/Hr.	1
	Asphalt Paver Machine-Na1Ka 3135	105HP	1
	Bitumen Distributor-Ba1Ka 3443		1
	Decanter		1
	Teller Lobed -Na3Kha 7382		1
	Mobile Unique Crane with Teller Ba1Ka 4423	10Ton	1
	Compressor		1
	JCB Hydra Lift all	15Ton	1
C	**Concreting Unit**		
	Manual Mixture Machine[Everest]		2
	Manual Mixture Machine [Asoka]		2
	Hydraulic Mixture Machine[Universal]		4
	Hydraulic Mixture Machine[Kirloskar]		6
	Bar Bending Machine Set	4Ton/Hrs	3
	Bar Cutter Machine Set	4Ton/Hrs	3
	Concrete Vibrator with Needle	Diesel/3PHs/Pneumatic	14
D	**Work Shop Equipment and Tools**		
	Generator-Kirloskar/Jackson	20Kva	2
	Generator [Kirloskar]	125Kva	1
	Generator	62.5Kva	1
	Generator[Honda]	2.5Kva	2
	Generator[Super]	5KVA	3
	Generator[Lutian] [LT3600]	2.5KVA	1

	Welding Machine Set	4Ton/Hrs	8
	Concrete Cutter		1
	Kerb Stone Machine Set	41+00	
	Mechanical Jack		10
	Sumnercial Pump		15
	Pump Set		5
E	**Survey Equipment**	-	
	Total Station		2
	Level Machine		15
F	**Laboratong Equipment**		1 Set
		-	

10. Conclusion

Contraction work activities will resume only after the guarantee of site security provide by concern authority. All the resources (manpower, plants and equipment, material) are idle due to site security and threats. Safe working environment should be managed by the Employer as soon as possible to resume the work without any disturbance.

ANNEX

Photographs of the Month

Guard House is under construction

Road side drain at WWTP is under progress

Slope Preparation of Anaerobic Pond

Sub base preparation of road

Brick masonry manhole at Koshi Highway (Trunk line)

Road side drain is under construction

Installation of Manhole with connection of RCC Pipe

Damaged mortor grader broken and burn unknown person

LAB REPORT SUMMARY

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
1	Granular Material/Gravel material	Sieve analysis	90	0	0	0		90	
2	SUB GRADE Preparation	MDD & OMC	30	6	6	0		36	
	asPere Specifacation	Field density	404	54	54	0		458	
		C.B.R	32	5	5	0		37	
3	BRICK WORK	Water Absorption	195	0	0	0		195	
	Required Test	Compressive Strength	2681	115	115	0		2796	
4	Masonry Mortar (CM 7.05)	Compressive strength	3753	348	348	0		4101	
5	CONCRETE AGGREGATE								
	Coarse aggregate (20 mm)	Sieve analysis (20 mm)	320	12	12	0		332	
		LAA	233	12	12	0		245	
		Specific Gravity	16	0	0	0		16	
		FI	246	12	12	0		258	
		ACV	270	12	12	0		282	
	Fine aggregate (Sand)	Sieve analysis	294	36	36	0		330	
6	CONCRETE MIX DESIGN	Concrete mix Design	76	0	0	0		76	
	ConcreteM15/20,M20/20	Compressive strength	456	0	0	0		456	
	M25/20,&M30/20	Slump test	73	0	0	0		73	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

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(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
7	CEMENT Required Test								
	OPC Cement	Setting time	229	29	29	0		258	
		Normal Consistency	229	29	29	0		258	
8	CONCRETE								
	Work Mix Test M15,M20,M25,M30	Compressive strength	10957	288	288	0		11245	
9	REINFORCEMENT	Required Test							
	Reinforcement tore steel	As per Specifacation	80	0	0	0		80	
10	PAVEMENT MATERIALS								
	Sub Base Materials	Sieve analysis	124	12	12	0		136	
		MDD & OMC	22	1	1	0		23	
		CBR	18	1	1	0		19	
		Field density	258	45	45	0		303	
11	CS Base	Sieve analysis	110	0	0	0		110	
	Crushed Stone Base	MDD & OMC	20	0	0	0		20	
	Material Laying	C.B.R	18	0	0	0		18	
		FI & C.Ratio	110	0	0	0		110	
		LAA	111	0	0	0		111	
		SSS	53	0	0	0		53	
		AIV	110	0	0	0		110	
		Field Density & OMC	179	0	0	0		179	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

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Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA

Contractors: CTCE- KALIKA J/V

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
12	ASHPHALT CONCRETE	Sieve analysis	39	0	0	0		39	
	Combine Mixed	FI	24	0	0	0		24	
		ACV	24	0	0	0		24	
	Individual Ca&FA Test Mix Design	LAA	24	0	0	0		24	
		Sp gravity	4	0	0	0		4	
13	BITUMEN TEST	Penetration at25.c	2	0	0	0		2	
	80/100 Bitumen	Softeing point(ring ball)	2	0	0	0		2	
	As per DORbook section	Flash point/Fire Point	2	0	0	0		2	
	600 Table 6.14/is 73	Ductility at25.c	2	0	0	0		2	
		Specific at 25.c	2	0	0	0		2	
		Water Content	2	0	0	0		2	
		Loss on Heating for 5 hrs	2	0	0	0		2	
		Pen-of residue afte loss on Heating	2	0	0	0		2	
		Solubility in tricloroethylene	2	0	0	0		2	
14	Humpipe Test	Three Edge Bearing Load Test	7	0	0	0		7	200mm to 1600mm 1 each
15	MARSHALL MIX DESIGN	WEARING COURSE	1	0	0	0		1	
16	Marshall Stability Test	Bulk density	102	0	0	0		102	
		Stability	102	0	0	0		102	
		Flow	102	0	0	0		102	
		Air voides	102	0	0	0		102	

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

BIRATNAGAR Sub-Metropolitant City

STIUEIP

Monthly Laboratory Testing Report

(For The Month OF- FEBUARY 2017)

Consultants:SMEC-Brisbane-AQUA-CEMAT-BDA **Contractors: CTCE- KALIKA J/V**

S. No.	Description of Material	Type of test	Total No. of Test upto previous month	Test Performed for this month				Total No. of Test upto This month	Remarks
				No. of Tests	Passed	Failed	Retest Recommended		
		Bitumen extraction	36	0	0	0		36	
		Voids in Mineral Agg	102	0	0	0		102	
		Job mix in AC Plant	64	0	0	0		64	
17	BITUMEN SPREAD TEST								
	Prime coat	Application rate	20	28	28	0		48	
	Tack coat	Application rate	10	28	28	0		38	
18	Machines/Equipment								
	Caliberation of compressive	1000KN Manuall	3	0	0	0		2	
	Testing machine	500 KN Manuall	3	0	0	0		2	
	C.B.R Machine	50KN/30KN	2	0	0	0		2	
	Marshall Stability Machine	50KN/25KN	2	0	0	0		2	
19	MISCELLANEOUS								
	G.I Wire(Gabion Boxes)		5	0	0	0		5	
	Factory Test Report of Cement		8	0	0	0		8	
	Factory Test Report of Iron Steel		4	0	0	0		4	
	Factory Test Report of 80/100 Bitumen		2	0	0	0		2	
	Factory Test Report of UPVC/HDP Pipe		2	0	0	0		2	
	UPVC/HDP Pipe Test Result		2	0	0	0		2	

MDD/OMC = Max Dry Dennsity
Optimum Moisture Content
SSS = Sodium Sulphate Soundness
ACV = Aggregtae Crushing Value
CBR=California Bearing Ratio

LAA = Los Angeles Abrasion
SE=Sand Equivqlent
AIV=Aggregate Impact Value
JMC=Job Mix Formula
C.R=Crushing Ratio

SMEC-Brisbane-AQUA-BDA-CEMAT
Approved by C.S.E
Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Prepaid by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

P.G-1

Summery of Concrete Crushed Aggregate 20mm down For The Month of FEBUARY 2017

S.N.	DESCRIPTION / SOURCE	LAB REF. NO.	Grain Siza Distribution				FI %	LAA %	ACV %	REMARKS
			25	20	10	4.75				
1	From WWTP	MR 332	100	96.82	37.34	3.82	13.38	33.20	18.4	Aggregates
2	From WWTP	MR 333	100	97.09	43.50	6.92	13.49	33.60	19.0	Source
3	From WWTP	MR 334	100	96.30	38.53	3.73	13.73	33.76	19.1	Om shree
4	From S-9	MR 335	100	96.12	36.00	4.03	13.19	33.56	19.1	CRUSHER
5	From S-9	MR 336	100	97.77	35.93	3.49	13.08	33.20	19.1	
6	From S-9	MR 337	100	96.10	33.06	3.61	13.54	32.96	19.2	PLANT
7	From R-5	MR 338	100	96.44	37.43	4.07	13.31	33.12	19.4	
8	From R-5	MR 339	100	95.58	36.28	5.76	13.17	33.24	19.6	
9	From R-5	MR 340	100	96.15	36.61	4.31	13.88	33.08	19.0	
10	From R-16	MR 341	100	96.28	36.08	2.68	13.50	32.92	19.0	
11	From R-16	MR 342	100	96.39	32.56	3.57	13.83	33.24	19.2	
12	From R-16	MR 343	100	97.33	34.92	4.29	13.64	33.48	19.1	
	Section 900:IS 383-1970 Required		100	95-100	25-55	0-10	Less 15%	Less 35%	Less 30%	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by CSE
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

MONTHLY Test Result Summary Sheet For The Month of Febuary 2017

STIUEIP

SUB BASE (Process Control)

According to Part 2.Section 6A-Technical Specifacations&DOR Specifacation Section 1201(3)C Physical Requirement P.G-1

SN No	LAB Ref NO	Date Tested	Location/ Chainage/Station	Grading sieve size (mm) (% passing by weight)								Lab. MDD (g/cc)	Soaked CBR (%)	Lab. OMC (%)	Remarks
				63	37.5	20	10	5	2.360	1.18	0.075				
1	144	1/2/2017	T3 L32 Line	100	86.86	68.98	54.61	40.43	30.86	21.13	5.81				
2	145	1/2/2017	T3 L32 Line	100	90.50	69.86	55.79	44.57	31.75	23.43	7.01	2.21	45.00	11.00	
3	146	1/2/2017	T3 L32 Line	100	90.75	68.64	53.63	41.80	30.32	21.03	6.32				
4	147	4/2/2017	T3L3 Line	100	89.03	69.09	51.55	37.46	26.25	18.96	5.42				
5	148	4/2/2017	T3L3 Line	100	87.43	69.86	52.05	38.21	27.23	19.11	6.37				
6	149	4/2/2017	T3L3 Line	100	86.69	68.94	53.96	42.56	30.72	22.79	7.01				
7	150	4/2/2017	T3L3 Line	100	88.04	72.81	56.39	44.81	32.20	22.64	6.88				
8	151	16/2/2017	T3L31 Line	100	90.55	74.53	56.42	44.39	31.34	21.87	6.77				
9	152	16/2/2017	T3L31 Line	100	89.55	73.16	54.26	40.90	29.25	19.76	6.27				
10	153	16/2/2017	T3L31 Line	100	91.36	71.06	56.69	40.75	32.62	20.91	6.35				
11	154	16/2/2017	T3L31 Line	100	90.61	72.08	56.51	40.46	30.06	19.18	6.11				
12	155	16/2/2017	T3L31 Line	100	89.02	73.93	57.20	42.20	30.90	19.95	6.33				
Required Specifacation				100	65-95	50-85	40-75	30-60	20-45	15-37	4 to 15		≥ 30		

SMEC-Brisbane-AQUA-CEMAT-BDA	CTCE-KALIKA J/V
Approved by C.S.E	Submit by Project Manager
Test Checked by A.C.S.E	Test Conducted by Q.C Manager
Consultant Reps	Consultant Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF FEBUARY 2017

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
1	WWTP	336	100.00	92.80	82.40	65.20	47.20	22.40	6.00	source
2	WWTP	337	100.00	92.00	82.40	64.40	45.60	21.60	5.60	om shree
3	S-9 Line	338	100.00	92.00	80.80	63.20	43.60	18.00	5.20	Crusher Plant
4	S-9 Line	339	100.00	91.60	80.80	62.40	42.00	17.20	5.20	Chisang Morang
5	R-16 Line	340	100.00	92.40	81.60	63.60	44.80	17.20	4.80	
6	R-16 Line	341	100.00	92.80	81.20	62.80	45.60	19.20	5.20	
7	R-5 Line	342	100.00	92.00	81.60	65.20	45.60	19.60	6.40	
8	R-5 Line	343	100.00	91.20	81.20	64.80	45.60	18.00	5.60	
9	WWTP	344	100.00	92.69	81.92	65.00	47..69	23.46	7.31	
10	WWTP	345	100.00	92.00	82.00	64.80	48.00	22.40	6.00	
11	From Contractor Yard	346	100.00	92.80	82.00	64.80	47.20	22.00	6.40	
12	From Contractor Yard	347	100.00	92.40	80.80	62.40	44.40	20.00	6.80	
13	S-9 Line	348	100.00	92.40	81.20	64.00	45.60	20.40	7.20	
14	S-9 Line	349	100.00	92.00	81.20	62.80	43.20	19.60	7.60	
15	R-5 Line	350	100.00	92.40	80.80	63.20	45.20	19.60	7.20	
16	R-5 Line	351	100.00	91.60	80.40	62.40	43.60	20.40	6.40	
17	R-16 Line	352	100.00	93.20	81.60	63.60	45.20	18.00	5.20	
18	R-16 Line	353	100.00	92.00	80.00	62.40	44.40	19.60	6.40	
19	High Way Man Hole	354	100.00	92.00	81.60	64.80	46.00	21.20	8.80	
20	High Way Man Hole	355	100.00	91.60	78.40	62.00	43.60	19.20	7.20	
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

Summary of Fine Concrete Aggregates Sand FOR THE MONTH OF FEBUARY 2017

S.N.	DESCRIPTION / LOCATION	LAB REF. NO:	Grain Siza Distribution							REMARKS
			10	4.75	2.36	1.18	0.6	0.3	0.15	
21	WWTP	356	100.00	91.60	80.40	63.20	44.40	18.40	6.40	source
22	WWTP	357	100.00	91.20	80.40	62.80	44.40	17.60	6.00	om shree
23	From contractor Yard	358	100.00	92.80	81.60	64.80	46.40	18.80	6.40	Crusher Plant
24	From contractor Yard	359	100.00	92.80	81.20	61.60	43.60	16.40	5.60	Chisang Morang
25	From contractor Yard	360	100.00	92.80	81.20	63.60	44.80	19.20	6.40	
26	From contractor Yard	361	100.00	93.20	80.80	62.80	44.40	19.20	6.80	
27	From contractor Yard	362	100.00	92.40	81.20	64.00	45.60	19.20	7.20	
28	From contractor Yard	363	100.00	91.20	80.40	63.60	43.60	17.60	6.00	
29	WWTP	364	100.00	92.40	80.80	63.20	45.20	19.20	6.80	
30	WWTP	365	100.00	93.60	80.00	62.00	43.60	18.40	6.40	
31	WWTP	366	100.00	92.80	81.60	63.60	45.20	20.00	7.20	
32	WWTP	367	100.00	93.09	82.52	64.63	44.31	19.51	6.91	
33	R-5 Line	368	100.00	92.00	80.40	62.80	44.80	19.20	6.80	
34	R-5 Line	369	100.00	91.20	79.20	62.80	45.20	20.80	7.60	
35	R-5 Line	370	100.00	92.80	81.60	64.40	46.00	19.60	7.60	
36	R-5 Line	371	100.00	92.40	81.60	64.80	46.80	20.80	6.80	
Specifacation Limit is 383-1970 Zone -2			100-100	90-100	75-100	55-90	35-59	8-30	0-10	

SMEC-BRISBANE-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of Febuary 2017

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
1	MR 231	KOSHI OPC	1/2/2017	36.3	175	255	All Cement Are Nepali BRAND OPC
2	MR 232	KOSHI OPC	2/2/2017	36.6	190	355	
3	MR 233	KOSHI OPC	3/2/2017	36.9	185	280	
4	MR 234	KOSHI OPC	4/2/2017	37.0	180	315	
5	MR 235	KOSHI OPC	5/2/2017	37.0	180	325	
6	MR 236	KOSHI OPC	6/2/2017	37.0	185	320	
7	MR 237	KOSHI OPC	7/2/2017	37.1	185	265	
8	MR 238	KOSHI OPC	8/2/2017	36.7	200	325	
9	MR 239	KOSHI OPC	9/2/2017	37.6	185	310	
10	MR 240	KOSHI OPC	10/2/2017	37.0	180	315	
11	MR 241	KOSHI OPC	11/2/2017	36.7	150	300	
12	MR 242	KOSHI OPC	12/2/2017	36.9	200	325	
13	MR 243	KOSHI OPC	13/2/2017	36.4	120	330	
14	MR 244	KOSHI OPC	14/2/2017	37.1	175	350	
15	MR 245	SHIVAM OPC	15/2/2017	36.6	155	285	
16	MR 246	SHIVAM OPC	16/2/2017	37.1	165	295	
Requirements in accordance with BS 12/4027					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

CEMENT TEST SUMMERY

For the Month of Febuary 2017

P.G-2

S.N.	Lab. Ref. NO.	Description of cement	Testing Date	Consistency & Setting Time			Remarks
				Norm. Const.	Intial(min.)	Final(min.)	
17	MR 247	SHIVAM OPC	17/2/2017	37.7	160	290	All Cement Are Nepali BRAND OPC
18	MR 248	SHIVAM OPC	18/2/2017	38.0	150	295	
19	MR 249	SHIVAM OPC	19/2/2017	38.0	170	285	
20	MR 250	SHIVAM OPC	20/2/2017	38.0	150	280	
21	MR 251	SHIVAM OPC	21/2/2017	38.0	160	295	
22	MR 252	SHIVAM OPC	22/2/2017	38.9	140	305	
23	MR 253	SHIVAM OPC	23/2/2017	39.4	160	315	
24	MR 254	SHIVAM OPC	24/2/2017	39.3	150	325	
25	MR 255	SHIVAM OPC	24/2/2017	39.4	155	320	
26	MR 256	SHIVAM OPC	25/2/2017	39.7	170	310	
27	MR 257	SHIVAM OPC	26/2/2017	39.6	160	330	
28	MR 258	SHIVAM OPC	27/2/2017	39.6	165	335	
29	MR 259	SHIVAM OPC	28/2/2017	39.0	165	350	
Requirements in accordance with BS 12/4027					> 45 Min.	10 Hrs	

SMCE-Brisbane-AQUA-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractores Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20 , M25/20 & M30/20 Work Mix

FOR THE MONTH OF Febuary 2017

P.G-1

S.N.	Lab Ref No.	Date of Casting	Deatails of Mix	Location	Ratio by Volume				Type of Material		Cube Crushing ,N/mm2		Remarks
				Structure	water	Cement	Sand	Aggregates	Cement Brand	Aggregate/Sand	7 days	28-Days	
1	661	4/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	20.30	26.37	
2	662	4/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	20.74	26.07	
3	663	5/1/2017	M20 Work Mix	S-9 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.07	21.48	
4	664	5/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	19.11	26.30	
5	665	6/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	16.59	26.07	
6	666	6/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	17.19	26.15	
7	667	7/1/2017	M20Work Mix	R-37 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.59	21.33	
8	668	7/1/2017	M20Work Mix	R-37 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.74	21.19	
9	669	8/1/2017	M30 work Mix	Slum Well 2 nd Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	26.07	32.59	Add mix=0.5%
10	670	8/1/2017	M30 work Mix	Slum Well 2 nd Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	25.63	33.63	Add mix=0.5%
11	671	9/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.48	26.07	
12	672	9/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.93	26.37	
Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	13.4	20	
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	16.75	25	
Specifacation Limit Table For M30/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	20.1	30	

SMEC-Brisbane-AQUA-BDA	CTCE-KALIKA J/V
Approved by Construction Supervision Engineer/CSE	Submitted by Project Manager
Test checked by A.C.S.E	Test conducted by Q.C Manager
Consultants Reps	Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20 , M25/20 & M30/20 Work Mix

FOR THE MONTH OF Febuary 2017

P.G-2

S.N.	Lab Ref No.	Date of Casting	Deatails of Mix	Location	Ratio by Volume				Type of Material		Cube Crushing ,N/mm2		Remarks
				Structure	water	Cement	Sand	Aggregates	Cement Brand	Aggregate/Sand	7 days	28-Days	
13	673	10/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.78	26.07	
14	674	11/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	20.44	26.44	
15	675	11/1/2017	M25 Work Mix	S-9 Line	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.93	25.56	
16	676	13/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.19	25.93	
17	677	13/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	22.07	26.52	
18	678	14/1/2017	M25 Work Mix	R-3 Line Road Crossing	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.63	26.81	
19	679	15/1/2017	M20 Work Mix	R-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	15.70	20.59	
20	680	15/1/2017	M20 Work Mix	R-5 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	21.04	
21	681	15/1/2017	M20 Work Mix	R-3 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.59	21.48	
22	682	15/1/2017	M20 Work Mix	R-27 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.04	21.78	
23	683	17/1/2017	M20 Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	20.89	
24	684	18/1/2017	M25Work Mix	R-16 Line	0.46	1	1.5	3.25	Shivam	Om shree C/plant	20.89	25.63	
Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	13.4	20	
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	16.75	25	
Specifacation Limit Table For M30/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	20.1	30	

SMEC-Brisbane-AQUA-BDA	CTCE-KALIKA J/V
Approved by Construction Supervision Engineer/CSE	Submitted by Project Manager
Test checked by A.C.S.E	Test conducted by Q.C Manager
Consultants Reps	Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20 , M25/20 & M30/20 Work Mix

FOR THE MONTH OF Febuary 2017

P.G-3

S.N.	Lab Ref No.	Date of Casting	Deatails of Mix	Location	Ratio by Volume				Type of Material		Cube Crushing ,N/mm2		Remarks
				Structure	water	Cement	Sand	Aggregates	Cement Brand	Aggregate/Sand	7 days	28-Days	
25	685	18/1/2017	M25 Work Mix	R-16 Line	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.48	25.93	
26	686	19/1/2017	M20 Work Mix	S-9 Line Top Slab	0.50	1	2	3.5	Shivam	Om shree C/plant	17.11	21.78	
27	687	19/1/2017	M20 Work Mix	S-9 Line Top Slab	0.50	1	2	3.5	Shivam	Om shree C/plant	17.19	21.63	
28	688	19/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	22.07	26.07	
29	689	20/1/2017	M20 Work Mix	S-9 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.30	20.74	
30	690	20/1/2017	M20 Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.74	21.48	
31	691	20/1/2017	M20 Work Mix	R-29 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.15	20.59	
32	692	21/1/2017	M20 Work Mix	R-8 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	15.70	20.59	
33	693	21/1/2017	M20 Work Mix	R-8 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.44	20.89	
34	694	22/1/2017	M20 Work Mix	S-9 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.04	21.48	
35	695	22/1/2017	M20 Work Mix	S-9 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	17.11	21.63	
36	696	23/1/2017	M20Work Mix	R-29 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.00	20.89	
Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	13.4	20	
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	16.75	25	
Specifacation Limit Table For M30/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	20.1	30	

SMEC-Brisbane-AQUA-BDA	CTCE-KALIKA J/V
Approved by Construction Supervision Engineer/CSE	Submitted by Project Manager
Test checked by A.C.S.E	Test conducted by Q.C Manager
Consultants Reps	Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20 , M25/20 & M30/20 Work Mix

FOR THE MONTH OF Febuary 2017

P.G-4

S.N.	Lab Ref No.	Date of Casting	Deatails of Mix	Location	Ratio by Volume				Type of Material		Cube Crushing ,N/mm2		Remarks
				Structure	water	Cement	Sand	Aggregates	Cement Brand	Aggregate/Sand	7 days	28-Days	
37	697	23/1/2017	M20 Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.59	21.41	
38	698	23/1/2017	M20 Work Mix	R-7 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.81	21.41	
39	699	24/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.56	25.78	
40	700	24/1/2017	M25 Work Mix	S-9 Line Top Slab	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.70	25.70	
41	701	24/1/2017	M25 Work Mix	R-16 Line	0.46	1	1.5	3.25	Shivam	Om shree C/plant	21.41	25.41	
42	702	25/1/2017	M30 Work Mix	Slum Well 3 rd Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	26.59	30.22	Add mix=0.5%
43	703	25/1/2017	M30 Work Mix	Slum Well 3 rd Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	26.74	30.30	Add mix=0.5%
44	704	26/1/2017	M20 Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.15	20.67	
45	705	26/1/2017	M20 Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.00	20.52	
46	706	27/1/2017	M20 Work Mix	WWTP	0.50	1	2	3.5	Shivam	Om shree C/plant	16.00	20.59	
47	707	27/1/2017	M20 Work Mix	WWTP	0.50	1	2	3.5	Shivam	Om shree C/plant	16.15	20.30	
48	708	28/2/2017	M20Work Mix	WWTP	0.50	1	2	3.5	Shivam	Om shree C/plant	17.04	20.15	
Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	13.4	20	
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	16.75	25	
Specifacation Limit Table For M30/20 on 7 days Age Min 67% of Total Compressive Strength										Min Required	20.1	30	

SMEC-Brisbane-AQUA-BDA	CTCE-KALIKA J/V
Approved by Construction Supervision Engineer/CSE	Submitted by Project Manager
Test checked by A.C.S.E	Test conducted by Q.C Manager
Consultants Reps	Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF CUBE COMPRESSIVE STRENGTH TEST M20/20 , M25/20 & M30/20 Work Mix

FOR THE MONTH OF Febuary 2017

P.G-5

S.N.	Lab Ref No.	Date of Casting	Deatails of Mix	Location	Ratio by Volume				Type of Material		Cube Crushing ,N/mm2		Remarks
				Structure	water	Cement	Sand	Aggregates	Cement Brand	Aggregate/Sand	7 days	28-Days	
49	709	28/2/2017	M20Work Mix	WWTP	0.50	1	2	3.5	Shivam	Om shree C/plant	16.15	20.30	
50	710	28/1/2017	M20Work Mix	R-7 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.15	20.52	
51	711	28/1/2017	M20Work Mix	R-8 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.45	20.30	
52	712	30/1/2017	M20Work Mix	R-8 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.96	20.44	
53	713	31/1/2017	M20Work Mix	R-16 Line	0.50	1	2	3.5	Shivam	Om shree C/plant	16.40	20.60	
54	714	31/1/2017	M30 Work Mix	Slum Well 4 th Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	22.67	31.33	Add mix=0.5%
55	715	31/1/2017	M30 Work Mix	Slum Well 4 th Lift WWTP	0.36	1	1.3	2	Shivam	Om shree C/plant	22.81	31.04	Add mix=0.5%

Specifacation Limit Table For M20/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	13.4	20
Specifacation Limit Table For M25/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	16.75	25
Specifacation Limit Table For M30/20 on 7 days Age Min 67% of Total Compressive Strength	Min Required	20.1	30

SMEC-Brisbane-AQUA-BDA	CTCE-KALIKA J/V
Approved by Construction Supervision Engineer/CSE	Submitted by Project Manager
Test checked by A.C.S.E	Test conducted by Q.C Manager
Consultants Reps	Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENT IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMARY OF MORTAR COMPRESSIVE STRENGTH TEST WORK MIX CUBE

FOR THE MONTH OF FEBRUARY 2017

P.G-1

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
1	644	KOSHI	WWTP	1:4 by volume	4/1/2017	37.90	180	335	11/1/2017	5.60	1/2/2017	7.80	
2	645	KOSHI	Highway Man Hole Brick	1:4 by volume	4/1/2017	37.90	180	335	11/1/2017	6.10	1/2/2017	8.20	
3	646	KOSHI	R-29 Line	1:4 by volume	5/1/2017	36.90	180	200	12/1/2017	6.00	2/2/2017	8.20	
4	647	KOSHI	R-26 Line	1:4 by volume	5/1/2017	36.90	180	200	12/1/2017	6.40	2/2/2017	8.40	
5	648	KOSHI	R-37 Line	1:4 by volume	6/1/2017	37.10	180	200	13/1/2017	6.30	3/2/2017	7.80	
6	649	KOSHI	WWTP	1:4 by volume	6/1/2017	37.10	180	200	13/1/2017	6.30	3/2/2017	8.00	
7	650	KOSHI	R-27 Line	1:4 by volume	7/1/2017	37.00	250	300	14/1/2017	6.10	4/2/2017	8.30	
8	651	KOSHI	R-29 Line	1:4 by volume	7/1/2017	37.00	250	300	14/1/2017	6.30	4/2/2017	8.30	
9	652	KOSHI	WWTP	1:4 by volume	8/1/2017	36.30	185	320	15/1/2017	6.30	5/2/2017	8.00	
10	653	KOSHI	Highway Man Hole Brick	1:4 by volume	8/1/2017	36.00	185	330	15/1/2017	6.30	5/2/2017	8.20	
11	654	KOSHI	R-5 Line	1:4 by volume	9/1/2017	36.40	180	320	16/1/2017	6.40	6/2/2017	8.40	
12	655	KOSHI	WWTP	1:4 by volume	9/1/2017	36.40	180	320	16/1/2017	6.00	6/2/2017	8.30	
13	656	KOSHI	WWTP	1:4 by volume	10/1/2017	37.60	175	335	17/1/2017	6.40	7/2/2017	8.40	
14	657	KOSHI	R-29 Line	1:4 by volume	10/1/2017	37.60	175	335	17/1/2017	6.10	7/2/2017	8.30	
15	658	KOSHI	R-6 Line	1:4 by volume	11/1/2017	36.90	195	295	18/1/2017	6.10	8/2/2017	8.20	
							MIN 45m	Max 600m	Required strength on 28 days not less than 7.5 N/MM2				

Approved by Construction Supervision Engineer/CSE
Test Checked by A.C.S.E
Consultants Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractore Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENT IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMARY OF MORTAR COMPRESSIVE STRENGTH TEST WORK MIX CUBE

FOR THE MONTH OF FEBRUARY 2017

P.G-2

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
16	659	KOSHI	R-7 Line	1:4 by volume	12/1/2017	37.90	190	320	19/1/2017	6.10	9/2/2017	8.30	
17	660	KOSHI	R-29 Line	1:4 by volume	12/1/2017	37.90	190	320	19/1/2017	6.40	9/2/2017	8.00	
18	661	KOSHI	R-6 Line	1:4 by volume	13/1/2017	38.00	200	320	20/1/2017	6.10	10/2/2017	7.80	
19	662	KOSHI	WWTP	1:4 by volume	14/1/2017	37.90	205	335	21/1/2017	6.40	11/2/2017	8.20	
20	663	KOSHI	Highway Man Hole Brick	1:4 by volume	14/1/2017	37.90	205	335	21/1/2017	6.10	11/2/2017	8.20	
21	664	KOSHI	Highway Man Hole Brick	1:4 by volume	15/1/2017	38.00	205	315	22/1/2017	6.50	12/2/2017	8.40	
22	665	KOSHI	R-7 Line	1:4 by volume	15/1/2017	38.00	205	315	22/1/2017	5.90	12/2/2017	8.30	
23	667	KOSHI	R-6 Line	1:4 by volume	16/1/2017	37.60	190	305	23/1/2017	6.30	13/2/2017	8.40	
24	668	KOSHI	R-37 Line	1:4 by volume	16/1/2017	37.60	190	305	23/1/2017	6.30	13/2/2017	8.00	
25	669	KOSHI	R-25 Line	1:4 by volume	17/1/2017	36.70	140	260	24/1/2017	6.00	14/2/2017	8.20	
26	670	KOSHI	R-26 Line	1:4 by volume	18/1/2017	36.30	140	240	25/1/2017	6.50	15/2/2017	8.60	
27	671	KOSHI	R-28 Line	1:4 by volume	18/1/2017	36.30	140	240	25/1/2017	6.10	15/2/2017	8.00	
28	672	KOSHI	R-27 Line	1:4 by volume	19/1/2017	36.10	165	265	26/1/2017	6.00	16/2/2017	8.30	
29	673	KOSHI	R-3 Line	1:4 by volume	20/1/2017	36.60	155	270	27/1/2017	6.40	17/2/2017	7.80	
30	674	KOSHI	WWTP	1:4 by volume	20/1/2017	36.60	155	270	27/1/2017	6.10	17/2/2017	8.30	
							MIN 45m	Max 600m	Required strength on 28 days not less than 7.5 N/MM2				

Approved by Construction Supervision Engineer/CSE
Test Checked by A.C.S.E
Consultants Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractore Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENT IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMARY OF MORTAR COMPRESSIVE STRENGTH TEST WORK MIX CUBE

FOR THE MONTH OF FEBRUARY 2017

P.G-3

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
31	675	KOSHI	R-29 Line	1:4 by volume	20/1/2017	36.60	155	270	27/1/2017	6.30	17/2/2017	8.20	
32	676	KOSHI	R-24 Line	1:4 by volume	21/1/2017	37.90	190	315	28/1/2017	6.50	18/2/2017	8.60	
33	677	KOSHI	R-8 Line	1:4 by volume	21/1/2017	37.90	190	315	28/1/2017	6.10	18/2/2017	8.30	
34	678	KOSHI	R-7 Line	1:4 by volume	22/1/2017	37.40	190	315	29/1/2017	6.00	19/2/2017	7.80	
35	679	KOSHI	WWTP	1:4 by volume	22/1/2017	37.40	190	315	29/1/2017	6.30	19/2/2017	8.60	
36	680	KOSHI	CN2 Line	1:4 by volume	23/1/2017	37.90	180	320	30/1/2017	6.10	20/2/2017	8.20	
37	681	KOSHI	WWTP	1:4 by volume	23/1/2017	37.90	180	320	30/1/2017	6.50	20/2/2017	8.00	
38	682	KOSHI	R-21 Line	1:4 by volume	24/1/2017	37.90	195	295	31/1/2017	6.10	21/2/2017	8.60	
39	683	KOSHI	R-25 Line	1:4 by volume	24/1/2017	37.90	195	295	31/1/2017	6.50	21/2/2017	8.30	
40	684	KOSHI	R-25 Line	1:4 by volume	25/1/2017	37.30	165	250	1/2/2017	6.00	22/2/2017	8.00	
41	685	KOSHI	R-26 Line	1:4 by volume	25/1/2017	37.30	165	250	1/2/2017	6.10	22/2/2017	8.20	
42	686	KOSHI	R-27 Line	1:4 by volume	26/1/2017	35.60	130	240	2/2/2017	5.90	23/2/2017	8.20	
43	687	KOSHI	R-27 Line	1:4 by volume	26/1/2017	35.60	130	240	2/2/2017	6.30	23/2/2017	8.40	
44	688	KOSHI	R-29 Line	1:4 by volume	27/1/2017	35.00	190	250	3/2/2017	6.30	24/2/2017	8.20	
45	689	KOSHI	WWTP	1:4 by volume	27/1/2017	35.00	190	250	3/2/2017	6.50	24/2/2017	8.60	
							MIN 45m	Max 600m	Required strength on 28 days not less than 7.5 N/MM2				

Approved by Construction Supervision Engineer/CSE
Test Checked by A.C.S.E
Consultants Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractore Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENT IMPROVEMENT PROJECT

Biratnagar-Sub-Metropolitant City

SUMMARY OF MORTAR COMPRESSIVE STRENGTH TEST WORK MIX CUBE

FOR THE MONTH OF FEBRUARY 2017

P.G-4

S.N.	LAB REF No.	Name of CEMENT	Location/Structure	Details of MIX	Casting	Consistency & Setting Time			7 day's cube Crushing		28 day's cube crushing		Remarks
						Norm. Const.	Intial(min.)	Final(min.)	Date	Str. N/mm2	Date	Str. N/mm2	
46	690	KOSHI	CN2 Line	1:4 by volume	28/1/2017	34.90	140	260	3/2/2017	6.00	25/2/2017	8.40	
47	691	KOSHI	R-24 Line	1:4 by volume	29/1/2017	35.40	150	270	4/2/2017	6.10	26/2/2017	8.20	
48	692	KOSHI	R-8 Line	1:4 by volume	29/1/2017	35.40	150	270	5/2/2017	6.10	26/2/2017	7.80	
49	693	KOSHI	WWTP	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	6.30	27/2/2017	7.90	
50	694	KOSHI	WWTP	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.60	27/2/2017	7.80	
51	695	KOSHI	WWTP	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.60	27/2/2017	7.90	
52	696	KOSHI	R-5 Line	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.70	27/2/2017	8.00	
53	697	KOSHI	CN2 Line	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.60	27/2/2017	7.80	
54	698	KOSHI	R-29 Line	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.60	27/2/2017	7.90	
55	699	KOSHI	Highway Man Hole Brick	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	5.70	27/2/2017	7.80	
56	700	KOSHI	R-8 Line	1:4 by volume	30/1/2017	36.40	160	260	6/2/2017	6.00	27/2/2017	7.60	
57	701	KOSHI	R-7 Line	1:4 by volume	31/1/2017	36.70	170	265	7/2/2017	5.30	28/2/2017	7.80	
58	702	KOSHI	CN2 Line	1:4 by volume	31/1/2017	36.70	170	265	7/2/2017	6.30	28/2/2017	8.00	
							MIN 45m	Max 600m	Required strength on 28 days not less than 7.5 N/MM2				

Approved by Construction Supervision Engineer/CSE
Test Checked by A.C.S.E
Consultants Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractore Reps

Secondary Towns Integrated Uraban Environmental Improvement Project

Biratnagar Sub-Metropolitant City

TEST RESULT SUMMARY SHEET For the Month of FEBUARY 2017

COMPRESSIVE STRENGTH OF BRICKS (Process Control Test) P.G-1

SN No	Ref. STIUEIP LAB/	Date of Testing	Location	Chanage	BRAND NAME 1 st class brick	Compressive Strength N/mm2	SCALE OF Sample From
1	533	6/2/2017	R-29 Line	R-29 Line	AMBEY	10.4	
2	534	6/2/2017	R-29 Line	R-29 Line	AMBEY	10.2	
3	535	6/2/2017	Prativa chowck	Prativa chowck	AMBEY	10.4	
4	536	6/2/2017	Prativa chowck	Prativa chowck	AMBEY	10.5	
5	537	6/2/2017	Highway	Manhole	ANAND	10.3	
6	538	6/2/2017	Highway	Manhole	ANAND	10.2	
7	539	6/2/2017	Highway	Manhole	ANAND	10.9	
8	540	6/2/2017	Highway	Manhole	ANAND	11.6	
9	541	6/2/2017	Highway	Manhole	ANAND	11.2	
10	542	6/2/2017	Highway	Manhole	ANAND	10.5	
11	543	6/2/2017	WWTP	WWTP	ANAND	11.4	
12	544	6/2/2017	WWTP	WWTP	ANAND	10.2	
13	545	12/2/2017	Highway	Manhole	ANAND	11.4	
14	546	12/2/2017	R-21 Line	R-21 Line	ANAND	10.4	
15	547	12/2/2017	R-5 Line	R-5 Line	ANAND	10.5	
16	548	13/2/2017	Highway	Manhole	ANAND	10.8	
17	549	13/2/2017	WWTP	WWTP	AMBEY	10.9	
18	550	17/2/2017	R-21 Line	R-21 Line	N&B	10.5	
19	551	17/2/2017	R-21 Line	R-21 Line	N&B	10.6	
20	552	17/2/2017	WWTP	WWTP	AMBEY	10.1	
21	553	17/2/2017	R-8 Line	R-8 Line	N&B	10.3	
22	554	17/2/2017	R-8 Line	R-8 Line	N&B	10.6	
23	555	19/2/2017	R-8 Line	R-8 Line	N&B	10.5	
Specification					IS1077,IS2180or NS1/2035	>¯10N/MM2	

SMEC-Brisbane-AQUA-BDA-CEMAT
Approved by Construction Supervision Engineer
Test Checked by A.C.S.E
Consultantr Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test conducted by Q.C Manager
Contractor Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-13 & R-18 Line

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 48	1/2/2017	0+010CL	1.91	97.18	6.00	10
2			0+040 RHS	1.93	98.12	7.00	10
3			0+080 LHS	1.89	96.17	6.00	10
4			0+120 RHS	1.92	97.64	5.00	10
5			0+160 CL	1.92	97.64	6.00	10
6			0+190 RHS	1.88	95.25	6.00	10
Required Specifacation				1.97	95.00	OMC <11.0	
1	FD 49	2/2/2017	0+010 CL	1.93	96.84	6.00	10
2			0+040 LHS	1.94	97.42	6.00	10
3			0+070 RHS	1.91	95.89	6.00	10
4			0+100 CL	1.92	96.31	5.50	10
5			0+130 LHS	1.92	96.31	6.00	10
6			0+150 RHS	1.90	95.62	6.00	10
7			0+180 CL	1.93	96.80	6.0	10
8			0+200 RHS	1.93	96.80	6.00	10
9			0+230 LHS	1.92	96.33	6.00	10
10			0+260 CL	1.95	97.99	6.00	10
11			0+290 RHS	1.93	96.80	6.00	10
12			0+310LHS	1.90	95.49	6.00	10
Required Specifacation				1.99	95.00	OMC <10.25	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
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Test Conducted by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-25,R-15,R-17&R17 Line

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 50	3/2/2017	0+010 LHS	1.94	97.91	6.00	10
2			0+050 RHS	1.93	97.16	6.00	10
3			0+090 CL	1.95	98.40	6.00	10
4			0+130 RHS	1.90	95.52	6.00	10
5			0+170 LHS	1.93	97.16	6.00	10
6			0+210 CL	1.90	95.52	6.00	10
Required Specifacation				1.99	95.00	OMC <10.25	
1	FD 51	3/2/2017	0+010 LHS	1.91	96.54	5.00	10
2			0+050 RHS	1.92	97.13	6.00	10
3			0+090 CL	1.94	97.81	5.00	10
4			0+120 RHS	1.89	95.54	6.00	10
5			0+160 LHS	1.92	97.13	6.00	10
6			0+190 CL	1.94	97.81	6.00	10
Required Specifacation				1.98	95.00	OMC <9.25	
1	FD 52	3/2/2017	0+010 LHS	1.90	95.71	5.00	10
2			0+050 RHS	1.95	98.67	5.00	10
3			0+090 CL	1.94	97.82	5.00	10
4			0+120 RHS	1.92	96.82	5.50	10
5			0+160 LHS	1.91	96.53	6.00	10
6			0+190 CL	1.90	95.71	6.00	10
Required Specifacation				1.98	95.00	OMC <9.50	
1	FD 53	7/2/2017	0+240 CL	1.97	99.56	6.00	10
2			0+300 RHS	1.96	99.17	5.00	10
3			0+340 LHS	1.96	99.17	5.50	10
4			0+380 CL	1.93	97.72	5.50	10
5			0+400 RHS	1.93	97.72	5.00	10
6			0+410 LHS	1.92	97.20	5.00	10
Required Specifacation				1.98	95.00	OMC <9.50	

SMEC-Brisbane-AQUA-CEMAT-BDA
Approved by C.S.E
Test Checked by A.C.S.E
Consultant Reps

CTCE-KALIKA J/V
Submitted by Project Manager
Test Conducted by Q.C Manager
Contractors Reps

SECONDARY TOWNS INTEGRATED URABAN ENVIRONMENTAL IMPROVEMENT PROJECT

Biratnagar Sub-Metropolitant City

SUMMARY OF FIELD DENSITY TES (IS:2720:-PART-28) FOR THE MONTH OF Febuary 2017

Description : Field Density Tests on CH:R-20 & R-8 Sahayogi Marg

SUB GRADE P.G-1

S.N.	L/Ref. No.	Date	Location/ Area -	MDD Gm/CC	Degree of Compaction, %		THICKNESS (CM)
1	FD 54	8/2/2017	0+010 LHS	1.95	98.65	5.00	10
2			0+040 RHS	1.94	97.95	5.00	10
3			0+070 CL	1.94	97.95	5.00	10
4			0+100 LHS	1.95	98.65	5.50	10
5			0+150 RHS	1.96	98.85	5.00	10
6			0+190 CL	1.94	97.95	4.00	10
Required Specifacation				1.980	95.00	OMC <9.50	
1	FD 55	9/2/2017	0+010 RHS	1.91	96.44	4.00	
2			0+050 LHS	1.96	99.02	5.00	
3			0+090 CL	1.95	98.48	5.00	
4			0+120 RHS	1.94	97.86	4.00	
5			0+160 LHS	1.95	98.63	5.00	
6			0+190 CL	1.89	95.36	4.00	
Required Specifacation				1.98	95.00	OMC <9.70	

SMEC-Brisbane-AQUA-CEMAT-BDA
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Consultant Reps

CTCE-KALIKA J/V
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Test Conducted by Q.C Manager
Contractors Reps