

# Semi-Annual Environmental Monitoring Report

---

Project number: 43253-025

Period: July - December 2016

## IND: Karnataka Integrated Urban Water Management Investment Program – Tranche 1

This report has been submitted by the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC) Government of Karnataka for the Asian Development Bank. This document is made publicly available in accordance with ADB's Public Communication Policy (2011) and does not necessarily reflect the views of ADB.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

# Semi Annual Environmental Monitoring Report

**ADB Loan Number 3148-IND**  
**Period Covered: July to December 2016**

India: Karnataka      Integrated      Urban      Water  
Management Investment Program (KIUWMIP)

**Tranche 1- 4<sup>th</sup> Report**

**February 2017**



**Prepared by**  
**Karnataka Urban Infrastructure Development Finance Corporation**  
**(KUIDFC) Government of Karnataka for Asian Development Bank**

## ABBREVIATIONS

ADB	Asian Development Bank
ADB SPS	Asian Development Bank Safeguard Policy Statement
APMC	Agricultural Produce Market Committee
BOD	Bio-Chemical Oxygen Demand
BPL	Below Poverty Line
CAP	Corrective Action Plan
CBO	Community Based Organizations
CC	Complaint Cell
CC Drain	Cement Concrete Drain
CFE	Consent for Establishment
CFO	Consent for Operation
CGWB	Central Ground Water Board
CMC	City Municipal Council
CPCB	Central Pollution Control Board
dbA	Decibels
DI	Ductile Iron
DPR	Detailed Project Report
DS	Double Suction
EA	Executing Agency
EAC	Expert Appraisal Committee
EC	Environmental Clearance
EIA	Environmental Impact Assessment
ELSR	Elevated Storage Reservoir
EMP	Environmental Management Plan
GDP	Gross Domestic Product
GIL	Grasim Industries Limited
Gol	Government of India
GoK	Government of Karnataka
GLSR	Ground Level Service Reservoir
GRC	Grievance Redress Committee
HDPE	High Density Polyethylene
H&S	Health and Safety
IA	Implementing Agency
IEE	Initial Environmental Examination
IWRM	Integrated Water Resource Management
KIUWMIP	Karnataka Integrated Urban Water Management Investment Program
KMRP	Karnataka Municipal Reforms Project
KSPCB	Karnataka State Pollution Control Board
KSRTC	Karnataka State Road Transport Corporation
KTCP	Karnataka Town and Country Planning
KUIDFC	Karnataka Urban Infrastructure Development & Finance Corporation
KUWSDB	Karnataka Urban Water Supply & Drainage Board
M&M	Major and Medium
MFF	Multitranch Financing Facility
MoEFCC	Ministry of Environment, Forest & Climate Change
MSL	Mean Sea Level
NGO	Non-Government Organisation
NKUSIP	North Karnataka Urban Sector Investment Program
NOx	Nitrogen Oxide

NRW	Non Revenue Water
OCRP	Office of Compliance Review Panel
OHT	Over Head Tank
OSPF	Office of the Special Project Facilitator
O&M	Operation & Maintenance
PC	Program Consultants
PCU	Project Co-ordination Unit
PMU	Program Management Unit
PMDSC	Project Management Design and Construction Supervision Consultant
PIU	Program Implementation Unit
PWD	Public Works Department
RCC	Reinforced Cement Concrete
REA	Rapid Environmental Assessment
RF	Resettlement Framework
RP	Resettlement Plan
RPMU	Regional Program Management Unit
RSPM	Residual Suspended Particulate Matter
SC	Scheduled Caste
SEIAA	State Environmental Impact Assessment Authority
SPM	Suspended Particulate Matter
SPS	Sewage Pumping Station
ST	Scheduled Tribe
STP	Sewage Treatment plant
SW	Stone Ware
TMC	Town Municipal Council
ToR	Terms of References
UGD	under Ground Drainage
ULB	Urban Local Body
UDWSP	Urban Drinking Water & Sanitation Policy
USD	US Dollars
(U)WSS	(Urban) Water Supply & Sanitation

## CONTENTS

Sl. No.	Contents	Page no.
<b>I</b>	<b>INTRODUCTION</b>	<b>5</b>
A	Background	5
B	Purpose of the Report	5
<b>II</b>	<b>IMPLEMENTATION PROGRESS</b>	<b>6</b>
A	Status of Subprojects under Tranche 1	6
B	Compliance to Safeguard Loan Covenants	18
C	Implementation Arrangement	21
<b>III</b>	<b>ENVIRONMENTAL PROCEDURE REVIEW</b>	<b>26</b>
A	Environment Legal Requirement	26
B	Compliance with Environmental Legal Requirements(Consents & Statutory clearances)	27
<b>IV</b>	<b>COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN</b>	<b>30</b>
<b>V</b>	<b>ENVIRONMENTAL MONITORING AND EVALUATION</b>	<b>79</b>
<b>VI</b>	<b>CONSULTATIONS AND DISCLOSURES CONDUCTED</b>	<b>88</b>
<b>VII</b>	<b>GRIEVANCE REDRESS MECHANISM</b>	<b>88</b>
<b>VIII</b>	<b>FINDINGS AND RECOMMENDATIONS</b>	<b>90</b>

## LIST of TABLES

Table No.	Contents	Page No.
1	Status of Sub Project under Tranche 1	7
2	Compliance to Loan Agreements (Environmental Safeguards)	18
3	Activity and Responsibility – safeguard Implementation	23
4	Details of KIUWMIP Environmental Safeguard Team	24
5	Environmental Legal Requirements Applicable to KIUWMIP Project 1	26
6	Status of Compliance with National and State Legal Requirements	27
7	Compliance to EMP of the Package- Providing expansion of Sewage System in Davangere City, (District 1 & 3)	32
8	Compliance to EMP of the Package- Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP	42
9	Compliance to EMP of the Package- Providing expansion of sewage system in Harihar city	54
10	Compliance to EMP of the Package- Providing expansion of sewage system in Byadgi Town	67
11	Ambient Air Quality Monitoring at Sites of construction	79
12	Noise Level Monitoring at project sites of Davangere, Harihar and Byadgi	82
13	Performance Fact Sheet for Required Environmental Consents/Clearances of KIUWMIP Project 1	86

14	Performance Fact Sheet for EMP Implementation of KIUWMIP Project 1	87
15	Indicative Schedule for Consultations and Disclosure	88
16	Corrective Action Plan	90

### LIST of FIGURES

Figure No.	Contents	Page No.
Figure 1	Location of project towns	6
Figure 2	KIUWMIP Safeguards Implementation Arrangement	24
Figure 3	Grievance Redress Process	89

### APPENDIX

Appendix	Contents	Page No.
1	Implementation schedule	92
2	Photo Illustration	98
3	Monitoring Budget	104
4	Compliance against CFE condition	107
5	Labour license	118
6	Labour compensation Insurance	121
7	Consent to Operate for Concrete Batching Plant	139
8	Sample site specific EMP	151
9	Ambient Air Quality and Noise Level	156
10	Spoil Management Plan	193
11	Traffic Management Plan	197
12	Sample Internal Training document- Contractor	208
13	Sample filled public consultation format	214
14	Safety and Environment Training- Note	217
15	GRM – GRC Notification	223
16	Sample filled Grievance Register	226
17	Accident Record	227

## I. INTRODUCTION

### A. Background

1. The Karnataka Integrated Urban Water Management Investment Program (KIUWMIP, the Program) aims to improve water resource management in urban areas in a holistic and sustainable manner. Investment support will be provided to modernize and expand urban water supply & sanitation (UWSS) while strengthening relevant institutions to enhance efficiency, productivity and sustainability in water use. The Program focuses on priority investments and institutional strengthening in water supply & sanitation within an IWRM context.

2. The Program will be implemented over a four-year period and will be funded by a loan via the Multitranche Financing Facility (MFF) of Asian Development Bank (ADB). The Executing Agency is the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC) and implementing agencies for the Investment Program will be respective Urban Local Bodies (ULBs). Initially Byadgi, Harihar, Ranebennur and Davangere are the four towns chosen to benefit from the first tranche of the investment. As the Detailed Project Report costs have exceeded substantially compared to the costs indicated on the basis of feasibility studies, ADB would finance water and sewerage infrastructure only in three towns namely (1) Davanagere, (2) Harihar and (3) Byadgi under Tranche-1 (investments on Ranebennur sewerage and water supply are proposed to be met out of NKUSIP savings and GoK exclusive funding respectively)

3. The programme proposes the MFF spread across two tranches over a period of ten years (2014-2024) with the total size of \$225 M. The shares of ADB propose to be \$150 million and counterpart funding from the state Government is estimated at \$75 million. In addition to the Loan funds of \$150M, the ADB has agreed to support the programme with an additional amount of \$1.8 M as a grant fund out of its urban financing partnership facility.

4. In **Tranche 1** main outcome will be providing 24x7 Water supply and sewerage system including treatment of sewage at Byadgi, Harihar and Davangere. Location of project towns is shown in **Figure 1**.

5. The Program Management Unit (PMU) is located in Bangalore, Regional Program Management Unit (RPMU) in Davangere and Program Implementation Unit in the three Tranche 1 towns has been established. Project Management Design & Construction Supervision Consultant (PMDSCS) is also in place.

### B. Purpose of the Report

6. **Environmental Categorization.** KIUWMIP **Tranche 1** town has been categorized as ADB **Category B** for environment as per ADB Safeguard Policy (SPS 2009). Initial environmental examination reports (IEEs) were prepared for each subproject.

7. This report is the semi-annual environment monitoring report (SEMR) covering period **July to December 2016**. This SEMR describes the implementation of the environmental management plan (EMP) in each subproject IEE.



Figure 1: Location of project towns

## II. IMPLEMENTATION PROGRESS

### A. Status of Subprojects under Tranche 1

8. There are 4 sub projects in Tranche 1 (Project 1) under implementation. One sub project at Byadgi is awarded recently. Physical construction has been started for one sub project at Harihar (UGD+STP) and two sub projects at Davangere (separate contract for UGD and STP). Status of sub projects is given in **Table 1**. Project implementation status is given in **Appendix 1**. Site photographs are attached as **Appendix 2**.



**Table 1: Status of Sub Project under Tranche 1**

Town	Package No.	Component	Start Date	Number of Days/Months to Complete Work	Schedule Completion date	Works completed/ under execution	% Physical Progress against total Quantity as of 31 <sup>st</sup> December 2016	Package Completed as of 31 <sup>st</sup> December 2016
Byadgi	<b>01BDG01</b>	Design, Build, Operate & Maintain for 6 years for Byadgi comprehensive scheme from covering SBR STP (5 MLD), network (82.2 km), and 3202 manholes, construction of one septic tank (275 users, 0.03 ML) and provision of 6,206 nos HSCs	16.04.2016	36 months	15.04.2019	<p><b>Cumulative Progress Upto December 2016 Sewer Pipe Line</b></p> <p><b><u>uPVC Pipes</u></b></p> <ul style="list-style-type: none"> <li>Laying of 211 m of 160 mm pipe completed.</li> </ul> <p><b><u>Total for Pipeline</u></b></p> <ul style="list-style-type: none"> <li>Laying of 211 m of 160 mm pipe completed.</li> </ul> <p><b><u>Manholes</u></b></p> <ul style="list-style-type: none"> <li>Construction of 65 manholes Completed</li> </ul> <p><b><u>Other Works</u></b></p> <ul style="list-style-type: none"> <li>Joint Confirmatory Survey under progress.</li> <li>STP Design Approval under progress.</li> <li>UGD Design approved for 16.90 km.</li> </ul>	Work just started 5.6%	No

Harihar	01HRA01	Expansion of the sewerage network (72.16 km sewers, 2640 nos. manholes, 4 nos. pumping stations, 18 MLD STP)	09.01.2015	30 months	08.07.2018	<p><b>Cumulative Progress Up to December 2016</b>  <b><u>Sewer Pipe Line</u></b></p> <p><b><u>RCC-NP3 class</u></b></p> <ul style="list-style-type: none"> <li>• Laying of 753 m of 500mm diameter pipes Completed.</li> <li>• Laying of 180 m of 450 mm diameter pipes Completed.</li> <li>• Laying of 832 m of 350 mm diameter pipes Completed.</li> <li>• Laying of 1,189 m of 300 mm diameter pipes Completed.</li> <li>• Laying of 837 m of 250mm diameter pipes Completed.</li> <li>• Laying of 861 m of 150mm diameter pipes Completed.</li> </ul> <p><b><u>uPVC pipes</u></b></p> <ul style="list-style-type: none"> <li>• Laying of 44,432 m of 160 mm diameter pipes Completed.</li> <li>• Laying of 2,122 m</li> </ul>	44.7%	No
---------	---------	--	------------	-----------	------------	---	-------	----

						<p>of 200 mm diameter pipes Completed.</p> <ul style="list-style-type: none"> <li>Laying of 1,735m of 250 mm diameter pipes Completed.</li> </ul> <p><u>Total for Pipeline</u></p> <ul style="list-style-type: none"> <li>Total for Sewer Network pipe of 52,941 m of pipe line work completed.</li> </ul> <p><u>Manholes</u></p> <ul style="list-style-type: none"> <li>Construction of 1,882 manholes Completed</li> </ul> <p><b><u>DI Pumping Main (K-7 Class)</u></b></p> <ul style="list-style-type: none"> <li>Laying of 681 m of 400 mm diameter pipes Completed</li> <li>Laying of 925m of 150 mm diameter pipes Completed.</li> <li>Total 1,606 m of pipe line work completed</li> </ul> <p><u>House service Connection</u></p> <ul style="list-style-type: none"> <li>Total 25,165 m of 110mm pipe line work completed.</li> </ul> <p><b><u>Other Works</u></b></p>		
--	--	--	--	--	--	---	--	--

						<p><b><u>WET WELLS</u></b></p> <ul style="list-style-type: none"> <li>• Wall concreting completed at APMC wet well.</li> <li>• Wall concreting up to ground level completed and Pump house completed up to roof level at Amaravathi wet well.</li> <li>• Wall concreting up to ground level completed and Pump house raft completed and columns CC work under progress at Guttur wet well.</li> </ul> <p><b><u>Sewage Treatment Plant</u></b></p> <ul style="list-style-type: none"> <li>• Key trench Excavation &amp; Formation work under progress. FA-3 Bund Key Trench completed up to FFI Level.</li> <li>• Wall CC details for below mentioned FALs</li> </ul> <p>-FA-2/Wall-A&amp;B, FA-3/Wall-A - Completed.</p> <p>-FA-1/Wall-B Wall</p>		
--	--	--	--	--	--	---	--	--

						<p>Completed @ 3.00Mtr Height</p> <p>-FA-3/Wall-B - Final Lift wall C.C under progress.</p> <ul style="list-style-type: none"> <li>Construction drawings for 72.094 Km issued to the contractor.</li> <li>21 Nos. Aerators columns &amp; 156 Nos. Column Concrete work completed up to pedestal level.</li> </ul>		
Davangere	01DVG01	Expansion of sewerage system (District 1 & 3) for Davangere -203.46 km sewers, 7581 nos. manholes	09.01.2015	36 months	08.01.2018	<p><b><u>Cumulative Progress UptoDecember-2016</u></b></p> <p><b><u>RCC-NP3 pipes</u></b></p> <ul style="list-style-type: none"> <li>Laying of 726 m for 600 mm diameter completed.</li> <li>Laying of 399 m for 500 mm diameter completed.</li> <li>Laying of 604 m for 450 mm diameter completed.</li> <li>Laying of 347 m for 400 mm</li> </ul>	27.76%	No

						<p>diameter completed.</p> <ul style="list-style-type: none"> <li>• Laying of 657m for 350 mm diameter completed.</li> <li>• Laying of 3,335 m for 300 mm diameter Completed.</li> <li>• Laying of 708 m for 250 mm diameter Completed.</li> <li>• Laying of 830 m for 200mm diameter Completed.</li> </ul> <p><u>GSW Pipes</u></p> <ul style="list-style-type: none"> <li>• Laying of 127 m laying of 250 mm pipe completed.</li> <li>• Laying of 34,600 m laying of 200 mm GSW pipe completed.</li> <li>• Laying of 9,773 m laying of 150 mm pipe completed.</li> </ul> <p><u>uPVC Pipes</u></p> <ul style="list-style-type: none"> <li>• Laying of 12 m laying of 160 mm pipe completed.</li> <li>• Laying of 580 m laying of 200 mm pipe completed.</li> <li>• Laying of 14 m laying of 250 mm</li> </ul>		
--	--	--	--	--	--	---	--	--

						<p>pipe completed.</p> <p><u>DWC Pipes</u></p> <ul style="list-style-type: none"> <li>Laying of 5,892 m laying of 200 mm pipe completed.</li> </ul> <p><u>Total for pipeline</u></p> <ul style="list-style-type: none"> <li>Total of 58,602 m of pipe line completed.</li> </ul> <p><u>Manholes</u></p> <ul style="list-style-type: none"> <li>Installation of 2,026 No of manholes completed</li> </ul> <p><u>House service Connection</u></p> <ul style="list-style-type: none"> <li>Laying of 15,475 m of House service connection of 110mm diameter completed.</li> <li>1,540no's of Brick masonry chamber completed.</li> <li>21 no's of Precast RCC receiving chamber completed.</li> </ul> <p><u>Other works</u></p> <ul style="list-style-type: none"> <li>Construction drawings issued for 131.606 Km</li> </ul>		
--	--	--	--	--	--	---	--	--

						as per new Conditional survey to the Contractor. <ul style="list-style-type: none"> <li>Re-confirmatory survey is under progress.</li> </ul>		
Davangere	<b>01DVG01 A</b>	Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP	28.09.2015	24 months	27.09.2017	<u>5 MLD STP SBR TYPE</u> <ul style="list-style-type: none"> <li>Construction of Pump house completed for civil structures.. Water proofing and finishing work is in progress.</li> <li>Construction of Chlorine contact tank completed except for Staircase work.</li> <li>Construction of Toner house completed for civil structures. Flooring work under progress.</li> <li>Construction of Centrifuge platform completed for civil structures. Handrails and Finishing work under progress.</li> <li>Construction of SBR completed</li> </ul>	<b>56.2%</b>	No



						<p>for civil structures. Walkway and finishing work under progress.</p> <ul style="list-style-type: none"> <li>• Construction of admin building completed for civil structures. Plastering &amp; finishing works under progress.</li> <li>• Construction of Primary Treatment Unit completed for civil structures. Hand rail and finishing works under progress.</li> <li>• Construction of Staff quarters completed for civil structures. Brick masonry, plastering works under progress.</li> <li>• Construction of Nallah protection wall completed for 40m and the work is under progress.</li> <li>• Construction of Watchman cabin completed. Finishing works are under progress.</li> <li>• Construction of</li> </ul>		
--	--	--	--	--	--	---	--	--

						<p>ground beam completed and roof beam under progress at Sludge treatment unit.</p> <ul style="list-style-type: none"> <li>• Construction of compound wall completed upto 160m</li> </ul> <p><u>20 MLD STP SBR TYPE</u></p> <ul style="list-style-type: none"> <li>• Construction of Blower room completed for civil structures. Water Proofing and finishing works are under progress.</li> <li>• Construction of Toner room completed for civil structures. Flooring and finishing works are under progress.</li> <li>• Construction of Centrifuge completed for civil structures. Water proofing and finishing works are under progress.</li> <li>• Construction of SBR completed for civil</li> </ul>		
--	--	--	--	--	--	---	--	--

						<p>structures. Walkway and finishing works are under progress.</p> <ul style="list-style-type: none"> <li>• Construction of Chlorine Contact Tank completed for civil structures and baffle wall finishing works are under progress.</li> <li>• Construction of Primary Treatment Unit completed for civil structures. Flooring and finishing works are under progress.</li> <li>• Construction of Sludge Treatment Unit completed for civil structures. Brick masonry completed.</li> </ul>		
--	--	--	--	--	--	--	--	--

9. Other Water supply IEEs status under Tranche 1 of the Program is as follows.

- Improvements to Bulk water supply in Davangere, package number 01WS01- Updated IEE confirmed by ADB on 20 January 2017
- Improvements to 24x7 Water supply scheme to Harihara - Updated IEE covering 01WS02: Bulk water supply and 01WS03: Distribution network - Confirmed by ADB on 17 December 2016.
- Improvements to 24x7 Water supply scheme to Byadgi- Updated IEE covering 01WS02: Bulk water supply and 01WS03: Distribution network - Confirmed by ADB on 9 January 2017.
- 24 x 7 Water supply distribution network to Davangere City–DPR under finalization. IEE under preparation

#### B. Compliance to Safeguard Loan Covenants

10. The loan agreement for KIUWMIP Project 1 was signed on 30<sup>th</sup> December 2014 and available in ADB website (<http://www.adb.org/sites/default/files/project-document/153027/43253-025-lbj.pdf>). **Table 2** provides a summary of compliance to the loan covenants related to environmental safeguards.

**Table 2: Compliance to Loan Agreements (Environmental Safeguards)**

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
Schedule 4 Item 9	<p><b>Procurement of Goods, Works and Consulting Services</b></p> <p><b><u>Conditions for Award of the Contract</u></b></p> <p>The Borrower shall ensure or cause the EA <b>to not award any Works contract</b> for a Subproject which <b>involves environmental impacts</b> until the EA has:</p> <p>a) Obtained the final approval of the IEE from the relevant environment authority of the Borrower and the State, and ADB; and</p> <p>b) Incorporated the relevant provisions from the EMP into the Works contract.</p>	<p>a) Obtained concurrence from ADB for IEE sewerage packages of Davangere, Byadgi &amp; Harihar.</p> <p>b) Incorporated EMP into the works contract of Davangere, Harihara and Byadgi sewerage works.</p>
Schedule 5 Item 10	<p><b>Safeguards -Environment</b></p> <p>The Borrower shall ensure or cause the EA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all projects' facilities comply with (i) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (ii) the Environmental Safeguards; (iii) the EARF; and (iv) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.</p>	<p><b>Under compliance</b></p> <p>Document is prepared by complying all relevant State and National Laws, Safeguard Policy Statement (SPS 2009) of ADB, Environment Assessment Review Framework (EARF) for Tranche-1 program. Same will be followed for subsequent Tranches.</p> <p>For <b>Tranche 1</b> project Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB. IEE has been updated for Byadgi sewage package due to change in scope and treatment technology. Updated Byadgi sewerage IEE report submitted to ADB on 16 December 2016 was accepted by ADB on 16 January 2016. Further review will be conducted at implementation phase.</p> <p>Final design for Harihar UGD and STP</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
		<p>package, Davangere sewerage package and Davangere STP package have been reviewed. IEE and EMP have been updated as per final design and scope at implementation stage. Updated Davangere sewerage package and Harihar sewerage package IEE/EMP accepted by ADB on December 2016 and January 2017 respectively.</p> <p>All safeguard measures and requirements as prescribed in IEE/EIA and EMP being considered during implementation.</p> <p>Corrective or preventive action plans including personal protection will be reflected in Environment Monitoring Report and project implementation authority will be taken care.</p>
Schedule 5 Item 14	<p>Human and Financial Resources to Implement Safeguards Requirements</p> <p>The Borrower shall make available, or cause the EA to make available, all necessary budgetary and human resources to fully implement the EMP required.</p>	<p><b>Complied</b></p> <p>Budgetary provisions have been included in EMP of Tranche 1 sub projects.</p> <p>Environment Engineer (Asst. Executive Engineer) is placed in PMU</p> <p>Human resource (project consultant, i.e Environmental Specialist of PMDCSC) for implementation of EMPs is in place for regular compliance.</p>
Schedule 5 Item 15	<p>The Borrower shall ensure, or cause the EA to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures and requirements relevant to the contractor set forth in the IEE, the EMP, the RP and the IPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report;</p>	<p><b>Under compliance</b></p> <p>(a) Approved IEE, EMP for Tranche 1 project is attached in Bidding documents. This process will be followed for all the sub projects within the present Tranche and subsequent Tranche.</p> <p>In case of any change of scope, revised IEEs, EMPs will be prepared and corrective measures will be disclosed to contractor and same will be reflected in the "Environment Monitoring Report"</p> <p>For <b>Tranche 1</b> project Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB. IEE has been updated for Byadgi sewage package due to change in scope and treatment technology. Updated Byadgi sewerage IEE report submitted to ADB on 16 December 2016 was accepted by ADB on 16 January 2016. Further review will be conducted at implementation phase.</p> <p>Final design for Harihar UGD and STP</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>(b) make available a budget for all such environmental measures;</p> <p>(c) provide the EA with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, the RP or the IPP;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p>package, Davangere sewerage package and Davangere STP package have been reviewed. IEE and EMP have been updated as per final design and scope at implementation stage. Updated IEE for Harihar UGD and STP accepted by ADB on 13<sup>th</sup> January 2017</p> <p>Updated IEE for Davangere and STP accepted by ADB on 16<sup>th</sup> December 2016.</p> <p>Corrective actions were taken on the contractor regarding 1) To ensure PPE at all ongoing sites 2) To ensure separate sanitation facility for men &amp; women and 3) arrangement of public safety and 4) camp site management</p> <p>(b) IEE indicates budgetary provisions for implementation of EMP <b>Appendix 3</b> shows budgetary provision for safeguard implementation under different packages</p> <p>(c) With the development of sub project and implementation, in case of additional impacts/risks due to change in scope/area, that will be reflected in the revised IEEs, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Agency for taking relevant corrective measures. Till date no unanticipated environmental risks or impacts reported</p> <p>(d) Haul roads will be marked properly (by avoiding residences and agricultural land) before commencement of transportation of materials.</p> <p>(e) Pathways, land which are likely to be affected for a short period during implementation of the sub project will be restored by concerned construction agency before acceptance of the work. Restoration status will be reflected in post construction monitoring report</p>
Schedule 5 Item 16	<p>Safeguards Monitoring and Reporting</p> <p>The Borrower shall cause the EA to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring</p>	<p><b>Under compliance</b></p> <p>(a) This is 4<sup>th</sup> semi-annual Safeguards</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any breach of compliance with the measures and requirements set forth in the EMPs, promptly after becoming aware of the breach.</p>	<p>Monitoring Report is prepared for the period July to December 2016,</p> <p>3<sup>rd</sup> SEMR for the period Jan-June 2016 was approved by ADB on 21<sup>st</sup> Nov 2016 and disclosed on KUIDFC website and respective ULB Websites</p> <p>(b) With the development of project and implementation, in case of additional impacts/risks due to change in scope/area, will be reflected in revised IEEs, EMPs and accordingly Executing Agency (EA) will inform the ADB along with corrective action plan which will be reflected in the Monitoring Report.</p> <p>(c) in case of any breach of compliance with the measures and requirements set forth in the EMP; EA will promptly inform ADB and suitable corrective action plan will be planned.</p>
Schedule 5 Item 17	<p><b>Prohibited List of Investments</b></p> <p>The Borrower shall ensure or cause the State to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p><b>Complied</b></p> <p>Under Tranche -1, there is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.</p> <p>Same will be followed in subsequent Tranches</p>
Schedule 5 Item 18	<p><b>Other Social Measures</b></p> <p>The EA shall ensure that civil works contracts under the Project follow all applicable labor laws of the Borrower and the State, and that these further include provisions to the effect that contractors: (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts will also include clauses for termination in case of any breach of the stated provisions by the contractors.</p>	<p><b>Complied in document and during implementation</b></p> <p>Provision are included (as per EMP &amp; BID document) to carry out HIV/AIDS awareness programs for construction contractor, application of all relevant labour laws for health and safety including child labour law and engagement of local labours (preferably from economically backward group) covering women labours.</p> <p>In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken.</p> <p>All activities including awareness program will be reflected in "Monitoring Report".</p>

### C. Implementation Arrangement

11. Overall Implementation Arrangement. Karnataka Urban Infrastructure Development & Finance Corporation (KUIDFC) is the Executing Agency (EA) responsible for implementing the

Investment Program. Investment Program implementation activities is monitored by KUIDFC through a separate Investment Program Management Unit (PMU) for the IWRM Project, which setup within KUIDFC.

12. At the Executing Agency (i.e. KUIDFC), environmental issues will be coordinated centrally by an Environmental Specialist (Designated as Assistant Executive Engineer–Environment), reporting to the Task Manager, Assistant Executive Engineer– Environment will ensure that all subprojects comply with environmental safe guards. The IEE/ EIA reports prepared by the Consultant, and will be reviewed by the Assistant Executive Engineer–Environment as per the ADB's Environmental Guidelines and forwarded to ADB for review and approval.

13. The consultant team includes an Environmental Specialist to supervise the implementation of environmental safeguards at the divisional level. The consultant team also includes a Construction Supervisor at each ULB/CMC/TMC responsible for the supervision of project implementation including environmental safeguards at the ULB/CMC/TMC level.

14. The contractor shall appoint one supervisor (environment & safety officer)who will be responsible on a day-to day basis for i) ensuring implementation of EMP ii) Coordinating the CS Engineer and environment specialists(all levels) iii) community liaison, consultation with interested/affected parties and grievance redressal and iv) reporting.

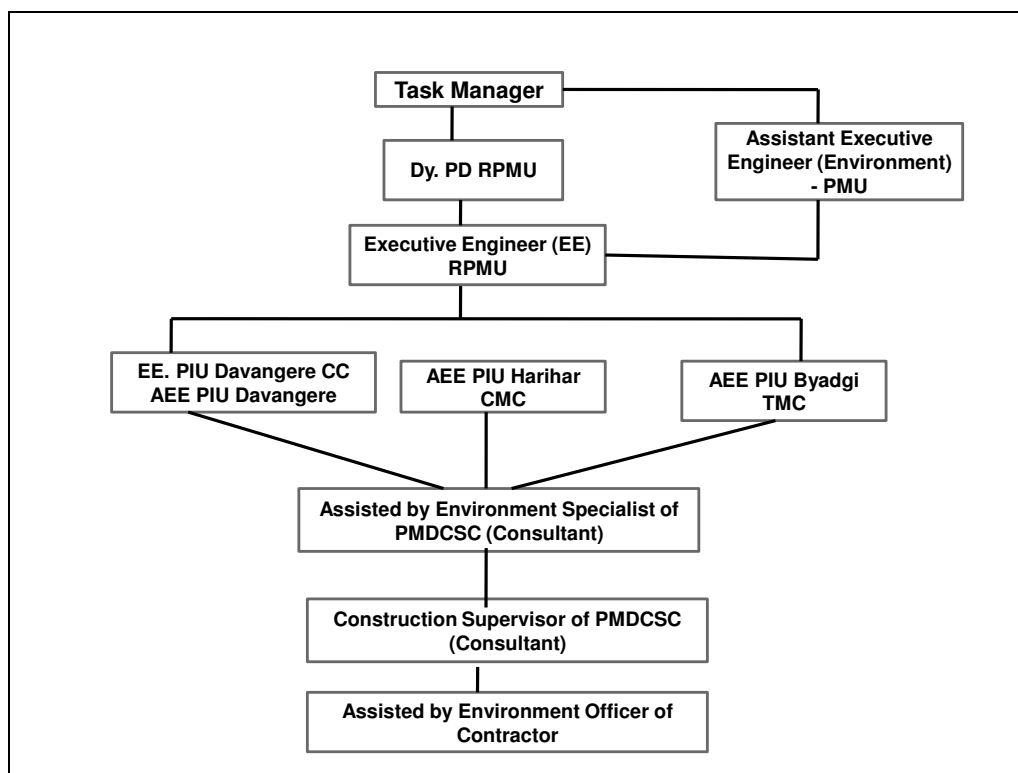
15. **Reporting arrangement.** Construction contractor monitoring safeguard implementation daily basis, while construction Supervisor (Resident Engineer) reviewed safeguard implementation weekly. After review they advised construction contractor for corrective measures. Monthly report summarizing observation, compliance & corrective measures is prepared by Environment Specialist of consultant on monthly basis. Then reports are forwarded from PIU to PMU for their observation and record. Based on monthly reports and site observations, Assistant Executive Engineer (Environment) of PMU, will review and consolidated the semi annual environment monitoring report for onward submission to ADB. **Table 3** shows activity and responsibility on safeguard implementation.



**Table 3: Activity, Roles and Responsibility – Safeguard Implementation**

<b>Investment Program Phase</b>	<b>Activity</b>	<b>Details</b>	<b>Responsible Agency</b>
<b>Pre construction phase</b>	Investment Program Categorization	Conduct Rapid Environmental Assessment (REA) for each subcomponents using REA checklists	ULB
		Reviewing the REA and assigning Investment Program category (A/B/C) based on KIUWMIP Environmental Assessment Guidelines and ADB Guidelines	PMU
	Conducting EA	Conducting IEE / EIA based on the Investment Program categorization Conducting Public Consultation and information disclosure Preparation of IEE / EIA	PMDCS consultant
	Investment program clearances	Fulfilling GoK/Gol requirement such as clearances from other Government Agencies	ULB
	Review of EIA/IEE	Reviewing the EIA/IEE Reports to ensure compliance thereof as per ADB Guidelines and approval of the same	PMU
	Disclosure of EIA/IEE	Information disclosure - IEE/EIA reports should be made available to the public, and on request IEE/EIA also made available.	ULB
	Incorporation of mitigation measures into Investment Program design	Incorporation of necessary mitigation measures identified in IEE/EIA in Investment Program design and in contract documents.	PMDCS consultant
	Review of design documents	Review of design and contractual documents for compliance of mitigation measures	PMDCS consultant
<b>Construction Phase</b>	Implementation of mitigation measures	Implementation of necessary mitigation measures	Contractor
	Environmental Monitoring	Environmental monitoring as specified in monitoring plan during construction stage; Monitoring of implementation of mitigation measures	PMDCS consultant
	Preparation of progress reports	Preparation of monthly progress reports to be submitted to PMU including a section on implementation of the mitigation measures	PMDCS consultant
	Review of progress reports	PMU to review the progress reports, consolidate and send to ADB review	PMU
<b>Operation Stage</b>	Environmental Monitoring	Conducting environmental monitoring, as specified in the environmental monitoring plan.	ULB/ Contractor
	Compliance Monitoring	Compliance monitoring to review the environmental performance of sub-project component, if required and as specified in Monitoring Plan.	KSPCB

16. **Figure 2** shows the implementation arrangement for environment safeguard. PMU includes a full-time Assistant Executive Engineer (Environment). As on 31<sup>st</sup> December 2016 position of Assistant Executive Engineer (Environment) is filled up and also Environment Specialist of PMDCSC (Program Consultant) has been placed.



EE: Executive Engineer, AEE: Assistant Executive Engineer

**Figure 2: KIUWMIP Safeguards Implementation Arrangement**

17. **Table 4** shows detail of environment safeguard team for KIUWMIP. Environment Specialist of PMDCSC and Asst. Executive Engineer (Environment) KIUWMIP-KUIDFC visit to project site almost every month to review EMP implementation. Date of visit included in compliance table 7 to 10. ADB's Environment specialist visit to the project sites on 14<sup>th</sup> September to review implementation of EMP.

**Table 4: Details of KIUWMIP Environmental Safeguard Team**

Designation	Name and Contact Details
Asst. Executive Engineer (Environment) KIUWMIP-KUIDFC Project Management Unit	<b>Name:</b> Mr.K.M.Gurupadaiah <b>Office Address</b> Karnataka Urban Infrastructure Development & Finance Corporation Ltd Urban Infrastructure Bhavan Building, #22, 17 'F' Cross Binnamangala, 2nd Stage, Old Madras Road Indiranagar, Bangalore – 560 038. <b>Phone:</b> 080-22232021,, 09632717930 <b>Email:</b> Gurupadaiah@kuidfc.com
Assistant Engineer, AE, PIU, Davangere, Package 01DVG01 In-charge Environment safeguard compliance	<b>Name:</b> Shri.M.K.Banakar <b>Office Address:</b> KUIDFC-KIUWMIP #1976/9, Corporation zonal office besides Ashraya Hospital, Shamnur road, Mcc 'a' block, Davangere-04

<b>Designation</b>	<b>Name and Contact Details</b>
	<b>Phone:</b> 07676190997 <b>Email:</b> piukiuwmp.dvg@gmail.com
Assistant Engineer, AE, PIU, Davangere, Package 01DVG01A In-charge Environment safeguard compliance	Name: Shri.M.K.Banakar <b>Office Address:</b> KUIDFC-KIUWMIP #1976/9, Corporation zonal office besides Ashraya Hospital, Shamnur road, Mcc 'a' block, Davangere-04 <b>Phone:</b> 09535077449 <b>Email:</b> piukiuwmp.dvg@gmail.com
Assistant Engineer, AE, PIU, Harihar, Package 01HRA01 In-charge Environment safeguard compliance	Name: Shri.Thammaiah gowda <b>Office Address:</b> KUIDFC-KIUWMIP Harihara City municipal Council <b>Phone:</b> 09482396067 <b>Email:</b> ksgowdar@gmail.com
Assistant Engineer,, AE, PIU, Byadgi, Package 01BDG01 In-charge Environment safeguard compliance	Name: Shri.Manjunatha Boodagatti <b>Office Address:</b> KUIDFC-KIUWMIP Byadgi Town municipal Council <b>Phone:</b> 09035533303 <b>Email:</b> aeekiuwmpbyadgi@gmail.com
PMDSC, Environment Specialist	<b>Name:</b> Dr. Ardhendu Mitra <b>Office Address:</b> PMDCSC, KUIDFC-KIUWMIP #1976/9, Corporation zonal office besides Ashraya Hospital, Shamnur road, Mcc 'a' block, Davangere-04 <b>Phone:</b> 09830415953 <b>Email:</b> ardhendumitra@gmail.com , gkw.Davangere@gmail.com
PMDSC, Support staff – Environment monitoring	Name: Mr. Vishal Shenoy <b>Office Address:</b> PMDCSC, KUIDFC-KIUWMIP #1976/9, Corporation zonal office besides Ashraya Hospital, Shamnur road, Mcc 'a' block, Davangere-04 <b>Phone:</b> 09886775454 <b>Email:</b> ranjalshenoy.vishal@gmail.com gkw.Davangere@gmail.com
Simplex Infrastructure Ltd. Contractor – Package 01DVG01 Environment Safety Officer	<b>Name:</b> Mr. Dinesh <b>Office Address:</b> Door No. 314, 3 <sup>rd</sup> Main, 1 st cross S. Nijjalinguppa layout, Davangere <b>Phone:</b> 7813979473, 08192297044 <b>Email:</b> md.eunush@simplexinfra.com
HNB Engineers Pvt. Ltd Contractor – Package DVG01A Environment Safety Officer	<b>Name:</b> Mr. Nishant C Kolambkar <b>Office Address:</b> #3370/11-12, 1st Cross MCC "B" Block, Shamanur Road, Near Lakshmi Flour Mill Davangere-577 004, State Karnataka <b>Phone:</b> 9448282479 <b>Email:</b> davanageresite@hnbc.in
Shriram EPC Ltd. Contractor – Package 01HRA01 Environment Safety Engineer	<b>Name:</b> Mr. Vigneshwara <b>Office Address:</b> 54 B Block, Amaravati Housing Board Colony, Harihar 577601, Davangere Dist. <b>Phone:</b> 9443217193 <b>Email:</b> vigneshwara@shriramepc.com

Designation	Name and Contact Details
Shriram EPC Ltd- Eurotek Environment Limited ( JV) Contractor – Package 01BDG01 Environment Safety Engineer	<b>Name:</b> Mr. C Anandharaj <b>Office Address:</b> #37, Navale house, opp to Nava chaitanya school, 4th cross, Nehru nagara, Byadgi- 5881106. <b>Phone:</b> 09148976809 <b>Email:</b> anandtkvl@gmail.com

18. Contractor team carried out regular environment monitoring. Budget for environment monitoring is disclosed in **Appendix 3**.

### III. ENVIRONMENTAL PROCEDURE REVIEW

#### A. Environmental Legal Requirement

19. **Table 5** provides a list of national and state laws, rules, policies and regulations applicable to KIUWMIP Project 1.

**Table 5: Environmental Legal Requirements Applicable to KIUWMIP Project 1**

Component	Applicable Legislation	Compliance	Action Required for Project 1 Subprojects
1. Tree felling – if required	Karnataka Preservation of Trees Act, 1976 and Karnataka Preservation of Trees Rules, 1977	This Act has put restriction on felling of trees in the State unless until permitted by the Forest Officer. None of the components of this sub project require cutting of trees as per present design. If required permission will be taken.	Compensatory plantation as per rule
2. Sewage Treatment Plant (STP)	Water (Prevention and Control of Pollution) Act 1974 Air (Prevention and Control of Pollution) Act of 1981, Rules of 1982 and amendments.	Consent for Establish (CFE) and Consent for Operate (CFO) from Karnataka State Pollution Control Board (KSPCB), Government of Karnataka In addition for the project, the following will require CFE and CFO from KSPCB: (i) diesel generators; (ii) hot mix plants; and (iii) stone crushers, if installed for construction.	Based on project review and site inspection, KSPCB provides CFE before construction, and stipulates the disposal standards to be met during operation. After completion of construction, CFO is issued confirming compliance with the CFE conditions, if any Compliance against CFE condition is attached as <b>Appendix 4</b>
		Renewal of CFO during operation of STP	Based on the performance of the STP and its compliance with the disposal standards CFO to be renewed every year.

**B. Compliance with Environmental Legal Requirements (Consents & Statutory clearances)**

20. **Table 6** provides the status of compliance of subprojects to national and state laws, rules, policies and regulations applicable to KIUWMIP Project 1.

**Table 6: Status of Compliance with National and State Legal Requirements (31<sup>st</sup> December 2016)**

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
Harihar	01HRA01	Expansion of the sewerage network (72.16 km sewers, 2640 nos. manholes, 4 nos. pumping stations, 18 MLD Sewage Treatment Plant)	Water (Prevention and Control of Pollution) Act 1974 Consent for Establish (CFE) from Karnataka State Pollution Control Board (KSPCB), Government of Karnataka for expansion of STP from 8.84 MLD to 18 MLD	CFE for expansion of STP received on 22 January 2015 validity period – 5 years	Compliance against CEF condition is attached in <b>Appendix 4</b>
			Statutory permission from State Highways Authority for road cutting	NA	-
			Statutory permission from Irrigation Dept. – work under jurisdiction of Irrigation	NA	-
			Labour licence under The Contract Labour (Regulation & Abolition) Act, 1970. (Central Act w.e.f. 07-09-70)	Approved on 15 June 2015 and is valid for one year. Renewal has been done on 14.06.2016 and which valid upto 14.06.2017	Labour licence enclosed as <b>Appendix 5</b>
			Labour compensation	Received. Validity upto	Labour compensation

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
			insurance	25.06.2017	insurance certificate attached as <b>Appendix 6</b>
Davangere	01DVG01	Expansion of sewerage system (District 1 & 3) for Davangere - 203.46 km sewers, 7581 nos. manholes	Statutory permission from Indian Railways - work on the land under their Jurisdiction	Concurrence obtained in January 2015	Supervision charges remitted
			Statutory permission from National Highways Authority for road cutting	Concurrence obtained in Feb 2015	Supervision charges to be remitted
			Labour licence under The Contract Labour (Regulation & Abolition) Act, 1970. (Central Act w.e.f. 07-09-70)	Approved on 24 Feb 2015 and is valid for one year. Renewal has been done on 23.02.2016 and which valid upto 23.02.2017	Labour licence enclosed as <b>Appendix 5</b>
			Labour compensation insurance	Received. Validity upto 06.07.2017	Labour insurance certificated attached as <b>Appendix 6</b>
Davangere	01DVG01A	Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP at Shiva nagar, Davangere Taluk & DBO for 5 MLD SBR STP at Avaragere village at Davangere Taluka	Water (Prevention and Control of Pollution) Act 1974 Consent for Establish (CFE) from Karnataka State Pollution Control Board (KSPCB), Government of Karnataka for establishment of 20 and 5 MLD STP Also requirement of CFE for	CFE for both 20 MLD and 5 MLD received on 25 <sup>th</sup> February 2015 and validity period of CFE – 5 years i.e 25 <sup>th</sup> February 2020  CFE needs to be collected from Pollution Control Board for setting up Batching plant. For getting consent for 2	Compliance against CEF condition is attached in <b>Appendix 4</b>  Concrete Batching plant with consent condition attached as <b>Appendix 7</b>

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
			Batching plant	Batching plants online application submitted to pollution control board. Consent received on 24.06.2016, which valid for 2 years	
			Labour licence under The Contract Labour (Regulation & Abolition) Act, 1970. (Central Act w.e.f. 07-09-70)	Approved on 05.11.2015 and is valid for one year, i.e 05.11.2016. Renewal has been done for the package and which valid upto 04.11.2017	Labour licence enclosed as <b>Appendix 5</b>
			Labour compensation insurance	Received on 03.10.2016 and valid upto 02.10.2017	Labour insurance certificated attached as <b>Appendix 6</b>
Byadgi	<b>01BDG01</b>	Design, Build, Operate & Maintain for 6 years for Byadgi comprehensive scheme from covering SBR type STP (5 MLD), network (82.2 km), and 3202 manholes, construction of one septic tank (275 users, 0.03 ML) and provision of 6,206 nos HSCs	Water (Prevention and Control of Pollution) Act 1974 Consent for Establish (CFE) from Karnataka State Pollution Control Board (KSPCB), Government of Karnataka for 5MLD SBR Type STP from	CFE for 5 MLD STP obtained from KSPCB on 12.07.2016	CFE attached in <b>Appendix 4</b> . Compliance report will be prepared after finalization of the design. Major condition for compliance is given below the Table
			Labour licence under The Contract Labour (Regulation & Abolition) Act, 1970. (Central Act w.e.f. 07-	Work just started. Application has been done for getting labour license	Needs to be obtained at earliest

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
			09-70)		
			Labour compensation insurance	Received and which effective from December 2016 for one year Labour compensation received by JV company Insurance validity upto 25.06.2017	Labour insurance certificated attached as <b>Appendix 6</b>

Note: Permissions will be obtained on utilities like BSNL, BESCOM as & when required

Byadgi STP CFE major condition-

- There is requirement from the Town Municipal Council (TMC) to ensure that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt shall be developed around the STP site
- The TMC shall treat sewage to the standards (attached CFE in Appendix 2) stipulated The TMC shall utilize the treated sewage for irrigation purpose after treating the same to the stipulated standards
- The solid wastes collected in the treatment plant premises in the form of general garbage shall be disposed off sufficiently to the satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind
- The authority shall immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities shall immediately take appropriate corrective and preventive actions under intimation

#### IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

21. Civil works (mainly pipe laying and construction work) started for all the awarded packages. Site-specific EMP was prepared by the contractor and submitted to PMDCSC for approval. Sample site specific EMP is attached as **Appendix 8**

22. Daily, weekly and monthly monitoring is continued for all the packages. The overall compliance status for all the 4 packages during report period is satisfactory. Improvement is noted for all the running packages. Compliance status of mitigation measures against impact field is given in **Table 7 to 10**.

23. There are few partial compliance status has been noted for the running packages.

- Advance information to the locals and shopkeepers at pipe laying area of Davangere and Harihar is not always provided. Time period for construction work for particular area and contact details of PIU, consultant in project display board for any grievances or suggestion should be included



- EMP implementation induction for workers of sewage treatment plant and tool box training at Davangere STP project is not regular. Proper recording of toll box training is also missing
- Need to improve use of PPE by contractor's workers. Use of PPE should be at all times as per site condition and work type. Particularly use of ear plugs by the equipment operator during operation of concrete road breaker is not done
- Disposal of excess earth/ spoil not done on regular basis particularly for Harihar UGD package
- Improvement of labour camp housekeeping at Harihar STP location is the issue
- PUC certificates need to be collected for Byadgi UGD and STP package
- Arrangement of labour camp for Byadgi UGD & STP package

**Table 7: Compliance to EMP of the Package- Sewage System in Davangere City, (District 1 & 3), Package No. 01DVG01**

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
<b>Design &amp; Pre Construction phase</b>								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> <li>Limit the sewer depth where possible.</li> <li>Sewers shall be laid away from water supply lines and drains(at least 1m, wherever possible)</li> </ul>	Design report	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer PIU	Continuous	Complied as and when required
Disturbance/ damage to existing utilities on the sites (Telephone lines, electric poles and wires, water lines within proposed project sites)	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> <li>In case of disruption of water supply, alternative supply ,through tankers shall be provided</li> </ul>	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist/ PIU	Before start of physical work & Continuous	Complied in design and as & when required Utility services are being restored on the same day or least possible time.
Construction work camps, stockpile areas, storage areas, and disposal areas (disruption to traffic flow and sensitive areas and receptors)	<ul style="list-style-type: none"> <li>Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas</li> <li>Prioritize areas within or nearest possible vacant space in the sub project location</li> <li>Non use of residential area</li> <li>Arrangement of toilet and drinking water facility</li> <li>No disposal of waste in water</li> </ul>	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas	Proposed camp site	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Complied. Labour camp construction – done Stockpile and storage areas selected within camp area and construction locations. Access to labour camp improved No hot mix plant is required
Emergencies such as leaks, overflows, bursts	<ul style="list-style-type: none"> <li>Develop Emergency Response Plan for all emergencies such as leaks, overflows, burst</li> </ul>	<ul style="list-style-type: none"> <li>Emergency response plan</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Not required now
<b>Construction</b>								
Impacts due to	Prepare and submit a	Document related to	Working	Contractor	Observation	PMDSC's	Daily by	Complied mostly

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
excess excavated earth, excess construction materials, solid waste etc. Occupational hazards which can occur to workers and public during work.	Construction Management Plan, every month, Which cover location map, use of PPE, materials management, waste management, personal safety arrangement etc.	construction management format	locations		and document checking	Environment Specialist and Construction supervisor	construction supervisor- Resident Engineer Weekly / bi weekly by Construction Manager.  Verification by Environment Specialist of PMDCSC and Asst .Executive Engineer (Environment) KIUWMIP- KUIDFC 01.07.2016 02.07.2016 14.09.2016 15.09.2016 21.09.2016 22.09.2016 05.11.2016 07.11.2016 08.11.2016 09.11.2016 29.12.2016 30.12.2016 31.12.2016	Excess excavated soil after back filling is reused to fill trenches if any or shifted from the sites.
Extraction of materials can disrupt natural land contours and vegetation resulting in	<ul style="list-style-type: none"> <li>Contractor should obtain material from existing mines approved / licensed by Mines and Geology Department /Revenue Department.</li> </ul>	<ul style="list-style-type: none"> <li>List of approved quarry sites and sources of materials</li> <li>Bid document to</li> </ul>	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Under Compliance. All materials procurement certified by implementation agency

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	<ul style="list-style-type: none"> <li>Verify suitability of all material sources and obtain approval of implementing agency</li> <li>No new quarry sites shall be developed for the sub project purpose</li> <li>Submit a monthly statement of construction material procured indicating material type, source and quantity.</li> </ul>	<ul style="list-style-type: none"> <li>include requirement for verification of suitability of sources and permit for additional quarry sites if necessary</li> <li>Construction Contractor documentation</li> </ul>						
Dust and emissions from construction activity may degrade the air quality	<ul style="list-style-type: none"> <li>Consult with PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials;</li> <li>Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather;</li> <li>Bring materials (aggregates, sand, etc gravel) as and when required;</li> <li>Use tarpaulins to cover sand and other loose material when transported by vehicles;</li> <li>Clean wheels and undercarriage of vehicles prior to leaving construction site</li> <li>Ensure valid Pollution Under Control (PUC) Certificates for all vehicles and equipment used in the construction activity</li> </ul>	<ul style="list-style-type: none"> <li>Location of stockpiles</li> <li>Complaints from sensitive receptors</li> <li>Monitoring data</li> <li>Heavy equipment and machinery with air pollution control</li> <li>Water sprinkling arrangement</li> <li>Cover materials</li> </ul>	All construction on site, stockpile areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Excavated earth is used to refill the trench. Materials are brought to the site whenever necessary covered by tarpaulin. Water sprinkling is not required at present. Will be done as and when required</p> <p>Air quality monitoring done during the report period.</p> <p>Result certificate is attached as <b>Appendix 9</b></p> <p>PUC certificates are obtained</p>
High noisy construction activities may have adverse	<ul style="list-style-type: none"> <li>Plan activities in consultation with the PIU so that activities with the greatest potential to generate noise are conducted</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> <li>Use of silencers</li> </ul>	All construction on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection</li> </ul>	PMDCSC's Environment Specialist and	Do	Complied mostly Construction work limited to day time only

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
impacts on sensitive receptors and structures	<ul style="list-style-type: none"> <li>during periods of the day which will result in least disturbance;</li> <li>Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town;.</li> <li>Provide prior information to the local public about the work schedule;</li> <li>Ensure that there are no old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk,</li> <li>Cut the rocks manually by chiselling;</li> <li>Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s</li> </ul>	<ul style="list-style-type: none"> <li>in noise-producing equipment and sound barriers</li> <li>Monitoring data</li> </ul>			of sites	Construction supervisor		<p>Prior information is not always provided to locals No such noise producing machinery mobilized at site Noise quality monitoring is done during the report period</p> <p>Result certificate is attached as <b>Appendix 9</b></p>
Impacts on surface drainage and water quality due to contaminated runoff from construction areas in monsoon	<ul style="list-style-type: none"> <li>Avoid stock piling of earth file specially during the monsoon season unless covered by tarpaulins or plastic sheets</li> <li>Stock piles shall be provided with temporary bunds</li> <li>Prioritize re-use of excess spoils and materials in the construction works.</li> <li>Place storage are as for fuels and lubricants away from any drainage leading to water bodies</li> <li>Dispose any wastes generated by construction activities in designated sites</li> </ul>	<ul style="list-style-type: none"> <li>Areas for stockpiles, storage of fuels and lubricants and waste materials</li> <li>Number of silt traps installed along drainages (in slope) leading to water bodies</li> <li>Utilization of spoils</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Stockpiling avoided as far as possible Fuel and lubricants stored separately Wastes dispose as per advice of engineer. Improvement noted No water bodies nearby the present construction sites</p>
Impacts on landscape and aesthetics due to	<ul style="list-style-type: none"> <li>Prepare and implement Waste Management Plan—it should present how the</li> </ul>	<ul style="list-style-type: none"> <li>Waste Management List</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual</li> </ul>	PMDSC's Environment Specialist	Do	Complied mostly Excess earth stockpiled and

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
construction activity	<p>surplus waste generated will temporarily stocked at the site, transported and disposed properly. The Waste Management Plan will be part of the Construction Management Plan.</p> <ul style="list-style-type: none"> <li>Avoid stock piling of excess excavated soils as far as possible</li> <li>Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> <li>PMU/PIU/PMD CSC to report in writing that the necessary environmental restoration work has been done</li> </ul>			inspection of sites	and Construction supervisor		reused. Spoil management plan will be applied as per EMP (Attached as <b>Appendix 10</b> )
Damage to protected structures due to construction along the areas near to protected monuments	<ul style="list-style-type: none"> <li>All necessary and adequate care should be taken to minimize the impact on protected properties. If articles such as fabrics, coins, artefacts, structures or other geologically or archeologically important materials are discovered, the excavation should be stopped and the Archaeological Department should be intimated at the earliest and all the articles received during the sewer laying should be handed <b>over to ASI</b></li> <li>PMDSC should include the above instruction in the contract document.</li> </ul>	Chance find protocol	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Not yet arise. Action will be taken as per requirement</p> <p>Instruction has been given to all workers on chance find</p>
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> <li>Plan pipeline (sewer lines) work in consultation with the traffic police</li> <li>Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> <li>Complaints from sensitive receptors</li> <li>Number of</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Construction works are completing in least possible time.</p> <p>Sign board and Traffic diversion</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<ul style="list-style-type: none"> <li>minimum possible time;</li> <li>Provide for immediate consolidation of back filling material to desired compaction- this will allow immediate road restoration and therefore will minimised is turbance to the traffic movement;</li> <li>Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on one line;</li> <li>In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions;</li> </ul>	signage's placed at subproject location.						<p>boards are placed mostly Caution tape – noted Alternative routes provided in case of road closure</p> <p>Traffic Management plan is attached as <b>Appendix 11</b> Site photo attached as <b>Appendix 2</b></p>
Impact on sensitive receptors- Schools, hospitals and religious places	<ul style="list-style-type: none"> <li>No material should be stocked in this area; material shall be brought to the site as and when required</li> <li>Conduct work manually with small group of workers and less noise; minimize use of equipment and vehicles</li> <li>No work should be conducted near the religious places during religious congregations</li> <li>Material transport to the site should be arranged considering school timings; material should be in place before school starts;</li> <li>Notify concerned schools, hospitals etc 2 weeks prior to the work;</li> <li>conduct a 30 minutes awareness program at on</li> </ul>	<ul style="list-style-type: none"> <li>Materials storage strategy</li> <li>Complaints from sensitive receptors</li> <li>Construction strategy near sensitive areas</li> </ul>	All construction on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Complied Schools, Hospitals and religious places were notified before the work.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>nature of work, likely disturbances and risks and construction work, mitigation measures in place, entry restrictions and dos and don'ts</p> <ul style="list-style-type: none"> <li>Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites.</li> </ul>							
Socio-Economic: Livelihood Impediment of access to houses and business	<ul style="list-style-type: none"> <li>Leave space for access between mounds of excavated soil</li> <li>Provide wooden planks / foot bridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required</li> <li>Consult affected business people; inform them in advance when work will occur</li> <li>Address livelihood issues; implement the Resettlement Plan(RP) to address these issues</li> <li>Provide sign/ caution/ warning boards at work site indicating work schedule and traffic information; prevent public entry into work sites through barricading and security; and</li> <li>Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints.</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangement</li> <li>Complaint from sensitive receptors</li> <li>Sign board/ caution board availability with required information</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Advance information are not always given to the shopkeepers</p> <p>Sign board provided at most of the working locations. Instruction given for improvement. Time of construction not informed in the board Site photo in <b>Appendix 2</b></p>
Socio-Economic: Employment generation	Employ at least 50% of the labour force, or to the maximum extent, local persons if man power is	Employment record	All construction sites	Contractor	Checking of records	PMDSC's Environment Specialist	Do	Complied. Mostly local people are employed where



Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	available Procure construction materials from local market.					and Construction supervisor		ever possible.
Workers occupational health & safety	<p>(i) Develop and implement site-specific Health and Safety (H&amp;S) Plan which will include measures such as:</p> <p>(a) excluding public from the site;  (b) ensuring all workers are provided with and use Personal Protective Equipment like helmet, gum boot, gloves, nose mask and earplugs;  (c) H&amp;S Training for all site personnel;  (d) documented procedures to be followed for all site activities; and  (e) documentation of work-related accidents;  (ii) Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU;  (iii) Ensure H&amp;S plan is easily understandable to workers and labourers. Keep in mind that this plan will be used on-site and workers/labourers may not always understand highly technical terms;  (iv) Strict compliance of H&amp;S plan and requirements of wearing personal protective equipment (PPE) during work hours;  (v) Provide specific guidance for suitable PPE for every on-site work assignment  (vi) Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the project site;  (vii) Provide medical insurance</p>	<ul style="list-style-type: none"> <li>• Site-specific Health and Safety (H&amp;S) Plan</li> <li>• Equipped first-aid stations;</li> <li>• Medical insurance coverage for workers</li> <li>• Number of accidents</li> <li>• Supplies of potable drinking water;</li> <li>• Record of H&amp;S orientation trainings</li> <li>• Personal protective equipments</li> <li>• Sign boards for hazardous areas such as energized electrical devices and lines, service rooms</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>• Checking of records</li> <li>• Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Health and safety measures are followed. PPEs are given to the workers but used partially. Instruction has been given to contractor for improvement First aid box available at 1 working locations Tool box training for workers done Drinking water available at working sites Site photo attached in <b>Appendix 2.</b></p> <p>Internal training document sample copy attached in <b>Appendix 12</b></p> <p>Insurance arranged for the labourer. Attached as <b>Appendix 6</b></p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>coverage for workers;</p> <p>(viii) Secure all installations from unauthorized intrusion and accident risks;</p> <p>(ix) Provide supplies of potable drinking water at working sites;</p> <p>(x) Provide clean eating areas where workers are not exposed to hazardous or noxious substances; and</p> <p>(xi) Provide H&amp;S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;</p> <p>(xii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;</p> <p>(xiii) Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;</p> <p>(xiv) Ensure moving equipment is out fitted with audible back- up alarms;</p> <p>(xv) Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors,</p>							

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	and the general public as appropriate; and (xvi) Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.							
Community Health & safety	<ul style="list-style-type: none"> <li>• Provide wooden bracing for all deep excavations (&gt;2m); identify buildings at risk prior to start of excavation work and take necessary precautions for safe work</li> <li>• Plan material and waste routes to avoid times of peak-pedestrian activities</li> <li>• Liaise with Davangere CMC in identifying risk areas on route cards/maps; identify buildings at risk prior to start of excavation work and take necessary precautions for safe conduct of work</li> <li>• Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure</li> <li>• Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads</li> <li>• Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic Management Strategy</li> <li>• Complaints from sensitive receptors</li> </ul>	All construction sites	Contractor	Visual inspection	PMDSC's Environment Specialist and Construction supervisor	Do	Caution tape provided at excavation areas, Improvement noted Road signage noted Transportation of materials done as per convenient time without disturbing locals
Temporary	• Establishment of temporary	• Complaints from	All	Contractor	Site	PMDSC's	Do	Complied.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
worker camps	camps with drinking water, sanitary and solid waste management arrangement <ul style="list-style-type: none"> <li>Train employees in the storage and handling of materials</li> <li>Remove all wreckage, rubbish, or temporary structures</li> </ul>	sensitive Receptors <ul style="list-style-type: none"> <li>Water and sanitation facilities for employees</li> <li>Housekeeping – regular disposal of solid waste</li> </ul>	construction sites		observation	Environment Specialist and Construction supervisor		Camps established with toilet (gender specific), drinking water facility, first aid box available. Access to camp site improved. Site photo is attached as <b>Appendix 2</b>

**Table 8: Compliance to EMP of the Package- Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP, Package No. 01DVG01A**

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
<b>Design &amp; Pre Construction phase</b>								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> <li>Limit the sewer depth where possible.</li> <li>Sewers shall be laid away from water supply lines and drains(at least 1m, wherever possible)</li> </ul>	Design report	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer PIU	-	Not applicable as per nature of work
Disturbance/ damage to existing utilities on the sites (Telephone lines, electric poles and wires, water lines within proposed project sites)	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> <li>In case of disruption of water supply, alternative supply ,through tankers shall be provided</li> </ul>	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist/ PIU	-	Work at isolated area.  Not applicable as per nature of work
Construction work camps, stockpile areas, storage areas, and disposal areas (disruption to)	<ul style="list-style-type: none"> <li>Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas</li> <li>Prioritize areas within or</li> </ul>	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas,	Proposed camp site	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist /	Before start of physical work & Continuous	Complied. Labour camp constructed-improvement noted on housekeeping Stockpile and

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
traffic flow and sensitive areas and receptors)	nearest possible vacant space in the sub project location <ul style="list-style-type: none"> <li>Non use of residential area</li> <li>Arrangement of toilet and drinking water facility</li> <li>No disposal of waste in water</li> </ul>	and disposal areas				PIU		storage areas selected within camp area and construction locations. No hot mix plant is required. Concrete batching plant established with NOC from Pollution Control Board. NOC copy attached as <b>Appendix 7</b>
Emergencies such as leaks, overflows, bursts	<ul style="list-style-type: none"> <li>Develop Emergency Response Plan for all emergencies such as leaks, overflows, burst</li> </ul>	<ul style="list-style-type: none"> <li>Emergency response plan</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDCSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Not required now
For STP- Design Nuisance due to location of the site in a developing area	<ul style="list-style-type: none"> <li>Select a treatment process that is compact, aesthetically good, and generates no or fewer odours.</li> <li>Provide a green buffer zone of 10-15 m wide around the STP</li> <li>Screen around the facility and will improve the aesthetic appearance.</li> <li>Regulate the surrounding land use in strict compliance with Davangere Master Plan. And declared no development zone around the STP sites.</li> <li>Design the layout plan of the facility such that potential odour generating units – inlet and primary treatment units</li> </ul>	Review& Check the inclusion/ provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer	Before start of physical work & as per requirement	Design has been developed accordingly To be comply at operation phase

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	and sludge thickener, are located away as far as possible from the nearest development, and be provided with green buffer zone. • Provide backup power facilities for continuous and uninterrupted operation							
For STP- Design and development of Treatment plans as per disposal standards set by CPCB (Pollution of surface water, ground water and land resources)	The Treatment Plants should be designed for following treated water disposal standards	Review & Check the inclusion/ provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer and Environment Specialist	Before start of physical work & as per requirement	Design is developed considering discharge standard of CPCB
For STP- Emergencies Events like release of bad odours	Develop an emergency response system for events like release of bad odours	Review & Check the inclusion/ provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer and Environment Specialist	Before start of physical work & as per requirement	To be comply at operation phase
<b>Construction</b>								
Impacts due to excess excavated earth, excess construction materials, solid waste etc. Occupational hazards which can occur to workers and public during work.	Prepare and submit a Construction Management Plan, every month, Which cover location map, use of PPE, materials management, waste management, personal safety arrangement etc.	Document related to construction management format	Working locations	Contractor	Observation and document checking	PMDCSC's Environment Specialist and Construction supervisor	Daily by construction supervisor Weekly / bi weekly by Construction Manager.  Verification by Environment Specialist of PMDCSC	Excess earth utilized within STP for development of land

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
							and Asst. Executive Engineer (Environment) KIUWMIP-KUIDFC 01.07.2016 02.07.2016 14.09.2016 15.09.2016 21.09.2016 22.09.2016 05.11.2016 07.11.2016 08.11.2016 09.11.2016 29.12.2016 30.12.2016 31.12.2016	
Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	<ul style="list-style-type: none"> <li>Contractor should obtain material from existing mines approved / licensed by Mines and Geology Department /Revenue Department.</li> <li>Verify suitability of all material sources and obtain approval of implementing agency</li> <li>No new quarry sites shall be developed for the sub project purpose</li> <li>Submit a monthly statement of construction material procured indicating material type, source and quantity.</li> </ul>	<ul style="list-style-type: none"> <li>List of approved quarry sites and sources of materials</li> <li>Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary</li> <li>Construction Contractor documentation</li> </ul>	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Under Compliance. All materials procurement certified by implementation agency
Dust and emissions from construction	<ul style="list-style-type: none"> <li>Consult with PIU on the designated areas for stockpiling of clay, soils,</li> </ul>	<ul style="list-style-type: none"> <li>Location of stockpiles</li> <li>Complaints from</li> </ul>	All construction on site,	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual</li> </ul>	PMDCSC's Environment Specialist	Do	Complied. Excavation and construction going

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
activity may degrade the air quality	gravel, and other construction materials; <ul style="list-style-type: none"> <li>Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather;</li> <li>Bring materials (aggregates, sand, etc gravel) as and when required;</li> <li>Use tarpaulins to cover sand and other loose material when transported by vehicles;</li> <li>Clean wheels and undercarriage of vehicles prior to leaving construction site</li> <li>Ensure valid Pollution Under Control (PUC) Certificates for all vehicles and equipment used in the construction activity</li> </ul>	sensitive receptors <ul style="list-style-type: none"> <li>Monitoring data</li> <li>Heavy equipment and machinery with air pollution control</li> <li>Water sprinkling arrangement</li> <li>Cover materials</li> </ul>	stockpile areas		inspection of sites	and Construction supervisor		on Excavated earth utilized locally Materials not covered by tarpaulin. Water sprinkling is not required at present. Will be done as and when required During construction Air quality monitoring – done Result certificate is attached as <b>Appendix 9</b> PUC certificates obtained for vehicles and equipments
High noisy construction activities may have adverse impacts on sensitive receptors and structures	<ul style="list-style-type: none"> <li>Plan activities in consultation with the PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance;</li> <li>Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town;.</li> <li>Provide prior information to the local public about the work schedule;</li> <li>Ensure that there are no</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> <li>Use of silencers in noise-producing equipment and sound barriers</li> <li>Monitoring data</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Complied Construction work limited to day time only No such noise producing machinery mobilized at site During construction Noise quality monitoring – done Result certificate is attached as <b>Appendix 9</b>



Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk,</p> <ul style="list-style-type: none"> <li>• Cut the rocks manually by chiselling;</li> <li>• Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s</li> </ul>							
Impacts on surface drainage and water quality due to contaminated runoff from construction areas in monsoon	<ul style="list-style-type: none"> <li>• Avoid stock piling of earth file specially during the monsoon season unless covered by tarpaulins or plastic sheets</li> <li>• Stock piles shall be provided with temporary bunds</li> <li>• Prioritize re-use of excess spoils and materials in the construction works.</li> <li>• Place storage area as for fuels and lubricants away from any drainage leading to water bodies</li> <li>• Dispose any wastes generated by construction activities in designated sites</li> </ul>	<ul style="list-style-type: none"> <li>• Areas for stockpiles, storage of fuels and lubricants and waste materials</li> <li>• Number of silt traps installed along drainages (in slope) leading to water bodies</li> <li>• Utilization of spoils</li> </ul>	All construction sites	Contractor	Site observation	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied. Stockpiling avoided as far as possible. Fuel and lubricants stored separately. Wastes disposed as per advice of engineer. No water bodies nearby the present construction sites
Impacts on landscape and aesthetics due to construction activity	<ul style="list-style-type: none"> <li>• Prepare and implement Waste Management Plan—it should present how the surplus waste generated will temporarily be stocked at the site, transported and disposed properly. The Waste Management Plan will be</li> </ul>	<ul style="list-style-type: none"> <li>• Waste Management List</li> <li>• Complaints from sensitive receptors</li> <li>• PMU/PIU/PMDC SC to report in writing that the necessary</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>• Checking of records</li> <li>• Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Under Compliance. Excavation and construction under progress. Excess earth utilized within the plant. Spoil management plan will be applied as per EMP

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	part of the Construction Management Plan. <ul style="list-style-type: none"> <li>Avoid stock piling of excess excavated soils as far as possible</li> <li>Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas</li> </ul>	environmental restoration work has been done						(Attached as Appendix 10)
Damage to protected structures due to construction along the areas near to protected monuments	<ul style="list-style-type: none"> <li>All necessary and adequate care should be taken to minimize the impact on protected properties. If articles such as fabrics, coins, artefacts, structures or other geologically or archeologically important materials are discovered, the excavation should be stopped and the Archaeological Department should be intimated at the earliest and all the articles received during the sewer laying should be handed over to ASI</li> <li>PMDSC should include the above instruction in the contract document.</li> </ul>	Chance find protocol	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Not yet arise. Action will be taken as per requirement  Instruction has been given to all workers on chance find
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> <li>Plan pipeline (sewer lines) work in consultation with the traffic police</li> <li>Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a minimum possible time;</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> <li>Complaints from sensitive receptors</li> <li>Number of signages placed at subproject</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Isolated location no needs for traffic management at site. Only during transportation of materials necessary mitigation measures applied

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<ul style="list-style-type: none"> <li>Provide for immediate consolidation of back filling material to desired compaction- this will allow immediate road restoration and therefore will minimised is turbance to the traffic movement;</li> <li>Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on one line;</li> <li>In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions;</li> </ul>	location.						
Impact on sensitive receptors- Schools, hospitals and religious places	<ul style="list-style-type: none"> <li>No material should be stocked in this area; material shall be brought to the site as and when required</li> <li>Conduct work manually with small group of workers and less noise; minimize use of equipment and vehicles</li> <li>No work should be conducted near the religious places during religious congregations</li> <li>Material transport to the site should be arranged considering school timings; material should be in place before school starts;</li> </ul>	<ul style="list-style-type: none"> <li>Materials storage strategy</li> <li>Complaints from sensitive receptors</li> <li>Construction strategy near sensitive areas</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	No Schools, Hospitals and religious places nearby

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<ul style="list-style-type: none"> <li>Notify concerned schools, hospitals etc 2 weeks prior to the work;</li> <li>conduct a 30 minutes awareness program at on nature of work, likely disturbances and risks and construction work, mitigation measures in place, entry restrictions and dos and don'ts</li> <li>Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites.</li> </ul>							
Socio-Economic: Livelihood Impediment of access to houses and business	<ul style="list-style-type: none"> <li>Leave space for access between mounds of excavated soil</li> <li>Provide wooden planks / foot bridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required</li> <li>Consult affected business people; inform hem in advance when work will occur</li> <li>Address livelihood issues; implement the Resettlement Plan(RP) to address these issues</li> <li>Provide sign/ caution/ warning boards at work site indicating work schedule and traffic information; prevent public entry into work sites through</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangement</li> <li>Complaint from sensitive receptors</li> <li>Sign board/ caution board availability with required information</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied No impact expected as per nature of work</p> <p>Sign board are provided <b>Appendix 2</b> – site photographs</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	barricading and security; and <ul style="list-style-type: none"> <li>Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints.</li> </ul>							
Socio-Economic: Employment generation	Employ at least 50% of the labour force, or to the maximum extent, local persons if man power is available Procure construction materials from local market.	Employment record	All construction sites	Contractor	Checking of records	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied. Mostly local people are employed where ever possible.
Workers occupational health & safety	(i) Develop and implement site-specific Health and Safety (H&S) Plan which will include measures such as:  (a) excluding public from the site; (b) ensuring all workers are provided with and use Personal Protective Equipment like helmet, gum boot, gloves, nose mask and earplugs; (c) H&S Training for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents; (ii) Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU; (iii) Ensure H&S plan is easily understandable to workers and labourers. Keep in mind that this plan will be used on-site	<ul style="list-style-type: none"> <li>Site-specific Health and Safety (H&amp;S) Plan</li> <li>Equipped first-aid stations;</li> <li>Medical insurance coverage for workers</li> <li>Number of accidents</li> <li>Supplies of potable drinking water;</li> <li>Record of H&amp;S orientation trainings</li> <li>Personal protective equipments</li> <li>Sign boards for hazardous areas such as energized electrical devices and lines, service</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Partially Complied. Health and safety measures are followed.  PPEs are given to the workers. They used partially First aid box available Tool box training for workers not arranged and recorded. Instruction has been given Drinking water available at working sites Site photo attached in <b>Appendix 2</b> .  Labour compensation insurance attached as <b>Appendix 6</b> .

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>and workers/labourers may not always understand highly technical terms;</p> <p>(iv) Strict compliance of H&amp;S plan and requirements of wearing personal protective equipment (PPE) during work hours;</p> <p>(v) Provide specific guidance for suitable PPE for every on-site work assignment</p> <p>(vi) Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the project site;</p> <p>(vii) Provide medical insurance coverage for workers;</p> <p>(viii) Secure all installations from unauthorized intrusion and accident risks;</p> <p>(ix) Provide supplies of potable drinking water at working sites;</p> <p>(x) Provide clean eating areas where workers are not exposed to hazardous or noxious substances; and</p> <p>(xi) Provide H&amp;S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;</p> <p>(xii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas</p>	rooms						

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>unescorted;</p> <p>(xiii) Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;</p> <p>(xiv) Ensure moving equipment is out fitted with audible back-up alarms;</p> <p>(xv) Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; and</p> <p>(xvi) Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8hours per day without hearing protection. The use of hearing protection shall be enforced actively.</p>							
Community Health & safety	<ul style="list-style-type: none"> <li>• Provide wooden bracing for all deep excavations (&gt;2m); identify buildings at risk prior to start of excavation work and take necessary precautions for safe work</li> <li>• Plan material and waste routes to avoid times of peak-pedestrian activities</li> <li>• Liaise with Davangere</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic Management Strategy</li> <li>• Complaints from sensitive receptors</li> </ul>	All construction sites	Contractor	Visual inspection	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied</p> <p>Project site at isolated location. Caution tape provided at excavation areas</p> <p>Transportation of materials done as per convenient time without disturbing locals</p> <p>Site photo attached</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>CMC in identifying risk areas on route cards/maps; identify buildings at risk prior to start of excavation work and take necessary precautions for safe conduct of work</p> <ul style="list-style-type: none"> <li>• Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure</li> <li>• Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads</li> <li>• Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety</li> </ul>							in <b>Appendix 2.</b>
Temporary worker camps	<ul style="list-style-type: none"> <li>• Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement</li> <li>• Train employees in the storage and handling of materials</li> <li>• Remove all wreckage, rubbish, or temporary structures</li> </ul>	<ul style="list-style-type: none"> <li>• Complaints from sensitive Receptors</li> <li>• Water and sanitation facilities for employees</li> <li>• Housekeeping – regular disposal of solid waste</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Labour camp constructed-improvement noted on housekeeping Drinking water facility, first aid box available Removal of scrap and unused construction material done as per requirement Water drained from camp. Site photo attached in <b>Appendix 2.</b>



**Table 9: Compliance to EMP of the Package- Providing expansion of sewage system in Harihar city – Package No. 01HRA01**

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
<b>Design &amp; Pre Construction phase</b>								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> <li>Limit the sewer depth where possible.</li> <li>Sewers shall be laid away from water supply lines and drains (at least 1m, wherever possible)</li> </ul>	Design report	-	PIU / Design Consultant	Observation and document checking	PMDCSC's Resident Engineer / PIU	Continuous	Complied as and when required
Disturbance/ damage to existing utilities on the sites (Telephone lines, electric poles and wires, water lines within proposed project sites)	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> <li>In case of disruption of water supply, alternative supply, through tankers, shall be provided</li> </ul>	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDCSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Complied in design and as & when required Utility services are being restored on the same day or least possible time.
Construction work camps, stockpile areas, storage areas, and disposal areas (disruption to traffic flow and sensitive areas and receptors)	<ul style="list-style-type: none"> <li>Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas</li> <li>Prioritize areas within or nearest possible vacant space in the sub project location</li> <li>Non use of residential area</li> <li>Arrangement of toilet and drinking water facility</li> <li>No disposal of waste in water</li> </ul>	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas	Proposed camp site	PIU / Design Consultant	Observation and document checking	PMDCSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Partially Complied. Labour camp construction – done at STP site but improvement required. Instruction has been given for improvement..  Stockpile and storage areas selected nearby camp area and construction locations. No hot mix plant is required
Emergencies such as leaks, overflows, bursts	<ul style="list-style-type: none"> <li>Develop Emergency Response Plan for all emergencies such as leaks, overflows, burst</li> </ul>	<ul style="list-style-type: none"> <li>Emergency response plan</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDCSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Not required now
For STP- Design	<ul style="list-style-type: none"> <li>Select a treatment process</li> </ul>	Review&	STP site	PIU / Design	Observation	PMU/ PIU/	Before start	Design has been

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
Nuisance due to location of the site in a developing area	<p>that is compact, aesthetically good, and generates no or fewer odours.</p> <ul style="list-style-type: none"> <li>• Provide a green buffer zone of 10-15 m wide around the STP</li> <li>• Screen around the facility and will improve the aesthetic appearance.</li> <li>• Regulate the surrounding land use in strict compliance with Master Plan. And declared no development zone around the STP sites.</li> <li>• Design the layout plan of the facility such that potential odour generating units – inlet and primary treatment units and ludge thickener, are located away as far as possible from the nearest development, and be provided with green buffer zone.</li> <li>• Provide backup power facilities for continuous and uninterrupted operation</li> </ul>	Check the inclusion/provision in DPR, as appropriate		Consultant	and document checking	PMDCSC's Resident Engineer	of physical work & as per requirement	developed accordingly. To be comply at operation phase
For STP- Design and development of Treatment plans as per disposal standards set by CPCB (Pollution of surface water, ground water and land resources)	The Treatment Plants should be designed for following treated water disposal standards	Review& Check the inclusion/provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer and Environment Specialist	Before start of physical work & as per requirement	Design is developed considering discharge standard of CPCB

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
For STP-Emergencies like release of bad odours	Develop an emergency response system for events like release of bad odours	Review & Check the inclusion/provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer and Environment Specialist	Before start of physical work & as per requirement	To be comply at operation phase
<b>Construction</b>								
Impacts due to excess excavated earth, excess construction materials, solid waste etc. Occupational hazards which can occur to workers and public during work.	Prepare and submit a Construction Management Plan, every month, Which cover location map, use of PPE, materials management, waste management, personal safety arrangement etc.	Document related to construction management format	Working locations	Contractor	Observation and document checking	PMDCSC's Environment Specialist and Construction supervisor	Daily by construction supervisor Weekly / bi weekly by Construction Manager. Verification by Environment Specialist of PMDCSC and Asst. Executive Engineer (Environment) KIUWMIP-PMU 01.07.2016 02.07.2016 14.09.2016 15.09.2016 21.09.2016 22.09.2016 05.11.2016 07.11.2016 08.11.2016 09.11.2016 29.12.2016 30.12.2016 31.12.2016	Complied. Mostly. Excess excavated soil after backfilling is reused to fill trenches if any or shifted from the sites. Disposal as per permission from PIU. Excess earth from pipe laying is also used in STP Improvement noted. Instruction is given to contractor for further improvement.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	<ul style="list-style-type: none"> <li>Contractor should obtain material from existing mines approved/ licensed by Mines and Geology Department / Revenue Department.</li> <li>Verify suitability of all material sources and obtain approval of implementing agency</li> <li>No new quarry sites shall be developed for the sub project purpose</li> <li>Submit a monthly statement of construction material procured indicating material type, source and quantity.</li> </ul>	<ul style="list-style-type: none"> <li>List of approved quarry sites and sources of materials</li> <li>Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary</li> <li>Construction Contractor documentation</li> </ul>	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Under Compliance. All materials procurement certified by implementation agency
Dust and emissions from construction activity may degrade the air quality	<ul style="list-style-type: none"> <li>Consult with PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials;</li> <li>Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather;</li> <li>Bring materials (aggregates, sand, etc gravel) as and when required;</li> <li>Use tarpaulins to cover sand and other loose material when transported</li> </ul>	<ul style="list-style-type: none"> <li>Location of stockpiles</li> <li>Complaints from sensitive receptors</li> <li>Monitoring data</li> <li>Heavy equipment and machinery with air pollution control</li> <li>Water sprinkling arrangement</li> <li>Cover materials</li> </ul>	All construction on site, stockpile areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied. Mostly Excavated earth is used to refill the trench,. Improvement noted. Materials are brought to the site whenever necessary covered by tarpaulin, not always. Water sprinkling is not required now, but will be done as per site and weather condition. Air quality monitoring has been done during the report period. Result certificate is attached as <b>Appendix</b>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	by vehicles; <ul style="list-style-type: none"> <li>Clean wheels and undercarriage of vehicles prior to leaving construction site</li> <li>Ensure valid Pollution Under Control (PUC) Certificates for all vehicles and equipment used in the construction activity</li> </ul>							9.  PUC certificates partially submitted
High noisy construction activities may have adverse impacts on sensitive receptors and structures	<ul style="list-style-type: none"> <li>Plan activities in consultation with the PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance;</li> <li>Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town;</li> <li>Provide prior information to the local public about the work schedule;</li> <li>Ensure that there are no old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk,</li> <li>Cut the rocks manually by chiselling;</li> <li>Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> <li>Use of silencers in noise-producing equipment and sound barriers</li> <li>Monitoring data</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Complied Construction work limited to day time only  During construction noise monitoring done. Result attached in <b>Appendix 9.</b>
Impacts on surface drainage	<ul style="list-style-type: none"> <li>Avoid stock piling of earth specially during the</li> </ul>	<ul style="list-style-type: none"> <li>Areas for stockpiles,</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment	Do	Complied. Stockpiling avoided as

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
and water quality due to contaminated runoff from construction areas in monsoon	monsoon season unless covered by tarpaulins or plastic sheets <ul style="list-style-type: none"> <li>Stock piles shall be provided with temporary bunds</li> <li>Prioritize re-use of excess spoils and materials in the construction works.</li> <li>Place storage areas for fuels and lubricants away from any drainage leading to water bodies</li> <li>Dispose any wastes generated by construction activities in designated sites</li> </ul>	storage of fuels and lubricants and waste materials <ul style="list-style-type: none"> <li>Number of silt traps installed along drainages (in slope) leading to water bodies</li> <li>Utilization of spoils</li> </ul>	on sites			Specialist and Construction supervisor		far as possible Fuel and lubricants stored separately Wastes dispose as per advice of engineer No water bodies nearby the present construction sites
Impacts on landscape and aesthetics due to construction activity	<ul style="list-style-type: none"> <li>Prepare and implement Waste Management Plan – it should present how the surplus waste generated will temporarily stocked at the site, transported and disposed properly. The Waste Management Plan will be part of the Construction Management Plan.</li> <li>Avoid stockpiling of excess excavated soils as far as possible</li> <li>Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas</li> </ul>	<ul style="list-style-type: none"> <li>Waste Management List</li> <li>Complaints from sensitive receptors</li> <li>PMU/PIU/PMDC SC to report in writing that the necessary environmental restoration work has been done</li> </ul>	All constructi on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Partially Complied Excess earth stockpiled and reused . Sometime process delayed. Excess earth from pipe laying is also used in STP Improvement noted. Instruction is given to contractor for further improvement. Housekeeping needs to be improve at STP Spoil management plan will be applied as per EMP (Attached as <b>Appendix 10</b> )
Damage to protected structures due to construction along the areas near to	<ul style="list-style-type: none"> <li>All necessary and adequate care should be taken to minimize the impact on protected properties. If articles such as fabrics, coins, artifacts, structures</li> </ul>	Chance find protocol	All constructi on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Not yet arise. Action will be taken as per requirement Instruction has been given to all workers on chance find

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
protected monuments	<p>or other geologically or archeologically important materials are discovered, the excavation should be stopped and the Archaeological Department should be intimated at the earliest and all the articles received during the sewer laying should be handed over to ASI</p> <ul style="list-style-type: none"> <li>PMDSC should include the above instruction in the contract document.</li> </ul>							
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> <li>Plan pipeline (sewer lines) work in consultation with the traffic police</li> <li>Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a minimum possible time;</li> <li>Provide for immediate consolidation of back filling material to desired compaction-this will allow immediate road restoration and therefore will minimise disturbance to the traffic movement;</li> <li>Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on oneline;</li> <li>In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> <li>Complaints from sensitive receptors</li> <li>Number of signages placed at subproject location.</li> </ul>	All constructi on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Construction works are completing in least possible time.</p> <p>Road closure board placed.</p> <p>Alternative routes provided in case of road closure</p> <p>Caution tape provided at closure site. Hard barricading needs to be provided at the UGD network site</p> <p>Traffic Management plan is attached as <b>Appendix 11</b></p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	such traffic diversions;							
Impact on sensitive receptors- Schools, hospitals and religious places	<ul style="list-style-type: none"> <li>No material should be stocked in this area; material shall be brought to the site as and when required</li> <li>Conduct work manually with small group of workers and less noise; minimize use of equipment and vehicles</li> <li>No work should be conducted near the religious places during religious congregations</li> <li>Material transport to the site should be arranged considering school timings; material should be in place before school starts;</li> <li>Notify concerned schools, hospitals etc 2 weeks prior to the work;</li> <li>conduct a 30 minutes awareness program at on nature of work, likely disturbances and risks and construction work, mitigation measures in place, entry restrictions and dos and don'ts</li> <li>Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites.</li> </ul>	<ul style="list-style-type: none"> <li>Materials storage strategy</li> <li>Complaints from sensitive receptors</li> <li>Construction strategy near sensitive areas</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Not required now Schools, Hospitals and religious places are notified before the work.
Socio-Economic: Livelihood Impediment of access to	<ul style="list-style-type: none"> <li>Leave space for access between mounds of excavated soil</li> <li>Provide wooden planks / foot bridges for pedestrians</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangement</li> <li>Complaint from sensitive receptors</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction	Do	Partially Complied. Advance information are not given to the shopkeepers and locals Sign board provided.



Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
houses and business	and metal sheets for vehicles to allow access across trenches to premises where required <ul style="list-style-type: none"> <li>Consult affected business people; inform them in advance when work will occur</li> <li>Address livelihood issues; implement the Resettlement Plan (RP) to address these issues</li> <li>Provide sign /caution/ warning boards at work site indicating work schedule and traffic information; prevent public entry into work sites through barricading and security ;and</li> <li>Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints.</li> </ul>	<ul style="list-style-type: none"> <li>Sign board/caution board availability with required information</li> </ul>				supervisor		But caution and time of construction not always informed in the board Site photo in <b>Appendix 2</b> . Instruction has been given to the contractor for improvement
Socio-Economic: Employment generation	Employ atleast 50% of the labour force, or to the maximum extent, local persons if manpower is available Procure construction materials from local market.	Employment record	All construction sites	Contractor	Checking of records	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied. Local people are mostly employed
Workers occupational health & safety	(i) Develop and implement site-specific Health and Safety(H&S) Plan which will include measures such as:  (a) excluding public from the site; (b) ensuring all workers are provided with and use Personal Protective Equipment like	<ul style="list-style-type: none"> <li>Site-specific Health and Safety (H&amp;S) Plan</li> <li>Equipped first-aid stations;</li> <li>Medical insurance coverage for workers</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied mostly. Health and safety measures are followed.  PPEs are given to the workers. Used mostly. Improvement noted.  First aid box available but not at all sites

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>helmet, gumboot, gloves, nose mask and earplugs;</p> <p>(c) H&amp;S Training for all site personnel;</p> <p>(d) Documented procedures to be followed for all site activities ; and</p> <p>(e) Documentation of work-related accidents;</p> <p>(ii) Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU;</p> <p>(iii) Ensure H&amp;S plan is easily understandable to workers and labourers. Keep in mind that this plan will be used on-site and workers/labourers may not always understand highly technical terms;</p> <p>(iv) Strict compliance of H&amp;S plan and requirements of wearing personal protective equipment (PPE) during work hours;</p> <p>(v) Provide specific guidance for suitable PPE for every on-site work assignment</p> <p>(vi) Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the project site;</p> <p>(vii) Provide medical insurance coverage for workers;</p> <p>(viii) Secure all installations from unauthorized intrusion and accident risks;</p> <p>(ix) Provide supplies of potable drinking water at working sites;</p> <p>(x) Provide clean eating areas where workers are not exposed</p>	<ul style="list-style-type: none"> <li>• Number of accidents</li> <li>• Supplies of potable drinking water;</li> <li>• Record of H&amp;S orientation trainings</li> <li>• Personal protective equipments</li> <li>• Sign boards for hazardous areas such as energized electrical devices and lines, service rooms</li> </ul>						<p>Tool box training for workers arranged</p> <p>Drinking water available at working sites</p> <p>Site photo attached in <b>Appendix 2.</b></p> <p>Internal training document sample copy attached in <b>Appendix 12</b></p> <p>Insurance arranged for the labourer. Attached as <b>Appendix 6</b></p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>to hazardous or noxious substances; and</p> <p>(xi) Provide H&amp;S orientation training to all new workers to ensure that they are apprised of the basics rules of work at the site, personal protective protection, and preventing injuring to fellow workers;</p> <p>(xii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;</p> <p>(xiii) Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;</p> <p>(xiv) Ensure moving equipment is out fitted with audible back-up alarms;</p> <p>(xv) Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; and</p> <p>(xvi) Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing</p>							

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	protection. The use of hearing protection shall be enforced actively.							
Community Health & safety	<ul style="list-style-type: none"> <li>Provide wooden bracing for all deep excavations(&gt;2m); identify buildings at risk prior to start of excavation work and take necessary precautions for safe work</li> <li>Plan material and waste routes to avoid times of peak-pedestrian activities</li> <li>Liaise with Davangere CMC in identifying risk areas on route cards/maps; identify buildings at risk prior to start of excavation work and take necessary precautions for safe conduct of work</li> <li>Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure</li> <li>Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads</li> <li>Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> <li>Complaints from sensitive receptors</li> </ul>	All construction sites	Contractor	Visual inspection	PMDSC's Environment Specialist and Construction supervisor	Do	Complied Caution tape provided at excavated areas. Transportation of materials done as per convenient time without disturbing locals
Temporary worker camps	<ul style="list-style-type: none"> <li>Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement</li> <li>Train employees in the storage and handling of materials</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive Receptors</li> <li>Water and sanitation facilities for employees</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Partially Complied. Labour camp construction – done at STP site but improvement required. Instruction has been given for improvement..

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<ul style="list-style-type: none"> <li>Remove all wreckage, rubbish, or temporary structures</li> </ul>	<ul style="list-style-type: none"> <li>Housekeeping – regular disposal of solid waste</li> </ul>						Stockpile and storage areas selected nearby camp area and construction locations. No hot mix plant is required

**Table 10: Compliance to EMP of the Package- Providing expansion of sewage system in Byadgi Town – Package No. 01BDG01**

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
<b>Design &amp; Pre Construction phase</b>								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> <li>Limit the sewer depth where possible.</li> <li>Sewers shall be laid away from water supply lines and drains (at least 1m, wherever possible)</li> </ul>	Design report	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer / PIU	Continuous	Complied as and when required
Disturbance/ damage to existing utilities on the sites (Telephone lines, electric poles and wires, water lines within proposed project sites)	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> <li>In case of disruption of water supply, alternative supply, through tankers, shall be provided</li> </ul>	<ul style="list-style-type: none"> <li>List of affected utilities if any and operators</li> <li>Bid document to include requirement for a contingency plan for service interruptions</li> </ul>	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Complied in design and as & when required Utility services will be restored on the same day or least possible time.
Construction work camps, stockpile areas, storage areas, and disposal areas (disruption to traffic flow and sensitive areas and receptors)	<ul style="list-style-type: none"> <li>Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas</li> <li>Prioritize areas within or nearest possible vacant space in the sub project location</li> <li>Non use of residential area</li> <li>Arrangement of toilet and</li> </ul>	List of selected location for construction work camps, hot mix plants, stockpile areas, storage areas, and disposal areas	Proposed camp site	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Work just started. Labour camp to be constructed as per EMP condition

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	drinking water facility • No disposal of waste in water							
Emergencies such as leaks, overflows, bursts	• Develop Emergency Response Plan for all emergencies such as leaks, overflows, burst	• Emergency response plan	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment Specialist / PIU	Before start of physical work & Continuous	Not required now
For STP- Design Nuisance due to location of the site in a developing area	<ul style="list-style-type: none"> <li>Select a treatment process that is compact, aesthetically good, and generates no or fewer odours.</li> <li>Provide a green buffer zone of 10-15 m wide around the STP</li> <li>Screen around the facility and will improve the aesthetic appearance.</li> <li>Regulate the surrounding land use in strict compliance with Master Plan. And declared no development zone around the STP sites.</li> <li>Design the layout plan of the facility such that potential odour generating units – inlet and primary treatment units and ludge thickener, are located away as far as possible from the nearest development, and be provided with green buffer zone.</li> <li>Provide backup power facilities for continuous and uninterrupted operation</li> </ul>	Review& Check the inclusion/ provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer	Before start of physical work & as per requirement	Design to be developed accordingly. To be comply at operation phase
For STP- Design	The Treatment Plants should be	Review&	STP site	PIU / Design	Observation	PMU/ PIU/	Before start	Design under

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
and development of Treatment plans as per disposal standards set by CPCB (Pollution of surface water, ground water and land resources)	designed for following treated water disposal standards	Check the inclusion/ provision in DPR, as appropriate		Consultant	and document checking	PMDCSC's Resident Engineer and Environment Specialist	of physical work & as per requirement	finalization considering discharge standard of CPCB
For STP-Emergencies Events like release of bad odours	Develop an emergency response system for events like release of bad odours	Review & Check the inclusion/ provision in DPR, as appropriate	STP site	PIU / Design Consultant	Observation and document checking	PMU/ PIU/ PMDCSC's Resident Engineer and Environment Specialist	Before start of physical work & as per requirement	To be comply at operation phase
<b>Construction</b>								
Impacts due to excess excavated earth, excess construction materials, solid waste etc. Occupational hazards which can occur to workers and public during work.	Prepare and submit a Construction Management Plan, every month, Which cover location map, use of PPE, materials management, waste management, personal safety arrangement etc.	Document related to construction management format	Working locations	Contractor	Observation and document checking	PMDCSC's Environment Specialist and Construction supervisor	Daily by construction supervisor Weekly / bi weekly by Construction Manager.  Verification by Environment Specialist of PMDCSC and Asst.. Executive Engineer (Environment) KIUWMIP-KUIDFC 08.11.2016 31.12.2016	Work just started. Excess excavated soil after backfilling will be reused to fill trenches if any or shifted from the sites. Disposal as per permission from PIU. Excess earth from pipe laying will be used in STP. Instruction has already been given.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution	<ul style="list-style-type: none"> <li>Contractor should obtain material from existing mines approved/ licensed by Mines and Geology Department / Revenue Department.</li> <li>Verify suitability of all material sources and obtain approval of implementing agency</li> <li>No new quarry sites shall be developed for the sub project purpose</li> <li>Submit a monthly statement of construction material procured indicating material type, source and quantity.</li> </ul>	<ul style="list-style-type: none"> <li>List of approved quarry sites and sources of materials</li> <li>Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary</li> <li>Construction Contractor documentation</li> </ul>	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Under Compliance. All materials procurement certified by implementation agency
Dust and emissions from construction activity may degrade the air quality	<ul style="list-style-type: none"> <li>Consult with PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials;</li> <li>Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather;</li> <li>Bring materials (aggregates, sand, etc gravel) as and when required;</li> <li>Use tarpaulins to cover sand and other loose material when transported by vehicles;</li> <li>Clean wheels and undercarriage of vehicles prior to leaving construction site</li> <li>Ensure valid Pollution Under Control (PUC)</li> </ul>	<ul style="list-style-type: none"> <li>Location of stockpiles</li> <li>Complaints from sensitive receptors</li> <li>Monitoring data</li> <li>Heavy equipment and machinery with air pollution control</li> <li>Water sprinkling arrangement</li> <li>Cover materials</li> </ul>	All construction site, stockpile areas	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Excavated earth is used to refill the trench Materials are brought to the site whenever necessary covered by tarpaulin, not always. Water sprinkling is not required now, but will be done as per site and weather condition. Base line air quality monitoring done during the report period.</p> <p>Result certificate is attached as <b>Appendix 9</b></p> <p>Work just started. Instruction has been given for collection of PUC certificate.</p>



Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	Certificates for all vehicles and equipment used in the construction activity							
High noisy construction activities may have adverse impacts on sensitive receptors and structures	<ul style="list-style-type: none"> <li>Plan activities in consultation with the PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance;</li> <li>Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town;</li> <li>Provide prior information to the local public about the work schedule;</li> <li>Ensure that there are no old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk,</li> <li>Cut the rocks manually by chiselling;</li> <li>Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> <li>Use of silencers in noise-producing equipment and sound barriers</li> <li>Monitoring data</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied Construction work limited to day time only Prior information is not fully provided to locals</p> <p>Result certificate is attached as <b>Appendix 9</b></p>
Impacts on surface drainage and water quality due to contaminated runoff from construction areas in monsoon	<ul style="list-style-type: none"> <li>Avoid stock piling of earth specially during the monsoon season unless covered by tarpaulins or plastic sheets</li> <li>Stock piles shall be provided with temporary bunds</li> <li>Prioritize re-use of excess</li> </ul>	<ul style="list-style-type: none"> <li>Areas for stockpiles, storage of fuels and lubricants and waste materials</li> <li>Number of silt traps installed along drainages</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Stockpiling avoided as far as possible Fuel and lubricants not yet stored Wastes dispose as per advice of engineer No water bodies nearby the present construction</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	spoils and materials in the construction works. <ul style="list-style-type: none"> <li>Place storage areas for fuels and lubricants away from any drainage leading to water bodies</li> <li>Dispose any wastes generated by construction activities in designated sites</li> </ul>	(in slope) leading to water bodies <ul style="list-style-type: none"> <li>Utilization of spoils</li> </ul>						sites
Impacts on landscape and aesthetics due to construction activity	<ul style="list-style-type: none"> <li>Prepare and implement Waste Management Plan – it should present how the surplus waste generated will temporarily stocked at the site, transported and disposed properly. The Waste Management Plan will be part of the Construction Management Plan.</li> <li>Avoid stockpiling of excess excavated soils as far as possible</li> <li>Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas</li> </ul>	<ul style="list-style-type: none"> <li>Waste Management List</li> <li>Complaints from sensitive receptors</li> <li>PMU/PIU/PMDC SC to report in writing that the necessary environmental restoration work has been done</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied. Excess earth stockpiled and reused Coordination has been done.  Work just started. Spoil management plan needs to be developed as per EMP
Damage to protected structures due to construction along the areas near to protected monuments	<ul style="list-style-type: none"> <li>All necessary and adequate care should be taken to minimize the impact on protected properties. If articles such as fabrics, coins, artifacts, structures or other geologically or archeologically important materials are discovered, the excavation should be stopped and the Archaeological Department should be intimated at the</li> </ul>	Chance find protocol	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Not yet arise. Work just started. Action will be taken as per requirement Instruction has been given to all workers on chance find

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>earliest and all the articles received during the sewer laying should be handed over to ASI</p> <ul style="list-style-type: none"> <li>PMDSC should include the above instruction in the contract document.</li> </ul>							
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> <li>Plan pipeline (sewer lines) work in consultation with the traffic police</li> <li>Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a minimum possible time;</li> <li>Provide for immediate consolidation of back filling material to desired compaction-this will allow immediate road restoration and therefore will minimise disturbance to the traffic movement;</li> <li>Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on oneline;</li> <li>In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions;</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> <li>Complaints from sensitive receptors</li> <li>Number of signages placed at subproject location.</li> </ul>	All constructi on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Construction works are completing in least possible time.</p> <p>Road closure board placed.</p> <p>Alternative routes provided in case of road closure</p> <p>Caution tape provided at closure site. Hard barricading needs to be provided at the UGD network site</p> <p>Work just started. Traffic Management plan to be developed</p> <p><b>Appendix 2</b> shows site photographs.</p>
Impact on sensitive receptors- Schools, hospitals and religious places	<ul style="list-style-type: none"> <li>No material should be stocked in this area; material shall be brought to the site as and when required</li> <li>Conduct work manually with</li> </ul>	<ul style="list-style-type: none"> <li>Materials storage strategy</li> <li>Complaints from sensitive receptors</li> <li>Construction</li> </ul>	All constructi on sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	Not required now Schools, Hospitals and religious places are notified before the work.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>small group of workers and less noise; minimize use of equipment and vehicles</p> <ul style="list-style-type: none"> <li>No work should be conducted near the religious places during religious congregations</li> <li>Material transport to the site should be arranged considering school timings; material should be in place before school starts;</li> <li>Notify concerned schools, hospitals etc 2 weeks prior to the work;</li> <li>conduct a 30 minutes awareness program at on nature of work, likely disturbances and risks and construction work, mitigation measures in place, entry restrictions and dos and don'ts</li> <li>Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites.</li> </ul>	strategy near sensitive areas						
Socio-Economic: Livelihood Impediment of access to houses and business	<ul style="list-style-type: none"> <li>Leave space for access between mounds of excavated soil</li> <li>Provide wooden planks / foot bridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required</li> <li>Consult affected business people; inform them in advance when work will</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangement</li> <li>Complaint from sensitive receptors</li> <li>Sign board/ caution board availability with required information</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDCSC's Environment Specialist and Construction supervisor	Do	Work just started. Complied. Instruction given to contractor for necessary compliance Site photo in <b>Appendix 2</b>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>occur</p> <ul style="list-style-type: none"> <li>Address livelihood issues; implement the Resettlement Plan (RP) to address these issues</li> <li>Provide sign /caution/ warning boards at work site indicating work schedule and traffic information; prevent public entry into work sites through barricading and security ;and</li> <li>Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints.</li> </ul>							
Socio-Economic: Employment generation	Employ atleast 50% of the labour force, or to the maximum extent, local persons if manpower is available Procure construction materials from local market.	Employment record	All construction sites	Contractor	Checking of records	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Local people are mostly employed
Workers occupational health & safety	<p>(i) Develop and implement site-specific Health and Safety(H&amp;S) Plan which will include measures such as:</p> <p>(a) excluding public from the site;</p> <p>(b) ensuring all workers are provided with and use Personal Protective Equipment like helmet, gumboot, gloves, nose mask and earplugs;</p> <p>(c) H&amp;S Training for all site personnel;</p> <p>(d) Documented procedures to be followed for all site activities ; and</p>	<ul style="list-style-type: none"> <li>Site-specific Health and Safety (H&amp;S) Plan</li> <li>Equipped first-aid stations;</li> <li>Medical insurance coverage for workers</li> <li>Number of accidents</li> <li>Supplies of potable drinking water;</li> <li>Record of H&amp;S orientation</li> </ul>	All construction sites	Contractor	<ul style="list-style-type: none"> <li>Checking of records</li> <li>Visual inspection of sites</li> </ul>	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. mostly Health and safety measures are followed.</p> <p>PPEs are given to the workers. They using mostly</p> <p>First aid box available</p> <p>Tool box training for workers arranged</p> <p>Drinking water available at working sites</p> <p>Site photo attached in</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>(e) Documentation of work-related accidents;</p> <p>(ii) Designate a safeguard focal person and undertake safeguards orientation by PMU/PIU;</p> <p>(iii) Ensure H&amp;S plan is easily understandable to workers and labourers. Keep in mind that this plan will be used on-site and workers/labourers may not always understand highly technical terms;</p> <p>(iv) Strict compliance of H&amp;S plan and requirements of wearing personal protective equipment (PPE) during work hours;</p> <p>(v) Provide specific guidance for suitable PPE for every on-site work assignment</p> <p>(vi) Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the project site;</p> <p>(vii) Provide medical insurance coverage for workers;</p> <p>(viii) Secure all installations from unauthorized intrusion and accident risks;</p> <p>(ix) Provide supplies of potable drinking water at working sites;</p> <p>(x) Provide clean eating areas where workers are not exposed to hazardous or noxious substances; and</p> <p>(xi) Provide H&amp;S orientation training to all new workers to ensure that they are apprised of the basics rules of work at the site, personal protective</p>	<p>trainings</p> <ul style="list-style-type: none"> <li>• Personal protective equipments</li> <li>• Sign boards for hazardous areas such as energized electrical devices and lines, service rooms</li> </ul>						<p><b>Appendix 2.</b></p> <p>Internal training document sample copy attached in <b>Appendix 12</b></p> <p>Workman compensation insurance has been collected</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>protection, and preventing injuring to fellow workers;</p> <p>(xii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted;</p> <p>(xiii) Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas;</p> <p>(xiv) Ensure moving equipment is out fitted with audible back-up alarms;</p> <p>(xv) Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; and</p> <p>(xvi) Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.</p>							
Community Health & safety	<ul style="list-style-type: none"> <li>Provide wooden bracing for all deep excavations(&gt;2m); identify buildings at risk prior</li> </ul>	<ul style="list-style-type: none"> <li>Traffic Management Strategy</li> </ul>	All construction sites	Contractor	Visual inspection	PMDCSC's Environment Specialist and	Do	Complied Caution tape provided at excavation areas.. Transportation of

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>to start of excavation work and take necessary precautions for safe work</p> <ul style="list-style-type: none"> <li>Plan material and waste routes to avoid times of peak-pedestrian activities</li> <li>Liaise with Davangere CMC in identifying risk areas on route cards/maps; identify buildings at risk prior to start of excavation work and take necessary precautions for safe conduct of work</li> <li>Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure</li> <li>Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads</li> <li>Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive receptors</li> </ul>				Construction supervisor		materials done as per convenient time without disturbing locals
Temporary worker camps	<ul style="list-style-type: none"> <li>Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement</li> <li>Train employees in the storage and handling of materials</li> <li>Remove all wreckage, rubbish, or temporary structures</li> </ul>	<ul style="list-style-type: none"> <li>Complaints from sensitive Receptors</li> <li>Water and sanitation facilities for employees</li> <li>Housekeeping – regular disposal of solid waste</li> </ul>	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Work just started. Labour camp to be constructed as per EMP condition



## V. ENVIRONMENTAL MONITORING AND EVALUATION

24. In addition to desk reviews and site inspections, monitoring of selected environmental parameters have been conducted during the reporting period. The frequencies of the environmental monitoring activities are commensurate to the type and significance of the impacts. For Project 1 subprojects, the parameters to be monitored are ambient air quality and noise levels.

25. The ambient air quality monitoring results are presented in **Table 11**. Results indicate that concentrations of parameters at all the project sites are with the CPCB limit. There is marginal increase in “during concentration” SO<sub>2</sub> and NO<sub>2</sub> in compared to base line concentration level at Davangere underground drainage package working locations. Both PM<sub>10</sub> and PM<sub>2.5</sub> concentration levels marginally increased “during construction” stage for that package. For Davangere STP package during construction monitoring has been done on quarterly basis (2 times in report periods). Concentrations of all parameters are within the standard. There is no as such variation of concentration of SO<sub>2</sub> and NO<sub>2</sub>, but concentration of both PM<sub>10</sub> and PM<sub>2.5</sub> are increased in compared to base line level. Suppression of dust through water sprinkling is required for those packages. Similarly there is no as such variation of concentration of SO<sub>2</sub> and NO<sub>2</sub> at Harihar pipe laying and STP location. There is marginal decrease in average concentration of PM<sub>10</sub> and PM<sub>2.5</sub> during construction phase, which indicates improvement of application of mitigation measures during construction. At Harihar project sites concentrations of all parameters are within the standard. During this report period base line monitoring has been conducted for Byadgi UGD package. All the parameters concentration levels are within the limit. **Appendix 9** shows monitoring result certificates for all the packages. Mitigation measures, like dust suppression will be applied as per EMP. Instruction has been given to the contractor for improvement of application of mitigation measures.

**Table 11: Ambient Air Quality Monitoring at Sites of construction**

Town	Phase	Sampling Locations	Date of Monitoring	Parameters			
				SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>
Davangere (Package no. 01DVG01)	Base line	Ashraya valley Near NH 4	20.05.2015	4.24	9.33	48.23	78.97
		SPS Nagar	20.05.2015	4.34	9.08	50.26	81.32
		Pune Bangalore Road near Sagar Motors	20.05.2015	4.25	9.37	51.18	90.72
	<b>Average Baseline</b>			<b>4.28</b>	<b>9.26</b>	<b>49.9</b>	<b>83.67</b>
	During Construction	Pre casting yard near Kendagi Road	23.12.2015	5.93	14.02	52.28	96.24
		Ward 1 Ashok nagar	23.12.2015	5.08	13.38	44.62	86.60
		Ward 36 (part 1) Shivkumar Badavane	23.12.2015	5.52	13.74	58.72	99.51
	<b>Average During construction</b>			<b>5.51</b>	<b>13.7</b>	<b>51.9</b>	<b>91.4</b>
	During Construction	2 <sup>nd</sup> Main Vinoba nagar	24.06.2016	4.66	9.95	38.34	66.93

Town	Phase	Sampling Locations	Date of Monitoring	Parameters			
				SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>
		P B Road near Avaragere bus stop	24.06.2016	4.65	9.94	41.34	72.84
		Jaynagar B block , Opposite to Church	24.06.2016	4.61	9.63	39.73	68.72
	<b>Average During construction</b>			<b>4.64</b>	<b>9.84</b>	<b>39.80</b>	<b>69.50</b>
	During Construction*	Ward no. 4 SSM Nagar	30.12.2016	5.99	12.68	59.90	96.57
		Ward no. 8 SMK Nagar	30.12.2016	5.50	15.40	43.65	87.60
		Ward no. 36 Shivakumar Badavane	30.12.2016	6.50	12.72	57.70	98.45
	<b>Average During construction*</b>			<b>5.99</b>	<b>13.6</b>	<b>53.75</b>	<b>94.21</b>
<b>Davangere (Package No. 01DVG01A)</b>	Base line (Last semi annual period)	20 MLD STP	08.12.2015	4.34	10.16	37.8	84.2
		5 MLD STP	08.12.2015	4.03	10.03	33.95	78.79
	<b>Average Baseline</b>			<b>4.18</b>	<b>10.1</b>	<b>35.9</b>	<b>81.5</b>
	During Construction	20 MLD STP	16.03.2016	5.07	11.12	44.26	80.64
		5 MLD STP	16.03.2016	5.48	11.45	48.66	88.96
	<b>Average During construction</b>			<b>5.27</b>	<b>11.28</b>	<b>46.46</b>	<b>84.80</b>
	During Construction	20 MLD STP	21.06.2016	4.66	9.63	29.86	57.33
		5 MLD STP	21.06.2016	4.91	9.77	32.73	60.10
	<b>Average During construction</b>			<b>4.78</b>	<b>9.7</b>	<b>31.29</b>	<b>58.71</b>
	During Construction*	20 MLD STP	13.09.2016	4.28	9.28	41.76	70.85
		5 MLD STP	13.09.2016	4.22	9.17	38.43	67.92
	<b>Average During construction*</b>			<b>4.25</b>	<b>9.22</b>	<b>40.09</b>	<b>69.38</b>
	During Construction*	20 MLD STP	03.12.2016	4.48	9.58	55.23	94.64
		5 MLD STP	03.12.2016	4.45	9.52	51.88	90.23
	<b>Average During construction*</b>			<b>4.46</b>	<b>9.55</b>	<b>53.55</b>	<b>92.43</b>
<b>Harihar (Package no. 01HRA01)</b>	Base line	Guttur Colony Near Panchyat office	05.05.2015	4.26	9.21	52.41	72.48
		Keshavapura Near Railway Station	05.05.2015	4.24	9.12	68.48	108.54
		Vidyanagar Extension "C" Block	05.05.2015	4.14	9.25	48.15	86.76
	<b>Average</b>			<b>4.2</b>	<b>9.2</b>	<b>56.3</b>	<b>89.3</b>

Town	Phase	Sampling Locations	Date of Monitoring	Parameters			
				SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>
	Baseline						
	During Construction (Last semi annual period)	Gutur colony near Panchyat office	15.12.2015	4.22	9.80	53.26	73.45
		STP site near Kirloskar factory	15.12.2015	4.40	9.35	49.21	87.76
		Near Anjaneya Temple Amaravathi	15.12.2015	4.30	9.50	49.25	89.25
	Average During construction			4.30	9.55	50.6	83.5
	During Construction	Vidyanagar	28.06.2016	4.29	9.48	48.18	87.34
		STP site near Kirloskar factory	28.06.2016	4.20	9.27	51.17	85.26
		Guttur near Govt. School	28.06.2016	4.21	9.78	53.26	72.37
	Average During construction			4.23	9.51	50.87	81.65
		During Construction*	Prasanth Nagar	24.10.2016	4.10	9.48	52.18
STP site near Kirloskar factory			24.10.2016	5.21	9.10	50.17	80.16
A K Colony, Guttur			24.10.2016	3.21	9.18	42.26	77.37
Average During construction*				4.17	9.25	48.20	81.03
Byadgi UGD 01BDG01	Base Line monitoring*	Bettaad Malleshwar Social Welfare Office (Ashray Colony)	16.09.2016	4.04	9.06	35.78	61.53
		Old Police station	16.09.2016	4.13	9.13	42.56	68.49
		STP land	16.09.2016	4.17	9.16	46.93	73.71
		Near Nehru Chawak (KSRTC Bus stand)	16.09.2016	4.15	9.11	38.27	63.94
		Near Town Municipal office	16.09.2016	4.22	9.21	48.61	76.19
	Average Base line*			4.14	9.13	42.43	68.77
		Standard as per CPCB		80.0	80.0	60.0	100.0

Note: CPCB - Central Pollution Control Board, BDL - below detection limit

\* Monitoring conducted during report period July to December 2016

**Package no. 01DVG01**= 3 samples on 30.12.2016

**Package No. 01DVG01A**= 4 samples on 13.09.2016 (2 nos.) and 03.12.2016 (2 nos.)

**Package no. 01HRA01**= 3 samples on 24.10.2016

**Package no. 01BDG01** = 5 samples on 16.09.2016

26. The noise level monitoring has also been carried out for construction sites. **Table 12** shows noise level data. **Appendix 9** shows monitoring result certificates for 4 packages. It is noted from the results that day and night time noise levels at Davangere underground sewerage project location is above the standard for commercial and residential areas. There is marginal increase of day time noise level at Davangere pipe laying sites in compared to base line value.

At most of the cases noise level at Davangere STP is within the standard. There are no significant changes of noise level during construction. Day time noise level at Harihar project area is within the standard when comparing with commercial standard but above the limit when compared with residential area noise limit. Night time noise is always above the standard. Base line noise level monitoring is also conducted for Byadgi UGD package. At all the cases base line noise levels above the standard as prescribed for residential and commercial areas. Noise level monitoring to be continued as per environment monitoring program throughout the construction period for understanding increase or decrease trend of noise level at project locations. To mitigate high noise levels contractor to apply mitigation measures like control use of noise producing equipment, maintenance of equipments and finally use of PPE by worker or mitigation measures as prescribed in EMP.

27. The next environmental monitoring activities will be conducted within January to June 2017 to measure concentrations of parameters as done earlier and covering all running construction sites. The cost of the environmental monitoring is arranged from contractor budget (Ref. **Appendix 3**).

**Table 12: Noise Level Monitoring at project sites of Davangere , Harihar and Byadgi**

Town	Phase	Sampling Locations	Date of Monitoring	Day Time			Night Time Leq dB(A)			Noise Zone
				L Min dB(A)	L Max dB(A)	Leq dB(A)	L Min dB(A)	L Max dB(A)	Leq dB(A)	
Davangere (Package no. 01DVG01)	Base line	Ashraya valley Near NH 4	20.05.2015	62.2	73.3	70.3	51.4	62.5	59.5	R
		Near SPS Nagar school	20.05.2015	65.4	69.0	67.6	53.5	64.6	61.6	S
		Pune Bangalore Road near Sagar Motors	20.05.2015	63.1	74.2	71.2	54.1	65.2	62.2	C
	<b>Average Base line</b>			<b>63.5</b>	<b>72.2</b>	<b>69.7</b>	<b>53.0</b>	<b>64.1</b>	<b>61.1</b>	
	During Construction	Pre casting yard near Kendagi Road (near DG set room)	23.12.2015	71.9	74.5	73.9	58.8	69.9	66.9	I
		Ward 1 Ashok nagar	23.12.2015	56.8	67.9	64.9	55.3	58.2	56.4	R
		Ward 36 (part 1) Shivkumar Badavane	23.12.2015	69.1	70.8	69.9	57.3	68.4	65.4	R
	<b>Average During construction</b>			<b>65.9</b>	<b>71.0</b>	<b>69.6</b>	<b>57.1</b>	<b>65.5</b>	<b>62.9</b>	
	During Construction	2 <sup>nd</sup> Main Vinoba nagar	24.06.2016	72.6	75.6	74.0	58.2	63.0	59.6	R
		P B Road near Avaragere bus stop	24.06.2016	68.2	80.3	72.9	55.3	68.3	61.1	R
		Jaynagar B block , Opposite to	24.06.2016	69.8	74.5	71.5	58.3	65.3	61.6	S

Town	Phase	Sampling Locations	Date of Monitoring	Day Time			Night Time Leq dB(A)			Noise Zone
				L Min dB(A)	L Max dB(A)	Leq dB(A)	L Min dB(A)	L Max dB(A)	Leq dB(A)	
		Church								
	<b>Average During construction</b>			<b>70.2</b>	<b>76.8</b>	<b>72.8</b>	<b>57.3</b>	<b>65.5</b>	<b>60.8</b>	
	During Construction*	Ward no. 4 SSM Nagar (day time work)	30.12.2016	65.4	69.0	67.6	-	-	-	R
		Ward no. 8 SMK Nagar (day time work)	30.12.2016	53.5	64.6	61.6	-	-	-	R
		Ward no. 36 Shivakumar Badavane (night time work)	30.12.2016	-	-	-	54.1	65.2	62.2	R
		Pre - Casting Yard DG Shed Room	30.12.2016	58.8	69.9	66.9	71.9	74.5	73.9	I
	<b>Average During construction*</b>			<b>59.2</b>	<b>67.8</b>	<b>65.3</b>	<b>63.0</b>	<b>69.8</b>	<b>68.0</b>	
<b>Davangere (Package No. 01DVG01A)</b>	Base line	20 MLD STP	08.12.2015	49.4	55.6	53.5	-	-	-	I
		5 MLD S TP	08.12.2015	60.8	70.1	65.7	-	-	-	I
	<b>Average Base line</b>			<b>55.1</b>	<b>62.8</b>	<b>59.6</b>	-	-	-	
	During Construction	20 MLD STP	16.03.2016	62.4	68.9	68.1	-	-	-	I
		5 MLD S TP	16.03.2016	62.1	69.8	68.6	-	-	-	I
	<b>Average During construction</b>			<b>62.2</b>	<b>69.3</b>	<b>68.3</b>	-	-	-	
	During Construction	20 MLD STP	21.06.2016	53.8	57.8	55.3	-	-	-	I
		5 MLD S TP	21.06.2016	50.3	56.0	52.1	-	-	-	I
	<b>Average During construction</b>			<b>52.0</b>	<b>56.9</b>	<b>53.7</b>	-	-	-	
	During Construction*	20 MLD STP	13.09.2016	66.7	70.0	68.5	-	-	-	I
		5 MLD S TP	13.09.2016	68.8	72.5	70.4	-	-	-	I
	<b>Average During construction*</b>			<b>67.7</b>	<b>71.2</b>	<b>69.4</b>				
	During Construction*	20 MLD STP	03.12.2016	64.2	74.0	70.7	-	-	-	I
		5 MLD S TP	03.12.2016	68.5	74.0	71.2	-	-	-	I
	<b>Average During construction*</b>			<b>66.3</b>	<b>74.0</b>	<b>70.9</b>				
<b>Harihar (Package</b>	Base line	Near STP site Kirloskar Factory	05.05.2015	60.0	68.6	63.0	54.3	65.4	62.4	I

Town	Phase	Sampling Locations	Date of Monitoring	Day Time			Night Time Leq dB(A)			Noise Zone
				L Min dB(A)	L Max dB(A)	Leq dB(A)	L Min dB(A)	L Max dB(A)	Leq dB(A)	
no. 01HRA01)		Near Anjaneya Temple Amaravathi	05.05.2015	49.3	61.6	61.1	50.4	61.5	58.5	S
		Guttur Colony Near Panchyat office	05.05.2015	58.9	69.7	62.7	53.6	64.7	61.7	R
	<b>Average Base line</b>			<b>56.0</b>	<b>66.6</b>	<b>61.9</b>	<b>52.8</b>	<b>63.9</b>	<b>60.9</b>	
	During Construction	Near STP site Kirloskar Factory	15.12.2015	58.0	67.5	62.75	52.3	62.5	57.40	I
		Near Anjaneya Temple Amaravathi	15.12.2015	51.2	63.5	57.35	47.85	59.25	53.55	S
		Guttur Colony Near Panchyat office	15.12.2015	57.5	68.6	63.05	54.5	68.8	59.15	R
	<b>Average During construction</b>			<b>55.6</b>	<b>66.5</b>	<b>61.05</b>	<b>51.5</b>	<b>63.5</b>	<b>56.7</b>	
	During Construction *	Near STP site Kirloskar Factory	28.06.2016	58.0	67.5	62.75	53.28	61.47	58.30	I
		Vidyanagar	28.06.2016	51.20	63.50	57.35	47.74	58.35	53.46	R
		Guttur near Govt. School	28.06.2016	57.40	69.10	63.05	54.38	63.70	59.28	S
	<b>Average During construction*</b>			<b>55.5</b>	<b>66.7</b>	<b>61.0</b>	<b>51.8</b>	<b>61.7</b>	<b>57.0</b>	
	During Construction *	Prasanth Nagar	24.10.2016	41.20	53.50	47.35	40.74	51.23	45.98	R
		STP site near Kirloskar factory	24.10.2016	55.0	62.50	58.75	50.28	59.47	54.88	I
		A K Colony, Guttur	24.10.2016	57.40	69.10	63.05	54.38	63.70	59.28	R
	<b>Average During construction*</b>			<b>51.2</b>	<b>61.7</b>	<b>56.4</b>	<b>48.5</b>	<b>58.1</b>	<b>53.4</b>	
Byadgi UGD 01BDG01	Base Line monitoring*	Bettaad Malleshwar Social Welfare Office (Ashray Colony)	16.09.2016	66.8	70.3	69.5	-	-	-	R
		Old Police station	16.09.2016	69.4	75.8	72.7	-	-	-	R
		STP land	16.09.2016	67.3	71.0	69.5	-	-	-	I
		Near Nehru Chawak (KSRTC Bus stand)	16.09.2016	70.3	75.6	74.5	-	-	-	R
		Near Town Municipal office	16.09.2016	69.4	74.8	72.4	-	-	-	C

Town	Phase	Sampling Locations	Date of Monitoring	Day Time			Night Time Leq dB(A)			Noise Zone
				L Min dB(A)	L Max dB(A)	Leq dB(A)	L Min dB(A)	L Max dB(A)	Leq dB(A)	
	<b>Average Base line*</b>			<b>68.6</b>	<b>73.5</b>	<b>71.7</b>				

\* Monitoring conducted during report period July to December 2016

**Package no. 01DVG01**= 3 samples on 30.12.2016

**Package No. 01DVG01A**= 4 samples on 13.09.2016 (2 nos.) and 03.12.2016 (2 nos.)

**Package no. 01HRA01**= 3 samples on 24.10.2016

**Package no. 01BDG01** = 5 samples on 16.09.2016

CPCB Limits for Industrial area (I): Day Time= 75 dB(A), Night Time (9 PM to 6 AM)= 70 dB(A)

Commercial (C) area: Day Time= 65 dB(A), Night Time (9 PM to 6 AM)= 55 dB(A)

Residential (R) area :Day Time= 55 dB(A), Night Time (9 PM to 6 AM)= 45 dB(A)

Silence Zone (S): Day Time= 50 dB(A), Night Time (9 PM to 6 AM)= 40 dB(A)

28. For Davangere STP package monitoring has been conducted for raw and treated sewage. There is considerable increase of dissolved oxygen and decrease of BOD after treatment. Effluent quality result is enclosed in **Appendix 9**.

29. A performance monitoring fact sheet has been prepared to facilitate tracking and quick reference on environmental monitoring of Project 1 subproject packages (**Tables 13 and 14**).

**Table 13: Performance Fact Sheet for Required Environmental Consents/Clearances of KIUWMIP Project 1 (Package-wise)**

	Package	Name of Contractor	EMP Part of contract Document(Yes / No)	Environmental Consents / Clearances Required					
				Tree Cutting	Crusher	Batching Plant	Hot Mix Plant	Diesel Generator Set	Pollution Under Control (PUC) Certificates for Contractor's Vehicles
1	Providing expansion of sewage system in Harihar city – <b>Package No. 01HRH01</b>	SHRIRAM EPC Ltd.	Yes	Not required till date	Not required	Not required as per present work	Not required as per present work	Not required as per present work	Not obtained
2	Expansion of Sewage System in Davangere City (District 1 & 3) – <b>Package No. 01DVG01</b>	SIMPLEX Infrastructure Limited	Yes	Not required till date	Not required	Not required as per present work	Not required as per present work	Not functioning Application send for Consent	Obtained for contractor's vehicle & equipment
3	Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP, <b>Package No. 01DVG01A</b>	HNB Engineers Pvt. Ltd.	Yes	Not required till date	Not required	Established Consent to Operate received	Not required	Required Consent obtained	Partially obtained
4	Design, Build, Operate & Maintain for 6 years for Byadgi comprehensive scheme from covering SBR STP (5 MLD), network and manholes, construction of one septic tank and provision of HSCs, <b>Package No. 01BDG01</b>	Shriram EPC-Eurotek Environmental Private Limited - JV	Yes	Not required till date	Not required	Not required till date	Not required	Not required	To be obtained



**Table 14: Performance Fact Sheet for EMP Implementation of KIUWMIP Project 1 (Package-wise)**

	Package Number	Name of Contractor	EMP Part of contract Document(Yes / No)	Contractor Social/ Environment Person <sup>1</sup>	Overall Status of EMP Implementation	Field to be Monitored as per EMP												
						Source of Materials	Camp Sites	Landscape and Aesthetics	Air Quality	Noise Level	Traffic	Ecological Resources – Terrestrial	Accessibility	Water Quality	Occupational Health & safety	Community Health & safety	Socio cultural resources	Employment generation
						In compliance (2) / Partial Compliance (1) / Not in compliance (0) / Not applicable (n/a)												
1	Providing expansion of sewage system in Harihar city – <b>Package No. 01HRA01</b>	SHRIRAM EPC Ltd.	Yes	Nominated	Complied	2	1	1	2	2	2	NA	2	NA	2	2	1	2
2	Expansion of Sewage System in Davangere City (District 1 & 3) – <b>Package No. 01DVG01</b>	SIMPLEX Infrastructure Limited	Yes	Nominated	Complied	2	2	2	2	2	2	NA	2	NA	1	2	1	2
3	Improvements to sewerage system in Davangere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP, <b>Package No. 01DVG01A</b>	HNB Engineers Pvt. Ltd.	Yes	Nominated	Complied	2	2	2	2	2	NA	NA	2	NA	1	2	NA	2
4	Design, Build, Operate & Maintain for 6 years for Byadgi comprehensive scheme from covering SBR STP (5 MLD), network and manholes, construction of one septic tank and provision of HSCs, <b>Package No. 01BDG01</b>	Shriram EPC-Eurotek Environmental Private Limited - JV	Yes	Nominated	Complied	2	NA	2	1	2	2	NA	2	NA	2	2	2	2

Note calculation of numerical value for determining performance status- Calculation is based on addition of numerical value like below-

**Package No. 01HRA01**= Total score- 2+1+1+2+2+2+2+2+1+2= 19. Number of operated field=11, **Then- 19/11=1.72≈ 2, More than 1.5, Complied**  
**Package No. 01DVG01**= Total score- 2+2+2+2+2+2+2+1+2+1+2= 20. Number of operated field= 11. **Then – 20/11=1.81≈ 2, More than 1.5, Complied**  
**Package No. 01DVG01A**= Total score- 2+2+2+2+2+2+1 +2+2= 17. Number of operated field= 9. **Then – 17/9=1.89 ≈ 2, More than 1.5, Complied**  
**Package No. 01BDG01**= Total score- 2+2+1+2+2+2+2+2+2= 19, Number of operated field= 10. **Then – 19/10=1.9 ≈ 2, More than 1.5, Complied**

<sup>1</sup>Nomination of Environmental & Social Safeguard Officer by Contractor(Nominated / Yet to be Nominated)

## VI. CONSULTATIONS AND DISCLOSURES CONDUCTED

30. As per approved IEE, consultations and disclosure will be a continuous process throughout Project 1 implementation involving public consultations and focus group discussions. Field level consultation has been done at Davangere and Harihar during the report period. Sample filled public consultation format is attached as **Appendix 13**.

31. During implementation of project general discussion has been done with the local public at Davangere and Harihar along pipe laying locations of impact zone. Such consultation is basically one to one discussion with public and generally to be continued throughout the construction period. The issues like requirement of restoration of utility services, removal of overburden soil, road restoration done or not, dust and noise pollution during implementation of the project, community safety arrangement, availability of public access have been discussed and views has been tabulated.

32. Outcome of consultation as follows,

- ✓ There is no issue on impact of utility services like PHE line etc.
- ✓ Excess earth removed in most of the cases. Public have no complaint on that
- ✓ Road restoration done without affecting the public
- ✓ There is minimum impact due to generation of dust and noise from project activity
- ✓ Arrangement of caution tape is done in most of the cases. No public complaint
- ✓ Local movement of public is not affected. Alternate access provided

33. The indicative schedule for consultations and disclosure is presented in **Table 15**.

**Table 15: Indicative Schedule for Consultations and Disclosure**

Type of Consultation/Disclosure	Target Date	Location	Target Participants	Responsible Person and Source of Funds
Local level consultation	Weekly – to be continued	At construction all locations	General public, shop keepers, pedestrian population	Construction supervisor, Environment & safety officer of contractor Project budget – continuous process
Consultation – safety issues, implementation of EMP	By-monthly	Davangere, Byadgi and Harihar	Supervisor Engineer, PIU Engineer, all safety and environment staff of contractors	Resident Engineer, Environment specialist of PMDCSC, Asst Executive Engineer (Environment) PMU

34. During the report period safeguard orientation program on safety and environment has been arranged for new Byadgi UGD and STP contractor, supervisors of PMDCSC at PIU office, Byadgi. Training details is attached as **Appendix 14**.

35. Environment Specialist from ADB Head Office, Manila has conducted orientation training on “Safe guards “ at Bangalore Head office KUIDFC on 19<sup>th</sup> Sep 2016 for contractors, PIU and RPMU selected staff.

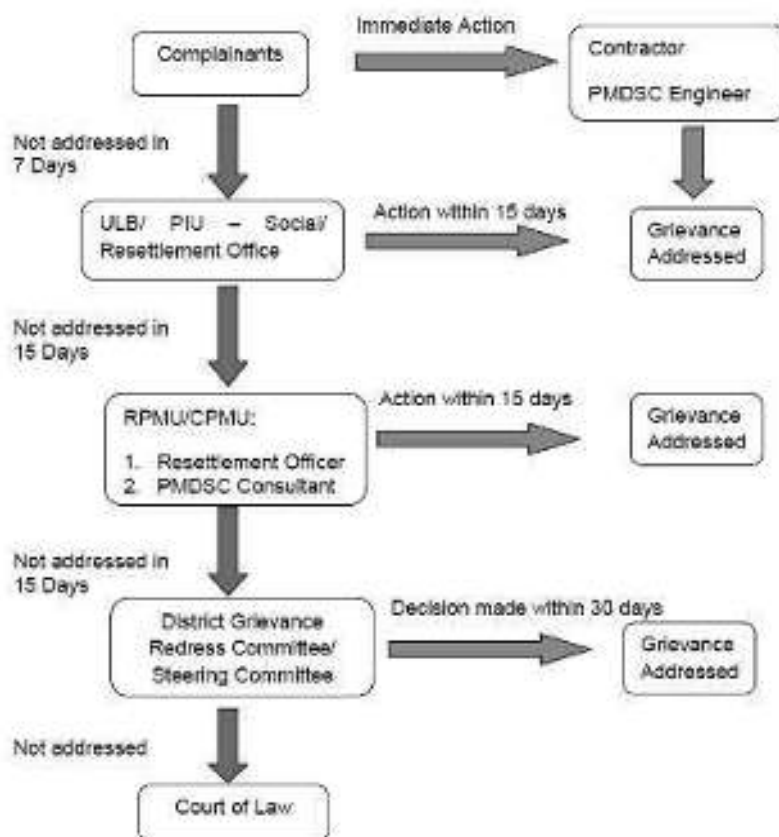
## VII. GRIEVANCE REDRESS MECHANISM

36. As per approved IEE, a project-specific grievance redress mechanism (GRM) being established to receive, evaluate and facilitate the resolution of affected people's concerns, complaints and grievances about the social and environmental performance at the level of the Project. The GRM aims to provide a time-bound and transparent mechanism to voice

and resolve social and environmental concerns linked to the project. The project-specific GRM is not intended to bypass the government's own redress process; rather it is intended to address affected people's concerns and complaints promptly, making it readily accessible to all segments of the affected people and is scaled to the risks and impacts of the project.

37. The GRC/SC for the project will be headed by Dy. Commissioner (DC) of the district with members as followed: (1) ULB Commissioners of project towns, (2) Revenue Department (Registrar) official, (3) RPMU Social safeguard/ R&R Officer of KIUWMIP, (4) ULB officer who will convene the periodic meeting of GRC and will shoulder responsibility of keeping records of grievances/ complaints in details with help from resettlement NGO. Other members, such as, NGO/CBO representatives, wards council representatives, DPs' representatives will be selected by the ULB Commissioner to represent in the GRC/SC meeting. NGO should also deploy one person in the team who will be responsible for coordinating with all GRC members and the DPs for grievance redress.

38. In the event when the established GRM is not in a position to resolve the issue, Affected Person also can use the ADB Accountability Mechanism (AM) through directly contact (in writing) to the Complaint Receiving Officer (CRO) at ADB headquarters or to ADB Indian Resident Mission (INRM). The complaint can be submitted in any of the official languages of ADB's DMCs. The ADB Accountability Mechanism information will be included in the PID to be distributed to the affected communities, as part of the project GRM. A Grievance Redress Mechanism is shown in the **Figure 3**.



**Figure 3: Grievance Redress Process**

39. The PIUs will make the public aware of the GRM through public awareness campaigns. Grievances can be filed in writing using the Complaint Register and Complaint

Form or by phone with any member of the PIU. The contact phone number of the respective PIUs and the RPMU will serve as a hotline for complaints and will be publicized through the media and placed on notice boards outside their offices and at construction sites.

40. Project level GRC has been set up on 7<sup>th</sup> August 2015. Office memorandum is attached as **Appendix 15**.

41. Already complaint register and accident register open at contractor level. Sample copy of registration of grievances and addressing of grievances is attached as **Appendix 16**. Till date all grievances are resolved at contractor level. Accident record is available with the contractor. The status of accident is shown in **Appendix 17**. There is no major accident is reported during the report period.

### VIII. FINDINGS AND RECOMMENDATIONS

42. Based on environmental monitoring conducted during July to December 2016, KIUWMIP Project 1 is in mixed (partial to fully complied) compliance level of environmental safeguards. The main non-compliances include:

- Advance information to the locals and shopkeepers at pipe laying area of Davangere and Harihar is not always provided. Time period for construction work for particular area and contact details of PIU, consultant in project display board for any grievances or suggestion should be included
- EMP implementation induction for workers of sewage treatment plant and tool box training at Davangere STP project is not regular. Proper recording of toll box training is also missing
- Need to improve use of PPE by contractor's workers. Use of PPE should be at all times as per site condition and work type. Particularly use of ear plugs by the equipment operator during operation of concrete road breaker is not done
- Disposal of excess earth/ spoil not done on regular basis particularly for Harihar UGD package
- Improvement of labour camp housekeeping at Harihar STP location is the issue
- PUC certificates need to be collected for Byadgi UGD and STP package
- Arrangement of labour camp for Byadgi UGD & STP package

43. **Table 16** provides the recommended corrective action plan to address the non-compliances and partially compliances..

**Table 16: Corrective Action Plan**

	Non-compliance Issues	Action Required	Responsible	Target Date	Indicator of Compliance
1	Advance information to the locals and shopkeepers at pipe laying area of Davangere and Harihar is not always provided. Time period for construction work for particular area and contact details of PIU, consultant in project display board for any grievances or	Arrangement of display board with all information. Advance information for locals including shopkeepers before starting of the work	Contractor	20 <sup>th</sup> February 2017	Information disclosure Public consultation

	<b>Non-compliance Issues</b>	<b>Action Required</b>	<b>Responsible</b>	<b>Target Date</b>	<b>Indicator of Compliance</b>
	suggestion should be included				
2	EMP implementation induction for workers of sewage treatment plant and tool box training at Davangere STP project is not regular. Proper recording of toll box training is also missing	Induction and toll box training on regular basis	Contractor	On regular basis with record	Training document , photographs
3	Need to improve use of PPE by contractor's workers. Use of PPE should be at all times as per site condition and work type. Particularly use of ear plugs by the equipment operator during operation of concrete road breaker is not done	Use of PPE should be at all times as per site condition and work type.	Contractor	On regular basis with record	Availability and use of PPE
4	Disposal of excess earth/ spoil not done on regular basis particularly for Harihar UGD package	Disposal of excess earth/ spoil on regular basis	Contractor	20 <sup>th</sup> February 2017 and to be continued	Improvement of site aesthetic condition
5	Improvement of labour camp housekeeping at Harihar STP location is the issue	Improvement of housekeeping and access	Contractor	20 <sup>th</sup> February 2017	Site observation
6	PUC certificates need to be collected for Byadgi UGD and STP package	Submission of PUC certificate for equipment and vehicles engaged in the project	Contractor	20 <sup>th</sup> February 2017	PUC certificate
7	Arrangement of labour camp for Byadgi UGD & STP package	Need urgently with all facility as per EMP	Contractor	20 <sup>th</sup> February 2017	Site observation and record

## Davangere UGD

92

# 5 MLD STP Davangere


**HNS ENGINEERS PVT. LTD.**  
 Engineer & Turnkey Contractors

Manufactured Payment Program statement for the work of Design, Supply, Installation, Commissioning and Maintenance of 5 mld sewage Treatment Plant using Septic Tank Activator (STP/GAP) in the 5th Ward Davangere, Davangere.

Project No. 320VGE04  
 Agreement No. 1/2015-16 dated 15/06/2015 & later amended dated 20/06/2015  
 CONTRACTOR: M/s. HNS ENGINEERS PVT. LTD. Davangere

CONTRACT COMPLETION DATE: 20/06/2017

Sr. No.	Description of work	MTS Value	Actual Milestone												Total Physical Resources %	Total Financial Resources, R. Value
			Dec-15	Nov-15	Oct-15-Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16		
<b>Schedule A: Personnel Allocation/Supply (agreed from earlier approved program)</b>																
	Physical	27%					1.5%	3.5%	1.0%	1.0%		6.5%	8.5%	18.5%	8.5%	1.5%
	Financial	300					40	90	10	10		18	20	200	90	20
<b>Schedule B: Group resources</b>																
	Physical	100%	10.00%	20.00%	10.00%	10.00%	0.4%	0.00%			2.00%	0.00%	0.00%			0.70%
	Financial	30	3	6	3	3	0.1	0			0.2	0	0			0.2
<b>Schedule C: Material and other resources</b>																
	Physical												11.00%	27.25%	18.50%	0.221%
	Financial	20											11.00	27.25	18.50	0.221
<b>Schedule D: O. OPS. MGMT</b>																
	Physical					0.20%	4.50%	0.10%	2.20%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%
	Financial	400				20	90	10	40	0	0	0	0	0	0	0
<b>GRAND TOTAL C. MTD-17</b>																
	Physical					1%	0.10%	1.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Financial	1000				20	90	10	40	0	0	0	0	0	0	0
	Physical												10.00%	27.25%	18.50%	0.221%
	Financial	1000											10.00	27.25	18.50	0.221


*Signature*  
 Mr. P. S. S. S. S.  
 Managing Director  
 HNS Engineers Pvt. Ltd.



Checked & Verified  
*Signature*  
 G.M. Senthil Kumar

APPROVED  
*Signature*  
 Executive Engineer  
 H.L.V.M.L.F. Co.  
 City Corporation, DAVANGERE.

## 20 MLD STP Davangere


**HNB ENGINEERS PVT. LTD.**  
 Engineers & Survey Contractors

Physical and Financial Progress statement for the Work of Bridge, Supply, installation, commissioning and Maintenance of 20 MLD Sewage Treatment Plant using Decentralised Sewer System (DSS/WSR) in R.R. Nagar, Davangere.  
 Package No. 000000000  
 Agreement No. 2/191-16 Dated 11/04/2016  
 Contract No. HNB/2016/STP, L1, P&S

Contract Completion Date 30/05/23

Sl. No.	Description Of Work	BBO Value	1st Milestone												2nd Milestone												3rd Milestone												Total Physical Progress (%)	Total Financial Progress (%)
			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	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17																		
Schedule 1: Plant and Accessories Items Supplied from vendor, Employees Salary																																								
	Physical	100%																																						
	Financial	100%																																						
Schedule 2: Design services																																								
	Physical																																							
	Financial	440																																						
Schedule No. 3: A. Installation and other services																																								
	Physical																																							
	Financial	30																																						
Schedule No. 4: B. Civil works																																								
	Physical																																							
	Financial	1207																																						
OVERALL FOR THE PROJECT																																								
	Physical	3344																																						
	Financial	2531																																						
	Physical																																							
	Financial	2531																																						

*[Signature]*  
**Mr. P. J. RAJ**  
 Manager Projects  
 HNB Engineers Pvt. Ltd.

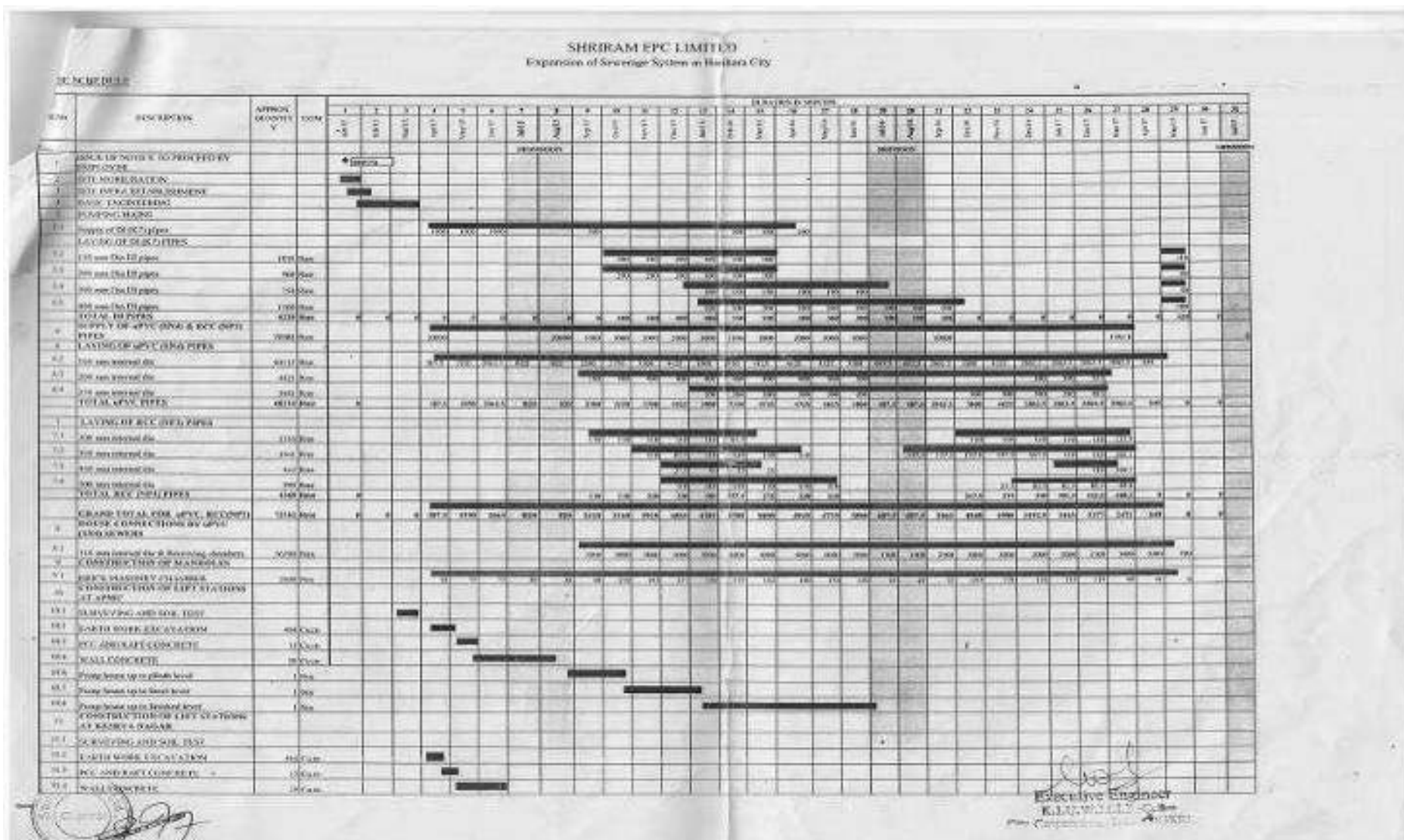


Checked & Verified  
*[Signature]*  
 D-N  
 DSN Consult GmbH

APPROVED  
*[Signature]*  
**Executive Engineer**  
 E.L.V.M.P., CH  
 City Corporation, DAVANGERE.



## Sewerage & STP work - Harihar



ISSN 0013-788X

Sept. 1[illegible]

© 2002 Blackwell Science Ltd

Executive Director  
KLUWIDE  
On: [illegible] [illegible]

## Byadgi UGD

[illegible]

Project Manager  
 Mr. ORSON: 0711-6705-11

Checked & Verified  
B. J. Hunter, E. W.

APPROVED

*H. P. Rana*  
Executive Engineer  
LUDPC, MUWNP (PMD)  
Bengaluru.

## Appendix 2: Photo Illustration



**Laying of RCC Pipeline P.B Road, Davangere**



**Undisturbed utility at P. B. road, Davangere**



**Partial use of PPE by worker**



**Caution tape noted at pipe laying area**



**Road restoration work going on – use of compactor noted**



**Pipe laying work continued. Use of caution tape - noted**



**Labour Camp for Davangere UGD work package**



**Inside arrangement – Davangere UGD labour camp**



**Use of PPE by worker of Davangere UGD package**



**Proper demarcation of road alignment before piper laying**



**Construction of 20 MLD STP SBR technology at Davangere**



**Construction of Primary Treatment Unit at 5 MLD STP at Davangere**





**Construction of Pump house at 5 MLD STP at Davangere**



**Construction of Sludge platform at Davangere STP site**



**Work continued at Davangere STP. Barricading noted at excavated area**



**KSRTC Depot. Road pipe laying work (at Harihar) continued. Partial use of PPE noted**



**Construction of Brick Masonary Manhole at Guttur, Harihar**



**Construction of Pump house at Guttur Wet Well**



**Work continued at Harihar STP**



**First aid box available at site office  
Harihar**



**Safety signage at Harihar STP location**



**Construction of Pump house at  
Amaravathi Wet Well at Harihar**



**Construction of Baffle wall at STP Harihar**



**Caution board properly placed at pipe  
laying area of Harhar**



**Caution tape noted at pipe laying work area of Harihar**



**Construction of Manhole continued at Harihar**



**Work continued at Harihar STP- Use of PPE noted**



**Work continued at Harihar STP- Use of PPE noted**



**Safety Induction Training had given to worker**



**Warning Signs and Caution Tape Provided at Vidyanagar, Byadgi**





**Caution tape and barricade at Vivekanandanagar, Byadgi**



**Use of PPE by workers at Vivekanandanagar, Byadgi**



**Construction of Brick Masonry Manhole going on. Use of PPE noted at Byadgi UGD project**



**Excavation going on for pipe laying work at Byadgi**

**Monitoring Budget**

**Davangere- Sewerage (Package: 01DVG01)**

**SIMPLEX INFRASTRUCTURES LIMITED**

**EXPANSION OF SEWERAGE SYSTEM IN DAVANGERE CITY (DISTRICT 1&3)**

**ANNUAL BUDGET OF IMPLEMENTATION MITIGATION & MONITORING  
PROGRAMME**

- COST OF SAFETY OFFICER(ANNUAL CTC)- 6 LAKH**
- ENVIRONMENTAL MOINTORING CHARGES-2.5 LAKH**  
(noise, air, water, pollution)
- PPES,DISPLAY BOARDS,RESCUE KIT- 7 LAKH**

**(HELMET, GUMBOOT,SAFETY JACKET ,NOSE MASK,SAFETY Belt etc)**

**TOTAL – 15.5 LAKH approx.**

**Davanagere- Sewage Treatment Plant (Package: 01DVG01A)**

**HNB ENGINEERS .PVT.LTD**  
**5MLD & 20MLD STP –DAVANAGERE**

**Name of Employer:-** The commissioner, City corporation Davanagere

**Name of Clients :-** The Executive Engineer ,project Implement Unit, KUDIFC-KIUWIP,Davanagere ,  
City corporation no.1976/9, Shmunur Road Mcc A Block, Asharya Hospital,  
Davanagere, Karnataka.577004.

**Name of work :-**Design Supply , Installation & Commissining of Sewage Treatment Plants Sequential Batch Reactors (SBR/CASP)Of 20MLD Capacity in District 1&5 MLD Capacity in District 3 of Davanagere City corporation Davanagere including Operation and maintenance for three years, Phase:II

**BUDGET OF IMPLEMENTATION MITIGATION AND MONITORING PROGRAMME (ANNUAL BUDGET)-2016-17**

- 1. COST OF SAFTEY OFFICER (ANNUAL CTC) -  
5.00 LAKH**
- 2. MONITORING CHARGES (NOISE,AIR,HYDROCARBON,WATER,POLLUTION)-  
4.00 LAKH**
- 3. SAFTEY AND PPP EQUIPMENTS FOR SITE AND OFFICE-  
7.00 LAKH**

(Helmet, Gumboot, Saftey Jacket,Mask,Saftey Belt,Saftey Board,  
Volunteer, Oxygen, Hand Gloves, Sunglass, Saftey Divider/Barrier,  
First Aid Box With Medicine,Red Danger Tape,Saftey Signs,Saftey Net,Saftey Lights,Saftey  
Mirror,Barricadding Board,Extinguisher,Rubbish Bin,Fire  
Alarm, Fire Hose Roll, Bio Toilet, Insects Killer Liquids, Circular Cutter With Noise Barrier For  
Tmt Cutting, Silent Dg Set.)

<b>TOTAL-</b>	<b>16.00 LAKH</b>
---------------	-------------------

**Harihar – Sewerage and Sewage Treatment Plant (Package: 01HRA01)**

**Monitoring budget for the year 2016-17**

**Package: Expansion of Sewerage System In Harihar City, KIUWMIP**

**SHRIRAM EPC LTD**

**BUDGET OF IMPLEMENTATION MITIGATION AND MONITORING PROGRAMME (ANNUAL BUDGET)**

4.	COST OF SAFTEY OFFICER (ANNUAL CTC) -	5.5 LAKH
5.	MONITORING CHARGES (NOISE,AIR,HYDROCARBON,WATER,POLLUTION)-	2.0 LAKH
6.	SAFTEY AND PPP EQUIPMENTS FOR SITE AND OFFICE-	6.0 LAKH

(Helmet, Gumboot, Saftey Jacket,Mask,Saftey Belt,Saftey Board,  
Volunteer, Oxygen, Hand Gloves, Sunglass, Saftey Divider/Barrier,  
First Aid Box With Medicine,Red Danger Tape,Saftey Signs,Saftey Net,Saftey Lights,Saftey Mirror,Barricadding  
Board,Extinguisher,Rubbish Bin,Fire  
Alarm, Fire Hose Roll, Bio Toilet, Insects Killer Liquids, Circular Cutter With Noise Barrier For Tmt Cutting, Silent  
Dg Set.)

TOTAL-		13.5 LAKH
--------	--	-----------

## Appendix 4

### Compliance against CFE condition

#### Davangere- Sewage Treatment Plant – 20 MLD STP (Package: 01DVG01A)

Sl. No	CFE Conditions	Compliance
1	This Consent for Establishment is valid for five years from date of issue.	As per plan establishment work will be completed within 5 years
2	This consent is related only to the pollution aspects of said project with respect to said location and this consent is in no way construed to give any right in any nature to the applicant what so ever in this regard, and shall obtain all statutory clearances before commencement of the project.	All statutory clearances will be obtained before commissioning of the treatment plant
3	The CC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.	In case of expansion/ diversification/ modernization/ change of sites etc. prior clearance will be obtained from pollution control board
4	The CC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.	Necessary license/ clearance from other relevant statutory agencies will be obtained before starting up construction
5	There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution	Before establishment of STP consultation has been done with surrounding public and assured local people on application of mitigation measures for non pollution of environment from treatment plant
6	The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.	Project authority (City Corporation Davangere) submitted land documents of the proposed site to the Board before getting consent for establishment
7	The applicant shall not discharge treated sewage into nala/river.	Treated water will be utilized for irrigation purpose
<b>I. Specific Conditions</b>		
1	The CC shall up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system.	City Corporation Davangere would up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system
2	The CC shall provide UGD facility for the entire City Corporation and report to the Board	Under the separate project CC already taken up UGD facility for the entire City Corporation (work ongoing) and informed to Board during consent application
3	The CC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.	CC already planned for 100 mts buffer zone around the Sewage Treatment Plant area
4	The CC shall take adequate measures to avoid any entry to treated /untreated sewage into nearby nalla	The CC took adequate measures in design to avoid any entry to treated /untreated sewage into nearby nalla
5	The responsibility to execute, commission, operation and maintenance of the STP will be taken by CC authorities only.	City Corporation Davangere have already taken responsibility to execute, commission, operation and maintenance of the STP
6	The CC shall ensure that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt shall be developed around the STP site	The CC ensured that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt will be developed around the STP site

Sl. No	CFE Conditions	Compliance
7	The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court	Noted
8	The CC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977 within three months.	CC would pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977
<b>II. Water Pollution Control</b>		
1	The treatment plant shall be used for the treatment of sewage only, at any point of time.	The treatment plant will be used for the treatment of city sewage
2	The treatment plant shall be used for the treatment of sewage not exceed 20 MLD	The treatment plant will be used for the treatment of sewage upto 20 MLD
3	The CC shall treat the sewage in the STP as per the proposals submitted to the Board.	The CC will treat the sewage in the STP as per the proposals submitted to the Board
4	The CC shall utilize the treated sewage for irrigation purpose after treating the same to the stipulated standards	As per design the CC will utilize the treated sewage for irrigation purpose after treating the same upto the stipulated standards
5	All the treatment units shall be made totally impervious	Considered in the design
6	The CC is liable to reinstate/ restore, damaged or destroyed elements of environment at its cost, failing which the applicant/ occupier as the case may be/shall be liable to pay the entire cost of remediation or restoration and pay in advance an amount equal to the cost estimated by competent agency or committee.	Agreed
7	The separate flow meter shall be installed to record hourly inflow & outflow of domestic effluent into the STP and maintain logbooks for hourly recording for verification of inspecting officers.	The separate flow meter will be installed to record hourly inflow & outflow of domestic effluent into the STP and logbooks will be maintained for hourly recording for verification
<b>III. Solid Waste (other than Hazardous waste) disposal</b>		
	The solid wastes collected in the treatment plant premises in the form of general garbage shall be disposed off sufficiently to the satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind	Solid waste from the plant will be disposed off sufficiently to the approved site with satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind
<b>IV. General</b>		
1	The authority shall immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities shall immediately take appropriate corrective and preventive actions under intimation	CC Davangere will immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities will immediately taken up appropriate corrective and preventive actions under intimation
2	Exact date of commissioning of the Sewage Treatment Plant shall be informed to this Board 45 days in advance so as to make necessary inspection of the plant and the pollution control measures provided by the authorities	Date of commissioning of the Sewage Treatment Plant will be informed to the Board 45 days in advance
3	The applicant shall comply with all the rules and guidelines issued from time to time	CC Davangere will comply with all the rules and guidelines issued from time to time
4	The Board reserves right to review and impose additional condition or conditions revoke, change or alter the terms and conditions	Agreed
5	The CFE does not give any right to the Party/	Noted

Sl. No	CFE Conditions	Compliance
	Project Authority/ Industry to forego any requirement that is necessary for starting operation of the plant	

**Davangere- Sewage Treatment Plant – 5 MLD STP (Package: 01DVG01A)**

Sl. No	CFE Conditions	Compliance
1	This Consent for Establishment is valid for five years from date of issue.	As per plan establishment work will be completed within 5 years
2	This consent is related only to the pollution aspects of said project with respect to said location and this consent is in no way construed to give any right in any nature to the applicant what so ever in this regard, and shall obtain all statutory clearances before commencement of the project.	All statutory clearances will be obtained before commissioning of the treatment plant
3	The CC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.	In case of expansion/ diversification/ modernization/ change of sites etc. prior clearance will be obtained from pollution control board
4	The CC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.	Necessary license/ clearance from other relevant statutory agencies will be obtained before starting up construction
5	There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution	Before establishment of STP consultation has been done with surrounding public and assured local people on application of mitigation measures for non pollution of environment from treatment plant
6	The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.	Project authority (City Corporation Davangere) submitted land documents of the proposed site to the Board before getting consent for establishment
7	The applicant shall not discharge treated sewage into nala/river.	Treated water will be utilized for irrigation purpose
<b>I. Specific Conditions</b>		
1	The CC shall up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system.	City Corporation Davangere would up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system
2	The CC shall provide UGD facility for the entire City Corporation and report to the Board	Under the separate project CC already taken up UGD facility for the entire City Corporation (work ongoing) and informed to Board during consent application
3	The CC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.	CC already planned for 100 mts buffer zone around the Sewage Treatment Plant area
4	The CC shall take adequate measures to avoid any entry to treated /untreated sewage into nearby nalla	The CC took adequate measures in design to avoid any entry to treated /untreated sewage into nearby nalla
5	The responsibility to execute, commission, operation and maintenance of the STP will be taken by CC authorities only.	City Corporation Davangere have already taken responsibility to execute, commission, operation and maintenance of the STP

Sl. No	CFE Conditions	Compliance
6	The CC shall ensure that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt shall be developed around the STP site	The CC ensured that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt will be developed around the STP site
7	The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court	Noted
8	The CC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977 within three months.	CC would pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977
<b>II. Water Pollution Control</b>		
1	The treatment plant shall be used for the treatment of sewage only, at any point of time.	The treatment plant will be used for the treatment of city sewage
2	The treatment plant shall be used for the treatment of sewage not exceed 5 MLD	The treatment plant will be used for the treatment of sewage upto 5 MLD
3	The CC shall treat the sewage in the STP as per the proposals submitted to the Board.	The CC will treat the sewage in the STP as per the proposals submitted to the Board
4	The CC shall utilize the treated sewage for irrigation purpose after treating the same to the stipulated standards	As per design the CC will utilize the treated sewage for irrigation purpose after treating the same upto the stipulated standards
5	All the treatment units shall be made totally impervious	Considered in the design
6	The CC is liable to reinstate/ restore, damaged or destroyed elements of environment at its cost, failing which the applicant/ occupier as the case may be/shall be liable to pay the entire cost of remediation or restoration and pay in advance an amount equal to the cost estimated by competent agency or committee.	Agreed
7	The separate flow meter shall be installed to record hourly inflow & outflow of domestic effluent into the STP and maintain logbooks for hourly recording for verification of inspecting officers.	The separate flow meter will be installed to record hourly inflow & outflow of domestic effluent into the STP and logbooks will be maintained for hourly recording for verification
<b>III. Solid Waste (other than Hazardous waste) disposal</b>		
	The solid wastes collected in the treatment plant premises in the form of general garbage shall be disposed off sufficiently to the satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind	Solid waste from the plant will be disposed off sufficiently to the approved site with satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind
<b>IV. General</b>		
1	The authority shall immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities shall immediately take appropriate corrective and preventive actions under intimation	CC Davangere will immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities will immediately taken up appropriate corrective and preventive actions under intimation
2	Exact date of commissioning of the Sewage Treatment Plant shall be informed to this Board 45 days in advance so as to make necessary inspection of the plant and the pollution control measures provided by the authorities	Date of commissioning of the Sewage Treatment Plant will be informed to the Board 45 days in advance
3	The applicant shall comply with all the rules and	CC Davangere will comply with all the rules



Sl. No	CFE Conditions	Compliance
	guidelines issued from time to time	and guidelines issued from time to time
4	The Board reserves right to review and impose additional condition or conditions revoke, change or alter the terms and conditions	Agreed
5	The CFE does not give any right to the Party/ Project Authority/ Industry to forego any requirement that is necessary for starting operation of the plant	Noted

### **Harihara Sewage Treatment Plant – 18 MLD STP (Package: 01HRA01)**

Sl. No	CFE Conditions	Compliance
1	This Consent for Establishment is valid for five years from date of issue.	As per plan establishment work will be completed within 5 years
2	This consent is related only to the pollution aspects of said project with respect to said location and this consent is in no way construed to give any right in any nature to the applicant what so ever in this regard, and shall obtain all statutory clearances before commencement of the project.	All statutory clearances will be obtained before commissioning of the treatment plant
3	The CMC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.	In case of expansion/ diversification/ modernization/ change of sites etc. prior clearance will be obtained from pollution control board
4	The CMC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.	Necessary license/ clearance from other relevant statutory agencies will be obtained before starting up construction
5	There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution	Before establishment of STP consultation has been done with surrounding public and assured local people on application of mitigation measures for non pollution of environment from treatment plant
6	The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.	Project authority (City Municipal Council Harihara) submitted land documents of the proposed site to the Board before getting consent for establishment
7	The applicant shall not discharge treated sewage into nala/river.	Treated water will be utilized for irrigation purpose
<b>I. Specific Conditions</b>		
1	The CMC shall up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system.	City Municipal Council Harihara would up-grade the STP system including advanced technologies after 5 years from the date of commissioning of the present STP system
2	The CMC shall provide UGD facility for the entire City Council area and report to the Board	Under the separate project CMC already taken up UGD facility for the entire area of City Municipal Council (work ongoing) and informed to Board during consent application
3	The CMC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.	CMC already planned for 100 mts buffer zone around the Sewage Treatment Plant area
4	The CMC shall take adequate measures to avoid any entry to treated /untreated sewage into nearby nalla	The CMC took adequate measures in design to avoid any entry to treated /untreated sewage into nearby nalla
5	The responsibility to execute, commission, operation and maintenance of the STP will be taken by CMC authorities only.	City Municipal Council Harihara have already taken responsibility to execute, commission, operation and maintenance of the STP

Sl. No	CFE Conditions	Compliance
6	The CMC shall ensure that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt shall be developed around the STP site	The CMC ensured that there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt will be developed around the STP site
7	The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court	Noted
8	The CMC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977 within three months.	CMC would pay balance cess under The Water (Prevention and Control of Pollution) Cess Act 1977
<b>II. Water Pollution Control</b>		
1	The treatment plant shall be used for the treatment of sewage only, at any point of time.	The treatment plant will be used for the treatment of city sewage
2	The treatment plant shall be used for the treatment of sewage not exceed 18 MLD	The treatment plant will be used for the treatment of sewage upto 18 MLD
3	The CMC shall treat the sewage in the STP as per the proposals submitted to the Board.	The CMC will treat the sewage in the STP as per the proposals submitted to the Board
4	The CMC shall utilize the treated sewage for irrigation purpose after treating the same to the stipulated standards	As per design the CMC will utilize the treated sewage for irrigation purpose after treating the same upto the stipulated standards
5	All the treatment units shall be made totally impervious	Considered in the design
6	The CMC is liable to reinstate/ restore, damaged or destroyed elements of environment at its cost, failing which the applicant/ occupier as the case may be/shall be liable to pay the entire cost of remediation or restoration and pay in advance an amount equal to the cost estimated by competent agency or committee.	Agreed
7	The separate flow meter shall be installed to record hourly inflow & outflow of domestic effluent into the STP and maintain logbooks for hourly recording for verification of inspecting officers.	The separate flow meter will be installed to record hourly inflow & outflow of domestic effluent into the STP and logbooks will be maintained for hourly recording for verification
<b>III. Solid Waste (other than Hazardous waste) disposal</b>		
	The solid wastes collected in the treatment plant premises in the form of general garbage shall be disposed off sufficiently to the satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind	Solid waste from the plant will be disposed off sufficiently to the approved site with satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc. of any kind
<b>IV. General</b>		
1	The authority shall immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities shall immediately take appropriate corrective and preventive actions under intimation	City Municipal Council Harihara will immediately report to the board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc., in excess of standards stipulated and the authorities will immediately taken up appropriate corrective and preventive actions under intimation
2	Exact date of commissioning of the Sewage Treatment Plant shall be informed to this Board 45 days in advance so as to make necessary inspection of the plant and the pollution control measures provided by the authorities	Date of commissioning of the Sewage Treatment Plant will be informed to the Board 45 days in advance
3	The applicant shall comply with all the rules and guidelines issued from time to time	City Municipal Council Harihara will comply with all the rules and guidelines issued from time to

Sl. No	CFE Conditions	Compliance
		time
4	The Board reserves right to review and impose additional condition or conditions revoke, change or alter the terms and conditions	Agreed
5	The CFE does not give any right to the Party/ Project Authority/ Industry to forego any requirement that is necessary for starting operation of the plant	Noted

## CFE Byadgi STP

ಫ್ಯಾಕ್ಸ್ / Fax : 080-25586321  
ಈಮೇಲ್ / E-mail : ho@kspcb.gov.in  
ವೆಬ್‌ಸೈಟ್ / Website : http://kspcb.gov.in



☎ 25581383, 25589112  
25588151, 25588270  
25588142, 25588520

### ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ Karnataka State Pollution Control Board

108951

"ಪರಿಸರಭವನ", 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ಸಂ.49, ಚರ್ಚ್‌ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ  
"Parisara Bhavana", 1st to 5th Floor, # 49, Church Street, Bangalore - 560 001, Karnataka, INDIA

(This document contains 04 pages including annexure)

No. PCB/82/WMC/STP/2016/

Dated: 12 JUL 2016

To,  
The Chief Officer  
Town Municipal Council  
Byadagi


Sub: Issue of the Consent for Establishment of STP in respect of TMC, Byadagi- reg.  
Ref: 1. Consent application filed by you under the Water & Air Acts dated: 12.04.2016.  
2. Inspection of the Sewage Treatment Plant (STP) by RO, Haveri on 12.04.2016.  
3. Proceedings of CCM held on 10.06.2016

\*\*\*\*\*  
With reference to the above, it is to be informed that, the Board hereby accords Consent for Establishment under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention and Control) of Pollution) Act, 1981 for establishing a Sewage Treatment Plant (STP) of capacity 3 MLD at Sy. No. 64, 65, 66, 67 & 68, Teradahalli, Byadagi Taluk, Haveri District subject to the following conditions:

1. This consent for establishment is valid for a period of **five years** from the date of issue.
2. The applicant shall not undertake expansion/diversification without the prior consent of the Board.
3. The applicant shall obtain necessary license/clearance from other relevant statutory agencies before taking up construction.

#### 1. SPECIFIC CONDITIONS:

1. The TMC shall provide UGD facility for the entire Town Municipal Council, and report to the Board.
2. The TMC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.
3. The responsibility to execute, commission, operation and maintenance of the STP will be taken by TMC authorities only.
4. The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court.
5. The TMC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act, 1977 within three months.

  
SENIOR ENVIRONMENTAL OFFICER

"ಬ್ಯಾಡಗಿ ಪರಿಸರ ಕಲ್ಪನೆ, ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪರಿಸರ" /

AVOID USE OF PLASTICS- BE 'ECO' FRIENDLY

## II. WATER POLLUTION CONTROL SYSTEM:

1. The treatment plant shall be used for the treatment of sewage only, at any point of time.
2. The TMC shall treat the sewage in the STP as per the proposals submitted to the Board. The TMC shall provide the STP as follows.

Sl. No.	STP Units	Dimensions in meters
1	Stilling Chamber (1 No.)	1.50m x 1.50m x 2.00m
2	Fine screen channel: Mechanical (1 No.)	6.5m x 0.65m x 0.65m
3	Fine screen channel: Manual (1 No.)	6.5m x 0.65m x 0.65m
4	Grit chamber (rectangular) (2 No's)	4.0m x 4.0m x 0.90m
5	SBR basins (2 No's)	26.50m x 13.25m x 6.5m
6	Chlorination tank (1 No's)	10.0m x 6.0m x 4.0m
7	Sludge Sump (1 No's)	6.0m x 4.0m x 3.50m
8	Polyelectrolyte dosing tank (1 No's)	1m x 1.0m x 1.5m
9	Centrifuge sump (1 No's)	3.0m x 3.0m x 3.0m

Sl. No.	Building	Dimensions in meters
1	HT Substation (1 No's)	10.0m x 10.0m x 4.0m
2	DG Set house (1 No's)	10.0m x 5.0m x 6.0m
3	SBR Air Blower cum Admin cum MCC Control building (G+1) (1 No's)	15.0m x 10.0m x 8.0m
4	Chlorination cum Chlorine tonner house (above Chlorination tank) (1 No's)	6.0m x 5.0m x 6.0m
5	Centrifugal house (1 No's)	7.0m x 6.0m x 8.0m
6	Security cabin (1 No's)	3.0m x 3.0m x 3.0m

3. The TMC shall treat the sewage to the standards stipulated in Annexure-I and after treatment utilize the treated sewage for irrigation purpose.
4. All the treatment units shall be made totally impervious.
5. The TMC is liable to reinstate/ restore, damaged or destroyed elements of environment at its cost, failing which the applicant/ occupier as the case may be/ shall be liable to pay the entire cost of remediation or restoration and pay in advance an amount equal to the cost estimated by competent agency or committee.
6. The TMC shall take adequate measures to avoid any entry of treated/untreated sewage into nearby nalla.
7. The separate flow meter shall be installed to record hourly inflow & outflow of domestic effluent into the STP and maintain logbooks for hourly recording for verification of inspecting officers.
8. The TMC shall ensure that, there shall not be any odour nuisance in the surrounding area due to the operation of the STP. Sufficient green belt shall be developed around the STP site.
9. The applicant shall install the DG set with the prior permission of the board for continuous operation of STP during the power failure.

## III. AIR POLLUTION CONTROL SYSTEM:

There shall be DG Sets of 250 KVA as an alternative power supply for STP, for pollution control measures are stipulated in the Annexure-II.



SENIOR ENVIRONMENTAL OFFICER

#### IV. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

The solid wastes collected in the treatment plant premises in the form of general garbage shall be disposed off scientifically to the satisfaction of the Board so as not to cause fugitive emissions, dust problems or water pollution through leaching etc., of any kind.

#### V. GENERAL CONDITIONS:

1. The authority shall immediately report to the Board, of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes, etc., in excess of the standards stipulated and the authorities shall immediately take appropriate corrective and preventive actions under intimation.
2. Exact date of commissioning of the Sewage Treatment Plant shall be informed to this Board 45 days in advance so as to make necessary inspection of the plant and the pollution control measures provided by the authorities.
3. The applicant shall comply with all the rules and guidelines issued from time to time.
4. The Board reserves right to review and impose additional condition or conditions, revoke, change or alter the terms and conditions.
5. This CFE does not give any right to the Party/Project Authority/Industry to forego any requirement that is necessary for starting operation of the plant.
6. The TMC shall furnish point-wise compliance to the conditions given under Consent for Establishment within 30 days.

Please note that, this is only Extension of Consent for Establishment issued to you to proceed with establishment of Sewage Treatment Plant and does not give right for proceeding with operation of the said plant. For the purpose of the operation after establishment, a separate Consent of the Board for discharge of domestic effluent and emissions to the air shall have to be obtained by filing prescribed consent applications along with consent fees under the Water (Prevention & Control of Pollution) Act, 1974. The application for consent has to be made 45 days in advance to commissioning for trial of Sewage Treatment Plant.

The receipt of this letter may please be acknowledged.

Encl.: Annexure-I & II

For and on behalf of  
Karnataka State Pollution Control Board  
Sd/-

SENIOR ENVIRONMENTAL OFFICER

#### Copy to:

- 1) The Regional Senior Environmental Officer, Dharwad for information and to inspect the site of STP location during your next visit to the area.
- 2) The Regional Officer, Haveri for information and to inspect the site of STP location during your next visit to the area.
- 3) Case file.
- 4) Master file (Help desk)
- 5) Master file



ENVIRONMENTAL OFFICER

**ANNEXURE-I****ON LAND FOR IRRIGATION**

Sl No	Parameters	Parameters Limit( Standards for new STPs Design after notification date)
1	pH	5.5-9.0
2	Bio-chemical Oxygen Demand, mg/l. ( 3 days at 27°C max)	Not more than 10
3	Chemical Oxygen demand ( mg/l)	Not more than 50
4	Total suspended solid ( mg/l)	Not more than 20
5	NH <sub>4</sub> -N(mg/l)	Not more than 5
6	N-Total (mg/l)	Not more than 10
7	Faecal Coliform( MPN/100ml)	Less than 100

**Note:** All efforts should be made to remove colour and unpleasant odour as far as practicable.

**HYDRAULIC LOADING APPLICABLE FOR DIFFERENT SOILS**

Sl. No.	Soil Texture	Loading rate in m <sup>3</sup> /hec/day
1	Sandy	225 to 280
2	Sandy Loam	170 to 225
3	Loam	110 to 170
4	Clay Loam	055 to 110
5	Clayey	035 to 055

**ANNEXURE - II**


Sl No	Chimney Attached to	Minimum Chimney Height to be Provided	Air Pollution Control equipment to be installed,	Remarks
1	250 KVA DG Set	5m AGL	Acoustic Enclosure	1) The emission rate of all chimneys shall be reported within 30 days. 2) Details of D.G. Sets if any like KVA, rating fuel consumption in Kg/hr, Chimney height above roof level and dia to be furnished within 30 days. D.G. Sets and other noise generating machinery to be provided with silencers/Mufflers to reduce the noise pollution. 3) There shall be no smell or odour nuisance from the industry. 4) There shall be no other sources of air pollution.

  
SENIOR ENVIRONMENTAL OFFICER





**Davangere- Sewage Treatment Plant : Labour License (Package: 01DVG01A)**

  
**GOVERNMENT OF KARNATAKA**  
**DEPARTMENT OF LABOUR**

Licence No : ALCD/CLALCN-1518/2015-16  
Licence Date: 05-11-2015

Assistant Labour  
Commissioner, Bellary  
Division: Davangere  
Davangere Harihar - Urban  
Development Authority  
Building, Near Devaraja  
Urs Layout, Commercial  
Tax Office, Davangere-  
577006

**FORM-VI**  
[See Rule 25(1)]

1. Licence is hereby granted to HNB Engineers Pvt Ltd 3370/11-12, MCC B Block, Shannur Road, Near Laxmi Flour Mill, Davangere Under Section 12(1) of the Contract Labour [Regulation and Abolition] Act-1970, subject to the conditions specified in annexure.


2. This Licence is for doing the work STP Plant Works in the establishment of Commissioner Davangere City Corporation, P.B. Road, Davangere

3. The Licence shall remain in force till 04/11/2017

Renewal  
[Rule 29]

Sl no.	Date of Licence	Renewal	Date of expiry	Fee paid for Licence Renewal	Next Date of expiry
1	23-11-2016		04-11-2016	LICENCE FEE:1500, PENALTY:375	04/11/2017

Please verify authenticity of by visiting  
[www.kadonline.karn.nic.in](http://www.kadonline.karn.nic.in) & entering certificate Number

  
Assistant Labour Commissioner,  
Bellary Division, Davangere  
ಸಹಾಯಕ ಕಾರ್ಮಿಕರ ಅಧಿಕಾರಿರು  
ಬೆಳ್ಳಾರಿ ವಿಭಾಗ, ದಾವಣಗೆರೆ

**Harihar – Labour license (Package: 01HRA01)**



GOVERNMENT OF KARNATAKA  
DEPARTMENT OF LABOUR

Licence No : ALCD/CLALCN-1464/2015-16

Licence Date: 15-06-2015

Assistant Labour  
Commissioner, Boley  
Division, Davangere  
Davangere Hanthara Urban  
Development Authority  
Building, Near Davangere  
UPS Layout, Commercial  
Tax Office, Davangere-  
577006

**FORM-VI**

(See Rule 25(1))

1. Licence is hereby granted to Stadium EPC Limited, D.No.58, B Block, Amargavathi Colony, Harihar Under Section 12(1) of the Contract Labour (Regulation and Abolition) Act-1970, subject to the conditions specified in annexure.


2. This Licence is for doing the work Under Ground Drainage Works and Civil Construction Works in the establishment of City Municipal Council, Harihar, Harihar.

3. The Licence shall remain in force till: 14/06/2017

Renewal  
(Rule 29)





Sl no.	Date of Licence Renewal	Date of expiry	Fee paid for Licence Renewal	Next Date of expiry
1	01-09-2016	14-06-2017	LICENCE FEE-1500, PENALTY-0	14/06/2017

Please, verify authenticity of the issuing  
www.labouronline.kar.nic.in & entering certificate Number

  
Assistant Labour Commissioner,  
Boley Division, Davangere

## Labour compensation Insurance

### Davangere UGD (Package: 01DVG01)

**THE NEW INDIA ASSURANCE CO. LTD.**  
(Wholly owned by the Govt. of India)

**POLICY SCHEDULE FOR EMPLOYEES COMPENSATION INSURANCE**

<b>Insured's Name</b> : COMPLEX INFRASTRUCTURE LTD.			
<b>Insured's Details</b>		<b>Issuing Office Details</b>	
<b>Customer ID</b> : 4E3157358	<b>Office Code</b> : KOLKATA UGD 950000 (950000)		
<b>Address</b> : 27, SHAKUNTHALA SARANI, KOLKATA Dist. : KOLKATA, West Bengal	<b>Address</b> : 4, WINGGEE LANE, 2ND FLOOR KOLKATA 700001		
<b>Phone No.</b> : 9333510222	<b>Phone No.</b> : 3322450888		
<b>E-mail/Fax</b> : n252002@newindia.co.in	<b>E-mail/Fax</b> : RA 950000@newindia.co.in		
<b>PAN No.</b> :	<b>S.Tax Regn. No.</b> : AAACN4160CST178		

<b>Policy Details</b>			
<b>Policy Number</b> : 95000008150100000136	<b>Business Source Code</b>		
<b>Period of Insurance</b> : From: 03/02/2016 00:04:18 PM To: 03/02/2017 11:59:59 PM	<b>Dev.Off. Agent/Broker/Corp. Agent</b>	DPSC1 BUSINESS (1010774523)	
<b>Date of Proposal</b> : 03-Feb-16	<b>Agent/Broker/Insurance</b>		
<b>Plan, Policy no.</b> :	<b>Phone No.</b> :		
<b>Client Type</b> : Corporate	<b>E-mail/Fax</b> :		

<b>Premium(₹)</b> : 38540	<b>Service Tax(₹)</b> : 5748	<b>Total (₹)</b> : 44288	<b>Total (₹ in words)</b> : RUPEES FORTY-FIVE THOUSAND THREE HUNDRED EIGHTY-EIGHT ONLY	<b>Receipt No. &amp; Date</b> : 95000008115000000205 3 - 03/02/16
---------------------------	------------------------------	--------------------------	--	--

**Details of Employees with monthly wages upto ₹ 8000:**

Categories	Sub Categories	No of Employees	Cash Total Wages
Builders All employees engaged in shag or yard or in construction demolition of buildings and other civil construction like canals, bridges etc. incl. excavation	Excl. blasting and tunneling	100	7207200

**Details of Employees with monthly wages above ₹ 8000:**

Categories	Sub Categories	No of Employees	Cash Total Wages
Trade Description	Particular of Works	Location Details	Included All Sub-Contractors
CIVIL CONTRACTOR	EXPANSION OF SEWERAGE SYSTEM IN DEVANAGERE CITY IN KARRA TAKA (DISTRICT 1 & 2)	PACKAGE NO.01DVG01-CITY CORPORATION DEVANAGERE	Yes

**<<HIDDEN START contractr\_Details>>Contractor/Sub-Contractor Details:**

Serial No	Name of Contractor	Description	Category	No. of Workers	Amount Wages
				Skilled   Unskilled   Others	

**<<HIDDEN END contractr\_Details>>Extensions under the Policy Cover**

Name of the Extension	Sub Limit of the Extension	Deductibles of the Extension
<b>Special Conditions</b>	NA ESTIMATED WAGES RS.7207200-INCLUDING SUBCONTRACTOR WORKERS(SKILLED/UNSKILLED/SEMISKILLED) ESTIMATED NO. OF WORKERS 100	
<b>Special Exclusions</b>	NA	
<b>Special Excess/Deductible</b>	NA	

Policy No. : 95000008150100000136 Document generated by 15585 at 03/02/2016 16:02:42 Hours.

Regd. & Head Office: New India Assurance Bldg., 87 B.G. Road, Fort, Mumbai - 400 001. TOLL FREE No. 1 800 209 1415.

Page No. 1

THE NEW INDIA ASSURANCE CO. LTD.  
(Wholly owned by the Govt. of India)



The Policy shall be subject to EMPLOYEES COMPENSATION INSURANCE Policy clauses attached herewith.	
Clauses	Description

In witness whereof the undersigned being duly authorised by the Insurers and on behalf of the Insurers has (have) hereunder set his (their) hand(s) on this 03rd day of February, 2016.



For and on behalf of

The New India Assurance Company Limited  
Duly Constituted Attorney(s)

Stamp Duty under the Policy is ₹

Rs. \_\_\_\_\_ Dt. \_\_\_\_\_ consolidated Stamp Fees Paid by Pay Order Number \_\_\_\_\_  
number \_\_\_\_\_ dt. \_\_\_\_\_ vide receipt

IRDA Registration Number: 190

**Davangere- Sewage Treatment Plant : Labour Compensation Insurance (Package: 01DVG01A)**



**Royal Sundaram**  
General Insurance

**Royal Sundaram General Insurance Co. Limited**  
(formerly known as Royal Sundaram General Insurance Company Limited)  
Office No: 201, 2nd Floor, Azhathi Complex, K.M. Gandhi Marg,  
Opp. Keshavnagar, Shivaji Nagar, Pune - 411 005.  
Tel. No.: 020-25540021/22/23/24 | Toll No: 1860 425 0000  
E-mail: customer.services@royalsundaram.in  
Website: www.royalsundaram.in  
Registered Office: 21, Pataliputra Road, Chennai - 600 002.  
IRDAI Registration Number - RD / CEN-11671007N2000P1C24561

**WORKMEN'S COMPENSATION POLICY SCHEDULE**

<b>Intermediary Code</b>	<b>BR500658</b>
<b>Intermediary Name</b>	<b>Damika Insurance Broking Co Pvt Ltd</b>
<b>Contact No.</b>	

<b>Policy No.</b>	<b>: LW00006965000100</b>
<b>Insured Name &amp; Address</b>	<b>HNB Engineers Pvt. Ltd.</b> <b>: Hanabh Centre, 1326,</b> <b>Shukrawar Peth, Off Bajirao Road,</b> <b>Pune - 411002.</b>  <b>PUNE</b> <b>411002</b>
<b>Business</b>	<b>: As per 'Annexure A' attached.</b>
<b>Law(s)</b>	The Policy will provide coverage under the following Law(s) - Workmen's Compensation Act, 1923 and subsequent amendments of the said Act prior to the issuance of this policy. - Fatal Accidents Act, 1855 and - Common Law

<b>Period of Insurance:</b>	(a) From 03/10/2016 to 02/10/2017 (both dates inclusive) (b) Any subsequent period for which the insured shall pay and the Company shall agree to accept a renewal premium
-----------------------------	---

<b>Premium</b>	<b>Rs.</b>	<b>172,000.00</b>
<b>Add: Service Tax @ 14%</b>	<b>Rs.</b>	<b>24,080.00</b>
<b>Add: Swachh Bharat Cess @ 0.5%</b>	<b>Rs.</b>	<b>880.00</b>
<b>Add: Krishi Kalyan Cess @ 0.5%</b>	<b>Rs.</b>	<b>880.00</b>
<b>Total Premium</b>	<b>Rs.</b>	<b>197,800.00</b>

Subject to adjustment in the terms of Condition 6 the estimated amount of wages salaries and other earnings on which Premium is based.

Estimated Number of Employees (A)	Occupation of Employees (B)	Estimated Total Salaries Wages and other money earnings per employee (C) (In Rs.)	Estimated Total Earnings (D=A*C) (In Rs.)	Place or Places of Employment (E)
<b>As per the Specification attached</b>				

Date of signature of Proposal and Declaration - 03/10/2016





Royal Sundaram  
General Insurance

---

Memoranda

---

The Policy is subject to following clauses, conditions & warranties

- Ø Proper register recording the attendance and wage disbursement must be maintained at all times and to be produced as and when required by the Company.
- Ø The insurance granted hereunder excludes:
  - o Any interest and/or penalty imposed on the Insured on account of his/her failure to comply with the requirements laid down under WC Act 1923,
  - o Occupational diseases
  - o Compressed Air Diseases listed in Part A of the Schedule III of the Act unless specifically covered by an endorsement to the policy,
- Ø Exclusions as per annexure I
- Ø Medical expenses as per the attached endorsement wording.
- Ø Loss or Liability due to Terrorism Excluded as per the attached wording
- Ø Endorsement No.179 as per the attached wording
- Ø Company's liability in respect of any one event shall be restricted to maximum of INR 5 Crores
- Ø Onus of Proof as per the attached wording
- Ø Applicability of Policy cover as per the attached wording
- Ø Designation Basis Cover as per the attached wording
- Ø Warranted that work at heights is restricted to 50 metres and all recommended safety precautions for work at height are implemented at all times during the policy.

---

Consolidated Stamp Duty paid to Government of Tamil Nadu.

Issued at: Chennai

Signed for and on behalf of the Royal Sundaram General Insurance Co. Limited. at Chennai  
on September 30, 2016  
Service Tax No.AABCR7106GST001  
Receipt No Dt

PAN No.AABCR7106G

For Royal Sundaram General Insurance Co. Limited.

Authorized Signatory





---

**Annexure I : Exclusions :**

---

**This policy excludes work involving**

- I Risk locations manufacturing and or supplying, producing ,storing , filling, breaking down or transporting
  - a) Fireworks,ammunition,fuses,cartridges,powder,nitro-glycerine,celluloid,pyroxylin or any explosions
  - b) Gases and/or air under pressure in containers
  - c) Butane, methane,propane, and other liquofied gases.
  - d) Petrochemicals and also chemicals of a "toxic", noxious, explosive and/or highly inflammable nature.
- II Demolition of towers/steepless, bridges, dams and chimney shafts.
- III Excavation and tunnelling work in connection with mining.
- IV Quarrying involving the use of explosives
- V Drilling for, producing, refining and/or distributing oil and gas.
- VI Operation of Railways
- VII Mines/under water/ wet works/bridges/dams construction
- VIII Tunnelling and Blasting and use of explosives

For Royal Sundaram General Insurance Co. Limited

Authorized Signatory





**Royal Sundaram**  
General Insurance

Policy No. LW00006965000100

Estimated Number of Employees (A)	Occupation of Employees (B)	Estimated Total Salaries Wages and other money earnings per employee (C)	Estimated Total Earnings (D=A*C)	Place or Places of Employment (E)
10	Engineers	Rs. 34,375	Rs. 11,600,000	Anywhere in India.
20	Supervisors			
10	Admin. Staff			
10	Operators			
10	Watchman's			
10	Drivers			
250	Skilled & Unskilled Workers Direct and Under Petty Contractors			

**Annexure A :-**

**Business :** Construction, commissioning, equipping, testing and trial run of the waste water treatment plant including allied works such as laying of sewers, construction of chambers necessary excavation for the same but without blasting, trenchless laying and chambers of sewers and misc. buildings, roads etc. including operations and maintenance of waste water treatment plant and sewers lines.

**Endorsement Wording for Medical Expenses:**

In consideration of the payment of an additional premium it is hereby understood and agreed that this Policy subject to its terms provisions and conditions is extended to indemnify the Insured in respect of the reasonable, medical surgical and hospital expenses (including cost of conveyance to hospital) incurred by the Insured in connection with any case of injury to which the indemnity granted under this policy applies or would have applied had disablement exceeded three days.

Provided always that the liability of the Company under this endorsement shall be limited to Rs. 25,000/- in respect of any one insured person during the Period of Insurance.

**Endorsement No. 179**

It is hereby understood and agreed that the indemnity herein granted is extended to cover the legal liability of the insured to workmen in the employment of Contractors performing work for the insured while engaged in the business and occupations in respect of which the within policy is granted, but only so far as regard claims under Workmen's Compensation Act, 1923, and subsequent amendments of said Act prior to the date of the issue of this Policy, the premium in respect of such extended insurance to be calculated at the rate as agreed on the total sum paid to such Contractors by the Insured in respect of work executed during each period of Insurance.

**Designation Basis Cover:**

The Policy being issued on Designation Basis, the cover under this Policy shall apply to an estimated 320 (As per schedule) employees on the rolls of the Insured during the Period of Insurance.



Page 1 of 2





Should the number of such employees during the Period of Insurance under any designation exceed the number specified in the Schedule, such employees who have enrolled/joined employment with the Insured after the specified number of employees under the respective designation as noted in the Schedule are deemed to be outside the scope of this Insurance.

**Warranties**

- a) **Limitation on cover:** Warranted that at the time of claim the total number of employees in each cadre as per Insured's rolls, should not exceed the numbers declared to the Insured till that date for which Premium has been accounted for. In case the numbers declared are less than the numbers as per rolls on the date of loss, the Company reserves the right to repudiate all claims pertaining to persons who have joined after the date of the last declaration made by the Insured to the Insurance Company for which Premium has been accounted for.
- b) **Onus of Proof:** Warranted that in the event of claim the onus of proving that the affected person was on rolls at the time of claim will lie on the Insured. The full details including date on which the employee joined is to be given.

**Terrorism Exclusion:**

- a) Injury or Damage directly or indirectly caused by resulting from or in connection with any Act of Terrorism regardless of any other cause or event contributing concurrently or in any other sequence to such Injury or Damage.
- b) Injury or Damage directly or indirectly caused by resulting from or in connection with any action taken in controlling preventing suppressing or in any way relating to any Act of Terrorism.

For the purposes of this Exception Act of Terrorism shall mean an act including but not limited to the use of force or violence and/or the threat thereof of any person or group(s) of persons whether acting alone or on behalf of or in connection with any organisation(s) or government(s) which from its nature or context is done for or in connection with political religious ideological ethnic or similar purposes or reasons including the intention to influence any government and/or to put the public or any section of the public in fear.

Subject to otherwise to the terms, provisions and conditions of the within Policy.

**Applicability of Policy Cover:**

This Policy being issued on Unnamed Basis, the cover under this Policy shall apply to an estimated 120 (As per Schedule) Employees on the rolls of the Insured during the Policy Period. Should the number of such Employees during the Period of Insurance under any designation exceed the number specified in the Specification, such Employees who have enrolled/joined employment with the Insured after the specified number of employees under the respective designation as noted in the specification are deemed to be outside the scope of this Insurance. (Eg: 120 Clerical Staffs are covered under the Policy - If it is found that there are 121 Clerical Staffs, the 121st Clerical Staff who has joined will be outside the scope of this insurance).



1



Royal Sundaram

001 WCP P01 (Sep 06)

# ROYAL SUNDARAM GENERAL INSURANCE COMPANY LIMITED

Regd. Office : 21, Puttulos Road, CHENNAI - 600 002.

Corporate Office : "Vishranthi Melaram Towers", 2/319, Rajiv Gandhi Salai, Old Mahabalipuram Road, Karapakkam, Chennai 600 097. Ph: 91-44-7117 7117, 1860 425 0000.

## WORKMEN'S COMPENSATION POLICY

WHEREAS the Insured carrying on the Business described in the Schedule and no other for the purpose of this insurance by a proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein has applied to the Company for the insurance hereinafter contained and has paid or agreed to pay the Premium as consideration for such insurance.

NOW THIS POLICY WITNESSETH that if at any time during the Period of Insurance any employee in the Insured's immediate service shall sustain personal injury by accident or disease arising out of and in the course of his employment by the Insured in the Business and if the Insured shall be liable to pay compensation for such injury either under:

The Law(s) set out in the Schedule

Or at

Common Law

then subject to the terms, exceptions and conditions contained herein or endorsed hereon the Company will indemnify the Insured against all sums for which the Insured shall be so liable and will in addition be responsible for all costs and expenses incurred with its consent in defending any claim for such compensation.

PROVIDED ALWAYS that in the event of any change in the Law(s) or the substitution of other legislation therefor this Policy shall remain in force but the liability of the company shall be limited to such sum as the Company would have been liable to pay if the Law(s) had remained unaltered.

## EXCEPTIONS

The Company shall not be liable under the policy in respect of:

- any injury by accident or disease directly attributable to war, invasion, act of foreign enemy hostilities (whether war be declared or not), civil war, mutiny, insurrection, rebellion, revolution or military or usurped power;
- the Insured's liability to employees of contractors to the Insured;
- any liability of the Insured which attaches by virtue of an agreement but which would not have attached in the absence of such agreement;
- any sum which the Insured would have been entitled to recover from any party but for an agreement between the Insured and such party.

## CONDITIONS

- This policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been attached in any part of this Policy or of the Schedule shall bear such specific meaning wherever it may appear.
- Every notice or communication to be given or made under this policy shall be delivered in writing to the Company.

1



1

3. The Insured shall take reasonable precautions to prevent accidents and disease and shall comply with all statutory obligations.
4. In the event of any occurrence which may give rise to a claim under this Policy the Insured shall as soon as possible give notice thereof to the Company with full particulars. Every letter, claim, writ, summons and process shall be notified or forwarded to the Company immediately on receipt. Notice shall also be given to the company immediately by the Insured where he shall have knowledge of any impending prosecution, inquest or fatal enquiry in connection with any such occurrence as aforesaid.
5. No admission offer promise or payment shall be made by or on behalf of the Insured without the consent of the Company which shall be entitled if it so desires to take over and conduct in his name the defence or settlement of any claim or to prosecute in his name for its own benefit any claim for indemnity or damages or otherwise and shall have full discretion in the conduct of any proceedings and in the settlement of any claim and the Insured shall give all such information and assistance as the Company may require.
6. The first premium and all renewal premiums that may be accepted are to be regulated by the amount of wages and salaries and other earnings paid by the Insured to employees during each Period of Insurance. The name of every employee together with the amount of wages salary and other earnings shall be properly recorded and the Insured shall at all times allow the Company to inspect such records and shall supply the Company with a correct account of all such wages salaries and other earnings paid during any period of Insurance within one month from expiry date of such Period of Insurance. If the amount so paid shall differ from the amount on which premium has been paid the difference in premium shall be met by a further proportionate payment to the Company or by a refund by the Company as the case may be.
7. The Company may cancel this Policy by sending seven days notice by registered letter to the Insured at his last known address and in such event the premium shall be adjusted in accordance with Condition 6.
8. If any difference shall arise as to the quantum to be paid under this Policy (liability being otherwise admitted) such difference shall independently of all other questions be referred to the decision of an arbitrator, to be appointed in writing by the parties in difference, or if they cannot agree upon a single arbitrator (to the decision of two disinterested persons as arbitrators of whom one shall be appointed in writing by each of the parties within two calendar months after having been required so to do in writing by the other party in accordance with the provisions of the Arbitration and Conciliation Act, 1996 as amended from time to time and for the time being in force. In case either party shall refuse or fail to appoint arbitrator within two calendar months after receipt of notice in writing requiring an appointment, the other party shall be at liberty to appoint sole arbitrator; and in case of disagreement between the arbitrators, the difference shall be referred to the decision of an umpire who shall have been appointed by them in writing before entering on the reference and who shall sit with the arbitrators and preside at their meetings.

It is clearly agreed and understood that no difference or dispute shall be referable to arbitration as hereinbefore provided, if the Company has disputed or not accepted liability under or in respect of this Policy.

It is hereby expressly stipulated and declared that it shall be a condition precedent to any right of action or suit upon this policy that the award by such arbitrator, arbitrators or umpire of the amount of the loss or damage shall be first obtained.

It is also hereby further expressly agreed and declared that if the Company, shall disclaim liability to the Insured for any claim hereunder and such claim shall not, within 12 calendar months from the date of such disclaimer have been made the subject matter of a suit in the court of law, then the claim shall for all purposes be deemed to have been abandoned and shall not thereafter be recoverable hereunder.

9. The due observance and fulfilment of the terms, conditions and endorsements of this Policy so far as they relate to anything to be done or not to be done by the Insured and the truth of the statements and answers in the Proposal shall be conditions precedent to any liability of the Company to make any payment under this Policy.





Royal Sundaram

ROYAL SUNDARAM ALLIANCE INSURANCE COMPANY LIMITED  
"Vishwanthi Maharam Towers, No. 2 / 319, Rajiv Gandhi Salai (GMR)  
Karpakkam Chennai - 600087"  
Call: 1880-425-0000  
Email: customer.service@royalsundaram.in website: www.royalsundaram.in

## RECEIPT

CLIENT ADDRESS :  
HNB ENGINEERING PVT LTD

Branch

Receipt Voucher Number: 1400037551	Date of Receipt: 30/09/2016
------------------------------------	-----------------------------

Agency Code: CC182694 Client Code:  
Received with thanks from: HNB ENGINEERING PVT LTD  
A sum of Rs. 197,800.00  
Rupees ONE LAKH NINETY SEVEN THOUSAND EIGHT HUNDRED AND ZERO  
Towards Insurance

Policy Details Amount Settled

### Collection Details:

Method	Cheque / Card No	Date	Drawee Bank	Amount
CHEQ	089217	28/09/2016	BANK OF MAHARASHTRA	197,800.00

For Royal Sundaram Alliance Insurance Company Limited

A  ary

1. This receipt is subject to realization in case of cheque.
2. Please refer the Receipt Voucher No. for further correspondence.

IRDA Regn.No. 102

## Labour compensation Insurance- Harihar (Package: 01HRA01))

CIN No. U98010RJ2008PLC028978

### WORKMEN'S COMPENSATION INSURANCE-OTHER THAN COLLIERIES POLICY SCHEDULE

Policy No.	: 421010/48/17/004124	Prev. Policy No.	: 421010/48/16/000737
Cover Note No.	-	Cover Note Date	-
Insured's Code	: 6570708	Issue Office code	: 421010
Insured's Name	: M/S. Shriram EPC Limited	Issue Office Name	: CHENNAI
Address	: 18/3, 4th Floor, Sigappi Achi Building, Rukmini Lakshminpathi Saks (Marshalls Road), Egmore,  CHENNAI TAMIL NADU 600008	Address	: 2ND FLOOR, MOOKAMBIKA COMPLEX, NO.4, LADY DESIKA ROAD, MYLAPORE CHENNAI TAMIL NADU 600004
Tel/Fax/Email	: 044 434 18700 / /	Tel/Fax/Email	: 044-69000190/200 / / sgl.chennai@shriramgc.com
Dev Officer	: -	Broker Details	: LB0000000002 M/S. BHARAT RE. INSURANCE BROKERS PVT. LTD. Contact No:
Period of Insurance : From 00:00 on 26/08/2016 To Midnight of 25/08/2017			
Collection No. & DL : CHQCSH 1033001843 - 23/08/2016			
Gross Premium	242,619	S. Tax	33903
GST	0	Cess	2426
ST Duty	122	Total	278,868
Co-insurance Details : NIL			

#### Laws

Laws : Indemnity against legal liability to all employees/Whether or not coming within the definition of the term Workmen under the W.C.Act prior to the date of issue of the policy,the Fatal Accidents Act,1855 and at Common Law.

#### Risk Information

Type of Risk : GOWDON

Details of Employees with Monthly Wages Above Rs.8000/-

Sr. No.	Est. No. of Emps	Contract Emps	Occupation	Estimated totalsalary /wages/other earnings	Value of food/qtrs/ other considerations	Estimated Total earnings	Table	Place of Employment
1	2600		Engineers not otherwise classified Incl. work away from shop or yard upto 9 mtrs height	124,800	0	124,800	A	Various Cities in India

#### Contract Details

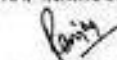
EMPLOYEE DETAIL
-----------------

Place : CHENNAI

Date : 23/08/2016

All the amounts mentioned in this policy are in Indian Rupees

For and on behalf of  
SHRI RAM GENERAL INSURANCE COMPANY LTD



Authorized Signatory

Service Tax Reg. No. : AAKC52598KST001

Page 1 of 2

Attached to and forming part of policy number 421010/48/17/004124

Total Premium in words : Indian Rupees Two Lakhs Seventy-Eight Thousand Eight Hundred Ninety-Eight Only

**The insurance under this policy is subject to Warranties & Clauses(as per forms attached).**

Subject to adjustment in the terms of Condition 8. The estimated amount of wages/salaries & other earnings on which premium is based

- Excess/Deductible : Rs.8,00,000/- per accident.
- Total Sum Insured = Rs.32,44,80,000/-. Multiply the column "Est.No.of Empls" with the column "Estimated Total earnings"
- The sum insured is adjustable at the end of the year based on the certification of total wages from the Statutory Auditor
- The policy covers total 2800 workers of Shriram EPC Limited.
- Contractors & Sub Contractors and all other persons engaged on project site including all manufacturing units, godowns & other locations anywhere in India who are not specifically covered under any other workmen compensation policy.
- All persons are engaged in Engineering related works.
- Warranted that Medical expenses are not covered
- Classification Code No. - 157.

Warranted that in case of dishonour of premium cheque(s) the Company shall not be liable under the policy and the policy shall be void abinitio (from inception).

In witness whereof the undersigned being authorised by and on behalf of the Company has/have herein to set his/their hands at CHENNAI on 16th Day of April 2016

Entered by : VARUN VERMA

Approved by : VARUN VERMA

Place : CHENNAI

Date : 23/06/2016

All the amounts mentioned in this policy are in Indian Rupees

For and on behalf of  
SHRIRAM GENERAL INSURANCE COMPANY LTD



Authorised Signatory

Service Tax Ref. No. AAKCR2509KST051

Page 2 of 2

## Labour compensation Insurance- Byadgi (Package: 01BDG01))



RAHEJA QBE GENERAL INSURANCE COMPANY LIMITED

### Workmen's Compensation Insurance Policy

#### Schedule attached to and forming part of Policy No. 15- W0000266-WCA

(This Policy is issued based on the information disclosed by the Insured to the Company. In case of any material changes during the Period of Insurance mentioned above, the Insured must inform the Company.)

Date of proposal & declaration: 20<sup>th</sup> January 2017

Policy No: 15- W0000266-WCA

Name of the Insured: M/s. Shriram EPC - Eurotek Environmental Private Limited - JV

Address: (M/s. Shriram EPC Ltd and Eurotek Environmental Private Limited)

4th Floor, Sigappi Achi Building, 18/3, Rukmani Lakshmi Pathi Salai (Marshall's Road), Egmore, Chennai - 600008

Trade/ Business/ Occupation : Design, Supply, Engineering, Construction, Installation, Testing, Commissioning of Sewage Treatment Plant based on SBR technology of 5 MLD capacity STP with one Baffled septic tank in Byadgi TMC (LOA attached)

Law(s): (1) Employee's Compensation Act 1923 (2) Fatal Accidents Act 1855 (3) Common Law

Territory/Jurisdiction : India

Period of Insurance: From: 00.00 Hrs on 20<sup>th</sup> January 2017 To: Midnight of 19<sup>th</sup> January 2018

Net Premium:	INR 24,219
Service Tax (As applicable):	INR 3,391
SEI Cess @ 0.5% of premium:	INR 121
Krishi Kalyan Cess @ 0.5% of premium	INR 121
Total Premium:	INR 27,852

Estimated number of employees	Occupation of Employees	Estimated Total Wages/ Earnings. (Rs.)	Place of Employment
20	As per Annexure A	Rs. 42,00,000	Byadgi Town Municipality, Karnataka

Intermediary's Name:	Excellent Insurance Broking Services Ltd.
Intermediary's Code :	01000108
Intermediary's Contact No:	(040)44552525 (040)44552545

Raheja QBE General Insurance Company Limited  
5th Floor, Windsor House, CST Road, Kalina, Santacruz (E), Mumbai 400 098  
Telephone: +91 22 4231 3888, Fax: +91 22 4231 3777, Toll Free No. 1800-102-7723  
Website: [www.rahejaqbe.com](http://www.rahejaqbe.com) Email: [info@rahejaqbe.com](mailto:info@rahejaqbe.com)  
Corporate Identity Number: U86030MH2007PLC173129, IRDA Reg. No. 141  
SERVICE TAX REGISTRATION NUMBER: AADCR714SRST001



## RAHEJA QBE GENERAL INSURANCE COMPANY LIMITED

### Additional Terms/ Conditions/Clauses/ Endorsements:

1. Coverage For Employees Of Contractors
2. Medical Expenses Coverage - limited to **Rs 50,000** per person
3. Average Clause
4. Terrorism Exclusion
5. Sanctions Limitation And Exclusion Clause

\*The Premium is subject to adjustment of the estimated amount of wages, salaries and other earnings on which the premium is based, in terms of Condition No.6 of the Policy.

In witness whereof the undersigned acting on behalf and under the authority of the Company has hereunder set his hand at Mumbai on this 30<sup>th</sup> day of January 2017.

Signed for and on behalf of the Company

ANIRUDH SINGH  
2017.01.30 12:53:44  
+05'30'

Authorized Signatory

Raheja QBE General Insurance Co. Ltd.

**This document is digitally signed, hence counter signature is not required**

The contract will be cancelled ab initio in case: the consideration under the policy is not realized.

The Stamp duty of Rs. 1/- (One Rupee only) paid by GRAS Deface No. 0000772857201617, Dated 19/05/2016 as prescribed in Government Notification Revenue and Forest Department No. Mudrank 2004/4125/CR/690/M-1, Dt.31/12/2004

Raheja QBE General Insurance Company Limited  
5th Floor, Windsor House, CST Road, Kalina, Santacruz (E), Mumbai 400 098  
Telephone: +91 22 4231 3888, Fax: +91 22 4231 3777, Toll Free No. 1800-102-7723  
Website: [www.rahejaqbe.com](http://www.rahejaqbe.com) Email: [info@rahejaqbe.com](mailto:info@rahejaqbe.com)  
Corporate Identity Number: U66030MH2007PLC173129, IRDA Reg. No. 141  
SERVICE TAX REGISTRATION NUMBER: AADCR7145RST001





**RAHEJA QBE GENERAL INSURANCE COMPANY LIMITED**

**Annexure A - Occupation of Employees**

<b>Sr. No.</b>	<b>Category</b>	<b>No. of Employees</b>	<b>Estimated Total Wages (in Rs.)</b>
1.	Insured Staff	15	27,00,000
2.	Principals's Staff	5	15,00,000
	<b>Total</b>	<b>20</b>	<b>42,00,000</b>

Raheja QBE General Insurance Company Limited  
5th Floor, Windsor House, CBT Road, Kalina, Santacruz (E), Mumbai 400 098  
Telephone: +91 22 4231 3888, Fax: +91 22 4231 3777, Toll Free No. 1800-102-7723  
Website: [www.rahejaqbe.com](http://www.rahejaqbe.com) Email: [info@rahejaqbe.com](mailto:info@rahejaqbe.com)  
Corporate Identity Number: U68030MH2007PLC173129, IRDA Reg. No. 141  
SERVICE TAX REGISTRATION NUMBER: AACR7145RST001



## RAHEJA QBE GENERAL INSURANCE COMPANY LIMITED

### Policy Endorsement

Insured:	M/s. Eurotek Environmental Pvt Ltd
Period of Insurance:	20 <sup>th</sup> January 2017 to 19 <sup>th</sup> January 2018
Effective Date:	1 <sup>st</sup> December 2016
Policy No.:	15-W0000285-WCA
Date of Issue:	30 <sup>th</sup> January 2017

#### 1. Coverage For Employees Of Contractors

It is hereby understood and agreed that the Exception 2. of the policy is waived & the indemnity herein granted is extended to cover the legal liability of the Insured to workmen in the employment of Contractors performing work for the Insured while engaged in the business and occupations in respect of which the within Policy is granted, but only so far as regard claims under the Workmen's Compensation Act, 1923, and subsequent amendments of said Act prior to the date of the issue of this Policy.

Subject otherwise to the terms, provisions and conditions of the within Policy.

Raheja QBE General Insurance Company Limited  
5th Floor, Windsor House, CST Road, Kalina, Santacruz (E), Mumbai 400 098  
Telephone: +91 22 4231 3888, Fax: +91 22 4231 3777, Toll Free No. 1800-102-7723  
Website: [www.rahejaqbe.com](http://www.rahejaqbe.com) Email: [info@rahejaqbe.com](mailto:info@rahejaqbe.com)  
Corporate Identity Number: U86030MH2007PLC173129, IRDA Reg. No. 141  
SERVICE TAX REGISTRATION NUMBER: AADCR7145RST001

# **WORKMEN'S COMPENSATION INSURANCE-OTHER THAN COLLIERIES POLICY SCHEDULE**

Policy No.	: 421010/48/17/004124	Prev. Policy No.	: 421010/48/16/000737
Cover Note No.	: -	Cover Note Date	: -
Insured's Code	: 0570708	Issue Office code	: 421010
Insured's Name	: M/S. Shriram EPC Limited	Issue Office Name	: CHENNAI
Address	: 18/3, 4th Floor, Sigappi Achi Building, Rukmini Lakshmiapathi Salar (Marshall's Road), Egmore,  CHENNAI TAMIL NADU 600005	Address	: 2ND FLOOR, MOOKAMBKA COMPLEX, NO.4, LADY DESIKA ROAD MYLAPORE CHENNAI TAMIL NADU 600001
Tel./Fax/Email	: 044 434 18700 / /	Tel./Fax/Email	: 044-8000198/200 / / sgi.chennai@shriramgi.com
Dev. Officer	: -	Broker Details	: LB0000000002 M/S BHARAT RE. INSURANCE BROKERS PVT. LTD. Contact No.
Period of Insurance : From 00.00 on 26/06/2016 To Midnight of 25/06/2017			
Collection No. & Dt. : CHQCSH 1033001843 - 23/06/2016			
Gross Premium	242,519	S Tax	33963
GST	0	Cess	2425
SI Duty	122	Total	278,808
Co-insurance Details : NIL			

## **Laws**

Laws : Indemnity against legal liability to all employees (whether or not coming within the definition of the term Workmen) under the W.C. Act prior to the date of issue of the policy the Fatal Accidents Act 1955 and at Common Law

## **Risk Information**

Type of Risk : GOWDON

Details of Employees with Monthly Wages Above Rs.8000/-

Sr. No.	Est. No. of Emps	Contract Emps	Occupation	Estimated total salary /wages/other earnings	Value of food/grtns/ other considerations	Estimated Total earnings	Table	Place of Employment
1	2500		Engineers not otherwise classified - incl. work away from shop or yard upto 9 mtrs height.	124,500	0	124,500	A	Various Cities in India

## **Contract Details**

### **EMPLOYEE DETAIL**

Place : CHENNAI

Date : 23/06/2016

All the amounts mentioned in this policy are in Indian Rupees

For and on behalf of  
SHRIRAM GENERAL INSURANCE COMPANY LTD

  
Authorized Signatory

Service Tax Reg. No. AAKGS2505K57961

Page 1 of 2

Attached to and forming part of policy number 421010/48/17/004124

Total Premium in words : Indian Rupees Two Lakhs Seventy-Eight Thousand Eight Hundred Ninety-Eight Only

**The Insurance under this policy is subject to Warranties & Clauses(as per forms attached).**

Subject to adjustment in the terms of Condition 6. The estimated amount of wages/salaries & other earnings on which premium is based.

- Excess/Deductible : Rs.8,00,000/- per accident.
- Total Sum Insured : Rs.32,44,80,000/- Multiply the column "Est.No.of Empls" with the column "Estimated Total earnings".
- The sum insured is adjustable at the end of the year based on the certification of total wages from the Statutory Auditor.
- The policy covers total 2600 workers of Shriram EPC Limited.
- Contractors & Sub Contractors and all other persons engaged on project site including all manufacturing units, godowns & other locations anywhere in India who are not specifically covered under any other workmen compensation policy.
- All persons are engaged in Engineering related works.
- Warranted that Medical expenses are not covered.
- Classification Code No.- 157.

Warranted that in case of dishonour of premium cheque(s) the Company shall not be liable under the policy and the policy shall be void abinitio (from inception).

In witness whereof the undersigned being authorised by and on behalf of the Company has/have herein to set his/their hands at CHENNAI on 16th Day of April 2016.

Entered by : VARUN VERMA

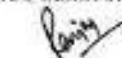
Approved by : VARUN VERMA

Place: CHENNAI

Date: 23/05/2016

All the amounts mentioned in this policy are in Indian Rupees

For and on behalf of  
SHIRIRAM GENERAL INSURANCE COMPANY LTD.




Authorised Signatory

Service Tax Reg. No. AAKCS2509KST001

Page 2 of 2

**Consent to Operate for Concrete Batching Plant – Davangere 20 MLD STP site**

	<b>Consent For Operation (CFO-Air,Water)</b>	Karnataka State Pollution Control Board - Davangere Plot No. 501, C-Block, Near Central excise & Customs Office Devraj nrs layout, Davangere-577006 Tele : 08192-252895		
	PCB ID: 29556 Consent No. AW-102647 Valid upto: 27/06/2017			
(This document contains - 6 - pages including annexure)				
Combined Consent Order No: AW-102647		Date: 24/06/2016		
<b>Combined consent for discharge of effluents under the Water (Prevention and Control of Pollution) Act, 1974 and emission under Air (Prevention and Control of Pollution) Act, 1981</b>				
Ref: 1. Application filed by the industry / organization on 17/06/2016 2. Inspection of the Industry/organization by RO: - Davangere on 17/06/2016				
Consent is hereby granted under Section 25(4) of the Water (Prevention & Control of Pollution) Act, 1974 (herein referred to as the Water Act) & Section 21 of Air (Prevention & Control of Pollution) Act, 1981, (herein referred to as the Air Act) and the Rules and Orders made there under - and subject to the terms and conditions as detailed in the Schedule Annexed to this order.				
The Occupier is authorized to operate /carryout industry/activity & to make discharge of the effluents & emissions conforming to the stipulated standards from the premises mentioned below:				
<b>Location:</b>				
Name of the Industry: Hnb Engineers Pvt. Ltd.				
Address: Sy. No. 10, 11, 12, 13 and 126, Doddabhuchal-Village, Shivanagara, Davangere-Tq. & Dist.				
Industrial Area: Not in I.A. Doddabhuchal,				
Taluk: Davangere. District: Davangere				
<b>Discharge of effluents under the Water Act:</b>				
Sr	Water Code	WQCLDI	WQCLDI	Remark
1	Domestic Purpose	1500	2 KCO	DOMESTIC WASTEWATER IS BEING DISCHARGED INTO SEPTIC TANK AND SOAK PIT.
2	Manufacturing Processes	100000	0.000	WATER USED FOR MIXING OF CONCRETE. THERE IS NO GENERATION OF TRADE EFFLUENTS.
<b>Discharge of Air emissions under the Air Act from the following stacks etc.</b>				
SL No.	Description of chimney/outlet	Limits specified refer schedule		
The details of Sources, control equipments and its specification, type of fuel, rate of emissions, constituents to be controlled in emissions etc. are detailed in Annexure-I.				
This consent is issued considering the manufacture of Ready mix cement concrete / activity.				
Sr	Product Name	Applied Qty/Month	Unit	
1	CEMENT CONCRETE	120.000	CUM	
Page-1      e_outwardno1423-24/06/2016      e-signed      Printed through 2026      ENVIRONMENTAL OFFICER				



**Consent For Operation  
(CFO-Air/Water)**

PCB ID: 29556

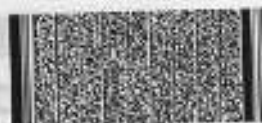
Consent No. AYV-102647  
Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davanagere  
Plot No. 501, C-Block,  
Near Central excise & Customs Office Devraj Urs layout,  
Davanagere-577006  
Tel : 08392-252895

(This document contains 6 pages including annexure)

This consent is valid for the period from 17/06/2015 to 27/09/2017

For and on behalf of the  
Karnataka State Pollution Control Board



MANJUNATH KS - Environmental  
Officer

To,

Hrb Engineers Pvt. Ltd.,  
HNB Engineers Pvt. Ltd.,  
#3370/11-12, MCC 8 Block,  
Shamara Road, Near  
Lakshmi F

**NOTE:**

The following Conditions NE mentioned above are not applicable.

**COPY TO:**

1. Master Register.
2. Case file.

1. Consent Fee paid Rs. 12000

**SCHEDULE**

**TERMS AND CONDITIONS**

**A. TREATMENT AND DISPOSAL OF EFFLUENTS UNDER THE WATER ACT.**

1. The discharge from the premises of the occupier shall pass through the terminal manhole/manholes where from the Board shall be free to collect samples in accordance with the provisions of the Act/Rules made there under.
2. The sewage/domestic effluent shall be treated in septic tank and with soak pit. No overflow from the soak pit is allowed. The septic tank and soak pit shall be as per IS 2470 Part-I & Part-II.  
OR
3. The treated sewage effluent discharged shall conform to the standards specified in Annexure-I.

Page-2

e\_outwardno1423-24/06/2016

e-signed

Environmental Officer

Printed through XGN

ENVIRONMENTAL OFFICER



**Consent For Operation  
(CFO-Air/Water)**

PCB ID: 29956

Consent No. AW-102647

Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davangere  
Plot No. 501, C-Block,  
Near Central excise & Customs Office Devraj Urs layout,  
Davangere-577006  
Tele : 08192-252895

(This document contains 6 pages including annexure)

4. The occupier shall install flow measuring/recording devices to record the discharge quantity and maintain the record.
5. The occupier shall not change or alter either the quality or the quantity or the place of discharge or temperature or the point of discharge without the previous consent/ permission of the Board.
6. The Occupier shall not allow the discharge from the other premises to mix with the discharge from his premises. Storm water shall not be allowed to mix with the effluents on the upstream of the terminal manhole where the flow measuring devices are installed.
7. Domestic Sewage shall be discharged to Underground drainage Systems/ Sewers owned by Local body.

**B. EMISSIONS:**

1. The discharge of emissions from the premises of the applicant shall pass through the air pollution control equipment and discharged through stacks/chimneys mentioned in Annexure-I where from the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made there under.
2. The occupier shall provide port holes for sampling of emission, access platforms for carrying out stack sampling, electrical points and all other necessary arrangements including ladder as indicated in Annexure-II.
3. The Occupier shall upgrade/modify/replace the control equipment with prior permission of the Board.

**C. WATER CESS:**

1. The Occupier shall provide water meter at all the intake points as specified under Section (5) of the Water Cess Act, 1977 and shall file the Water Cess returns regularly and also pay the Cess assessed with the time stipulated.

**D. MONITORING & REPORTING:**

1. The occupier shall get the samples of effluents & emissions collected and get them analyzed once a month/once in 15 days for the parameters.

**E. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:**

1. The Occupier shall segregate solid waste from Hazardous Waste, Municipal Solid Waste and store it properly till treatment/disposal without causing pollution to the surrounding Environment.
2. The solid waste generated shall be handled & disposed by scientific method without causing eye sore to the general public and to the surrounding environment.

**F. NOISE POLLUTION CONTROL:**

1. The industry shall ensure that the ambient noise levels within its premises will not exceed the limits i.e 75 dB(A) Leq during day time and 70 dB(A) Leq during night time as specified in the Environment (Protection) Rules.

Page-3

e\_outwardno1423-24/06/2016

e-signed  
Technical Officer

Printed through XSN

ENVIRONMENTAL OFFICER



**Consent For Operation  
(CFO-Air/Water)**

PCB ID: 29656

Consent No. AW-102647  
Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davangere  
Plot No. 501, C-Block,  
Near Central excise & Customs Office Devraj layout,  
Davangere-577006  
Tele : 08192-252895

(This document contains 6 pages including annexure)

**G. GENERAL CONDITIONS:**

1. The Board reserves the right to review, impose additional conditions, revoke, change or alter terms and conditions of this consent.
2. The Occupier shall forthwith keep the Board informed of any accidental discharge of emissions/effluents into the atmosphere in excess of the standards laid down by the Board. The applicant shall also take corrective steps to mitigate the impact.
3. The Occupier shall provide alternative power supply sufficient to operate all Pollution control equipments.
4. The entire premises shall always be kept clean. The effluent holding area, inspection chambers, outlets, flow measuring points should made easily approachable.
5. The Occupier shall display the consent granted in a prominent place for perusal of the inspecting officers of the Board.
6. The Occupier his heirs, legal representatives or assigns shall have no claims what so ever to the continuation or renewal of this consent after expiry of the validity of consent.
7. The Occupier shall make an application for consent at least 45 days before expiry of this consent.
8. The occupier shall maintain register recording the ambient air quality and stack monitoring. The register shall be open for inspection by the Board Officers at all time.

For and on behalf of the  
Karnataka State Pollution Control Board



MANJUNATH KS - Environmental  
Officer

**Annexure-I**

Slno	Characteristics	Tolerance Limits
1	Colour and Odour	See Note
2	Suspended Solids, mg/l, max	30
3	Bio-chemical Oxygen Demand, mg/l, max ( 3 days at 27 deg/Centigrade)	20

Note: All efforts should be made to remove colour and unpleasant odour as far as practicable.







**Consent For Operation  
(CFO-Air/Water)**

PCB ID: 29058

Consent No. AW-162647  
Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davangere

Plot No. 501, C-Block,  
Near Central excise & Customs Office Devraj Urs layout,  
Davangere-577006  
Tele : 08192-252895

(This document contains - 6 - pages including annexure)

**LOCATION OF SAMPLING PORTHOLES, THE PLATFORMS, THE ELECTRICAL OUTLET.**

1. Location of Portholes and approach platform:

Portholes shall be provided for all chimneys, stacks and other sources of emission. These shall serve as the sampling points. The sampling point should be located at a distance equal to atleast eight times the stack or duct diameters downstream and two diameters upstream from source of low disturbance such

as


a Bend, Expansion, Constriction Valve, Fitting or Visible Flame for rectangular stacks, the equivalent diameter can be calculated from the following equation:

$$\text{Equivalent Diameter} = \frac{2 (\text{Length} \times \text{Width})}{(\text{Length} + \text{Width})}$$

2. The diameter of the sampling port should not be less than 3". Arrangements should be made so that the porthole is closed firmly during the period when it is not used for sampling.

3. An easily accessible platform to accommodate 3 to 4 persons to conveniently monitor the stack emission from the portholes shall be provided. Arrangements for an Electric Outlet Point off 230 V 15 A with suitable switch control and 3 Pin Point shall be provided at the Porthole location.

## Consent to Operate for Concrete Batching Plant – Davangere 5 MLD STP site

	<b>Consent For Operation (CFO-Air,Water)</b>	<b>Karnataka State Pollution Control Board - Davangere</b> Plot No. 501, C-Block, Near Central exrise & Customs Office Devraj urx layout, Davangere-577004 Tele : 08192-252895		
	PCB ID: 29555 Consent No. AW-102548 Valid upto: 27/09/2017			
(This document contains 6 pages including annesure)				
Combined Consent Order No: AW-102548		Date: 24/05/2016		
<b>Combined consent for discharge of effluents under the Water (Prevention and Control of Pollution) Act, 1974 and emission under Air (Prevention and Control of Pollution) Act, 1981</b>				
Ref: 1. Application filed by the industry / organization on 17/06/2016 2. Inspection of the Industry/organization by RO, - Davangere on 17/06/2016				
Consent is hereby granted under Section 25(4) of the Water (Prevention & Control of Pollution) Act, 1974 (herein referred to as the Water Act) & Section 21 of Air (Prevention & Control of Pollution) Act, 1981, (herein referred to as the Air Act) and the Rules and Orders made there under and subject to the terms and conditions as detailed in the Schedule Annexed to this order.				
The Occupier is authorized to operate /carryout industry/activity & to make discharge of the effluents & emissions conforming to the stipulated standards from the premises mentioned below:				
<b>Location:</b>				
Name of the Industry:	Hrb Engineers Pvt. Ltd.			
Address:	Sy. No. 10, 37/1, Avaragere Village, Davangere-Tq & Dist.			
Industrial Area:	Not In I.A. Avaragere,			
Taluk:	Davangere District: Davangere			
<b>Discharge of effluents under the Water Act:</b>				
Sr	Water Code	WQ KLD	WWGKLD	Remark
1	Domestic Purpose	3.500	2.800	DOMESTIC WASTEWATER IS BEING DISCHARGED INTO SEPTIC TANK AND SOAK PIT.
2	Manufacturing Processes	100000	1000	WATER USED FOR CONCRETE MIXING. THERE IS NO GENERATION OF TRADE EFFLUENTS.
<b>Discharge of Air emissions under the Air Act from the following stacks etc.</b>				
Sl. No.	Description of chimney/outlet	Limits specified refer schedule		
The details of Sources, control equipments and its specification, type of fuel, rate of emissions, constituents to be controlled in emissions etc. are detailed in Annexure-I.				
This consent is issued considering the manufacture of Ready mix cement concrete / activity.				
Sr	Product Name	Applied Qty/Month	Unit	
1	CEMENT CONCRETE	6000/000	CUM	
2	SOIL, GRAVEL, STONES	0.00	CUM	
Page-1 e_outwardno1425-24/05/2016 e-signed Printed through XON ENVIRONMENTAL OFFICER				



**Consent For Operation  
(CFO-Air,Water)**

PCB ID: 29855

Consent No. AW-102648  
Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davangere  
Plot No. 561, C-Block,  
Near Central excise & Customs Office Devraj Urs Layout,  
Davangere-577006  
Tele : 08192-252895

(This document contains - 6 - pages including annexure)

This consent is valid for the period from 17/06/2016 to 27/09/2017

For and on behalf of the  
Karnataka State Pollution Control Board



MANJUNATH KS - Environmental  
Officer

To,

Hnb Engineers Pvt. Ltd.,  
HNB Engineers Pvt. Ltd.,  
#3370/11-12, MCC B Block,  
Shamenur Road, Near  
Lakshmi F (Left side)  
Davangere

**NOTE:**

The following Conditions Nil mentioned above are not applicable.

**COPY TO:**

1. Master Register.
2. Case file.

1. Consent Fee paid : Rs. 12000



**Consent For Operation  
(CEO-Air,Water)**

PCB ID: 29855

Consent No. AW-102648

Valid upto: 27/09/2017

Karnataka State Pollution Control Board

- Davangere

Plot No. 581, C-Block,

Near Central excise & Customs Office Devraj Urs layout,

Davangere-577006

Tele : 08192-252895

(This document contains 6 pages including annexure)

**SCHEDULE**

**TERMS AND CONDITIONS**

**A. TREATMENT AND DISPOSAL OF EFFLUENTS UNDER THE WATER ACT.**

1. The discharge from the premises of the occupier shall pass through the terminal manhole/manholes where from the Board shall be free to collect samples in accordance with the provisions of the Act/Rules made there under.

2. The sewage/domestic effluent shall be treated in septic tank and with soak pit. No overflow from the soak pit is allowed. The septic tank and soak pit shall be as per IS 2470 Part-I & Part-II.

OR

3. The treated sewage effluent discharged shall conform to the standards specified in Annexure-I.

4. The occupier shall install flow measuring/recording devices to record the discharge quantity and maintain the record.

5. The occupier shall not change or alter either the quality or the quantity or the place of discharge or temperature or the point of discharge without the previous consent/ permission of the Board.

6. The Occupier shall not allow the discharge from the other premises to mix with the discharge from his premises. Storm water shall not be allowed to mix with the effluents on the upstream of the terminal manhole where the flow measuring devices are installed.

7. Domestic Sewage shall be discharged to Underground drainage System/ Sewers owned by Local body.

**B. EMISSIONS:**

1. The discharge of emissions from the premises of the applicant shall pass through the air pollution control equipment and discharged through stacks/chimneys mentioned in **Annexure-I** where from the Board shall be free to collect the samples at any time in accordance with the provisions of the Act and Rules made there under.

2. The occupier shall provide port holes for sampling of emission, access platforms for carrying out stack sampling, electrical points and all other necessary arrangements including ladder as indicated in Annexure-II.

3. The Occupier shall upgrade/modify/replace the control equipment with prior permission of the Board.

**C. WATER CESS:**

1. The Occupier shall provide water meter at all the intake points as specified under Section (5) of the Water Cess Act, 1977 and shall file the Water Cess returns regularly and also pay the Cess assessed with the time stipulated.

**D. MONITORING & REPORTING:**

1. The occupier shall get the samples of effluents & emissions collected and get them analyzed once a month/once in 15 days for the parameters.

Page-3

e\_outwardno1425-24/06/2016

e-signed

(Electronic Signature)

Printed through XGN

ENVIRONMENTAL OFFICER



**Consent For Operation  
(CFO-Air, Water)**

PCB ID: 29655

Consent No. AW-102648

Valid upto: 27/09/2017

Karnataka State Pollution Control Board

- Davanagere

Plot No. 501, C-Block,

Near Central excise & Customs Office Devraj Urs layout,

Davanagere-577006

Tele : 08192-252895

(This document contains 6 pages including annexure)

**E. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:**

1. The Occupier shall segregate solid waste from Hazardous Waste, Municipal Solid Waste and store it properly till treatment/disposal without causing pollution to the surrounding Environment.
2. The solid waste generated shall be handled & disposed by scientific method without causing eye sore to the general public and to the surrounding environment.

**F. NOISE POLLUTION CONTROL:**

1. The industry shall ensure that the ambient noise levels within its premises will not exceed the limits i.e 75 dB(A) Leq during day time and 70 dB(A) Leq during night time as specified in the Environment (Protection) Rules.

**G. GENERAL CONDITIONS:**

1. The Board reserves the right to review, impose additional conditions, revoke, change or alter terms and conditions of this consent.
2. The Occupier shall forthwith keep the Board informed of any accidental discharge of emissions/effluents into the atmosphere in excess of the standards laid down by the Board. The applicant shall also take corrective steps to mitigate the impact.
3. The Occupier shall provide alternative power supply sufficient to operate all Pollution control equipments.
4. The entire premises shall always be kept clean. The effluent holding area, inspection chambers, outlets, flow measuring points should made easily approachable.
5. The Occupier shall display the consent granted in a prominent place for perusal of the inspecting officers of the Board.
6. The Occupier his heirs, legal representatives or assigns shall have no claims what so ever to the continuation or renewal of this consent after expiry of the validity of consent.
7. The Occupier shall make an application for consent at least 45 days before expiry of this consent.
8. The occupier shall maintain register recording the ambient air quality and stack monitoring. The register shall be open for inspection by the Board Officers at all time.

For and on behalf of the  
Karnataka State Pollution Control Board



**Consent For Operation  
(CFO-Air,Water)**

PCB ID: 29655

Consent No. AWW-102648

Valid upto: 27/09/2017

Karnataka State Pollution Control Board

- Davangere

Plot No. 501, C-Block,

Near Central excise & Customs Office Devraj urs layout,

Davangere-577006

Tele : 08192-252895

(This document contains - 6 pages including annexure)



MANJUNATH KS - Environmental  
Officer

**Annexure-I**

Sno	Characteristics	Tolerance Limits
1	Colour and Odour	See Note
2	Suspended Solids, mg/l max	30
3	Bio-chemical Oxygen Demand, mg/l, max ( 3 days at 27 deg/Centigrade)	20

Note: All efforts should be made to remove colour and unpleasant odour as far as practicable.

**Annexure-II**

Chim.No.	Chimney attached to	KVA Rating/ Capacity	Minimum chimney height to be provided above ground level (in Mtr)	Constituents to be controlled in the emission	Tolerance limits mg/NM3	Air pollution Control equipment to be installed, in addition to chimney height as per col.(4)	Date on which air pollution control equipments shall be provided to achieve the stipulated tolerance limits and chimney heights conforming to stipulated heights.
1	D.G. Sets	15 KVA	3	---	---	AEC	---
2	D.G. Sets	100 KVA	5	---	---	AEC	---

Note:

AEC : Acoustic Enclosures

Note:

- The Noise levels within the premises shall not exceed 75 dB (A) leq during day time and 70 dB(A) leq during night time respectively.
- The DG set shall be provided with acoustic measures as per Sl.No.34 in Schedule-I of Environment (Protection) Rules.
- There shall be no smell or odour nuisance from the industry.

Page-5

e\_outwardno1425-24/06/2018

e-signed  
[Signature]

Printed through XGN

ENVIRONMENTAL OFFICER





**Consent For Operation  
(CFO-Air/Water)**

PCB ID: 29655

Consent No. AW-102648  
Valid upto: 27/09/2017

Karnataka State Pollution Control Board  
- Davangere

Plot No. 501, C-Block,  
Near Central excise & Customs Office Devraj urs layout,  
Davangere-577006  
Tele : 08192-252895

(This document contains 6 pages including annexure)

**LOCATION OF SAMPLING PORTHOLES, THE PLATFORMS, THE ELECTRICAL OUTLET.**

**1. Location of Portholes and approach platform:**

Portholes shall be provided for all chimneys, stacks and other sources of emission. These shall serve as the sampling points. The sampling point should be located at a distance equal to atleast eight times the stack or duct diameters downstream and two diameters upstream from source of low disturbance such

as

a Bend, Expansion, Construction Valve, Fitting or Visible Flame for rectangular stacks, the equivalent diameter can be calculated from the following equation.

$$\text{Equivalent Diameter} = \frac{2 (\text{Length} \times \text{Width})}{(\text{Length} + \text{Width})}$$

2. The diameter of the sampling port should not be less than 3". Arrangements should be made so that the porthole is closed firmly during the period when it is not used for sampling.
3. An easily accessible platform to accommodate 3 to 4 persons to conveniently monitor the stack emission from the portholes shall be provided. Arrangements for an Electric Outlet Point off 230 V 15 A with suitable switch control and 3 Pin Point shall be provided at the Porthole location.



### Sample Site Specific Environment Management Plan

**Package: Davangere- Sewerage (Package: 01DVG01)**

Field/Issues	Anticipated Impact	Mitigation Measures	Remarks
Climate	The nature and intensity of rainfall events in an area, has implications for storm water management. Smoke from burning activities could be wider spread on windy days especially when dust could be blown off site.	Seasonal climatic variations during scheduling of construction activities in the area will be followed.	HSE work permit system of the company followed.
Air Quality	Sensitive receptors (e.g. hospitals, schools, churches) may be affected temporarily by increased traffic and related impacts during the construction phase (from the proposed detour). Fugitive dust can also impact on roadside air quality during construction. Exhaust fumes from construction machinery, and potential smoke from cooking fires. Burning of waste and cleared vegetation Odours from use of toilet 'facilities' other than provided facilities.	Guidelines that deal with the control of air pollution and dusts as per Environmental Management Plan (EMP) have been followed Compliance with the Air Act. has been submitted. Compliance with emission standards have been conducted and report submitted to KUDIFC Air quality monitoring report for base line environment and during construction period is already submitted. Which will be continued during entire construction period Covering or damp down sand/ earth stockpiled at site will be maintained as per site condition Materials carrying vehicle suitably cover. Covering of materials carrying vehicles-reducing dust hazard Construction equipment and vehicles will be maintained regularly. Pollution Under Control Certificates have been collected and submitted for the vehicles presently engaged in project activity Open fires will be fully avoided at working sites Maintaining toilet in a clean state.	Air quality Monitoring data has been included in Environmental Monitoring Report
Drainage and hydrology	The proposed development is situated within an existing built up area. Due to the nature and locality of the subproject there is unlikely any significant impacts on water resources within the immediate area.	The site surface has been engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. No major ground disturbance has been observed till now Waste management practices will be maintained Transport, storage, handling and disposal of hazardous substances will be done as per prevailing laws and approval	

Field/Issues	Anticipated Impact	Mitigation Measures	Remarks
		of concerned authority	
Biodiversity Fauna and Flora	The proposed development is situated within an existing built up area. No areas of ecological diversity occur within the subproject location. Due to the nature and locality of the subproject there is unlikely to any significant impacts on biodiversity within the area .	Permission will be obtained from the Division Forest Office for the cutting/ felling of trees if required Landscaping will be undertaken with locally indigenous species and low maintenance requirements.	
Land Uses	Due to the location and nature of the subproject, there will be interference with access Existing public transport facilities and operations will be affected by the road closure and detours. Shops and establishments are located along the transmission mains alignment therefore will need to be relocated during construction. This may impact on livelihoods. There will be disruptions to health services, education services, local businesses, transport services, pedestrian movements, due to traffic and construction related noise, visual, and air pollution.	Project executing agency and consultant have consulted with various organizations, departments, etc within the area and will be continued during the construction phase. Caution board has been display at all site location to aware people Walkways and metal sheets provided if required to maintain access across for people and vehicles. Workforce will be increased in front of critical areas such as institutions, place of worship, business establishment, hospitals, and schools. Businesses and institutions consulted regarding operating hours and factoring this in work schedules.	
Infrastructure and Services	There is likely to have temporary disruption of infrastructure and services during the pipe laying There are a number of existing infrastructure and services (roads, telecommunication lines, power lines and various pipelines within the vicinity of the subproject.	Utility shifting will be done by utility agency prior to commencing pipe laying at new location. Keep construction-related disturbances to a minimum. Affected service providers will be consulted regarding impacts on access to infrastructure and services and alternatives. Affected communities or businesses will be consulted prior to foreseeable disruptions, for example notifying residents of a temporary severance of water supply. Executing agency and consultant have consulted with various organizations, departments, to provide access points for infrastructures and services.	




Field/Issues	Anticipated Impact	Mitigation Measures	Remarks
		Regular monitoring and resolving the complaints by the public will be done by company/KUDIFC/ GKW	
Traffic	<p>Increased volume of construction vehicles on the roads may lead to increased wear and tear of roads in the vicinity of the subproject site.</p> <p>Road safety concerns due to slow moving construction vehicles.</p> <p>Traffic flow within the vicinity will be affected.</p> <p>The temporary road closure will result in a decrease in overall network performance in terms of queuing delay, travel times/speeds.</p> <p>The road closure will impact on a public transport operations and routing.</p> <p>On street parking and loading bays will be affected by the proposed road closure.</p> <p>Pedestrian movements will be affected by the road closure.</p>	<p>Traffic Management Plan is prepared. TMP ensured safety of all the road-users along the work zone and to address: (i) protection of work crews from hazards associated with moving traffic; (ii) mitigation of the adverse impact to the road capacity and delays to the road-users; (iii) maintenance of access to adjoining properties; and (iv) issues that may delay the subproject works.</p> <p>Schedule transport and hauling activities will be plan during non-peak hours</p> <p>Site will be free from all unnecessary obstructions.</p> <p>Affected sensitive receptors if any will be notified by providing sign boards informing nature and duration of construction works</p> <p>Privately-owned public transport operators will be negotiated regarding the affected public transport facilities and routing.</p> <p>Business owners and social service operations will be negotiated regarding the loss of parking and loading bays.</p> <p>Clear roads signs has been arranged and to be maintained for the full length of the construction period.</p> <p>All working sites barricaded</p> <p>Construction area clearly defined</p> <p>Deliveries during peak traffic hours will be not allowed</p>	Before starting of any particular project site on the road TMP needs to be approved from KUDIFC/ PMDCSC Engineer.
Health and Safety	<p>Danger of construction related injuries.</p> <p>Open fires in construction camp can result in accidents</p> <p>Safety of workers and general public must be ensured.</p> <p>Poor waste management practices and unhygienic conditions at temporary ablution facilities can breed diseases.</p> <p>Standing water due to inadequate storm water drainage systems, inadequate waste management practices, pose a health hazard to providing breeding grounds for disease vectors such as mosquitoes, flies and snails.</p>	<p>Implement good housekeeping practices at the site office, working area.</p> <p>Strictly implemented health and safety measures and audit on a regular basis.</p> <p>Construction site – particularly excavated area already barricaded and defined by safety caution tape.</p> <p>Thoroughly trained workers assigned to dangerous equipment.</p> <p>Waste management practices will be well undertaken</p> <p>Speed and movement of construction vehicles restricted</p> <p>Personal Protective Equipment are provided to all workers</p> <p>Visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas have been ensured</p>	Company's health and safety guidelines will be followed

Field/Issues	Anticipated Impact	Mitigation Measures	Remarks
		First Aid system available at working sites Medical insurance provided to workers Drinking water arranged at working sites Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure.	
Noise and Vibrations	Sensitive receptors (hospitals, schools, religious places) may be affected temporarily by increased traffic and related impacts Use of heavy vehicles and equipment may generate high levels of noise. Vibrations resulting from bulk earthworks, and compaction may create significant disturbances to nearby people and businesses. Disturbance from afterhours work.	Construction activities to be restricted at reasonable working hours near any sensitive receptors. Adjacent landowners will be informed about noisy activities Ensured that machinery in a good state of maintenance. Maintenance of silencers to all machinery is ensured Base line and during construction noise level monitoring has been conducted near project sites	Noise level Monitoring have been done
Aesthetics, Landscape Character, and Sense of Place	The presence of heavy duty vehicles and equipment, temporary structures at site office, stockpiles, may result in impacts on aesthetics and landscape character	Storage areas fenced properly. Solid waste will be manage according to the following preference hierarchy: reuse, recycling and disposal to designated areas Removal of all wreckage, rubbish from the sites done at earliest Waste dispose at suitable location after taken permission from PIU/ PMDCSC Unwanted material and litter will be remove at certain intervals	Excavated soils are utilized for filling purpose.
Construction camps	Affect local environment – soil, air, noise and impact on vegetation	Toilet, drinking water facility arranged	
Workers Conduct	Construction workers on site disrupting adjacent land uses by creating noise, generating litter, and possible loitering.	Ensured strict control of labourers Working hours fixed as per rules Littering at project sites is being avoided Overnight accommodation will be provided as per requirement.	Company policy followed
Employment Generation	The subproject will provide employment opportunities for local people during construction.	Local Workers/labourers are engaged at site Construction materials will be procured from local market	

Field/Issues	Anticipated Impact	Mitigation Measures	Remarks
	<p>Expectations regarding new employment will be high especially among the unemployed individuals in the area.</p> <p>Labor gathering at the site for work can be a safety and security issue, and must be avoided.</p> <p>The training of unskilled or previously unemployed persons will add to the skills base of the area.</p>		
Archaeological and Cultural Characteristics	The proposed development will not require demolition of ASI- or state-protected monuments and buildings	There is no Heritage or archaeological protected sites. Construction staff members would be aware of the likelihood of heritage resources being unearthed and of the scientific importance of such discoveries.	
Social Impacts	Impact on local social environment	Restrict activities and movement of staff to designated construction areas.	

## Ambient Air Quality and Noise Level – Sample result certificates

## Air and Noise Quality-Davangere Sewerage

				<b>NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED</b> FTL, JODARI DUNGA, CHANDRANAGAR, DAVANGERE - 577004 Ph: 0826 - 271111, 244 271111, Email: ntlr@nichrome.com TESTING SERVICES, ENGINEERS & CONSULTANTS (TYPE APPROVALS - KARNATAKA, KUNNINGHAM, AND CHANDRANAGAR, GOVT. OF KARNATAKA)		
Format No: NTLR/F/3305		Page 1 of 1				
<b>TEST REPORT</b>						
<b>Name of Customer and Address:</b> SIMPLEX INFRASTRUCTURE LIMITED DAVANGERE SEWERAGE PROJECT Door No.314,3 <sup>rd</sup> Main,1 <sup>st</sup> Cross,Backside of More Shop,S.Nijalingappa Layout, Davangere – 577 004		<b>Sample Number:</b> <b>Type of Sample:</b> <b>Sample Collected by:</b> <b>Sampling Method:</b> <b>Particulars of Sample Collected:</b> <b>Environmental Conditions:</b> <b>Date of Collection:</b> <b>Date of Sample receipt:</b> <b>Date of Analysis started:</b> <b>Date of Completion:</b> <b>Date of Report:</b> <b>Customer Reference:</b> <b>Wind Direction:</b>		<b>DEC/2016-17/757</b> <b>AIR - AMBIENT</b> Nichrome Testing Laboratory and Research Private Limited IS : 5182 (Part 14): 2000 (Reaffirmed: 2005) Respirable Dust Sampler (APM 450 RI)/ Fine Particulate Sampler Normal 30/12/2016 31/12/2016 31/12/2016 02/01/2017 02/01/2017 012/DWG/OTH/001/VOL-01/70 Date:21/12/2016 South West		
<b>Sampling Location:</b> Ward - 04, SSNI NAGAR						
<b>RESULTS</b>						
SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	96.57	100
2	PM <sub>2.5</sub>	CPCB MANUAL	µg/m <sup>3</sup>	24 Hrs	59.90	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	5.99	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	12.68	80
Minimum reportable value for SO <sub>2</sub> – 4.0 µg/m <sup>3</sup> and NO <sub>2</sub> – 9.0 µg/m <sup>3</sup>						
Inference as per NAAQ Standards		Above tested parameters conforming to standards.				
				Authorized Signatory <b>V. H. Hugar (Technical Manager)</b>		
						
- END OF REPORT -						
<b>Note :</b> 1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the involved amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission subject to that said jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.						



# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

111, AVARU PUNJAGUTTA ROAD, KOTAMARU, CHENNAI - 600046

PH: 0886 - 274 61 32 / 270080, email: nichrome@ntrlr.com

TESTING SERVICES, ENGINEERS & CONSULTANTS

CHIEF APPROVALS: KPMSSA/2010, KMSO/2009,  
LMS (AMEND), DEPT OF AGRICULTURE, GOVT

Format No: NTLR/S/34/05

Page 1 of 1

## **TEST REPORT**

**Name of Customer and Address:**  
SIMPLEX INFRASTRUCTURE LIMITED  
DAVANGERE SEWERAGE PROJECT

Door No. 314, 3<sup>rd</sup> Main, 1<sup>st</sup> Cross, Backside of  
More Shop, S. Nilajalingappa Layout,  
Davangere - 577 004

**Sampling Location:**  
Ward - 8, SMK Nagar.

**Sample Number:**  
**Type of Sample:**  
**Sample Collected by:**

**Sampling Method:**

**Particulars of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind Direction:**

**DEC/2016-17/750**

**AIR - AMBIENT**

Nichrome Testing Laboratory and

Research Private Limited

IS : 5182 (Part 14): 2000

(Reaffirmed, 2005)

Respirable Dust Sampler (APM 460 BLJ/

Fine Particulate Sampler

Normal

30/12/2016

31/12/2016

31/12/2016

02/01/2017

02/01/2017

012/DVG/OTM/001/VOL-01/70

Date: 21/12/2016

South West

## **RESULTS**

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	87.60	100
2	PM <sub>2.5</sub>	CPCB MANUAL	µg/m <sup>3</sup>	24 Hrs	43.65	60
3	Sulphur di Oxide	IS 5182 (Part 2): 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	5.50	80
4	Nitrogen di Oxide	IS 5182 (Part 6): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	15.40	80

Minimum reportable value for SO<sub>2</sub> = 4.0 µg/m<sup>3</sup> and NO<sub>2</sub> = 9.0 µg/m<sup>3</sup>

Inference as per NAAQ Standards	Above tested parameters confirming to standards.
---------------------------------	--

Authorized Signatory  
V. H. Hugar (Technical Manager)



< END OF REPORT >

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoice amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Orissal jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

175, JAYDEVI NAGAR, 1ST FLOOR, KUMARAPUR, HOSUR - 570013, KARNATAKA

PH: 0822-277491, 277492, 277493, 277494, 277495, 277496, 277497, 277498, 277499

TESTING SERVICES: ENGINEERS & CONSULTANTS

OTHER APPROVALS: KARNATAKA, KARNATAKA, KARNATAKA

UAS DHARWAD, DEPT. OF AGRICULTURE (GOK)

Format No: NTLR/5/31/15

Page 1 of 1

## TEST REPORT

### Name of Customer and Address:

SIMPLEX INFRASTRUCTURE LIMITED  
DAVANGERE SEWERAGE PROJECT  
Door No. 314, 3<sup>rd</sup> Main, 1<sup>st</sup> Cross, Backside of  
More Shop, S. Nilajalingappa Layout,  
Davangere - 577 004

### Sample Number:

DEC/2016-17/751

### Type of Sample:

AIR - AMBIENT

### Sample Collected by:

Nichrome Testing Laboratory and  
Research Private Limited

### Sampling Method:

IS: 5182 (Part 14): 2000

### Particulars of Sample Collected:

Respirable Dust Sampler (APM 460 BL)/

Fine Particulate Sampler

### Environmental Condition:

Normal

### Date of Collection:

30/12/2016

### Date of Sample receipt:

31/12/2016

### Date of Analysis started:

31/12/2016

### Date of Completion:

02/01/2017

### Date of Report:

02/01/2017

### Customer Reference:

012/bwq/OTH/001/VOL-01/70

### Wind Direction:

South West

### Sampling Location:

Ward - 36

Shivakumar Badavane -(Simplex)

## RESULTS

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	98.45	100
2	PM <sub>2.5</sub>	CPCB MANUAL	µg/m <sup>3</sup>	24 Hrs	57.70	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	6.50	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	12.72	80

Minimum reportable value for SO<sub>2</sub> - 4.0 µg/m<sup>3</sup> and NO<sub>2</sub> - 9.0 µg/m<sup>3</sup>

Inference as per NAAQ Standards	Above tested parameters conforming to standards.
---------------------------------	--

Authorized Signatory  
V. H. Hugar (Technical Manager)



- END OF REPORT -

### Note :

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Dharwad jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.





CIN: U74900KA2015PT000133

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

101, JAYDEVI BUILDING ROAD, HAZARATPUR, DAVANGERE - 577008 KARNATAKA

Ph: 0824 - 277015, Fax: 277008, Email: nichrome@ntlr.com

TESTING SERVICES, ENGINEERS & CONSULTANTS

OTHER APPROVALS: KVASDA(SDK), KANSAD(SDK),  
UNE DHARWAD, DEPT OF HORTICULTURE (SDK)

Format No: NTLR/F/14/05

Page 1 of 1

## TEST REPORT

### Name of Customer and Address:

SIMPLEX INFRASTRUCTURE LIMITED  
DAVANGERE SEWERAGE PROJECT  
Door No.314,3<sup>rd</sup> Main,1<sup>st</sup> Cross,Backside of More  
Shop,5,Nijalingappa Layout,  
Davangere - 577 004

### Sampling Location:

Ward - 04, SSN NAGAR,

### Sample Number:

### Type of Sample:

Sample Collected by:

Sampling Method

Particulars of Sample Collected:

Environmental Condition:

Date of Collection:

Date of Sample receipt:

Date of Analysis started:

Date of Completion:

Date of Report:

Customer Reference:

DEC/2016-17/753

### NOISE

Nichrome Testing Laboratory and  
Research Private Limited  
IS 9989-1981(Reaffirmed 2001)

Sound level meter

Normal

30/12/2016

31/12/2016

31/12/2016

02/01/2017

02/01/2017

012/DVG/OTH/001/VOL 01/70

Date: 21/12/2016

## RESULTS

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS-9989-1981 (Reaffirmed 2001)	12:00 pm to 12:15 pm	65.4	69.0	67.6

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB Standards	Above tested parameters confirming to standards.
-------------------------------------	--

Authorized Signatory  
V. H. Hugar (Technical Manager)



:- END OF REPORT:-

### Note:

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Bharatwadi jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.





Cell: 9740964201/9740964202

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

17B, JODDE BANGALOW ROAD, NEELAKUNTHA, CHANNarayana - 560024

Ph: 080-277715, Fax: 07866, Email: nichrome@ntlr.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OTHER APPROVALS: KARNATAKA BUREAU OF STANDARDS, KARNATAKA BUREAU OF STANDARDS, DEPT. OF HORTICULTURE, BORDO

Form No: NTLR/F/34/05

Page 1 of 1

## TEST REPORT

### Name of Customer and Address:

SIMPLEX INFRASTRUCTURE LIMITED  
DAVANGERE SEWERAGE PROJECT  
Door No.314, 3rd Main, 1st Cross, Backside of More  
Shop, S. N. Nagar, Davangere - 577 004

Sampling Location:  
Ward - 96  
Shivakumar Radakane - (Simplex)

### Sample Number:

### Type of Sample:

Sample Collected by:

Sampling Method  
Particulars of Sample Collected:  
Environmental Condition:  
Date of Collection:  
Date of Sample receipt:  
Date of Analysis started:  
Date of Completion:  
Date of Report:  
Customer Reference:

DEC/2016-17/756

### NOISE

Nichrome Testing Laboratory and  
Research Private Limited  
IS:9989-1981 (Reaffirmed 2001)  
Sound level meter  
Normal  
30/12/2016  
31/12/2016  
31/12/2016  
02/01/2017  
02/01/2017  
012/DVG/OTH/001/VOL-01/70  
Date: 21/12/2016

### RESULTS

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	$L_{eq}$ dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	10:40 pm to 10:55 pm	54.1	65.2	62.2

ISPCB Limits for Day time = 75 dB (A)  $L_{eq}$ , Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A)  $L_{eq}$

Inference as per ISPCB Standards	Above tested parameters conforming to standards.
-------------------------------------	--

Authorized Signatory  
V. H. Hugar (Technical Manager)



~ END OF REPORT ~

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/available will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to the above jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



CIN: U74300KA2015PTC069189

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

TEL: JAGGES BANGALU HY ROAD, WARTANAPUR, SHARANG - 580014 KARNATAKA

PH: 0824-277115 FAX: 277096, Email: nictest@nitr.com

TESTING SERVICES, ENGINEERS & CONSULTANTS

OTHER APPROVALS: KARNATAKA GOVT, KARNATAKA BIODIVERSITY  
LAW SHARANG, DEPT OF HORTICULTURE (GOVT)

Format No: NTLR/F/34/05

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address:

SIMPLEX INFRASTRUCTURE LIMITED  
DAVANGERE SEWERAGE PROJECT  
Door No.314,3<sup>rd</sup> Main,1<sup>st</sup> Cross,Backside of More  
Shop,5,Nijalingappa Layout,  
Davangere - 577 004

#### Sampling Location:

Simplex pre - Casting Yard DG Shed Room

#### Sample Number:

#### Type of Sample:

Sample Collected by:

Sampling Method:

Particulars of Sample Collected:

Environmental Condition:

Date of Collection:

Date of Sample receipt:

Date of Analysis started:

Date of Completion:

Date of Report:

Customer Reference:

DEC/2016-17/755

#### NOISE

Nichrome Testing Laboratory and  
Research Private Limited

IS-9989-1981(Reaffirmed 2001)

Sound level meter

Normal

30/12/2016

31/12/2016

31/12/2016

02/01/2017

02/01/2017

012/DVG/OTH/001/MOL-01/70

Date: 21/12/2016

#### RESULTS

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS-9989-1981 (Reaffirmed 2001)	10:00 pm to 10:15 pm	71.9	74.5	73.9

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB Standards	Above tested parameters confirming to standards.
-------------------------------------	--

  
Authorized Signatory  
V. H. Hugar (Technical Manager)



-: END OF REPORT:-

#### Note :

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Otharwad jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.

# Air, Noise and Water Quality-Davangere Sewage Treatment Plant

ACCREDITATIONS		NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED	
			176, JAGGEE BHAGALOW ROAD, MANDYAPUR, DAVANGERE - 577004 PH: 0824 - 271111, FAX: 271111, Email: info@ntlr.com
CERTIFICATIONS ISO 9001 : 2008 (TUV NORD) ISO 14001 : 2004 (TUV NORD)		TESTING SERVICES, ENGINEERS & CONSULTANTS OTHER APPROVALS: KARNATAKA, KUVENAGODURU, LAW ENFORCEMENT, DEPT. OF AGRICULTURE (DGO)	

Format No: NTLR/F/33/05 Page 1 of 1

## TEST REPORT

<b>Name of Customer and Address:</b> M/S. HNB Engineers Pvt Ltd., 3370/11-12 1st Cross MCC-B Block, Shamanur Road Near Lakshmi Flour Mill Davangere - 577004	<b>Sample Number:</b> DEC/2016-17/94 <b>Type of Sample:</b> AIR - AMBIENT <b>Sample Collected by:</b> Nichrome Testing Laboratory and Research Private Limited <b>Sampling Method:</b> IS :5182 (Part 14): 2000 (Reaffirmed, 2005) <b>Particulars of Sample Collected:</b> Ecotech AAS271 Combo PM10 and PM2.5 Sampler <b>Environmental Condition:</b> Normal <b>Date of Collection:</b> 03/12/2016 <b>Date of Sample receipt:</b> 03/12/2016 <b>Date of Analysis started:</b> 04/12/2016 <b>Date of Completion:</b> 05/12/2016 <b>Date of Report:</b> 06/12/2016 <b>Customer Reference:</b> WO No : 7 Date: 01/12/2015 <b>Wind Direction:</b> South East
--	---

**Sampling Location:**  
Near 05 MLD STP Plant

### RESULTS

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	90.23	100
2	PM <sub>2.5</sub>	Lab SOP No : NTLR/SOP/37	µg/m <sup>3</sup>	8 Hrs	51.88	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	8 Hrs	4.45	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	9.52	80

Inference as per NAAQ Standards	Above tested parameters conforming to standards.
---------------------------------	--

**Authorized Signatory**  
**V. H. Hugar (Technical Manager)**

- END OF REPORT -

**Note :**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our Laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission Subject to Disputed Jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.

CERTIFICATIONS



CERTIFICATIONS  
ISO 9001 : 2008 (TUVNORD)  
ISO 14001 : 2004 (TUVNORD)



ON: 16/06/2016 (TUVNORD)

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**

10, JODGES CROSS ROAD, SHAMNUR CHANNAY - 560022  
Ph: 98461 27115, 98461 07006, Fax: 98461 27115

TESTING SERVICES, ENGINEERS & CONSULTANTS

OTHER APPROVALS: HONGKONG JUNGSEUNG  
LKS CHINA: DEPT. OF AGRICULTURE (2006)

Page 1 of 1

Format No: NTLN/1/33/05

**TEST REPORT**

**Name of Customer and Address:**

M/S.HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-8 Block,  
Shamnur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sampling Location:**

Near 20 MLD STP Plant

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulars of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind Direction:**

DEC/2016-17/95

AIR - AMBIENT

Nichrome Testing Laboratory and

Research Private Limited

IS : 5182 (Part 14): 2000

(Reaffirmed, 2005)

Ecotech AAS271 Combo PM10 and

PM2.5 Sampler

Normal

03/12/2016

03/12/2016

04/12/2016

05/12/2016

06/12/2016

WO No : 7 Date: 01/12/2016

South East

**RESULTS**

SL NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	94.64	100
2	PM <sub>2.5</sub>	Lab SOP No : NTLR/SOP/37	µg/m <sup>3</sup>	8 Hrs	55.23	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	8 Hrs	4.48	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	9.58	80

Inference as per NAAQ Standards Above tested parameters confirming to standards.

Authorized Signatory

V. H. Hugar (Technical Manager)

03/12/16



:- END OF REPORT:-

**Note :**

- The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/usable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Disputed Jurisdiction. 5. Sampling is not done by us unless otherwise specified.
- Any discrepancy in the test report should be notified within 15 days.

**CERTIFICATIONS**



CERTIFICATIONS  
ISO 9001:2008 (TUV NORD)  
OHSAS 18001:2007 (TUV NORD)



CIN: U74900KA2013PTC000190

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**

VIS. ADDRESS: WINDA/DP ROAD, TANKASAPUR, DINDIGUL - 626 001  
PH: 0824 - 271110, FAX: 077080, WEB: [www.nichrome.com](http://www.nichrome.com)

TESTING SERVICES, ENGINEERS & CONSULTANTS

STAND APPROVALS - KARNATAKA (K), KARNATAKA (K),  
(JMS THIRUVARUR), DEPT. OF AGRICULTURE (DOR)

Page 1 of 1

Format No: NTLR/H/34/05

**TEST REPORT**

**Name of Customer and Address:**  
M/S. HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-B Block,  
Shamanur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sampling Location:**  
Near OS MLD STP Plant

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulars of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**DEC/2016-17/97**

**NOISE**

Nichrome Testing Laboratory and

Research Private Limited

IS-9989-1981 (Reaffirmed 2001)

Sound level meter

Normal

01/12/2016

05/12/2016

03/12/2016

05/12/2016

06/12/2016

WO No: 7 Date: 01/12/2015

**RESULTS**

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS-9989-1981 (Reaffirmed 2001)	12.00 pm to 12:15 pm	68.5	74.0	71.2

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB  
Standards

Above tested parameters conforming to standards.

14/12/16  
09-12-16

*Legends*  
**Authorized Signatory**  
V. H. Hugar (Technical Manager)



---END OF REPORT---

**NOTE:**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/biodegradable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the involved amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chartered Jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



**CERTIFICATIONS**



**CERTIFICATIONS**  
ISO 9001:2008 (TUVNORD)  
OHSAS 18001:2007 (TUVNORD)



QMS: UT0000000010PT000000

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**

05, JLOD-SANAL (V ROAD), KANNUR, KERALA - 690004  
PH: 0494-277115 FAX: 07888, email: ntlr@ntlrlab.com

TESTING SERVICES, ENGINEERS & CONSULTANTS

OTHER APPROVALS: KANNUR (CO), KANNUR (CO),  
LRS CHAWAD, DEPT. OF HORTICULTURE (COK)

Format No: NTLR/P/34/05

Page 1 of 1

**TEST REPORT**

**Name of Customer and Address:**

M/S.HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-B Block,  
Shamanur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sampling Location:**

Near 20 MLD STP Plant

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulates of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

DEC/2016-17/96

NOISE

Nichrome Testing Laboratory and

Research Private Limited

IS-9989-1981(Reaffirmed 2001)

Sound level meter

Normal

03/12/2016

03/12/2016

03/12/2016

05/12/2016

06/12/2016

WO No : 7 Date: 01/12/2016

**RESULTS**

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS-9989-1981 (Reaffirmed 2001)	11:15 am to 11:30 am	64.2	74.0	70.7

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB  
Standards

Above tested parameters confirming to standards.

*V. H. Hugar*  
Authorized Signatory  
V. H. Hugar (Technical Manager)



:-END OF REPORT:-

**Note :**

- The results listed above pertain only to the tested samples and applicable parameters.
- Samples which are degradable/volatile will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified.
- Total liability of our laboratory is limited to the invoiced amount.
- This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chennai jurisdiction.
- Sampling is not done by us unless otherwise specified.
- Any discrepancy in the test report should be notified within 15 days.





ONE STOP ANALYSIS & TESTING

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

HYDROCARBON ANALYSIS, AIR ANALYSIS, CHEMICAL ANALYSIS  
AND OTHER ANALYSIS, TESTS, RESEARCH, CONSULTANCY

TESTING SERVICES, ENGINEERS & CONSULTANTS

OTHER APPROVALS: ENVIRONMENTAL, HUMAN RESOURCES,  
LABORATORY, DEPT. OF AGRICULTURE (GOK)

Format No: NTLR/F/33/05

Page 1 of 1

## **TEST REPORT**

**Name of Customer and Address:**  
M/S.HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-B Block,  
Shamanur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sampling Location:**  
Near 5 MLD STP Plant

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulars of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind Direction:**

SEP/2016-17/285

AIR - AMBIENT

Nichrome Testing Laboratory and  
Research Private Limited

IS :5182 (Part 14): 2000

(Reaffirmed, 2005)

Ecotech AAS271 Combo PM10 and  
PM2.5 Sampler

Normal

13/09/2016

13/09/2016

14/09/2016

15/09/2016

16/09/2016

WO No : 7 Date: 03/11/2015

North West

## **RESULTS**

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	67.92	100
2	PM <sub>2.5</sub>	Lab SOP No : NTLR/SOP/37	µg/m <sup>3</sup>	8 Hrs	38.43	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	8 Hrs	4.22	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	9.17	80

Inference as per NAAQ Standards:	Above tested parameters confirming to standards.
----------------------------------	--

**Authorized Signatory**  
V. H. Hugar (Technical Manager)



END OF REPORT:-

### **Note :**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 35 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the involved amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Disputed Jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

101, JAYANAGAR ROAD, KARASIMPEL, SHANING - 580004 HANARAGA  
PH: 0836 - 277114, FAX: 277000, Email: nichrome@gmail.com

TESTING SERVICES, ENGINEERS & CONSULTANTS

27th FLOOR, KRISHNANAGAR, KUNJESWARAPUR,  
WAG CHANNAL, DEPT. OF HORTICULTURE, 2000

Formet No: NTLR/F/13/05

Page 1 of 1

## **TEST REPORT**

**Name of Customer and Address:**  
M/S.HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-B Block,  
Shamanur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sample Number:**  
**Type of Sample:**  
Sample Collected by:

**SEP/2016-17/286**  
**AIR - AMBIENT**

Nichrome Testing Laboratory and  
Research Private Limited  
IS 5182 (Part 14): 2000  
(Reaffirmed, 2005)

**Sampling Method:**

**Particulars of Sample Collected:**

EcoTech AAS271 Combo PM10 and  
PM2.5 Sampler

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis Started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind Direction:**

Normal

13/09/2016

15/09/2016

14/09/2016

15/09/2016

16/09/2016

WD No : 7 Date: 01/12/2015

North West

## **RESULTS**

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	70.85	100
2	PM <sub>2.5</sub>	Lab SOP No : NTLR/SOP/37	µg/m <sup>3</sup>	8 Hrs	41.76	60
3	Sulphur di Oxide	IS 5182 (Part 2) : 2001 (RA 2006)	µg/m <sup>3</sup>	8 Hrs	4.28	80
4	Nitrogen di Oxide	IS 5182 (Part 6) : 2006 (RA 2012)	µg/m <sup>3</sup>	8 Hrs	9.28	80

Inference as per NAAQ Standards Above tested parameters confirming to standards.

**Authorized Signatory**  
**V. H. Hugar (Technical Manager)**



END OF REPORT

### **Note :**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoice amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Oarwad Jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.





CIN: U74900KA2015PTC048510

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

ITS: 40005 BARADOL ROAD, NARAYANPUR, DAVANAGERE - 577004  
PH: 98841 87443, 98841 87444, 98841 87445

TESTING SERVICES, ENGINEERS & CONSULTANTS

THIRU APPROVAL: CHANDRASEKHAR KURUSCHETTI,  
IAS CHAIRMAN, DEPT. OF HORTICULTURE (2006)

Format No: NTLR/F/34/05

Page 1 of 1

## **TEST REPORT**

### **Name of Customer and Address:**

M/S.HNB Engineers Pvt Ltd.,  
3370/11-12 1st Cross MCC-B Block,  
Shamanur Road Near Lakshmi Flour Mill  
Davanagere - 577004

**Sampling Location:**  
Near 20 MLD STP Plant

### **Sample Number:**

### **Type of Sample:**

Sample Collected by:

### **Sampling Method:**

Particulars of Sample Collected:

Environmental Condition:

Date of Collection:

Date of Sample receipt:

Date of Analysis started:

Date of Completion:

Date of Report:

Customer Reference:

SEP/2016-17/287

### **NOISE**

Nichrome Testing Laboratory and  
Research Private Limited  
IS:9989-1981(Reaffirmed 2001)

Sound level meter

Normal

13/09/2016

13/09/2016

13/09/2016

14/09/2016

15/09/2016

WD No : 7 Date: 01/12/2015

## **RESULTS**

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	$L_{eq}$ dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:00 am to 11:15 am	66.7	70.0	68.5

KSPCB Limits for Day time = 75 dB (A)  $L_{eq}$ , Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A)  $L_{eq}$

Inference as per KSPCB  
Standards

Above tested parameters confirming to standards.

*V. H. Hugar*  
Authorized Signatory  
V. H. Hugar (Technical Manager)



END OF REPORT:-

### **Note 1**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chartered jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



CHIVASILLI  
AGARWAL (DOE)  
KIRAN (DOE)  
KUNTI B. R. (DOE)  
MUSI : UMS KARNATAKA  
DEPT OF HORTICULTURE (DOE)



## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

CPC: 174330KA2013MTC0001103

TESTING SERVICES, ENGINEERS & CONSULTANTS

170, JUDGES BUNGALOW ROAD, NARAYANPUR, DHARWAD - 580008, KARNATAKA  
PH : 0836 - 2771115, FAX : 2770085, email : niochem@gmail.com

Form No: NTLR/9/16/05

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address:

M/S. HNB Engineers Pvt Ltd.,  
5570/11-12, 1st Cross, MCC "B" Block,  
Shamanur Road, Near Lakshmi Flour Mill,  
Davanagere - 577004.

#### Sample Number:

NOV/2016-17/269

#### Type of Sample:

RAW SEWAGE WATER

#### Sample Collected by:

Customer

#### Sampling Method:

-

#### Particulars of Sample Collected:

-

#### Environmental Condition:

Normal

#### Date of Collection:

11/11/2016

#### Date of Sample receipt:

11/11/2016

#### Date of Analysis started:

11/11/2016

#### Date of Completion:

16/11/2016

#### Date of Report:

17/11/2016

#### Customer Reference:

HNBEP/Dvg/0346 Dvg Date: 12/11/2016

#### Sample Condition:

Satisfactory

#### Sampling Location:

20 MLD Sewage Treatment Plant

### RESULTS

SL. NO.	PARAMETERS	UNITS	TEST METHOD	RESULT
1	pH @ 25°C	-	APHA 22 <sup>ND</sup> EDITION, 2012, 4500 H <sub>+</sub> , B	7.30
2	Dissolved Oxygen	mg/L	IS : 3025 (Part 35) - 1989 (RA: 2014)	0.10
3	Biological Oxygen Demand (BOD) 5 days at 27°C	mg/L	IS : 3025 (Part - 44) - 1993 (RA : 2014)	67.00
4	Chemical Oxygen Demand (COD)	mg/L	IS : 3025 (Part : 58-1-2006 (RA : 2012)	156.00
5	Total Suspended solids	mg/L	APHA 22 <sup>ND</sup> EDITION, 2012, 2540 D	272.00
6	Total Phosphorus	mg/L	APHA 22 <sup>ND</sup> EDITION-2012, 4500 - P, D	4.47
7	Total Kjeldahl Nitrogen	mg/L	APHA 22 <sup>ND</sup> EDITION, 2012, 4500-N org. B	52.08
8	Total Coliforms	MPN	IS : 1622-1981 (Reaffirmed 2014)	375
9	Fecal Coliforms	MPN	IS : 1622-1981 (Reaffirmed 2014)	84

Authorized Signatory

V. H. Hugar (Technical Manager)

22.11.16



---END OF REPORT---

#### Note :

- The results listed above pertain only to the tested samples and applicable parameters.
- Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified.
- Total liability of our laboratory is limited to the invoiced amount.
- This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Dharwad Jurisdiction.
- Sampling is not done by us unless otherwise specified.
- Any discrepancy in the test report should be notified within 15 days.



EMPANELLED:  
ADDAAR (CCE)  
KWRISA (DCE)  
KWRIS & SO (KWR)  
MCD - SAN DHARWAD  
BOP OF HORTICULTURE (CCE)

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

TESTING SERVICES, ENGINEERS & CONSULTANTS  
170, JUDGES BUNGALOW ROAD, NARAYANPUR, DHARWAD - 580008, KARNATAKA  
PH : 9836 - 2771115, FAX : 2770085, email : nicechem@gmail.com

Format No: NTLR/F/16/05

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address:

M/S. HNB Engineers Pvt Ltd.,  
3370/11-12, 1st Cross, MCC "B" Block,  
Shamanur Road, Near Lakshmi Flour Mill,  
Davanagere - 577004.

#### Sample Number:

NOV/2016-17/270

#### Type of Sample:

TREATED WATER

#### Sample Collected by:

Customer

#### Sampling Method:

-

#### Particulars of Sample Collected:

-

#### Environmental Condition:

Normal

#### Date of Collection:

11/11/2016

#### Date of Sample receipt:

11/11/2016

#### Date of Analysis started:

11/11/2016

#### Date of Completion:

16/11/2016

#### Date of Report:

17/11/2016

#### Customer Reference:

HNBEP/DSG/0345 Dvg Date: 12/11/2016

#### Sample Condition:

Satisfactory

#### Sampling Location:

20 MLD Sewage Treatment Plant

### RESULTS

SL.NO	PARAMETERS	UNITS	TEST METHOD	RESULT
1	pH @ 25°C	-	APHA 22 <sup>45</sup> EDITION, 2012, 4500 H+ B	7.53
2	Dissolved Oxygen	mg/L	IS : 3025 (Part 38) - 1989 (RA:2014)	6.60
3	Biological Oxygen Demand (BOD) 5 days at 27°C	mg/L	IS : 3025 (Part - 44) - 1993 (RA : 2014)	0.00
4	Chemical Oxygen Demand (COD)	mg/L	IS : 3025 (Part : 58) - 2006 (RA : 2012)	40.00
5	Total Suspended Solids	mg/L	APHA 22 <sup>77</sup> EDITION, 2012, 2540 D	9.60
6	Total Phosphorus	mg/L	APHA 22ND EDITION-2012, 4500 - P, D	1.85
7	Total Kjeldal Nitrogen	mg/L	APHA 22ND EDITION, 2012, 4500-N org. B	2.02
8	Total Coliforms	MPN	IS : 1622-1981 (Reaffirmed 2014)	46
9	Fecal Coliforms	MPN	IS : 1622-1981 (Reaffirmed 2014)	21

*V. H. Hugar*  
Authorized Signatory  
V. H. Hugar (Technical Manager)



-END OF REPORT-

#### Note :

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Dharmad Jurisdiction. 5. Sampling is not done by us unless otherwise specified.
6. Any discrepancy in the test report should be notified within 15 days.



# Air and Noise Quality-Harihar- Sewerage



(IN LABORATORY PROCEED)

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

175, 2ND FLOOR, NARAYANPUR, DHARWAD - 580008, KARNATAKA

Ph : 0836-2771215, FAX : 2771005, email : nichrome@rediffmail.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OTHER APPROVALS/RAJYA IGDO/KA/MSR/IGDO/  
OAS DHARWAD, DEPT. OF AGRICULTURE (SO)

Format no:NTLR/9/31/04

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address :

SHRIRAM EPC LIMITED  
No.18/3,Rukmani lakshmi pathy road,  
Egmore, Chennai-600008

#### Sampling location

Prasanth nagar,  
Harihar

#### Sample number:

OCT/2016-17/175

#### Type of sample :

AIR - AMBIENT

sample collected by :

Nichrome Testing Laboratory and  
Research Private Limited

sampling method:

IS : 5182(PART 24)2000

Particulars of sample collected:

(Revised 2005)

Respirable Dust Sampler (APM 680 RL)

Fine Particulate Sampler

Environmental Condition:

Normal

Date of collection :

14/10/2016

Date of sample receipt:

24/10/2016

Date of Analysis started:

25/10/2016

Date of completion:

25/10/2016

Date of Report :

26/10/2016

Customer Reference :

237.WD No-1100008797 Date: 30/04/2015

wind direction:

South West

### RESULTS

SLNO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM10	IS 5182 (Part 23) -2006	µg/m <sup>3</sup>	24 Hrs	85.56	100
2	PM2.5	CPCB MANUAL	µg/m <sup>3</sup>	24 Hrs	51.18	60
3	Sulphur di Oxide	IS 5182 (Part 2) -2001	µg/m <sup>3</sup>	24 Hrs	4.10	80
4	Nitrogen di Oxide	IS 5182 (Part 6) -2006	µg/m <sup>3</sup>	24 Hrs	0.48	80

Minimum reportable value for SO<sub>2</sub> - 4.0µg/m<sup>3</sup> and NO<sub>2</sub> - 9.0µg/m<sup>3</sup>

Inference as per NAAQ Standards	The measured values for the above parameters are exceed the standard in case of PM10 & PM2.5
------------------------------------	---

Authorized Signatory

V.H.Hugar(Technical Manager)



-END OF REPORT-

1. The results listed above pertain only to the tested sample and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chartered Jurisdiction. 5. Sampling is not done by unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



ISO 9001:2008



ISO 14001:2004



ISO 9001:2008



ISO 14001:2004



## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

170, 2ND MAIN, RAJIVGANDHI, CHANNarayana - 600086, KARNATAKA

PH: 0836 - 2771155, FAX: 2770085, email: nichrome@gmail.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OTHER APPROVALS: ISO 9001, ISO 14001 (2004),  
ISO 45001, ISO 9001, ISO 14001 (2004),  
ISO 45001, ISO 9001, ISO 14001 (2004)

Formal no:NTLR/7/53/04

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address :

SHRIRAM EPC LIMITED  
No.18/3,Rukmani lakshmi pathy road,  
Egmore, Chennai-60008

#### Sampling location

STP,  
Harrishar

#### Sample number:

#### Type of sample :

sample collected by :

sampling method:

Particulars of sample collected:

Environmental Condition:

Date of collection :

Date of sample receipt:

Date of Analysis started:

Date of completion:

Date of Report:

Customer Reference :

Wind direction:

OCT/2016-17/176

AIR - AMBIENT

Nichrome Testing laboratory and  
Research Private Limited

IS : 5182(PART 14):2006

(Reaffirmed-2005)

Respirable Dust Sampler (APM 460 BL)/

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

26/10/2016

227, WD No:1106000797 Date: 30/04/2015

South West

### RESULTS

S.NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM10	IS 5182 (Part 23) -2006	µg/m <sup>3</sup>	24 Hrs	80.16	100
2	PM2.5	CPCB MANUAL	µg/m <sup>3</sup>	24 Hrs	50.17	60
3	Sulphur di Oxide	IS 5182 (Part 2) -2001	µg/m <sup>3</sup>	24 Hrs	5.21	80
4	Nitrogen di Oxide	IS 5182 (Part 6) -2006	µg/m <sup>3</sup>	24 Hrs	9.10	80

Minimum reportable value for SO<sub>2</sub> - 4.0µg/m<sup>3</sup> and NO<sub>2</sub> - 9.0µg/m<sup>3</sup>

Inference as per NAAQ Standards	The measured values for the above parameters are exceed the standard in case of PM10 & PM2.5
------------------------------------	---

*V. Hugar*  
Authorized Signatory  
V.H.Hugar(Technical Manager)



END OF REPORT

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoice amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission/subject to (jurisdiction). 5. Sampling is not done by unless otherwise specified. 6. Any discrepancy in the test report should be rectified within 15 days.





ISO 9001:2008



ISO 14001:2004

NABL APPROVED  
Certificate No. T-1043NABL  
Registration of India

ENVIRONMENTAL MONITORING

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**

170, 2ND MAIN, NARAYANPUR, DHADWAD - 58008, BANGALORE

PH: 0836-2771115, FAX: 2770085, email: nichrome@gmail.com

TESTING SERVICES, ENGINEERING &amp; CONSULTANCY

OTHER APPROVALS: ISO 9001, ISO 14001, ISO 45001, ISO 50001, ISO 55001, ISO 9000, ISO 14000, ISO 45000, ISO 50000, ISO 55000

Format no-NTLR/5/33/04

Page 1 of 1

**TEST REPORT****Name of Customer and Address :**SHRIRAM EPC LIMITED  
No.18/3, Rukmani lakshmi pathy road,  
Egmore, Chennai-60008**Sampling location**A.K. COLONY, Guttur,  
Haripur**Sample number:****Type of sample :**

sample collected by :

**sampling method:****Particulars of sample collected:****Environmental Condition:****Date of collection :****Date of sample receipt:****Date of Analysis started:****Date of completion:****Date of Report :****Customer Reference :****wind direction:**

OCT/2016-17/177

AIR - AMBIENT

Nichrome Testing Laboratory and  
Research Private Limited

IS : 5182(PART 14) 2000

(Reaffirmed 2005)

Respirable Dust Sampler (APM-400 BL)/

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

26/10/2016

217, INO No:1100008797 Date: 30/04/2015

South West

**RESULTS**

Sl.NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM10	IS 5182 (Part 23) -2006	$\mu\text{g}/\text{m}^3$	24 Hrs	77.37	100
2	PM2.5	CPCB MANUAL	$\mu\text{g}/\text{m}^3$	24 Hrs	42.26	60
3	Sulphur di Oxide	IS 5182 (Part 2) -2001	$\mu\text{g}/\text{m}^3$	24 Hrs	3.21	80
4	Nitrogen di Oxide	IS 5182 (Part 6) -2006	$\mu\text{g}/\text{m}^3$	24 Hrs	9.18	80

Minimum reportable value for  $\text{SO}_2$  -  $4.0\mu\text{g}/\text{m}^3$  and  $\text{NO}_2$  -  $9.0\mu\text{g}/\text{m}^3$ 

Inference as per NAAQ Standards	The measured values for the above parameters are exceed the standard in case of PM10 & PM2.5
---------------------------------	--

Authorized Signatory  
V.K.Hugar(Technical Manager)

&lt;END OF REPORT&gt;

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 35 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Dhaded jurisdiction. 5. Sampling is not done by unless otherwise specified. 6. Any discrepancies in the test report should be notified within 15 days.





ISO 9001:2008 CERTIFIED

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

17A, 2ND MAIN, NARAYANPUR, CHANNAI - 600088, INDIA

PH: 0836-2771115, FAX: 2771005, email: nichrome@gmail.com

TESTING SERVICES: ENGINEERING & CONSULTANTS  
STREET APPROVALS/INSPECTION/ROADWORK  
S.M. DAMAN, DEPT. OF HIGHWAYS, INDIA

Formal no:NTLR/P/54/04

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address :

SHRIRAM EPC LIMITED  
No.18/3,Rukmani lakshmi pathy road,  
Egmore,chennai-60008

#### Sampling location

STP,  
Harihar

#### Sample number:

OCT/2016-17/210/1

#### Type of sample :

NOISE

sample collected by :

Nichrome Testing laboratory and  
Research Private Limited

sampling method:

IS : 5182(PART 1A):2000  
(Reaffirmed 2005)

Particulars of sample collected:

Respirable Dust Sampler (AFM 460 BL)/  
Fine Particulate Sampler

Environmental Condition:

Normal

Date of collection :

24/10/2016

Date of sample receipt :

24/10/2016

Date of Analysis started:

25/10/2016

Date of completion:

26/10/2016

Date of Report :

26/10/2016

Customer Reference :

237,WO No-1100008797 Date: 30/04/2015

wind direction:

South West

### RESULTS

Sl.NO	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min.(dB)	L Max.(dB)	L EQ dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	9:00am to 9:15am	55.00	62.50	58.75

KSPCB Limits for Day time = 75 dB (A) LEQ, Night Time (9.00PM to 6.00AM)Limits = 70 dB (A)

Inference as per KSPCB Standards	The measured values for the above parameters are within the standard as specified above.
-------------------------------------	---

Authorized Signatory  
V.H.Nagar(Technical Manager)



END OF REPORT

1.The results have been given only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the test report unless otherwise specified. 3.Total liability of our laboratory is limited to the insured amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to the above jurisdiction. 5. Sampling is not done by unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.





ESTD 1985



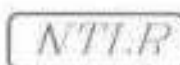
ESTD 1947



ESTD 1947



ESTD 1947



NICHROME TESTING LABORATORY

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**

170, 2ND MAIN, MARIANAPUR, CHANNarayana - 560018, KARNATAKA

PH: 9836-2721125, FAX: 2720085, EMAIL: ntlr@ntlrlab.com

TESTING SERVICES: ENGINEERING &amp; CONSULTANTS

OTHER APPROVALS: ISO 9001:2008 (ISO 9001),  
ISO 14001:2004 (ISO 14001),  
ISO 45001:2018 (ISO 45001)

Format no: NTLR/5/24/08

Page 1 of 1

**TEST REPORT****Name of Customer and Address :**SHRIRAM EPC LIMITED  
No.18/3, Rukmani lakshmi pathy road,  
Egmore, chennai-60008**Sample number:****Type of sample :**

sample collected by :

sampling method:

Particulars of sample collected:

Environmental Condition:

Date of collection :

Date of sample receipt:

Date of Analysis started:

Date of completion:

Date of report :

Customer Reference :

Wind direction:

OCT/2016-17/210/3

**NOISE**Niche Testing Laboratory and  
Research Private Limited

IS : 5182(PART 14):2000

(Reaffirmed 2005)

Respirable Dust Sampler (APM 400 SL)

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

26/10/2016

217, WD No 11/00008797 Date: 30/04/2015

South West

**Sampling location**Prasanth nagar,  
Harihara**RESULTS**

Sl.NO	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min.(dB)	L Max.(dB)	L EQ dB (A)
1	IS-9989-1981 (Reaffirmed 2001)	10:00am to 10:30am	41.20	53.50	47.35

KSPCB Limits for Day time = 75 dB (A) LEQ, Night Time (9.00PM to 6.00AM) Limits = 70 dB (A)

Inference as per KSPCB Standards	The measured values for the above parameters are within the standard as specified above.
-------------------------------------	---

Authorized Signatory  
V.H.Hugar(Technical Manager)

-END OF REPORT-

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 35 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the insured amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chennai Jurisdiction. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



ISO 9001:2008



ISO 14001:2004



ISO 14001:2004



ISO 14001:2004



(Incorporated in India)

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

175, 2ND MAIN, NARAYANPUR, DHARWAD - 580006, KARNATAKA

PH : 0836 - 2771115, FAX : 2770085, email : nichrom@ntrl.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OTHER APPROVALS/ENGLA (ISO, ISO 14001:2004)  
ISO (DHARWAD), ISO (NORTHERN) ISO

Format no:NTLR/5/24/04

Page 1 of 1

## **TEST REPORT**

### **Name of Customer and Address :**

**SHRIRAM EPC LIMITED**  
No.18/3,Rukmani lakshmi pathy road,  
Egmore,Chennai-60008

### **Sampling location**

Prasanth nagar,  
Hathihar

### **Sample number:**

### **Type of sample :**

sample collected by :

sampling method:

Particulars of sample collected:

Environmental Condition:

Date of collection :

Date of sample receipt:

Date of Analysis started:

Date of completion:

Date of Report :

Customer Reference :

wind direction:

**OCT/2016-17/210/4**

**NOISE**

Nichrome Testing laboratory and

Research Private Limited

IS : 5182(PART 14) 2000

(Reaffirmed 2005)

Respirable Dust sampler (APM 400 B/L)

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

25/10/2016

227,WO No:1100006/107 Date: 30/06/2015

South West

## **RESULTS**

SL.NO	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min.(dB)	L Max.(dB)	L EQ dB (A)
1	IS:9889-1981 (Reaffirmed 2001)	9:30pm to 10:00pm	40.74	51.23	45.98

**KSPCB Limits for Day time = 75 dB (A) LEQ, Night Time (9.00PM to 6.00AM) Limits = 70 dB (A)**

Inference as per KSPCB Standards	The measured values for the above parameters are within the standard as specified above.
-------------------------------------	--

Authorized Signatory  
V.H.Muger(Technical Manager)



-(END OF REPORT)-

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the invoice amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission Subject to Dhawad Services. 5. Sampling is not done by unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



ISO 9001:2008



ISO 14001:2004



NABL Accredited

Certificate No: 1-2010



AASRI

Government of India



PROPRIETARY OF NICHROME

## NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED

179, 2ND MAIN, NARAYANPUR, DHARWAD - 58001, KARNATAKA

PH: 0836-2771215; FAX: 0836-2770085; email: nisham@gmail.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OTHERS: OFFICIALS/INDIA: 0000/000000 (000),  
HSE: DHARWAD, DEPT. OF AGRICULTURE (000)

Format no: NTLR/P/34/04

Page 1 of 1

### TEST REPORT

#### Name of Customer and Address :

SHRI RAM EPC LIMITED  
No.18/3, Rukmani lakshminipathy road,  
Egmore, Chennai-60008

#### Sampling location

A.K. COLONY, Gurtur,  
Haridwar

#### Sample number:

#### Type of sample :

sample collected by :

sampling method:

Particulars of sample collected:

Environmental Condition:

Date of collection :

Date of sample receipt:

Date of Analysis started:

Date of completion:

Date of Report:

Customer Reference :

Wind direction:

OCT/2016-17/210/5

#### NOISE

Nichrome Testing Laboratory and  
Research Private Limited

IS : 5182(PART 1A) 2000

(Reaffirmed 2005)

Respirable Dust Sampler (APM 460 BLV)

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

26/10/2016

237, WD No: 1100008797 Date: 30/04/2015

South Wind

### RESULTS

SL.NO	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min.(dB)	L Max.(dB)	LEQ dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:00am to 11:15am	57.40	69.10	63.05

KSPCB Limits for Day time = 75 dB (A) LEQ, Night Time (9.00PM to 6.00AM) Limits = 70 dB (A)

Inference as per KSPCB Standards	The measured values for the above parameters are within the standard as specified above.
-------------------------------------	---

Authorized Signatory  
V.M.Hugar [Technical Manager]



<END OF REPORT>

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 25 days from the test report unless otherwise specified. 3. Total liability of our laboratory is limited to the amount received. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission subject to the said condition. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

175, 2ND MAIN, NARAYANPUR, CHAMARAJA - 560028, KARNATAKA

PH: 0836 - 2771115, FAX: 2771085, email: nichrome@ntlr.com

TESTING SERVICES, ENGINEERING & CONSULTANTS

OFFICE ADDRESS: 175/2ND MAIN, CHAMARAJA, DIST. OF MYSURU, KARNATAKA

ISO 9001:2008 CERTIFIED

Form No: NTLR/5/04/04

Page 1 of 1

## **TEST REPORT**

### **Name of Customer and Address :**

**SHRIRAM EPC LIMITED**  
No.18/3, Bulmani lakshmi pathy road,  
Egmore, Chennai-600008

### **Sampling location**

A.K. COLONY, Guttur,  
Harihara

### **Sample number:**

### **Type of sample :**

sample collected by :

sampling method:

Particulars of sample collected:

Environmental Condition:

Date of collection :

Date of sample receipt:

Date of Analysis started:

Date of completion:

Date of Report :

Customer Reference :

wind direction:

**OCT/2016-17/210/6**

**NOISE**

Nichrome Testing laboratory and  
Research Private Limited

IS: 5182(PART 14):2009

(Reaffirmed 2005)

Respirable Dust Sampler (APM 460 BL)

Fine Particulate Sampler

Normal

24/10/2016

24/10/2016

25/10/2016

25/10/2016

26/10/2016

237, WO No.1100066/99? Date: 30/04/2015

South West

## **RESULTS**

SL.NO	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min.(dB)	L Max.(dB)	L EQ dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:00pm to 11:15pm	54.38	63.70	59.28

KSPCB Limits for Day time = 75 dB (A) LEQ, Night Time (9.00PM to 6.00AM) Limits = 70 dB (A)

Inference as per KSPCB Standards	The measured values for the above parameters are within the standard as specified above.
-------------------------------------	---

Authorized Signatory  
V.H.Hugar(Technical Manager)








-END OF REPORT:-

1.The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degradable/unstable will be disposed immediately after testing and others will be disposed after 15 days from the test report unless otherwise specified. 3.Total liability of our laboratory is limited to the invoiced amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Chennai jurisdiction. 5. Sampling is not done by vehicle otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



# Air and Noise Quality-Byadgi- Sewerage



NTLR  
NICHROME TESTING LABORATORY & RESEARCH PRIVATE LIMITED

**NICHROME TESTING LABORATORY  
AND RESEARCH PRIVATE LIMITED**  
17/1, HANCOCK ROAD, SINGAPORE 119001, SINGAPORE  
 TEL: 65-6331-8111, FAX: 65-6331-8112, www.nichrome.com.sg  
**TESTING SERVICES, ENGINEERS & CONSULTANTS**  
17/1, HANCOCK ROAD, SINGAPORE 119001, SINGAPORE  
 TEL: 65-6331-8111, FAX: 65-6331-8112, www.nichrome.com.sg

---

Report No: NTLR/07/13/05

Page 1 of 1

## TEST REPORT

**Name of Customer and Address:**  
 M/S SHRIRAM EPC LIMITED., No. 18/3,  
 Rukmini Lakshmi Pathy Road, Egmore,  
 Chennai - 600008.  
 (Project Name: Byadgi - UGD)

**Sampling Location:**  
 Bettad Mallaswar Road,  
 Social Welfare Office (Ashray Colony)

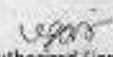
**Sample Number:** SEP/2016-17/354  
**Type of Sample:** AIR - AMBIENT  
**Sample Collected by:** Nichrome Testing Laboratory and Research Private Limited  
**Sampling Method:** IS 5182 (Part 34): 2000 (Reaffirmed, 2005)  
**Particulates of Sample Collected:** Respirable Dust Sampler (APM 400 RL)/ Fine Particulate Sampler  
**Environmental Conditions:** Normal  
**Date of Collection:** 16/09/2016  
**Date of Sample Receipt:** 16/09/2016  
**Date of Analysis started:** 17/09/2016  
**Date of Completion:** 18/09/2016  
**Date of Report:** 20/09/2016  
**Customer Reference:** W.O. No: S100010807 Date: 18/09/2016  
**Wind Direction:** North West


### RESULTS

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23): 2005 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	61.53	100
2	PM <sub>2.5</sub>	Lab SOP No: NTLR/SOP/37	µg/m <sup>3</sup>	24 Hrs	35.78	60
3	Sulphur di Oxide	IS 5182 (Part 2): 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	4.04	80
4	Nitrogen di Oxide	IS 5182 (Part 6): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	9.06	80

Inference as per NAAQ Standards

Above tested parameters conforming to standards.

  
**Authorized Signatory**  
**V. H. Hugler (Technical Manager)**



- END OF REPORT -

**Note:**  
 1. The results listed above pertain only to the tested samples and available parameters. 2. Samples which are degradable/unsuitable will be disposed immediately after testing and there will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. The liability of our laboratory is limited to the information given in this report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any legal proceedings without prior written permission. Report to be shared for information. 4. Sampling is not done 3x at unless otherwise specified.  
 5. Any discrepancy in the test report should be notified within 15 days.



ISO 14001:2015 CERTIFIED

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

M. 100/1, KARAIKAL ROAD, KARAIKAL - 605 001  
TAMIL NADU, INDIA. TEL: 0436-2211111, FAX: 0436-2211111

TESTING SERVICES, ENGINEERING & CONSULTANTS

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018  
AND OTHERS. PART OF NICHROME GROUP

Form No: NTLR/RS/05

Page 1 of 1

## **TEST REPORT**

**Name of Customer and Address:**  
M/S SHRIRAM EPC LIMITED., No. 18/3,  
Rukmini Lakshmi Pathy Road, Egmore,  
Chennai - 600008.  
(Project Name: Byadgi - UGD)

**Sampling Location:**  
Old Police Station

**Sample Number:** SEP/2016-17/355  
**Type of Sample:** AIR - AMBIENT  
**Sample Collected by:** Nichrome Testing Laboratory and  
Research Private Limited  
**Sampling Method:** IS 5182 (Part 14): 2000  
(Respirable: 2005)  
**Particulars of Sample Collected:** Respirable Dust Sampler (APM 450 B)/  
Fine Particulate Sampler  
**Environmental Condition:** Normal  
**Date of Collection:** 15/09/2016  
**Date of Sample Receipt:** 16/09/2016  
**Date of Analysis Started:** 17/09/2016  
**Date of Completion:** 19/09/2016  
**Date of Report:** 20/09/2016  
**Customer Reference:** W.O. No: 1100010807 Date: 13/09/2016  
**Wind Direction:** North West

## **RESULTS**

SL NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	63.49	100
2	PM <sub>2.5</sub>	Lab SOP No: NTLR/SOP/37	µg/m <sup>3</sup>	24 Hrs	42.56	60
3	Sulphur di Oxide	IS 5182 (Part 2): 2006 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	4.13	80
4	Nitrogen di Oxide	IS 5182 (Part 6): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	9.13	80

Inference as per NAAQ Standards: Above tested parameters conforming to standards.

**Authorized Signatory**  
**V. H. Hugar (Technical Manager)**



~\* END OF REPORT ~\*

### **Note:**

1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are damaged/deteriorate will be disposed immediately after testing and others will be disposed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the financial cost only. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to Dispute Resolution. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



EN 1066000127000000

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

104, JAYASARASWATHI ROAD, CHENNAI - 600006  
PH: 044-22114141, 22114142, 22114143, 22114144

TESTING SERVICES, ENGINEERS & CONSULTANTS

ISO 9001:2008 CERTIFIED  
ISO 14001:2004 CERTIFIED

Page 1 of 1

Report No: NTLR/13/2016

## **TEST REPORT**

**Name of Customer and Address:**  
M/S SHRIRAM EPC LIMITED, No. 18/3,  
Rukmini Lakshmi Pathy Road, Egmore,  
Chennai - 600008.  
(Project Name: Byadgi - UGD)

**Sampling Location:**  
STP Land

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulates of Sample Collected:**

**Environmental Conditions:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind Direction:**

SEP/2016-17/356

**AIR - AMBIENT**

Nichrome Testing Laboratory and

Research Private Limited

IS: 5182 (Part 5.1): 2000

(Resuspended, 2005)

Respirable Dust Sampler (APM 400 BL)

Fine Particulate Sampler

Normal

15/09/2016

16/09/2016

17/09/2016

18/09/2016

20/09/2016

W.O. No: 1100010807 Date: 13/09/2016

North West

## **RESULTS**

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 2): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	73.51	100
2	PM <sub>2.5</sub>	Lab SOP No: NTLR/SOP/37	µg/m <sup>3</sup>	24 Hrs	46.93	60
3	Sulphur di Oxide	IS 5182 (Part 2): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	4.17	80
4	Nitrogen di Oxide	IS 5182 (Part 2): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	9.16	80

Inference as per NAAQ Standards: Above tested parameters conforming to standards.

Authorized Signatory  
V. H. Hugar (Technical Manager)



:- END OF REPORT:-

**Note:**  
1. The results listed above pertain only to the tested samples and applicable parameters. 2. Samples which are degraded or tampered will be discussed in violation with the technical officers and will be disposed after 10 days from the date of receipt of test report unless otherwise specified. 3. Test results of our laboratory is limited to the material provided. 4. This report is not to be reproduced or used wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission. Subject to (b) above, it is stated. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

12, JAYAKUMAR HONGASAPPA STREET, CHENNAI - 600008  
TEL: 044-27614431, 07026, 9881126144, 9881126143

TESTING SERVICES, ENGINEERS & CONSULTANTS

OFFICE ADDRESS: 12, JAYAKUMAR HONGASAPPA STREET, CHENNAI - 600008  
12, CHENNAI, DIST. OF MADURAI, INDIA

Page 1 of 1

Form NTLR/7/13/05

## **TEST REPORT**

**Name of Customer and Address:**  
M/S SHRIRAM EPC LIMITED.,  
No. 38/3, Rukmini Lakshmi Pathy Road,  
Egmore, Chennai - 600008.  
(Project Name: Byadgi - UGD)

**Sampling Location:**  
Near Nehru Chowk (KSRTC Bus Stand)

**Sample Number:** SEP/2016-17/357  
**Type of Sample:** AIR - AMBIENT  
**Sample Collected by:** Nischrome Testing Laboratory and Research Private Limited  
**Sampling Method:** IS 5182 (Part 14): 2000 (Reaffirmed, 2005)  
**Particulars of Sample Collected:** Respirable Dust Sampler (APM 400 B)/ Fine Particulate Sampler  
**Environmental Condition:** Normal  
**Date of Collection:** 16/09/2016  
**Date of Sample return:** 16/09/2016  
**Date of Analysis started:** 17/09/2016  
**Date of Completion:** 16/09/2016  
**Date of Report:** 20/09/2016  
**Customer Reference:** W.O. No: 1100010807 date: 13/09/2016  
**Wind Direction:** North West

## **RESULTS**

SL. NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	53.94	100
2	PM <sub>2.5</sub>	Lab SOP No: NTLR/SOP/37	µg/m <sup>3</sup>	24 Hrs	58.27	60
3	Sulphur di Oxide	IS 5182 (Part 2): 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	4.15	80
4	Nitrogen di Oxide	IS 5182 (Part 6): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	9.11	80

Inference as per NAAQ Standards: Above tested parameters conforming to standards.

**Authorized Signatory**  
V. H. Hugar (Technical Manager)



< END OF REPORT >

### **Note:**

1. The results are valid only for the tested samples and specified parameters. 2. Samples which are degraded/unstable will be disposed immediately after testing and others will be disposed after 25 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the involved amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertisement without prior written permission subject to clearance and claim. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



CHN 14000002000000000000

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

101, KOTTAI ROAD, KOTTAI, KANNIYAKUMARI DISTRICT, TAMIL NADU  
IN. 626 001 - P.O. BOX 101, KOTTAI, KANNIYAKUMARI DISTRICT, TAMIL NADU

TESTING SERVICES, ENGINEERS & CONSULTANTS

CHN 14000002000000000000  
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018  
IAP (TAMILNADU) CERT. NO. NTLR/2018/00000000000000000000

Page 1 of 1

Form No. NTLR/2018/00000000000000000000

## **TEST REPORT**

**Name of Customer and Address:**  
M/S SHRI RAM EPC LIMITED.,  
No. 18/3, Rukmini Lakshmi Pathy Road,  
Egmore, Chennai - 600008.  
(Project Name: Byadgi - UGD)

**Sampling Location:**  
Near Town Municipal Office

**Sample Number:**

**Type of Sample:**

**Sample Collected by:**

**Sampling Method:**

**Particulars of Sample Collected:**

**Environmental Condition:**

**Date of Collection:**

**Date of Sample receipt:**

**Date of Analysis started:**

**Date of Completion:**

**Date of Report:**

**Customer Reference:**

**Wind direction:**

SEP/2016-17/358

AIR - AMBIENT

Nichrome Testing Laboratory and

Research Private Limited

IS - 5182 (Part 14): 2000

(Resuspension, 2005)

Respirable Dust Sampler (APM 400 BLI)

Fine Particulate Sampler

Normal

18/09/2016

16/09/2016

17/09/2016

19/09/2016

20/09/2016

W.O. No: 1100010807 Date: 13/09/2016

North West

## **RESULTS**

S/L NO	PARAMETERS	TEST METHOD	UNIT	DURATION OF MONITORING	RESULT	NAAQ STANDARDS
1	PM <sub>10</sub>	IS 5182 (Part 23): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	76.10	300
2	PM <sub>2.5</sub>	Lab SOP No: NTLR/SOP/27	µg/m <sup>3</sup>	24 Hrs	48.61	80
3	Sulphur di Oxide	IS 5182 (Part 2): 2001 (RA 2006)	µg/m <sup>3</sup>	24 Hrs	4.22	80
4	Nitrogen di Oxide	IS 5182 (Part 6): 2006 (RA 2012)	µg/m <sup>3</sup>	24 Hrs	9.21	80

Inference as per NAAQ Standards: Above tested parameters conforming to standards.

*V. H. Hugar*  
Authorized Signatory  
V. H. Hugar (Technical Manager)



- END OF REPORT -

**Note:**  
1. The results are valid only for the tested samples and applicable parameters. 2. Samples which are degraded or unstable will be displayed immediately after testing and others will be displayed after 15 days from the date of test. 3. Total facility of our laboratory is limited to the ISO 9001:2015. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law without the prior written permission of the laboratory. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.









CAL. CERTIFIED BY NABL

# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

(A) ISO 9001:2015 AND ISO 14001:2015 CERTIFIED  
(B) ISO 9001:2015 AND ISO 14001:2015 CERTIFIED

TESTING SERVICES, ENGINEERS & CONSULTANTS

CERTIFICATION: ISO 9001:2015, ISO 14001:2015  
ISO 9001:2015, ISO 14001:2015

Form No: NTLR/T/14/JG

Page 1 of 1

## **TEST REPORT**

**Name of Customer and Address:**  
M/S SHIRAM EPC LIMITED,  
No. 18/3, Rukmini Lakshminipathy Road,  
Egmore, Chennai - 600008.  
(Project Name: Byadgi - UGO)

**Sampling Location:**  
STP Land

**Sample Number:**  
**Type of Sample:**  
**Sample Collected by:**

**Sampling Method:**  
**Particulars of Sample Collected:**  
**Environmental Condition:**  
**Date of Collection:**  
**Date of Sample receipt:**  
**Date of Analysis started:**  
**Date of Completion:**  
**Date of Report:**  
**Customer Reference:**

SEP/2016-17/351

NOISE

Nichrome Testing Laboratory and  
Research Private Limited

IS:9989-1981 (Reaffirmed 2001)

Integrated Sound level meter

Normal

16/09/2016

16/09/2016

16/09/2016

17/09/2016

19/09/2016

W.O. No: 1106010807 Date: 13/09/2016

## **RESULTS**

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:00 am to 07:00 pm	67.3	71.0	69.5

ISPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per ISPCB Standards

Above tested parameters conforming to standards.

*V. H. Hugar*  
Authorized Signatory  
V. H. Hugar (Technical Manager)



-END OF REPORT-

### **Note:**

1. The results listed above are valid only for the tested samples and applicable parameters. 2. Samples which are for analysis/available will be reported immediately after testing and others will be reported after 15 days from the date of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the amount insured. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used in any advertising media without prior written permission from NTLR. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.





**NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**  
 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Form No: NTLR/F/14/05

Page 1 of 1

## TEST REPORT

**Name of Customer and Address:**  
 M/S SHRIRAM EPC LIMITED,  
 No. 18/3, Rukmini Lakshmi Pathy Road,  
 Egmore, Chennai - 600008.  
 (Project Name: Byadgi - UGD)

**Sampling Location:**  
 Old Police Station

**Sample Number:** SEP/2016-17/362  
**Type of Sample:** NOISE  
**Sample Collected by:** Nichrome Testing Laboratory and Research Private Limited  
**Sampling Method:** IS:9989-1981 (Reaffirmed 2001)  
**Particulars of Sample Collected:** Integrated Sound level meter  
**Environmental Condition:** Normal  
**Date of Collection:** 16/09/2016  
**Date of Sample receipt:** 16/09/2016  
**Date of Analysis started:** 16/09/2016  
**Date of Completion:** 17/09/2016  
**Date of Report:** 19/09/2016  
**Customer Reference:** W.O. No: 1100010807 Dated: 14/09/2016

## RESULTS

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:15 am to 07:15 pm	68.4	75.8	72.7

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB Standards	Above tested parameters confirming to standards.
----------------------------------	--

*Signature*  
 Authorized Signatory  
 V. H. Hugar (Technical Manager)



-(END OF REPORT)-

**Notes:**  
 1. This report is valid only for the tested samples and applicable parameters. 2. Samples which are degraded/unstable will be discarded/invalidated after testing and order will be placed after 15 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the insured amount. 4. This report is not to be reproduced either wholly or in part and should not be used as evidence in the court of law and should not be used in any advertising media without prior written permission. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.



# **NICHROME TESTING LABORATORY AND RESEARCH PRIVATE LIMITED**

15, 16/173, Rukmini Lakshmi Pathy Road, Egmore, Chennai - 600008.  
 Tel: 044-2611 1111, Fax: 044-2611 1112, Email: ntlr@ntlrlab.com

TESTING SERVICES ENGINEERS & CONSULTANTS  
 15, 16/173, Rukmini Lakshmi Pathy Road, Egmore, Chennai - 600008.  
 Tel: 044-2611 1111, Fax: 044-2611 1112, Email: ntlr@ntlrlab.com

Page 1 of 1

Form No: NTLR/5/16/15

## **TEST REPORT**

**Name of Customer and Address:**  
 M/S SHRIRAM EPC LIMITED,  
 No. 18/73, Rukmini Lakshmi Pathy Road,  
 Egmore, Chennai - 600008.  
 (Project Name: Byedg) - UGD

**Sampling Location:**  
 Belted Malleshwar Road,  
 Social Welfare Office (Ashray Colony)

**Sample Number:**  
**Type of Sample:**  
**Sample Collected by:**

**Sampling Method:**  
**Particulars of Sample Collected:**  
**Environmental Condition:**  
**Date of Collection:**  
**Date of Sample receipt:**  
**Date of Analysis started:**  
**Date of Completion:**  
**Date of Report:**  
**Customer Reference:**

SEP/2016-17/363  
 NOISE  
 Nichrome Testing Laboratory and  
 Research Private Limited  
 IS:9989-1981 (Reaffirmed 2001)  
 Integrated Sound level meter  
 Normal  
 16/09/2016  
 16/09/2016  
 16/09/2016  
 17/09/2016  
 19/09/2016  
 W.O. No: 1100010807 Date: 19/09/2016

## **RESULTS**

SL. NO.	TEST METHOD	TIME FREQUENCY	PARAMETERS		
			L Min. (dB)	L Max. (dB)	L <sub>eq</sub> dB (A)
1	IS:9989-1981 (Reaffirmed 2001)	11:30 am to 07:30 pm	66.3	70.3	69.5

KSPCB Limits for Day time = 75 dB (A) L<sub>eq</sub>, Night Time (9.00 PM to 6.00 AM) Limits = 70 dB (A) L<sub>eq</sub>

Inference as per KSPCB Standards	Above tested parameters confirming to standards.
----------------------------------	--

*(Signature)*  
 Authorized Signatory  
 V. H. Hugar (Technical Manager)



-END OF REPORT-

**Note:**  
 1. The report is valid only for the tested sample and applicable parameters. 2. Samples which are damaged/irreparable will be disposed immediately after testing and others will be disposed after 28 days from the date of issue of test report unless otherwise specified. 3. Total liability of our laboratory is limited to the charges amount. 4. This report is not to be reproduced either wholly or in part and cannot be used as evidence in the court of law and should not be used for advertising needs without our written permission. 5. Sampling is not done by us unless otherwise specified. 6. Any discrepancy in the test report should be notified within 15 days.

15, 16/173, Rukmini Lakshmi Pathy Road, Egmore, Chennai - 600008  
 Tel: 044-2611 1111, Fax: 044-2611 1112, Email: ntlr@ntlrlab.com

## Spoil Management Plan

### SPOIL MANAGEMENT PLAN

#### M/S – SIMPLEX INFRASTRUCTURES LIMITED

**Package: Davangere- Sewerage (Package: 01DVG01)**

#### **•INTRODUCTION OF SMP**

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

#### **•LEGAL AND OTHER REQUIRMENTS**

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. of India and The state Govt.

#### **•ROLES AND RESPONSIBILITY**

In this project, there are major roles and responsibilities are followings

- Extra excavated earth should be removed from site
- Traffic movement should not be obstructed by dumping soil during the work
- No low land, pond, ditch etc will be filled up by extra soil
- No accident occurs during rainy season by excavated earth during or finished the work
- All the drains, outlet should be free from our excavated earth

#### **•SPOIL VOLUMES,CHARACTERISTICS AND MINIMIZATION**

In this project, generation of excavated excess earth will be no plan to reuse in the project. As per report from soil expert excavated earth is clayey in nature. Generation of excavated earth would be minimize as per design

#### **•SPOIL REUSES OPPORTUNITIES,IDENTIFICATION AND ASSESMENT**

In this project, there is no opportunity to reuse of excavated earth; total excavated earth would be dispose as per plan. As required level and dressing to be done at the both work site and balance excess to be dispose as planned.

#### **•ON SITE SPOIL MANAGEMENT APPROACH**

In this project, the approach is ready where soils to be dispose

#### **•SPOIL TRANSPORTATION METHODOLOGY**

Extra excavated earth will be shifted by truck & Tractor Trolley from working site to disposal area if required after level and dressing.

#### **•MONITORING,REPORTING,REVIEW,AND IMPROVEMENTS**

Monitoring, Reporting and all necessary improvements will be done as per requirement.

**SPOIL MANAGEMENT PLAN**  
**M/S –Shriram EPC.Ltd**

**Package: Harihar Sewerage (01HRA01)**

**1. INTRODUCTION OF SMP**

SMP is to describe how the project will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works.

**2. LEGAL AND OTHER REQUIREMENTS**

In this project, there is no legal litigation at site for land and working area or site. Disposal of spoil will confirming the Environmental Protection Rules and Regulations of Govt. of India and The state Govt.

**3. ROLES AND RESPONSIBILITY**

In this project, there are major roles and responsibilities are followings

- 1) Extra excavated earth should be removed from site
- 2) Traffic movement should not be obstructed by dumping soil during the work
- 3) No low land, pond, ditch etc will be filled up by extra soil
- 4) No accident occurs during rainy season by excavated earth during or finished the work
- 5) All the drains, outlet should be free from our excavated earth

**4. SPOIL VOLUMES,CHARACTERISTICS AND MINIMIZATION**

In this project, generation of excavated excess earth will be no plan to reuse in the project. As per report from soil expert excavated earth is clayey in nature. Generation of excavated earth would be minimize as per design

**5. SPOIL REUSES OPPORTUNITIES,IDENTIFICATION AND ASSESMENT**

In this project, there is no opportunity to reuse of excavated earth; total excavated earth would be dispose as per plan. As required level and dressing to be done at the both work site and balance excess to be dispose as planned.

**6. ON SITE SPOIL MANAGEMENT APPROACH**

In this project, the approach is ready where soils to be dispose

**7. SPOIL TRANSPORTATION METHODOLOGY**

Extra **47.72 cum** excavated earth will be shifted by truck from working site to disposal area at STP if required after leveling and dressing.

**8. MONITORING,REPORTING,REVIEW,AND IMPROVEMENTS**

Monitoring, Reporting and all necessary improvements will be done as per requirement.

**SPOIL MANAGEMENT PLAN**  
**HNB Engineers**

Name of Project: **DESIGN, SUPPLY, INSTALLATION & COMMISSIONING OF SEWAGE TREATMENT PLANTS –SEQUENTIAL BATCH REACTORS (SBR/CASP) OF 20 MLD CAPACITY IN DISTRICT 1 & 5 MLD CAPACITY IN DISTRICT 3 OF DAVANAGERE CITY CORPORATION INCLUDING OPERATION AND MAINTENANCE FOR THREE YEARS.**

<b>1.0</b>	<b>Purpose</b>
	To describe how the project will manage the spoil generated and reuse related to design and construction works.
<b>2.0</b>	<b>Scope</b>
	The procedure is applicable to HNB Engineers Pvt.Ltd., Davangere.
<b>3.1</b>	<b>Responsibility</b>
	Project In charge is responsible for its implementation. Corporate Head EHS is responsible for its review and modification.
<b>3.2</b>	<b>RESPONSIBILITY AND AUTHORITY FOR EHS MANAGEMENT</b>
	<p><b><u>RESPONSIBILITY</u></b> <b><u>Project In charge (PI)</u></b></p> <ul style="list-style-type: none"> <li>• Ascertain that all plants and machinery utilized at the project site meets the safety standard and are safe for use.</li> <li>• Ensure that all personnel are aware of commitment to environmental protection and worker safety;</li> </ul> <ol style="list-style-type: none"> <li>1. Ensure that safe system of work are implemented and maintained by the project Engineers / Supervisors / Foreman and employees at the work site.</li> <li>2. Ensure that sufficient induction training for all employees and workers is given before commencement of work at site and subsequently for new inductees;</li> <li>3. Undertake program of regular EHS Inspection at site.</li> <li>4. Arrange Site EHS Management Review Meeting.</li> </ol> <p><b><u>Site Engineers/Supervisors</u></b></p> <ul style="list-style-type: none"> <li>• Maintain safe working conditions and good housekeeping in all areas under his supervision.</li> <li>• Enforce use of PPE as requested by Project Specific Rules and regulations.</li> <li>• Immediately Inform &amp; report to the EHS-Officer while any accident, near misses, dangerous occurrence, occupational poisoning or diseases shall be noticed within the project sites.</li> <li>• Plan safety in accordance with the approved work methodology for daily work activities.</li> <li>• Establish and maintain proper communication with all workers with regard to EHS; and</li> </ul>
<b>4</b>	<b>Procedure- Spoil Management Plan</b>
	<p>☞ 1) Spoil volume calculations: Estimate the volumes of spoils produced from each of the construction sites.</p> <p>☞ 2) Characterization of spoil: Based on the type of spoil; characterization is done (sand stone, mud mix materials, reusable materials)</p> <p>☞ 3) Adopt Spoil Reduce, Reuse Opportunities</p> <p>☞ 4) Identification of possible safe disposal sites for spoil: Those spoils which can't be reuse shall be properly disposed in designated areas, such disposal areas should be identified in project locations. Such disposal areas should be safe from environmental aspects and there should be any legal and resettlement related issues. Such areas need to be identified and prior client approval should be obtained to use it as spoil disposal area. The local administration must be consulted and if required permission should be obtained from them.</p>
<b>5</b>	<b>Spoil Volumes, Characteristics and Minimization</b>

	<ul style="list-style-type: none"> <li>Volumes 10,000Cu.M approx.</li> <li>Characteristics Normal earth basically clay types</li> <li>Minimization Excavation of earth to be done as per requirements only. No extra earth shall be excavated.</li> </ul>																		
6	<b>Spoil Reuses Opportunities, Identification and Assessment</b>																		
	<ul style="list-style-type: none"> <li>All quantity of spoils will be re used for new road.</li> <li>Balance spoils will be removed.</li> </ul>																		
7	<b>Monitoring, Reporting, Review and Improvements</b>																		
	<ul style="list-style-type: none"> <li>Monitoring, Reporting and all necessary improvements will be as required.</li> </ul>																		
8	<p><b>Related other Procedures</b> The key aspects of potential impacts are listed in table below</p> <table> <tr> <th>Aspects</th><th>Potential Impacts</th></tr> <tr> <td>Air Quality</td><td>Potential for high winds generating airborne dust from the stock piles</td></tr> <tr> <td>Sedimentation</td><td>Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads</td></tr> <tr> <td>Surface and Groundwater</td><td>Contamination of water (surface and ground water)</td></tr> <tr> <td>Noise</td><td>Associated with spoil handling and haulage and storage</td></tr> <tr> <td>Traffic</td><td>Impacts associated with spoil haulage</td></tr> <tr> <td>Land Use</td><td>Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal</td></tr> <tr> <td>Design specifications</td><td>Limitations on opportunities to minimize spoil generation</td></tr> <tr> <td>Sustainability</td><td>Limited sites for storage, reuse opportunities</td></tr> </table>	Aspects	Potential Impacts	Air Quality	Potential for high winds generating airborne dust from the stock piles	Sedimentation	Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads	Surface and Groundwater	Contamination of water (surface and ground water)	Noise	Associated with spoil handling and haulage and storage	Traffic	Impacts associated with spoil haulage	Land Use	Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal	Design specifications	Limitations on opportunities to minimize spoil generation	Sustainability	Limited sites for storage, reuse opportunities
Aspects	Potential Impacts																		
Air Quality	Potential for high winds generating airborne dust from the stock piles																		
Sedimentation	Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads																		
Surface and Groundwater	Contamination of water (surface and ground water)																		
Noise	Associated with spoil handling and haulage and storage																		
Traffic	Impacts associated with spoil haulage																		
Land Use	Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal																		
Design specifications	Limitations on opportunities to minimize spoil generation																		
Sustainability	Limited sites for storage, reuse opportunities																		

**Traffic Management Plan**

**DECEMBER-2016**

**PROJECT:** Expansion of Sewerage System in Davangere City (District 1& 3)

**Contract No:** 01 DVG 01

**PROGRAM:** Karnataka Urban Infrastructures Development & Finance Corpn. Ltd..

**EMPLOYER:** Commissioner of City Corporation Davangere

**CONTRACTOR:** SIMPLEX INFRASTRUCTURES LTD

## EXPANSION OF SEWERAGE SYSTEM IN DAVANGERE CITY (DISTRICT 1 & 3)

Location (As on 10 DECEMBER 2016)

Traffic Diversion – HADADI ROAD (WARD-36) DISTRICT-1 for pipe laying & pre-cast manhole fixing.

<b>1.0</b>	<b>Purpose</b>
	To provide a clear and simply worded procedure to be understood by most employees on preventing injury to persons and damage to property arising from site traffic and site transport.
<b>2.0</b>	<b>Scope</b>
	The procedure is applicable to Expansion of sewerage system in Davangere City, (District 1 & 3) sites and depots.
<b>3.0</b>	<b>Responsibility</b>
	It is the responsibility of the Project In charge and Depot Head & safety officer implement this procedure and ensure that delegated staff under their supervision carries it out.
<b>4.0</b>	<b>Definitions</b>
	Project In charge: Person responsible for the execution of the project.
<b>5.0</b>	<b>Legal Requirement</b>
	The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988
<b>6.0</b>	<b>Requirements</b>
<b>6.1</b>	<b>General</b>
	<ul style="list-style-type: none"> <li>All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.</li> <li>All the effects should be mitigated or reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.</li> <li>A clear and early warning of any obstruction to all road users should be provided.</li> <li>All areas where work is going on should be clearly demarcated by barricading and entry into these areas should be restricted to only authorized personnel.</li> </ul>
<b>6.2</b>	<b>Planning stage</b>
	<ul style="list-style-type: none"> <li>The client Engineers should be consulted as regards the execution of the works and the safety measures which would be put in place.</li> <li>Particular attention should be given to : <ul style="list-style-type: none"> <li><b>traffic signs;</b></li> <li><b>cones;</b></li> <li><b>barriers;</b></li> <li><b>road hazard warning lights;</b></li> <li><b>information boards; and</b></li> <li><b>site lighting</b></li> </ul> </li> <li>Consider necessity of traffic control systems such as temporary Stop/Go boards.</li> <li>Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).</li> <li>Provision of adequate lighting.</li> </ul>
<b>6.3</b>	<b>On site</b>
	<ul style="list-style-type: none"> <li>The working area in the live road/footway shall be defined.</li> <li>The working space shall be defined – this includes the area of storage of tools and equipment and space to move around the job.</li> <li>Provision of safety zone- it shall be kept clear of all work, material storage and people and shall be clear of working radius of all plant.</li> </ul>
<b>6.4</b>	<b>Operators / Drivers</b>
	<ul style="list-style-type: none"> <li>Experienced operators and drivers with valid licensed has been appointed.</li> <li>One copy of license has been collected by Safety Department.</li> </ul>
<b>6.5</b>	<b>Equipment</b>



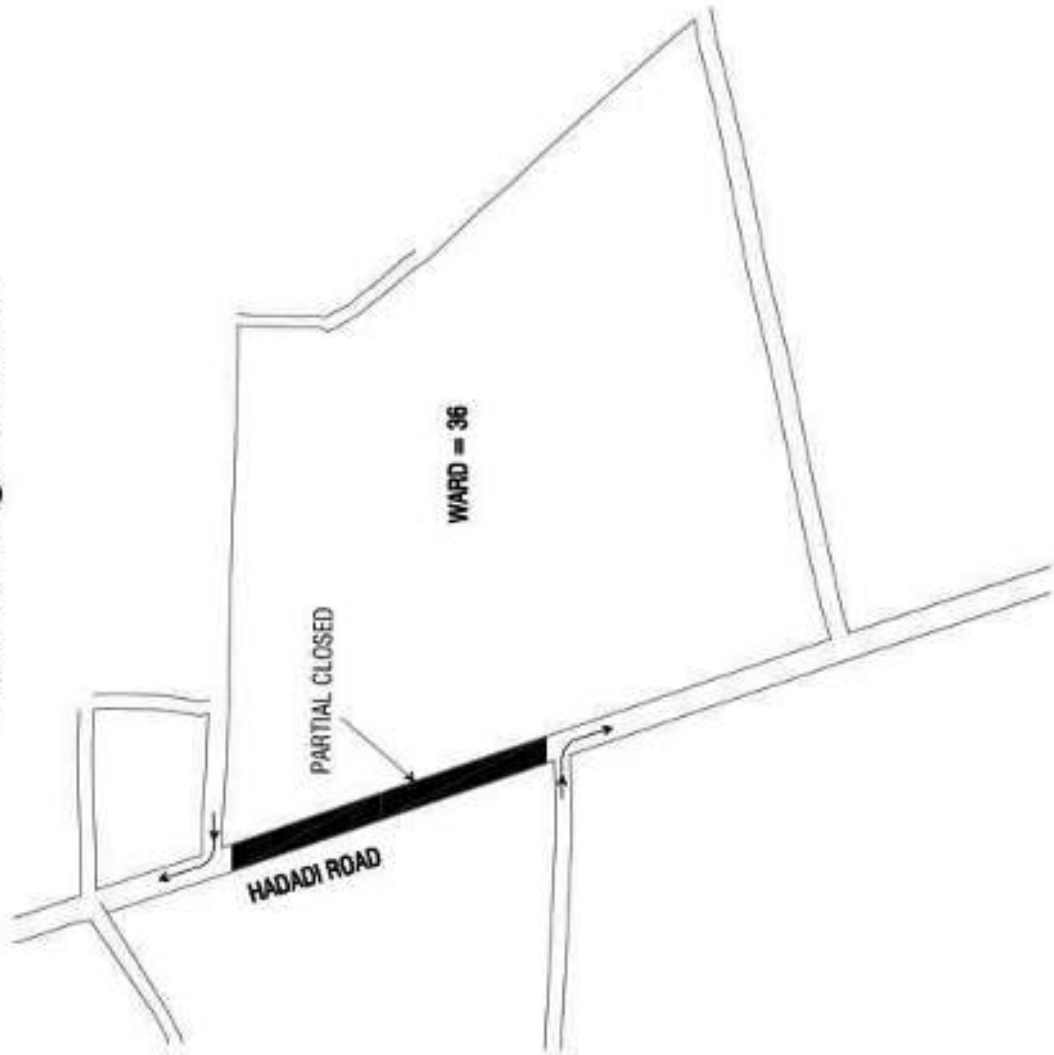
	<ul style="list-style-type: none"> <li>• Drivers are made a daily inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.</li> <li>• Safety Department along with Plant department has been checking the vehicles monthly basis</li> <li>• All vehicles have reverse horns and it is in working properly.</li> <li>• All vehicles, periodical maintenance has conducted.</li> </ul>
6.6	<p><b>Roads</b></p> <p>For safe operation we are following the bellow safety measure:</p> <ul style="list-style-type: none"> <li>• Safe width has been provided.</li> <li>• Speed limit will be varied as per the site.</li> <li>• Safe walkway with proper guard has been provided.</li> <li>• Caution board has been placed in every location within the site.</li> <li>• During night alert light has been provided.</li> <li>• Conducting Toolbox training as regular basis.</li> <li>• Road will be closed with proper permission (if required).</li> <li>• Reflective type Diversion board has been placed in required places.</li> </ul>
6.7	<p><b>Loading and unloading</b></p> <ul style="list-style-type: none"> <li>• Only authorised persons were engage for loading / unloading.</li> <li>• Materials loaded within the permitted safe weigh limit for the truck,</li> <li>• Dimensions of loads carried on a vehicle in strict accordance with relevant provisions.</li> <li>• A red flag is being used at the rear extremity of an overhanging load.</li> <li>• During the hours of darkness or in poor visibility conditions, a white light showing ahead at each side of the front extremity and a red light showing to the rear extremity of the hanging load are has been provided.</li> <li>• During Toolbox talks Intimation has been delivered to all drivers/operators that when the driver leaves the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.</li> <li>• Helper has been provided with all vehicles.</li> </ul>
6.8	<p><b>Working Area</b></p> <ul style="list-style-type: none"> <li>• The working area in the live road/footway has defined and barricaded.</li> <li>• The working area has been restricted from unauthorized entry.</li> <li>• The working space has been defined – this includes the area of storage of tools and equipment and space to move around the job.</li> <li>• Particular attention has been taken in working area : <ul style="list-style-type: none"> <li>○ <b>traffic signs;</b></li> <li>○ <b>cones;</b></li> <li>○ <b>barriers;</b></li> <li>○ <b>road hazard warning lights;</b></li> <li>○ <b>information boards; and</b></li> <li>○ <b>site lighting</b></li> </ul> </li> <li>• Adequate lighting has been provided.</li> </ul>

**TRAFFIC MANGEMENT PLAN**  
**SIMPLEX INFRASTRUCTURES LTD**

Name of the Road	Ward no & Location	Type of Action full closed/Partial closed	Duration..... .....days	Type of work
HADADI ROAD	SHIVAKUMAR BADAVHANE (WARD-36)	PARTIAL CLOSED	10 DAYS	Pipe laying & installation of Pre-cast manhole
DISTRICT-4	SSM-LAYOUT (WARD-4)	PARTIAL CLOSED	7 DAYS	Pipe laying & installation of pre -cast manhole

  
 Prepare By-AMIYA RANJAN HALDAR  
 Sr.PROJECT ENGINEER  
 SIMPLEX INFRASTRUCTURES LTD  
 DAVANGERE SEWERAGE PROJECT

## Traffic Management Plan



---

## **Traffic Management Plan**

**NOVEMBER 2016**

**PROJECT :KARNATAKA INTEGRATED URBAN WATER MANAGEMENT  
INVESTMENT PROGRAM**

**Contract No : CMC/HRR/KIUWMIP/03/2013-14**

**PROGRAM : EXPANSION OF SEWERAGE SYSTEM IN HARIHAR CITY DAVANGERE  
DISTRICT.**

**EMPLOYER : CITY MUNICIPAL COUNCIL (CMC), HARIHARA**

**CONTRACTOR : SHRIRAM EPC LTD.**

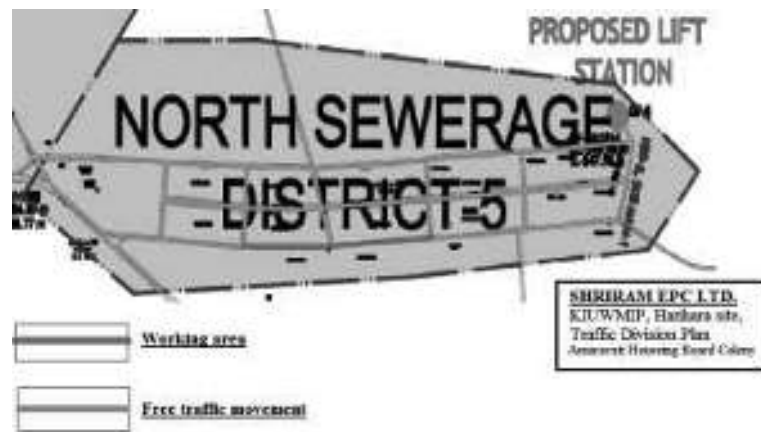
**Prepared by**

**SHRIRAM EPC LTD.**

**Location- Traffic Diversion: Main road Guttur and Vidyanagar for Pipe Laying and Manhole construction.**

<b>1.0</b>	<b>Purpose</b>
	To preventing injury to persons and damage to property arising from site traffic and site transport.
<b>2.0</b>	<b>Scope</b>
	The procedure is applicable to Shriram EPC Ltd. Sites.
<b>3.0</b>	<b>Responsibility</b>
	<p>It is the responsibility of the Project In charge and Depot Head &amp; safety officer implement this procedure and ensure that delegated staff under their supervision carries it out.</p> <ul style="list-style-type: none"> <li>• Responsible for ensuring that material movement to and from the workplace does not cause damage to the works, the workforce or the public.</li> <li>• There is a primary duty to provide a safe workplace environment that minimises the risk of injury to workers within, or adjacent to, the work area.</li> </ul>
<b>4.0</b>	<b>Definitions</b>
	Project In charge: Person responsible for the execution of the project.
<b>5.0</b>	<b>Legal Requirement</b>
	The Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996 and Central Rule 1998 Rule 48, 88 and 95, Motor Vehicle Act 1988
<b>6.0</b>	<b>Requirements</b>
6.1	<u>General</u>
	<ul style="list-style-type: none"> <li>• All road works create inconvenience and are a potential hazard to the safety of all road users and those employed in carrying out the work.</li> <li>• All the effects should be mitigated or reduced to the minimum, and to ensure that the works are properly guarded, lighted and signed.</li> <li>• A clear and early warning of any obstruction to all road users should be provided.</li> <li>• All areas where work is going on should be clearly demarcated by barricading and entry into these areas should be restricted to only authorized personnel.</li> </ul>
6.2	<u>Planning stage</u>
	<ul style="list-style-type: none"> <li>• The client and GKW's consultant Engineer should be consulted as regards the execution of the works and the safety measures which would be put in place.</li> <li>• Particular attention should be given to : <ul style="list-style-type: none"> <li>○ traffic signs;</li> <li>○ cones;</li> <li>○ barriers;</li> <li>○ road hazard warning lights;</li> <li>○ information boards; and</li> <li>○ site lighting</li> </ul> </li> <li>• Consider necessity of traffic control systems such as temporary Stop/Go boards.</li> <li>• Access should be planned to eliminate dangerous movements of site traffic (e.g. reversing of vehicles) and personnel (e.g. crossing dual carriageways).</li> <li>• Provision of adequate lighting.</li> </ul>
6.3	<u>On site</u>
	<ul style="list-style-type: none"> <li>• The working area in the live road/footway shall be defined.</li> <li>• The working space shall be defined – this includes the area of storage of tools and equipment and space to move around the job.</li> <li>• Provision of safety zone- it shall be kept clear of all work, material storage and people and shall be clear of working radius of all plant.</li> </ul>
6.4	<b>Operators / Drivers</b>
	<ul style="list-style-type: none"> <li>• Experienced operators and drivers with valid license has been appointed.</li> <li>• One copy of license has been collected by Safety Department.</li> </ul>
6.5	<b>Equipment</b>

	<ul style="list-style-type: none"> <li>• Drivers are made a daily inspection of their vehicles include steering, brakes, mirrors, lights, horn, tyres and windshield wipers.</li> <li>• Safety Department along with Plant department has been checking the vehicles monthly basis</li> <li>• All vehicles have reverse horns and it is in working properly.</li> <li>• All vehicles, periodical maintenance has conducted.</li> </ul>
6.6	<b>Roads</b>
	<p>For safe operation we are following the bellow safety measure:</p> <ul style="list-style-type: none"> <li>• Safe width has been provided.</li> <li>• Speed limit will be varied as per the site.</li> <li>• Safe walkway with proper guard has been provided.</li> <li>• Caution board has been placed in every location within the site.</li> <li>• During night alert light has been provided.</li> <li>• Conducting Toolbox training as regular basis.</li> <li>• Road will be closed with proper permission (if required).</li> <li>• Reflective type Diversion board has been placed in required places.</li> </ul>
6.7	<b>Loading and unloading</b>
	<ul style="list-style-type: none"> <li>• Only authorised persons were engage for loading / unloading.</li> <li>• Materials loaded within the permitted safe weigh limit for the truck,</li> <li>• Dimensions of loads carried on a vehicle in strict accordance with relevant provisions.</li> <li>• A red flag is being used at the rear extremity of an overhanging load.</li> <li>• During the hours of darkness or in poor visibility conditions, a white light showing ahead at each side of the front extremity and a red light showing to the rear extremity of the hanging load are has been provided.</li> <li>• During Toolbox talks Intimation has been delivered to all drivers/operators that when the driver leaves the driving seat, the engine of the truck shall be switched off, the gear engaged and parking brakes applied. On slopes, wheel blocks shall be applied.</li> <li>• Helper has been provided with all vehicles.</li> </ul>
6.8	<b>Working Area</b>
	<ul style="list-style-type: none"> <li>• The working area in the live road/footway has defined and barricaded.</li> <li>• The working area has been restricted from unauthorized entry.</li> <li>• The working space has been defined – this includes the area of storage of tools and equipment and space to move around the job.</li> <li>• Particular attention has been taken in working area : <ul style="list-style-type: none"> <li>○ traffic signs;</li> <li>○ cones;</li> <li>○ barriers;</li> <li>○ road hazard warning lights;</li> <li>○ information boards; and</li> <li>○ site lighting</li> </ul> </li> <li>• Adequate lighting has been provided.</li> </ul>
6.9	<b>Signage:</b>
	<ul style="list-style-type: none"> <li>• Ensure that signage and signage symbols used are internationally recognised.</li> <li>• Ensure additional languages are used in signage to ensure messages are understood.</li> </ul>
7.0	<b>Safety:</b>
	<ul style="list-style-type: none"> <li>• Ensuring the organisation's safety policies are followed</li> <li>• Creating of site-specific safety manual, ensure first aid cover and equipment is present</li> <li>• Responsible for ensuring that material movement to and from the workface does not cause damage to the works, the workforce or the public.</li> <li>• Manage and maintain visitor PPE stocks to an agreed number.</li> <li>• Produce method statements, risk assessments ensure lifting plans are produced.</li> <li>• Safeguard vulnerable road users from traffic and transport created by the site.</li> </ul>



**Amaravathi area- Harihar**



**SHRIRAM EPC LTD.**  
 KIUWMIP, Harihara site,  
 Traffic Division Plan  
 GUTTUR



Working area



Free traffic movement


**Guttur area- Harihar**





## Sample Internal Training document- Contractor

## Davangere UGD

**R. S. T. CONSTRUCTION**  
 **SIMPLEX INFRASTRUCTURES LIMITED**

DAVANGERE SEWAGE PROJECT-C-3014  
 SAFETY OFFICER/ENGINEER GIVING INDUCTION

INTERPRETER: Arjun Kumar

FILE REFERENCE: \_\_\_\_\_

Day FRIDAY DATE 9:15 AM TIME 9:15 AM

TRAINING DURATION: 20 Minutes 7/10/2016

GENERAL INDUCTION: ALL EMPLOYEES

Simplex Safety Policy, List of Simplex Safety Requirements, Zero Accident/Zero Injury, Personal Protective Equipment, Overview of Project Work & Hazards, Common Law, Statutory Duties, Fundamental Safety Principles, Our Safety System, Making the workplace Safe, General Safety Rules, General Security Rules, General Traffic Rules including use of Seat Belt, Drugs & Alcohol, Material Handling, Safety Hazards Communication System, Good Housekeeping, Working at Height & Fall Protection, Excavation, Explosives, Machine Guarding, Electrical Safety, Isolation of Equipment, Lockout, Tag out, Tryout System (LOTOTO System), Lifting Work, Reporting & Correction of Hazards/Incidents/Accidents Reporting, Fire Prevention / Protection, Permit to Work (PTW), Work Method Statement (WMS Methodology), Job Safety Analysis (JSA), Risk Assessment, Available Facilities, Disciplinary Procedure.

WHAT ELSE WAS DISCUSSED?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name: <u>Arjun Kumar</u> Sign: <u>[Signature]</u> Supervisor/Engineer (Concern Dept.)	Name: <u>Arjun Kumar</u> Sign: <u>[Signature]</u> Engineer/Officer (Safety Dept.)
--	--

## NOTES:-

1. PEOPLE ATTENDING INDUCTION SESSION COMPLETE REVERSE OF FORM.

2. FORM RETAINED ON INDUCTION RECORDS COPIED TO FILE.

**SIMPLEX INFRASTRUCTURES INDUCTION: TRAINING RECORD**

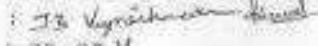



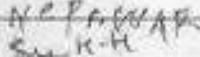
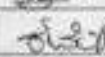

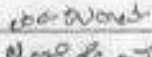


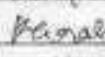
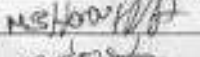

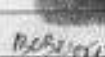
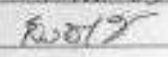


I confirm that I Understand the Simplex Safety requirements and I follow the same.  
 I will do my level best to do the job safely. I will not use any unsafe equipment.



DAVANGERE SEWAGE PROJECT-C-3014

I will not do any work for which I am not authorized. I will be responsible for my personal damage and injury.

Name: _____	Name: <u>ALISHUR YA HIA S</u>
Sign: _____	Sign: _____
Supervisor/Engineer _____	Engineer/Officer _____
(Concern Dept.) _____	(Safety Dept.) _____

SAFETY TOOL BOX MEETING		Form No	--F/EPGISTB/10
		Issue No	1
		Rev No	0
Project Name : KILN MIP, HOSNUR, STP			
Topic Covered : HIGHEST WORK RUCKER & GUN CONTROL			
Tool Box Meeting Conducted By : B.S. MAL. VIJAYESHWARA			
Signature : 			
Date : 23.08.16			
Time : 9.45 AM			
Total No of Persons Attended : 17			
S.No	Name	Designation	Signature
1	KENCHAPPA	MECHANIC	
2	NAGAPPA	BAR BENDER	
3	KARIBASABA	BAR BENDER	
4	NAGARAJ POWER	CARPENTER	
5	SUDHAGAR	CARPENTER	
6	EMESH SARATHI	CARPENTER	
7	BARASURAM	HELPER	
8	BARASURAM	HELPER	
9	ANTINE	HELPER	
10	SIVU POWER	HELPER	
11	RAMESH D	HELPER	
12	KARABALAPPA	"	
13	ONAPPA	"	
14	NAGARAJ RAO	"	
15	GURUVANJYEE	"	
16	BASWARAJ	"	
17	SURESH	HELPER	





# Byadgi UGD

<b>Shriram epc</b> Engineering & Construction	<b>SITE INDUCTION</b>		Form No	E/SAP/SI/01
			Rev No	00
			Issue No	01

Date:- 9/12/16 Location:- Nivela area, Nellore  
 Contractor:- Srinivas Rao No of workers:- 3  
 Project Detail:- 01624901 Induction given by:- Safety officer (S.O.)  
 Nature of work:- maintenance & excavation

Detail of person Inducted				
S.No	Name	Designation	Contractor	Signature
01	Rajesh	Labour	(Srinivas Rao)	Rajesh
02	Rajesh	Labour	(Srinivas Rao)	Rajesh
03	Ravi Kumar	Mason	(Srinivas Rao)	Ravi Kumar
04	Srinivas Rao	Labour	Srinivas Rao	Srinivas Rao
05	Rajesh Rao	Labour	Srinivas Rao	Rajesh Rao
06	Vijay	Labour	Srinivas Rao	Vijay
07	Pravin	Mason	Srinivas Rao	Pravin
08				
09				
10				
11				
12				

## Points discussed (Tick out):-

- |   |  |
|---|--|
| <input type="checkbox"/> Policy   | <input type="checkbox"/> Responsibilities related to safety  |
| <input type="checkbox"/> Drugs & Alcohols   | <input type="checkbox"/> Site Layout and Emergency Exit Plan |
| <input type="checkbox"/> Potential hazards in site  | <input type="checkbox"/> Required PPE                        |
| <input type="checkbox"/> Emergency Contact numbers  | <input type="checkbox"/> Work Permit System                  |
| <input type="checkbox"/> Driving  | <input type="checkbox"/> Safety signs                        |
| <input type="checkbox"/> Poisonous Insects in site  | <input type="checkbox"/> Local Safety requirements           |
| <input type="checkbox"/> Reporting of Incidents / Un safe condition or Act                            |  |
| <input type="checkbox"/> Location of Firefighting equipment, First aid center and safe assembly point |  |

Any special point discussed:- Excavation Hazardous, First aid  
 Light work, Immediate safety

Signature of contractor

Signature of Safety Officer

## Note:-

- It should be kept at site for record.
- It is mandatory for all new workers.
- Induction training must be given by site safety officer or by site manager in local language.

### SAFETY TOOL BOX MEETING

Format No.

F/EPC/8TB/10

Issue No.

1

Rev No

0

Project Name

21 849 001

Topic Covered:

Excavation, low front weight, jpe, manual sawing

Tool Box Meeting Conducted By

By: Arundhati C. (3490)

Signature \_\_\_\_\_

— Arundin —

Date \_\_\_\_\_

9/12/16

Time

101.50-0000

Total No of Persons Attended

[illegible]

## Sample filled public consultation format

Package – Davangere UGD

Public Consultation During Construction

Package No: 01DV6401  
Area: DCM TOWNSHIP, WARD-22

S.No	Res/Loc No	Date	PM10 Concentration Exceedance (in one affected) Remarks	Overburden Soil removal Remarks	Road Restoration Remarks	Dust and Noise Problem Remarks	Safety arrangement, caution signs/barriers etc. by contractor Remarks	Problem of road movements due to project activity Remarks	Other Problem faced if any	Name of the person with Address/Contact No	Signature
1)	DCM Township	16-12-16	NO ISSUE	NO ISSUE	NO ISSUE	Minimum	Good	Minor work	-	Prathap DCM Township	[Signature]
2)	DCM Township	19-12-16	NO ISSUE	Soil hand checked	NO ISSUE	Minimum	Good	No issue	-	Prathap DCM Township	[Signature]
3)	DCM Township 2nd cross	20-12-16	NO ISSUE	Soil hand checked	NO ISSUE	NO ISSUE	Good	NO ISSUE	-	Prathap DCM Township 2nd cross	[Signature]
4)	DCM Township 3rd cross	22-12-16	NO ISSUE	NO problem	NO problem	Minimum	Good	NO problem	-	Prathap DCM Township	[Signature]
5)	DCM Township 2nd cross	23-12-16	NO ISSUE	NO problem	NO problem	Minimum	Good	NO problem	-	Prathap DCM Township	[Signature]
6)	DCM Township	26-12-16	NO ISSUE	NO problem	NO problem	Minimum	Good	NO problem	-	Prathap DCM Township	[Signature]

Verified by Construction Supervisor/Resident Engineer/Environment Spl PMDCSE

C. S. Datta 26/12/16  
(Date & Signature)



# Package UGD – Harihara

Public Consultation during construction

Package- KUVEMP- OTHRAO

Area- AMARAVATHY & GUTTUR

Sr. No.	Road/Lane No.	Date	PHE Connection Restoration (In case affected) Remarks	Overburden soil removal Remarks	Road Restoration Remarks	Dust and noise problem Remarks	Social safety arrangement- Caution tape/ barricade etc. by contractor Remarks	Problem of local movements due to project activity Remarks	Other Problem faced if any	Name of the person with address/ contact No.	Signature
1	Guttur PMSC Road	7/12/16	Affected Restored	Removed	Restored	Nil	Provided	Alternate Way provided	Nil	Gummery 996040214	Gummery
2	Guttur PMSC Road	7/12/16	Affected Restored	Removed	Levelled	Nil	Provided	Alternate way provided	Nil	Kontuk 884321422	Kontuk
3	Amravathy New detour	12/12/16	Affected Restored immediately	Removed	Levelled	Nil	Provided	Nil	Nil	Lokesh 9877214523	Lokesh
4	Amravathy New detour	12/12/16	"	Removed	Levelled	Nil	Provided	Nil	Nil	Bharat 7674217924	Bharat

Verified by Construction Supervisor- Resident Engineer/ Environment Sp/ PMDCSC-

(Date & Signature)

J.B. Vignashan

## Package UGD= Byadgi

### Public Consultation during construction

Package- 01 DVG 01

Area- Byadgi & Shivamogga

Sr. No.	Road/Lane No.	Date	PHE Connection Restoration (in case affected) Remarks	Overburden soil removal - Remarks	Road Restoration- Remarks	Dust and noise problem- Remarks	Social safety arrangement- Caution tape/ barricade etc. by contractor - Remarks	Problem of local movements due to project activity - Remarks	Other Problem faced if any	Name of the person with address/ contact No.	Signature
1	GD layout plot 100	7-11-16	no problem	removed	to be done	none	done	no problem	-	Naganna Reddy	initialed
2	Shivamogga (19-10-16)	19-10-16	no problem	removed	to be done	none	done	no problem	-	Shankarappa Sh. Shivamogga	Shankarappa
3	GD layout plot 100	20-11-16	no problem	removed	to be done	none	done	no problem	-	Isaiah Shivamogga	Isaiah
4	Shivamogga	28-11-16	no problem	removed	to be done	none	done	no problem	-	Shivamogga	Shivamogga

Verified by Construction Supervisor- Resident Engineer/ Environment Spl PMDCSC-

A. R. Shivamogga  
(Date & Signature) 20/11/16

**Safety and Environment Training- Note**

**ENVIRONMENTAL SAFEGUARD – ORIENTATION TRAINING PROGRAM FOR CONTRACTOR, CONSTRUCTION SUPERVISOR and ENGINEER– Karnataka Integrated Urban Water Management Investment Program (KIUWMIP)**

Safeguard orientation training program has been conducted at Byadgi PIU office on 8<sup>th</sup> November 2016 morning on compliance of environment safeguard issues and application of Environmental Management Plan (EMP). AEE (Environment) of PMU, AE of concerned town PIUs, Resident Engineer of PMDCSC and other Engineers of PIU, and Project Manager and Safety Officer of Contractor agency are participated in the orientation program.

The issues discussed like,

- Need of application of EMP and compliance of safety requirement
- Labour and Office Camp site management- requirement of proper sanitation and solid waste management
- Disposal / utilization of overburden earth , rocks, spoil materials after work
- Storage of construction materials
- Occupational and public safety during construction
- Community safety
- Traffic management and spoil management during laying of pipes (as per requirement)
- Requirement of Pollution Under Control (PUC)/ No Objection Certificate (NOC) from concerned department and renewal of the same before expiry
- Requirement of baseline monitoring data
- Monitoring format etc.
- Public consultation requirement

EMP application requirement and methodology have also been discussed.

Instruction sheet handed over to contractor is attached as **Annexure 1**

Immediate requirement from contractor is also explained to the contractor and PIU. Requirement list is enclosed as **Annexure 2**

Attendance sheet attached as **Annexure 3**

As per request of PIU official and contractor all monitoring formats and documentation template will be send officially



**Photo: Safeguard Training**



**Photo: Safeguard Training**



**Photo: Safeguard Training**

*Ardhendu Mitra*  
( Dr. Ardhendu Mitra)  
Environment Specialist PMDCSC

#### Annexure 1

##### **Instructions for Contractor/ Supervisor- Environmental Safeguard- KIUWMIP**

- Nomination of environment-safety officer in contractor team
- Setting up camp office with proper sanitation condition, solid waste management facility and sufficient drinking water supply. Non cutting of trees during setting up camp
- Removal / disposal of overburden/surplus earth/ stone, sludge materials at earliest without any accumulation at working sites - Use of overburden materials at site (preferred option)
- Proper disposal of other construction waste –Reuse in other projects
  - Site should be selected in consultation with PIU and concerned Supervisor Engineer of PMDCSC
- Proper storage of construction materials - wastage of materials to be checked. Slope should be avoided
- Felling of trees if done to be compensated by plantation (1: 3 ratio)
- Scheduling of work without any social impact – movement of pedestrian (particularly during tourist/ festive seasons) or other disturbances etc.
- Regular water sprinkling (at least 2-3 times in a day during dry period) at construction site for arresting of dust – record should be maintain at site
- Covering of materials carrying vehicles in case of transportation of wind- blown material like sand
- Personnel safety of workforce – use of ear plugs (noise producing area), nose mask (dust producing area and sewer connection work), helmet, gloves, gumboots, safety belt etc at working sites (as per site condition). Use of gas detector instrument for sewerage pipe laying work
- Filling up trenches and restoration of road after pipe laying at earliest
- Arrangement of shoring, if required
- Instruction to material supplier/ contractor to arrange pollution under control (PUC) certificate for material carrying vehicles, equipments and machinery – Timely Renewal of PUC
- In case of purchase of stone aggregates consent to establish and operate of stone crusher should be collected from supplier

- No objection certificate from pollution control board for use of DG set( 5 KVA and above capacity)
- Regular maintenance of noise producing machinery
- Arrangement of enclosure for noise producing equipment like generator, concrete mixture
- Implementation of traffic stop/diversion measures including use of safety tape/ barricade/ caution board at working sites with proper diversion sign
- Proper drainage of waste water/ rain water from working sites
- Arrangement of common medicine and First Aid box at camp site, site office and working area
- At all working sites there should be a display board which shows location and contact phone number of PIU/PMDCSC office and grievance redress cell and respective officers for registering public complain. Keep Grievance Redress register at PIU office for recording and addressing public complain.
- Display of all emergency contact number at STP construction site
- Awareness program on HIV/AIDS
- Maintain chance find protocol for archeological objects
- No use of child labour below 14 yrs age
- Carry out monitoring work base line & during construction (air, water, noise) as per schedule EMP
- Regular public consultation at all sensitive receptor within project influence area

### Requirement from Contractor

#### Byadgi Sewerage and STP package


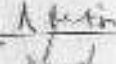
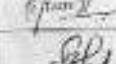


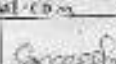
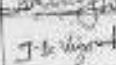




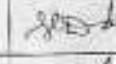


There is immediate requirement for submission of documents and following arrangement,

- Nomination of Environment & Safety officer (Officially) with detail contact information – **Within 15<sup>th</sup> November 2016**
- Base line air, noise monitoring for the sub project **Within 30<sup>th</sup> November 2016**
  - Air quality – atleast **6 locations** covering entire project areas. Representative sensitive locations near pipe laying like – nearby school, temple/ mosque, nearby health center, congested residential - commercial area etc. 1 STP – 2 days (24 hr.) monitoring for parameters PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, Hydro carbon
  - Day and Night time noise – same air quality monitoring 6 locations- 1 day – data present in Leq dB(A)
  - All monitoring should be done by NABL Laboratory/ Laboratory approved by Pollution Control Board
  - Monitoring location to be mapped and photographs need to enclose with report
- Arrangement of barricade as per approved design- **Before starting of the work**
- Setting up site office and labour camp following EMP guideline - **Before starting of the work**
- Pollution under control certificate for vehicles, equipment engaged in the project **before starting of the project**
- First aid box at all the location **before starting of the project**
- Placement of project display board at working locations as per given instruction - **before starting of the project**
- Arrangement of grievance redressal register and accident record register **within 30<sup>th</sup> November 2016**
- Submission of labour license copy
- Submission of workman compensation insurance
- Submission of health and safety plan before starting of the construction work
- **Submission of following documents**
  - ✓ Method of Statement every month
  - ✓ Monthly and weekly filled format after starting of physical construction within 5<sup>th</sup> date on next month
  - ✓ Site specific EMP before starting of the project\*
  - ✓ Spoil Management plan before starting of the project
  - ✓ Traffic Management plan before starting of the project

\*Explanation of mitigation measures as per site condition. Changes need to be done on EMP

## ANNEXURE 3

Karnataka Integrated Urban Water Management Investment Program (KIUMWIP)  
 Environment and Safety - Training Program  
 Venue: Byadgi, PIU office  
 Date: 08.11.2016

Sr. No.	Name	Organization / Designation	Contact No. / E mail	Signature
1	Gurupadainr. K.M	AEE-Env. Bangalore	9632717930	
2	Ardhendu Mitra	PMDC/IC / Environment SI	9870415953 ardhendumitra@gmail.com	
3	J. N. Uroch	AE - Byadgi	88770-62247	
4	Shekar. Hadimam	AEE PIU Ranebennur	7411058889 shekhahadimam@gmail.com	
5	T. Anandappa	AEE PIU-Hosur	9942019292 t.anandappa@gmail.com	
6	Manjunath Byadgi	AEE PIU-BYADGI	9880134406 manjunathbyadgi@gmail.com	
7	S. N. RAGHUPPA	Account. Superintendent	9591874363	
8	V. V. N. S. SHANKAR J. R.	SAFETY ENG-SURIRAM	9643217193 vigneshshankar@gmail.com	
9	M. Mohan Kumar	Safety Officer-SURIRAM	9902234342 mohankumar1430@gmail.com	
10	M. RAGHAWATHA RAO	Sr. Engineer-SEPC	9862031103	
11	P. VIGNESH	Engineer-SEPC	9837687612	
12	Blomani. Channan	Local Engineer	9771730659	
13	Sadanand. G. Dadaude	Resident Engnr. New. Chikhat	8886116590	
14	R. GANESAN	Pictor manager Shivam EPC	96725-97617	





## GRM – GRC Notification

ಕರ್ನಾಟಕ ನಗರ ಮೂಲಸೌಕರ್ಯ ಅಭಿವೃದ್ಧಿ  
ಮತ್ತು ಹಣಕಾಸು ನಿಗಮ ಸಂಸ್ಥೆಯು  
ನಿಗಮದ ಕಛೇರಿ : ಸಿಲ್ವರ್ ಜಬ್ಲಿ ಬ್ಲಾಕ್,  
ಯುನೈಟೆಡ್ ಬಿಲ್ಡಿಂಗ್ಸ್, 3ನೇ ಹಂತ,  
ಮಿಷನ್ ರೋಡ್, ಬೆಂಗಳೂರು - 560 027.  
ಫೋನ್ : 080 - 2232021, 2232134, ಫ್ಯಾಕ್ಸ್ : 2232157  
ಇಮೇಲ್ : info@kuidfc.com, website : www.kuidfc.com



Karnataka Urban Infrastructure  
Development & Finance Corp. Ltd.,  
Regd. Office : Silver Jubilee Block, 2nd Floor,  
Unity Building Annex, 3rd Cross,  
Mission Road, Bangalore - 560 027.  
Phone : 080 - 2232021, 2232134, Fax : 2232157  
E-mail : info@kuidfc.com, website : www.kuidfc.com

KUIDFC/KIUWMIP/DLIC/2014-15/228

Date: 7<sup>th</sup> August 2015

### OFFICIAL MEMORANDUM

Sub: ADB Assisted KIUWMIP-Jalasiri Implementation of Resettlement and Rehabilitation Plans (RRP).

\*\*\*\*\*

Under Karnataka Integrated Urban Water Management Investment Programme (KIUWMIP) land was purchased for implementation of various components under the programme. A Resettlement and Rehabilitation Plan for Affected Families (AFs) and Programme Affected Persons (PAPs) is prepared for land acquired under the programme and the compensation payable to them is determined as per the guide lines of ADB.

A project specific Grievance Redressal Mechanism (GRM) is to be established to receive and, evaluate concerns, complaints and grievances of the Affected Persons (APs). To provide time bound and transparent mechanism to resolve social and environmental concerns and ensure proper implementation and monitoring of the grievances, there is a need to designate Rehabilitation and Resettlement Officer and to constitute a Grievance Redressal Committee. Hence the following order:

### ORDER

**Rehabilitation and Resettlement Officer:** The Special Land Acquisition Officer/the Assistant Commissioner of the concerned sub division "shall be the Rehabilitation and Resettlement Officer". He will be responsible for implementation of the Resettlement plans. He is authorised to release all compensation to the beneficiaries (based on land acquisition Awards and other assistance/ benefits decided by GRC based on approved Resettlement plans).

**Grievance Redressal Committee:** The committee shall consist of the following members:

The Special Land Acquisition Officer/ Assistant Commissioner of the concerned subdivision	Chairman
The Deputy Project Director, KIUWMIP Davanagere	Member Secretary
The Commissioner / Chief Officer of the ULB	Member
Most affected Beneficiary	Member
One vulnerable Beneficiary, (if none of the Beneficiaries are classified as vulnerable any other beneficiary shall be the member.)	Member
SDO of RPMU- KIUWMIP Davanagere	Member



# ANNEXURE

## Guidelines for implementation of resettlement and rehabilitation Plan.

- A project specific redressal mechanism will be established to receive, evaluate and facilitate concerns, complaints and grievances of the Displaced Persons (DPs) in relation to project's social and environmental performances. The main objective of the Grievance Redressal Mechanism (GRM) will be to provide time bound action and a transparent mechanism to resolve social and environmental concerns.
- The Deputy Project Director KIUWMIP Davanagere will convene the periodic meeting of the Grievance Redressal Committee (GRC) and will shoulder the responsibility of keeping records of grievances/complaints in details with help from Resettlement NGO. Other members such as community based organizations (CBO) representatives, ward council representatives, displaced persons representative will be selected by the respective Commissioners of the ULB to represent in the GRC. NGO will also deploy one person who will be responsible for coordinating with all GRC members and DPs for grievance redressal.
- Grievance redressal committee (GRC) should ensure that the list of affected persons mentioned in the resettlement plan tally with the list of persons mentioned in the award passed by the Assistant Commissioner (AC)/ Special land acquisition officer (SLAO).
- The committee should finalize the subsistence allowance and other assistance/benefits payable to the affected persons based on the approved resettlement plans and ensure delivery of project affected persons (PAP) entitlements and benefits.
- All payments made to the beneficiaries and other expenses for implementation of the Resettlement plan should be through "Account Payee" cheques only. Proper documentation and acknowledgement for receipt be maintained to facilitate Audit.
- Grievance if any, may be submitted by project affected persons (PAP) to the Chairman of the GRC.
- The Grievance Redressal Committee will redress the issues at the local level in a consultative manner.
- The date and time of the GRC meeting should be communicated to the PAPs by the Implementing NGO or Regional Program management Unit (RPMU) Davanagere office, a week in advance.
- Proceedings of the GRC meeting should be documented and copy should be sent to task Manager KIUWMIP-KUIDFC Bengaluru.
- The GRC will determine the merit of each grievance and attempt to resolve the same within a month from date of lodging the complaint, failing which the grievance shall be addressed to the Deputy Commissioner.
- The Deputy Commissioner shall hear the appeals against the decision of the GRC. The decision of the Deputy Commissioner is final and cannot be contested in any other forum except in court of Law.
- All costs incurred in resolving the complaints will be borne by the concerned urban local

ಶಿ.ಯು.ಎ.ಡಿ.ಎಚ್.ಸಿ.



KUIDFC

The committee shall ensure implementation of R&R strictly in accordance with the guidelines attached as Annexure.

Appeals against the decision of the GRC are to be addressed to the Deputy Commissioner of the concerned District.

**Internal Monitoring:** Implementing NGO of the programme town shall be responsible for internal monitoring.

**External Monitoring:** The DPD KIUWMIP Davanagere shall be the external monitoring agency.

Managing Director  
KUIDFC, Bengaluru.

**Enclosures: Guidelines**

To:

- 1) Executive Director -KUIDFC Bengaluru
- 2) The Deputy Commissioner, Davanagere & Haveri
- 3) The Special Land Acquisition Officer/Assistant Commissioner of the concerned subdivisions under Davanagere & Haveri districts
- 4) Commissioner/Chief Officer of the concerned ULBs
- 5) Deputy Project Director-KIUWMIP, RPMU Davanagere


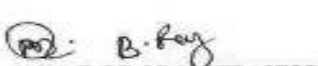


## Sample filled Grievance Register

## Davangere Sewerage

Name of the Project : Expansion of Sewerage System in Davangere City District 1 & 3 No.: **5**  
 Name of the Client : KUIDFC Name of the Contractor : Simplex Infrastructure Ltd.  
 Name of the Consultant : GKW Contact Period : 36 Month

Complaint No.	Date	Complaint through (phone/letter/site)	Name of complainer	Complaint Details & Location	Action Taken By Contractor/PMU/DSC	Date Case Resolved (Date required)	Remarks further action if any
1.	15-11-17	9964937242	Shaik Ahmad Bicki layout 760	Bicki layout Davangere	Drawn the shakhs Relaying	Resolved 21-1-17	Decision taken not complete
2.	21/12/16	9741081519	Nashima Sami	Bicki layout Dist 760/7	Water line Relaying shifting main g & Supply completed.	Resolved 21/1/2017	Water line

GRIEVANCE REDRESS RECORD

SIGNATURE OF COMPLAINER  SIGNATURE OF CONTRACTOR REPRESENTATIVE  SIGNATURE OF CONSULTANT REPRESENTATIVE  SIGNATURE OF CLIENT REPRESENTATIVE 

## Accident Record

### Davangere - UGD

SIMPLEX INFRASTRUCTURES LIMITED  
ACCIDENT & INCIDENT RECORD  
PERIOD: JULY 2016 TO DECEMBER 2016  
PROJECT: EXPANSION OF SEWERAGE SYSTEM IN DAVANGERE CITY (DISTRICT 1&3)


NAER-MISS	NIL
FIRST-AID CASE	NIL
REPORTABLE ACCIDENT	NIL
FIRE INCIDENT	NIL
ELECTRICAL INCIDENT	NIL




Prepared By: AMIYA RANJAN HALDAR  
Sr PROJECT ENGINEER  
SIMPLEX INFRASTRUCTURES LTD  
DAVANGERE SEWERAGE PROJECT

**Harihar - UGD**


Sl. No.	Date	Details of Injured Person	Location	Sub-foreman	Details of Accident	Corrective Measures Taken	Remarks
01	22-08-2016	Ramkish Sharmah	STP	R. S. Gauda	At 02:30 pm Rain came then all the workers are come down from their workplace. After rain stop all workers are started their work. Just time Mr. Ramkish Sharmah while climbing up, suddenly he was slipped from above from bamboo light and fell down. Injured in hand.	Instructed to all workers and sub-constructors, after rain stop don't climb height immediately and before climb first check the area. Instructed to avoid such incident in future.	Immediate shifted to main gate. Hospital - Mahabubnagar and given first aid.



Signature of Safety Officer - SPC



Signature of Site In-charge - SPC



Signature of Client/Consultant