

Semi-Annual Environmental Monitoring Report

Project Number: 43253-025
November 2015

Period: January-June 2015

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

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ADB Loan Number 3148-IND
Period Covered: January to June 2015

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

Tranche 1- 1st Report

JULY 2015



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	Multitranches Financing Facility
MoEF	Ministry of Environment and Forest
MSL	Mean Sea Level
NGO	Non-Government Organisation
NKUSIP	North Karnataka Urban Sector Investment Program
NOx	Nitrogen Oxide

NRW	Non Revenue Water
OCRCP	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

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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 beginning in 2015, and will be funded by a loan via the Multitranchise 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. Later only 3 towns Byadgi, Harihar and Davangere are considered for Tranche 1 funding.

3. The programme proposes the MFF spread across three 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 improvement of underground drainage and sewerage system including treatment of sewage at Byadgi, Harihar and Davanagere. Location of project towns is shown in **Figure 1**.

5. The Program Management Unit (PMU) is KUIDFC, Regional Program Management Unit (RPMU) in Davanagere and Program Implementation Unit in the three Tranche 1 towns have been established. Project Management Design and Construction Supervision Consultant (PMD CSC) for the present assignment has also been mobilized.

B. Purpose of the Report

6. **Environmental Categorization.** KIUWMIP Tranche 1 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 January to June 2015. 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 Byadagi and other at Davangere is not awarded. Construction has been started for one sub project at Harihar(UGD+STP) and other at Davangere Status of sub projects is given in **Table 1**. Site photographs are attached as **Appendix 1**.

Table 1: Status of Sub Project under Tranche 1

Town	Package No.	Component	Start Date	Number of Days/Months to Complete Work	Target Schedule of Completion	Works completed/ under execution	% Physical Progress as of 30th June 2015	Package Completed as of 30th June 2015
Byadagi	01BDG01	Design, Build, Operate & Maintain for 6 years for Byadgi comprehensive scheme from covering FAL STP (5 MLD), network (79km), and 3000 manholes	Not awarded	-	-	Draft Bid document (Turnkey) submitted to PIU. Estimate yet to be technically sanctioned.	-	-
Harihar	01HRA01	Expansion of the sewerage network (72.19 km sewers, 2640 nos. manholes, 4 nos. pumping stations, 18 MLD STP)	09.01.2015	30 months	08.07.2018	<ul style="list-style-type: none"> • Laying of 65 m of 450 mm diameter pipes Completed. • Laying of 236 m of 350 mm diameter pipes Completed. • Laying of 182 m of 300 mm diameter pipes Completed. • Laying of 2150 m of 160 mm diameter pipes Completed. <p>Total 2.633 km pipeline laying completed</p> <ul style="list-style-type: none"> • Construction of 	3.5	No

Town	Package No.	Component	Start Date	Number of Days/Months to Complete Work	Target Schedule of Completion	Works completed/ under execution	% Physical Progress as of 30 th June 2015	Package Completed as of 30 th June 2015
						<p>74 manholes Completed.</p> <ul style="list-style-type: none"> • Earthwork excavation for Guttur pump house is under progress. Soft rock is met • Excavation of STP Bunds completed except for the one bunds left for the treatment of sewage 		
Davanagere	01DVG01	Expansion of sewerage system (District 1 & 3) for Davanagere - 204.12 km sewers, 7581 nos. manholes	09.01.2015	36 months	10.01.2018	<ul style="list-style-type: none"> • Laying of 509 m for 450 mm diameter along PB Road complete • Laying of 2584 m laying of 150 mm pipe in ward 1. <p>Total 3.093 km pipeline laying completed</p> <ul style="list-style-type: none"> • Construction of 40 No of manholes completed 	2	No

Town	Package No.	Component	Start Date	Number of Days/Months to Complete Work	Target Schedule of Completion	Works completed/ under execution	% Physical Progress as of 30 th June 2015	Package Completed as of 30 th June 2015
						except benching work. • Pre-casting for 81 No. manholes completed		
Davanagere	01DVG01A	Improvements to sewerage system in Davanagere (STP)- DBO for 20 MLD SBR STP & DBO for 5 MLD SBR STP	Not awarded	-	-	Price Bid Opened. Price bid evaluation completed. Approval from GOK received. LoA issued by Davanagere Corporation.	0	-

B. Compliance to Safeguard Loan Covenants

9. The loan agreement for KIUWMIP Project 1 was signed on 30th 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>Procurement of Goods, Works and Consulting Services Conditions for Award of the Contract The Borrower shall ensure or cause the EA to not award any Works contract for a Subproject which involves environmental impacts 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 b) Incorporated the relevant provisions from the EMP into the Works contract.</p>	<p>a) Obtained concurrence from ADB for IEE sewerage packages of Davanagere & Harihara. b) Incorporated EMP into the works contract of Davanagere and Harihara sewerage works.</p>
Schedule 5 Item 10	<p>Safeguards -Environment 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>Under compliance Document is prepared by complying to 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. For Tranche 1 project Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB. IEE will be updated and revised in case of any change of scope and location. All safeguard measures and requirements as prescribed in IEE/EIA and EMP will be considered during implementation. 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 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>Complied Budgetary provisions have been included in EMP of Tranche 1 sub project Environment Engineer (AEE) is placed in PMU 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</p>	<p>Under compliance</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>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) 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>(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. 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" Corrective actions were taken on the contractor regarding 1) To ensure PPE at all ongoing sites 2) To ensure separate sanitation facility for men & women</p> <p>(b) IEE indicates budgetary provisions for implementation of EMP</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 Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) (b) if any unanticipated environmental</p>	<p>Under compliance</p> <p>(a) This is 1st semi-annual Safeguards Monitoring Report is prepared for the period January to June 2015,</p> <p>(b) With the development of project and</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	<p>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>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>Prohibited List of Investments</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>Complied</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>Other Social Measures</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>Complied in document and to be complied during implementation</p> <p>Provision are included (as per EMP & 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

10. 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 will be monitored by KUIDFC through a separate Investment Program Management Unit (PMU) for the IWRM Project, which will be set-up within KUIDFC.

11. 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.

12. 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 responsible for the supervision of project implementation including environmental safeguards at the ULB/CMC level.

13. 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 CSS and environment specialists(all levels) iii) community liaison, consultation with interested/affected parties and grievance redressal and iv) reporting.

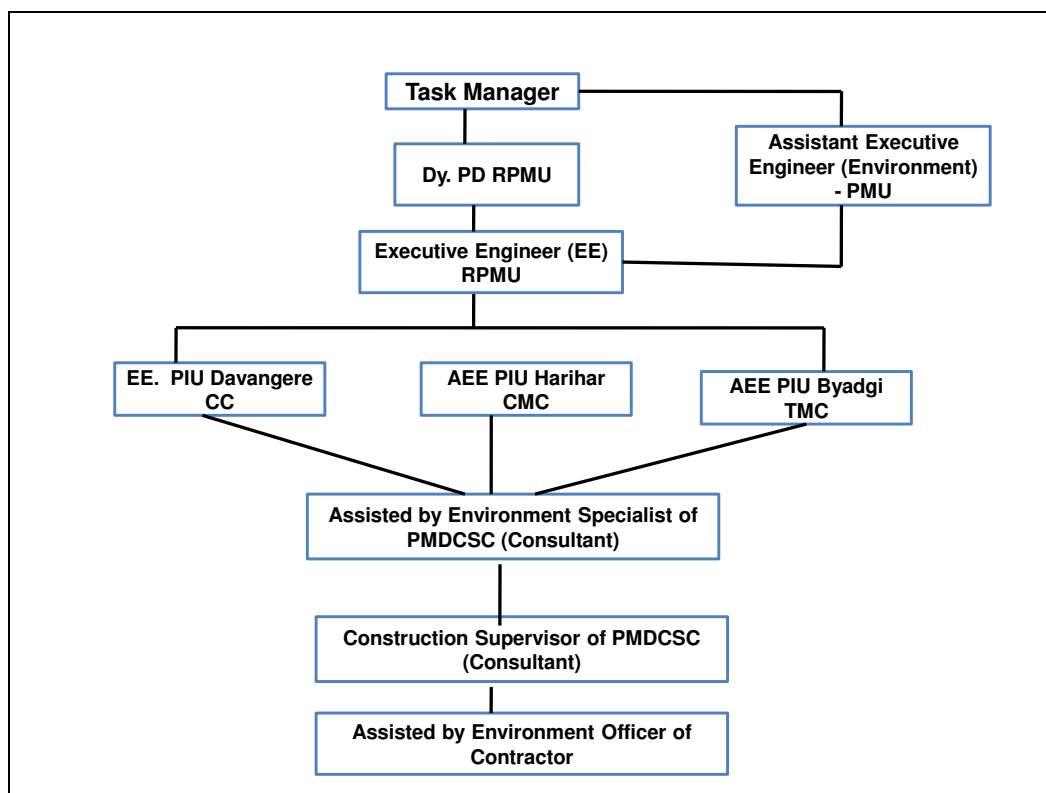
14. **Reporting arrangement.** Construction contractor monitoring safeguard implementation daily basis, while construction Supervisor (Resident Engineer) reviewed safeguard implementation weekly. After review they advised construction contractor for corrective measures. Monthly report summarizing observation, 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

Investment Program Phase	Activity	Details	Responsible Agency
Pre construction phase	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 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
Construction Phase	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
Operation Stage	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

15. **Figure 2** shows the implementation arrangement for environment safeguard. PMU includes a full-time Assistant Executive Engineer (Environment). As on May 2014 position of Assistant Executive Engineer (Environment) is filled up and also Environment Specialist of PMDCSC (Program Consultant) has been mobilized.

Figure 2: KIUWMIP Safeguards Implementation Arrangement



III. ENVIRONMENTAL PROCEDURE REVIEW

A. Environmental Legal Requirement

16. **Table 4** provides a list of national and state laws, rules, policies and regulations applicable to KIUWMIP Project 1.

Table 4: 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.	Compensatory plantation as per rule

Component	Applicable Legislation	Compliance	Action Required for Project 1 Subprojects
		If required permission will be taken.	
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
		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)

17. **Table 5** provides the status of compliance of subprojects to national and state laws, rules, policies and regulations applicable to KIUWMIP Project 1. Issued clearances and no objection certificates are attached as **Appendix 2**.

Table 5: Status of Compliance with National and State Legal Requirements

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
Harihar	01HRA01	Expansion of the sewerage network (72 km sewers, 2200 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 received on 22 January 2015 validity period – 5 years	CFE enclosed as Appendix- shows condition

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
			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.	Labour licence enclosed as Appendix
Davanagere	01DVG01	Expansion of sewerage system (District 1 & 3) for Davanagere - 214 km sewers, 7950 nos. manholes	Statutory permission from Indian Railways - work on the land under their Jurisdiction	Concurrence obtained in January 2015	Supervision charges to be 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.	Labour licence enclosed as Appendix
Davanagere	01DVG01A	Improvements to sewerage system in Davanagere (STP)- DBO for 20 MLD SBR STP at Shiva nagar, Davanagere Taluk & DBO for 5 MLD SBR STP at Avaragere village	Water (Prevention and Control of Pollution) Act 1974 Consent for Establish (CFE) from	Both the CFE received on 25 th February 2015 validity period – 5 years	CFE enclosed as Appendix – shows condition

Town	Package No.	Components	National and State Legal Requirement	Status	Conditions of the Clearance/NOCs
		at Davangere Taluka	Karnataka State Pollution Control Board (KSPCB), Government of Karnataka for establishment of 20 and 5 MLD STP		

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

IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

18. Civil works (mainly pipe laying work) started for both the awarded packages. Site-specific EMP was prepared by the contractor and submitted to PMDCSC for approval. Approval was given before starting of construction.

19. Daily, weekly and monthly monitoring is continued for both the packages. The overall compliance status for Davangere sub project is satisfactory while Harihar sub project is partially satisfactory. Compliance status of mitigation measures against impact field is given in **Table 6** and **7**. Sample filled weekly and monthly monitoring format and safety statement is attached as **Appendix 3**.

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

- Proper signage/information board at all worksite missing. 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
- First Aid box not available at all working locations– partially complied
- Non recording of consultations and disclosures conducted at local level during reported period.
- EMP implementation induction for workers not regular. Toll box training not done for all working locations
- 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.
- PUC certificates for all vehicles and equipment used for construction not submitted by contractor for sub project at Harihar.
- Insufficient barricading at few locations. Need of properly barricade at all worksite. No temporary caution tape accepted

Table 6: 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
Design & Pre Construction phase								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> Limit the sewer depth where possible. Sewers shall be laid away from water supply lines and drains(at least 1m, wherever possible) 	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"> List of affected utilities if any and operators Bid document to include requirement for a contingency plan for service interruptions In case of disruption of water supply, alternative supply ,through tankers shall be provided 	<ul style="list-style-type: none"> List of affected utilities if any and operators Bid document to include requirement for a contingency plan for service interruptions 	-	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"> Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas Prioritize areas within or nearest possible vacant space in the sub project location Non use of residential area Arrangement of toilet and drinking water facility No disposal of waste in water 	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. No hot mix plant is required
Emergencies such as leaks, overflows, bursts	<ul style="list-style-type: none"> Develop Emergency Response Plan for all emergencies such as leaks,overflows,burst 	<ul style="list-style-type: none"> 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

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
For STP- Design Nuisance due to location of the site in a developing area	<ul style="list-style-type: none"> Select a treatment process that is compact, aesthetically good, and generates no or fewer odours. Provide a green buffer zone of 10-15 m wide around the STP Screen around the facility and will improve the aesthetic appearance. Regulate the surrounding land use in strict compliance with Davangere Master Plan. And declared no development zone around the STP sites. Design the layout plan of the facility such that potential odour generating units – inlet and primary treatment units 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 	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	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	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
For STP-Emergencies like Events 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
Construction								
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 Joint verification by construction Manager 25.04.15 23.05.15 26.06.15	Complied. Excess excavated soil after back filling is reused to fill trenches if any or shifted from the sites. Disposal as per permission from PIU
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"> Contractor should obtain material from existing mines approved / licensed by Mines and Geology Department /Revenue Department. Verify suitability of all material sources and obtain approval of implementing agency No new quarry sites shall be developed for the sub project purpose Submit a monthly statement of construction material procured indicating material type, source and quantity. 	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary Construction Contractor documentation 	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> Checking of records visual inspection of sites 	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
Dust and emissions from construction activity may degrade the air quality	<ul style="list-style-type: none"> Consult with PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather; Bring materials (aggregates, sand, etc gravel) as and when required; Use tarpaulins to cover sand and other loose material when transported by vehicles; Clean wheels and undercarriage of vehicles prior to leaving construction site Ensure valid Pollution Under Control (PUC) Certificates for all vehicles and equipment used in the construction activity 	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Heavy equipment and machinery with air pollution control Water sprinkling arrangement Cover materials 	All construction on site, stockpile areas	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDSC's Environment Specialist and Construction supervisor	Do	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. Air quality monitoring – done. PUC certificates obtained
High noisy construction activities may have adverse impacts on sensitive receptors and structures	<ul style="list-style-type: none"> 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; Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town,. 	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Construction work limited to day time only. Prior information is provided to locals. No such noise producing machinery mobilized at site. Noise quality monitoring - done

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"> Provide prior information to the local public about the work schedule; 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, Cut the rocks manually by chiselling; Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s 							
Impacts on surface drainage and water quality due to contaminated runoff from construction areas in monsoon	<ul style="list-style-type: none"> Avoid stock piling of earth file specially during the monsoon season unless covered by tarpaulins or plastic sheets Stock piles shall be provided with temporary bunds Prioritize re-use of excess spoils and materials in the construction works. Place storage are as for fuels and lubricants away from any drainage leading to water bodies Dispose any wastes generated by construction activities in designated sites 	<ul style="list-style-type: none"> Areas for stockpiles, storage of fuels and lubricants and waste materials Number of silt traps installed along drainages (in slope) leading to water bodies Utilization of spoils 	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Stockpiling avoided as 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"> Prepare and implement Waste Management Plan—it should present how the surplus waste generated will temporarily 	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDSC's Environment Specialist and Construction	Do	Complied. Excess earth stockpiled and reused Coordination has

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>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"> Avoid stock piling of excess excavated soils as far as possible Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas 	<ul style="list-style-type: none"> PMU/PIU/PMDC SC to report in writing that the necessary environmental restoration work has been done 				supervisor		been done
Damage to protected structures due to construction along the areas near to protected monuments	<ul style="list-style-type: none"> 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 PMDCSC should include the above instruction in the contract document. 	Chance find protocol	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction supervisor	Do	Not yet arise. Action will be taken as per requirement
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> Plan pipeline (sewer lines) work in consultation with the traffic police Plan work such that trench excavation, pipe laying, 	<ul style="list-style-type: none"> Traffic Management Strategy Complaints from sensitive 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction	Do	Complied. Construction works are completing in least possible time.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>and refilling including compacting, at a stretch is completed in a minimum possible time;</p> <ul style="list-style-type: none"> • 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; • Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on one line; • In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions; 	<p>receptors</p> <ul style="list-style-type: none"> • Number of signage's placed at subproject location. 				supervisor		<p>Traffic diversion boards are given wherever necessary. Road not completely closed Caution tape - noted Alternative routes will be provided in case of road closure</p>
<p>Impact on sensitive receptors- Schools, hospitals and religious places</p>	<ul style="list-style-type: none"> • No material should be stocked in this area; material shall be brought to the site as and when required • Conduct work manually with small group of workers and less noise; minimize use of equipment and vehicles • No work should be conducted near the religious places during religious congregations • Material transport to the site should be arranged 	<ul style="list-style-type: none"> • Materials storage strategy • Complaints from sensitive receptors • Construction strategy near sensitive areas 	<p>All construction sites</p>	<p>Contractor</p>	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	<p>PMDCSC's Environment Specialist and Construction supervisor</p>	<p>Do</p>	<p>Not required now Schools, Hospitals and religious places are being notified before the work.</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>considering school timings; material should be in place before school starts;</p> <ul style="list-style-type: none"> Notify concerned schools, hospitals etc 2 weeks prior to the work; 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 Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites. 							
Socio-Economic: Livelihood Impediment of access to houses and business	<ul style="list-style-type: none"> Leave space for access between mounds of excavated soil Provide wooden planks / foot bridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required Consult affected business people; inform hem in advance when work will occur Address livelihood issues; implement the Resettlement Plan(RP) to address these issues Provide sign/ caution/ warning boards at work site 	<ul style="list-style-type: none"> Safety arrangement Complaint from sensitive receptors Sign board/ caution board availability with required information 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Advance information are giving to the shopkeepers</p> <p>Sign board provided. But caution and time of construction not informed in the board</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>indicating work schedule and traffic information; prevent public entry into work sites through barricading and security; and</p> <ul style="list-style-type: none"> • Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints. 							
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	PMD CSC's Environment Specialist and Construction supervisor	Do	Partially Complied. Local people are employed where ever possible. Now local labours around 30%
Workers occupational health & safety	<p>(i) Develop and implement site-specific Health and Safety (H&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, gum boot, gloves, nose mask and earplugs;</p> <p>(c) H&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>	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Number of accidents • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for hazardous areas 	All construction sites	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	PMD CSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Health and safety measures are followed.</p> <p>PPEs are given to the workers but used partially First aid box available Daily tool box training for workers required Drinking water available at working sites</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>(iii) Ensure H&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&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&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</p>	<p>such as energized electrical devices and lines, service rooms</p>						

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>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 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"> Provide wooden bracing for all deep excavations (>2m); identify buildings at risk prior to start of excavation work and take necessary precautions for safe work 	<ul style="list-style-type: none"> Traffic Management Strategy Complaints from sensitive receptors 	All construction sites	Contractor	Visual inspection	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied Sufficient caution tape provided at excavation areas Transportation of materials done as per convenient time without disturbing

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"> • Plan material and waste routes to avoid times of peak-pedestrian activities • 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 • Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure • Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads • Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety 							locals
Temporary workercamps	<ul style="list-style-type: none"> • Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement • Train employees in the storage and handling of materials • Remove all wreckage, rubbish, or temporary structures 	<ul style="list-style-type: none"> • Complaints from sensitive Receptors • Water and sanitation facilities for employees • Housekeeping – regular disposal of solid waste 	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Camps established with toilet (gender specific), drinking water facility, first aid box available

Table 7: 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
Design & Pre Construction phase								
Design: Drinking water supply lines may be contaminated due to leakage from sewers	<ul style="list-style-type: none"> Limit the sewer depth where possible. Sewers shall be laid away from water supply lines and drains (at least 1m, wherever possible) 	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"> List of affected utilities if any and operators Bid document to include requirement for a contingency plan for service interruptions Incase of disruption of water supply, alternative supply, through tankers, shall be provided 	<ul style="list-style-type: none"> List of affected utilities if any and operators Bid document to include requirement for a contingency plan for service interruptions 	-	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"> Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas Prioritize areas within or nearest possible vacant space in the sub project location Non use of residential area Arrangement of toilet and drinking water facility No disposal of waste in water 	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 nearby camp area and construction locations. No hot mix plant is required
Emergencies such as leaks, overflows, bursts	<ul style="list-style-type: none"> Develop Emergency Response Plan for all emergencies such as leaks, overflows, burst 	<ul style="list-style-type: none"> Emergency response plan 	-	PIU / Design Consultant	Observation and document checking	PMDSC's Resident Engineer & Environment	Before start of physical work & Continuous	Not required now

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
						Specialist / PIU		
For STP- Design Nuisance due to location of the site in a developing area	<ul style="list-style-type: none"> Select a treatment process that is compact, aesthetically good, and generates no or fewer odours. Provide a green buffer zone of 10-15 m wide around the STP Screen around the facility and will improve the aesthetic appearance. Regulate the surrounding land use in strict compliance with Master Plan. And declared no development zone around the STP sites. Design the layout plan of the facility such that potential odour generating units – inlet and primary treatment units 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 	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	To be comply at operation phase
For STP- Design and development of Treatment plans as per disposal standards set by CPCB	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	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
(Pollution of surface water, ground water and land resources)								
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
Construction								
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. Joint verification by construction Manager 23.05.15 26.06.15	Complied. Excess excavated soil after backfilling is reused to fill trenches if any or shifted from the sites. Disposal as per permission from PIU
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"> Contractor should obtain material from existing mines approved/ licensed by Mines and Geology Department / Revenue Department. Verify suitability of all material sources and obtain approval of implementing agency No new quarry sites shall be developed for the sub project purpose Submit a monthly statement of construction material procured indicating material type, 	<ul style="list-style-type: none"> List of approved quarry sites and sources of materials Bid document to include requirement for verification of suitability of sources and permit for additional quarry sites if necessary Construction Contractor documentation 	Quarries and material source areas	Contractor	<ul style="list-style-type: none"> Checking of records visual inspection of sites 	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
	source and quantity.							
Dust and emissions from construction activity may degrade the air quality	<ul style="list-style-type: none"> Consult with PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather; Bring materials (aggregates, sand, etc gravel) as and when required; Use tarpaulins to cover sand and other loose material when transported by vehicles; Clean wheels and undercarriage of vehicles prior to leaving construction site Ensure valid Pollution Under Control (PUC) Certificates for all vehicles and equipment used in the construction activity 	<ul style="list-style-type: none"> Location of stockpiles Complaints from sensitive receptors Monitoring data Heavy equipment and machinery with air pollution control Water sprinkling arrangement Cover materials 	All construction on site, stockpile areas	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction supervisor	Do	Partially 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 now, but will be done as per site and weather condition. Air quality monitoring – done PUC certificates not submitted
High noisy construction activities may have adverse impacts on sensitive receptors and structures	<ul style="list-style-type: none"> 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; Construction work shall be limited to day light hours (6 AM to 6 PM) for all the works located within the town;. 	<ul style="list-style-type: none"> Complaints from sensitive receptors Use of silencers in noise-producing equipment and sound barriers Monitoring data 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction supervisor	Do	Complied Construction work limited to day time only Prior information is provided to locals No such noise producing machinery mobilized at site Noise quality monitoring - done

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"> Provide prior information to the local public about the work schedule; 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, Cut the rocks manually by chiselling; Maintain maximum sound levels not exceeding 80 decibels (db) when measured at a distance of 10 m or more from the vehicle/s 							
Impacts on surface drainage and water quality due to contaminated runoff from construction areas in monsoon	<ul style="list-style-type: none"> Avoid stock piling of earth fille specially during the monsoon season unless covered by tarpaulins or plastic sheets Stock piles shall be provided with temporary bunds Prioritize re-use of excess spoils and materials in the construction works. Place storage areas for fuels and lubricants away from any drainage leading to water bodies Dispose any wastes generated by construction activities in designated sites 	<ul style="list-style-type: none"> Areas for stockpiles, storage of fuels and lubricants and waste materials Number of silt traps installed along drainages (in slope) leading to water bodies Utilization of spoils 	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	Complied. Stockpiling avoided as 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"> Prepare and implement Waste Management Plan – it should present how the surplus waste generated will temporarily 	<ul style="list-style-type: none"> Waste Management List Complaints from sensitive receptors 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDSC's Environment Specialist and Construction	Do	Complied. Excess earth stockpiled and reused Coordination has

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>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"> Avoid stockpiling of excess excavated soils as far as possible Coordinate with PIU for beneficial uses of excess excavated soils or immediately dispose to designated areas 	<ul style="list-style-type: none"> PMU/PIU/PMDC SC to report in writing that the necessary environmental restoration work has been done 				supervisor		<p>been done</p> <p>The work place at STP site was littered- improvement of housekeeping is required</p>
Damage to protected structures due to construction along the areas near to protected monuments	<ul style="list-style-type: none"> 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 earliest and all the articles received during the sewer laying should be handed over to ASI PMDCSC should include the above instruction in the contract document. 	Chance find protocol	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction supervisor	Do	Not yet arise. Action will be taken as per requirement
Hindrance to traffic movement/ accessibility	<ul style="list-style-type: none"> Plan pipeline (sewer lines) work in consultation with the traffic police Plan work such that trench excavation, pipe laying, 	<ul style="list-style-type: none"> Traffic Management Strategy Complaints from sensitive 	All construction sites	Contractor	<ul style="list-style-type: none"> Checking of records Visual inspection of sites 	PMDCSC's Environment Specialist and Construction	Do	Partially complied. Construction works are completing in least possible time.

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>and refilling including compacting, at a stretch is completed in a minimum possible time;</p> <ul style="list-style-type: none"> • 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; • Do not close the road completely, ensure that work is conducted on to edge of the road; allow traffic to move on oneline; • In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions; 	<p>receptors</p> <ul style="list-style-type: none"> • Number of signages placed at subproject location. 				supervisor		<p>Traffic diversion boards are given wherever necessary. Road not completely closed Caution tape - noted Alternative routes will be provided in case of road closure</p> <p>At few working locations the barricade provided was inadequate and was found to be inconvenient. Hard barricading to be provided at the UGD network site</p>
Impact on sensitive receptors- Schools, hospitals and religious places	<ul style="list-style-type: none"> • No material should be stocked in this area; material shall be brought to the site as and when required • Conduct work manually with small group of workers and less noise; minimize use of equipment and vehicles • No work should be conducted near the religious places during religious congregations • Material transport to the site should be arranged considering school 	<ul style="list-style-type: none"> • Materials storage strategy • Complaints from sensitive receptors • Construction strategy near sensitive areas 	All construction sites	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	PMDSC's Environment Specialist and Construction supervisor	Do	Not required now Schools, Hospitals and religious places are being 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>timings; material should be in place before school starts;</p> <ul style="list-style-type: none"> • Notify concerned schools, hospitals etc 2 weeks prior to the work; • 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 • Implement all measures suggested elsewhere in this report – dust and noise control, public safety, traffic management, strictly at the sites. 							
Socio-Economic: Livelihood Impediment of access to houses and business	<ul style="list-style-type: none"> • Leave space for access between mounds of excavated soil • Provide wooden planks / foot bridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required • Consult affected business people; inform them in advance when work will occur • Address livelihood issues; implement the Resettlement Plan (RP) to address these issues • Provide sign /caution/ warning boards at work 	<ul style="list-style-type: none"> • Safety arrangement • Complaint from sensitive receptors • Sign board/ caution board availability with required information 	All construction sites	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Advance information are giving to the shopkeepers</p> <p>Sign board provided. But caution and time of construction not informed in the board</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>site indicating work schedule and traffic information; prevent public entry into work sites through barricading and security ;and</p> <ul style="list-style-type: none"> • Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns / complaints. 							
Socio-Economic: Employment generation	<p>Employ atleast 50% of the labour force, or to the maximum extent, local persons if manpower is available</p> <p>Procure construction materials from local market.</p>	Employment record	All construction sites	Contractor	Checking of records	PMDCSC's Environment Specialist and Construction supervisor	Do	Partially Complied. Local people are not much employed
Workers occupational health & safety	<p>(i) Develop and implement site-specific Health and Safety(H&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&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</p>	<ul style="list-style-type: none"> • Site-specific Health and Safety (H&S) Plan • Equipped first-aid stations; • Medical insurance coverage for workers • Number of accidents • Supplies of potable drinking water; • Record of H&S orientation trainings • Personal protective equipments • Sign boards for 	All construction sites	Contractor	<ul style="list-style-type: none"> • Checking of records • Visual inspection of sites 	PMDCSC's Environment Specialist and Construction supervisor	Do	<p>Partially Complied. Health and safety measures are followed.</p> <p>PPEs are given to the workers but used partially (30% cases used)</p> <p>First aid box not available at all working sites</p> <p>Daily tool box training for workers required</p> <p>Drinking water available at working sites</p>

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>PMU/PIU;</p> <p>(iii) Ensure H&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&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&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</p>	<p>hazardous areas such as energized electrical devices and lines, service rooms</p>						

Impacts	Mitigation Measures	Parameters Monitored	Location	Responsible for mitigation	Method of Monitoring	Responsible for Monitoring	Date of Monitoring Conducted	Compliance status
	<p>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"> Provide wooden bracing for all deep excavations(>2m); identify buildings at risk prior to start of excavation work and take necessary 	<ul style="list-style-type: none"> Traffic Management Strategy Complaints from sensitive receptors 	All construction sites	Contractor	Visual inspection	PMDSC's Environment Specialist and Construction supervisor	Do	Partially Complied Caution tape provided at excavation areas Transportation of materials done as per convenient time

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"> • precautions for safe work • Plan material and waste routes to avoid times of peak-pedestrian activities • 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 • Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure • Provide road signs and flag persons to warn of dangerous conditions, for all the sites along the roads • Overall, the contractor should comply with IFC EHS Guidelines on Community Health and Safety 							<p>without disturbing locals Hard barricading not available at all working sites</p>
Temporary workercamps	<ul style="list-style-type: none"> • Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement • Train employees in the storage and handling of materials • Remove all wreckage, rubbish, or temporary structures 	<ul style="list-style-type: none"> • Complaints from sensitive Receptors • Water and sanitation facilities for employees • Housekeeping – regular disposal of solid waste 	All construction sites	Contractor	Site observation	PMDSC's Environment Specialist and Construction supervisor	Do	<p>Complied. Camps established with toilet (gender specific), drinking water facility, first aid box available Improvement of bed/ sleeping arrangement is required</p>

V. ENVIRONMENTAL MONITORING AND EVALUATION

21. 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.

22. The ambient air quality monitoring results are presented in **Table 8**. Results indicate that concentrations of parameters are with the CPCB limit except one location (Keshavapura near Railway Station) at Harihar, where concentration of both PM₁₀ and PM_{2.5} are above the limit. The results as disclosed are 1st air quality monitoring done, which to be continued as per environment monitoring program throughout the construction period for understanding increase or decrease trend for ambient air quality parameters at project locations. To mitigate this impact, the contractors are reminded of the EMP measures on dust suppression and control of vehicle emission at working sites.

Table 8: Ambient Air Quality Monitoring at Sites of construction

Town	Sampling Locations	Date of Monitoring	Parameters			
			SO ₂ µg/m ³	NO ₂ µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³
Davangere	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
Harihar	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
	Standard as per CPCB		80.0	80.0	60.0	100.0

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

23. The noise level monitoring has also been carried out for construction sites. **Table 9** shows noise level data. Day time noise monitoring has been carried out during 10.30-11 AM morning and night time after 10-30 PM. It is noted from the results that day and night time noise levels at Davangere project location is above the standard for commercial and residential areas. Day time noise level in Harihar 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. These are 1st noise level monitoring, which 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 noise levels contractor to apply mitigation measures as prescribed in EMP.

24. The next environmental monitoring activities are scheduled on September 2015 after monsoon season to measure concentrations of parameters as done earlier and covering all

construction sites. The cost of the environmental monitoring is arranged from contractor budget.

Table 9: Noise Level Monitoring at project sites of Davangere and Harihar

Town	Sampling Locations	Date of Monitoring	Day Time			Night Time		
			L Min dB(A)	L Max dB(A)	Leq dB(A)	L Min dB(A)	L Max dB(A)	Leq dB(A)
Davangere	Ashraya valley Near NH 4	20.05.2015	62.2	73.3	70.3	51.4	62.5	59.5
	Near SPS Nagar school	20.05.2015	65.4	69.0	67.6	53.5	64.6	61.6
	Pune Bangalore Road near Sagar Motors	20.05.2015	63.1	74.2	71.2	54.1	65.2	62.2
Harihar	Near STP site Kirloskar Factory	05.05.2015	60.0	68.6	63.0	54.3	65.4	62.4
	Near Anjaneya Temple Amaravathi	05.05.2015	49.3	61.6	61.1	50.4	61.5	58.5
	Guttur Colony Near Panchyat office	05.05.2015	58.9	69.7	62.7	53.6	64.7	61.7

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

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

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

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

25. A performance monitoring fact sheet has been prepared to facilitate tracking and quick reference on environmental monitoring of Project 1 subproject packages (**Tables 10 and 11**).

Table 10: 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 – Package No. 01HRH01	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 yet obtained
2	Expansion of Sewage System in Davangere City (District 1 & 3) – Package No. 01DVG01	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

Table 11: 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 ¹	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 – Package No. 01HRA01	SHRIRAM EPC Ltd.	Yes	Nominated	Partially complied	2	2	2	1	2	1	NA	1	NA	1	1	NA	1
2	Expansion of Sewage System in Davangere City (District 1 & 3) – Package No. 01DVG01	SIMPLEX Infrastructure Limited	Yes	Nominated	Complied	2	2	2	2	2	2	NA	2	NA	1	2	NA	1

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

VI. CONSULTATIONS AND DISCLOSURES CONDUCTED

26. As per approved IEE, consultations and disclosure will be a continuous process throughout Project 1 implementation involving public consultations and focus group discussions. However, there are no “planned “consultation and disclosures conducted during the reporting period because present working locations are isolated places away from any congested residential / commercial areas.

27. The indicative schedule for consultations and disclosure is presented in **Table 12**. **Appendix 4** provides the form to summarize and record the consultations.

Table 12: 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 all construction 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 31 st August 2015	Davangere and Harihar	Supervisor Engineer, PIU Engineer, all safety and environment staff of contractors	Resident Engineer, Environment specialist of PMDCSC, Asst Executive Engineer (Environment) PMU

28. Induction training program has been arranged for contractors, supervisors by PMDCSC at PIU office, Davangere on safety and environment. Minutes of the meeting is attached as **Appendix 5**.

VII. GRIEVANCE REDRESS MECHANISM

29. As per approved IEE, a project-specific grievance redress mechanism (GRM) will be 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 will aim 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.

30. 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 (**Appendix 6**) 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.

31. As of 30th June 2015, the GRM committee at PIU and PMU level not yet been established through notification. Process has been initiated to establish separate GRM committee at earliest. Presently District Level Committee looks after grievance if any.

Already complaint register and accident register open at contractor level. Complaint Register and Complaint Form to be translated to local language.

VIII. FINDINGS AND RECOMMENDATIONS

32. Based on environmental monitoring conducted during January to June 2015, KIUWMIP Project 1 is in mixed (partial to fully complied) compliance level of environmental safeguards. The main non-compliances include:

- Proper signage/information board at few worksite missing. 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
- First Aid box not available at all working locations– partially complied
- Non recording of consultations and disclosures conducted at local level during reported period.
- EMP implementation induction for workers not regular. Tool box training not done for all working locations
- 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.
- PUC certificates for all vehicles and equipment used for construction not submitted by contractor for sub project at Harihar
- Insufficient barricading at few locations. Need of properly barricade at all worksite. No temporary caution tape accepted
- Establishment of separate GRC for GRM.
- Need to translate complaint register and complaint form into local language and ensure disclosure in project website and worksites

33. **Table 13** provides the recommended corrective action plan to address the non-compliances.

Table 13: Corrective Action Plan

	Non-compliance	Action Required	Responsible	Target Date	Indicator of Compliance
1	Proper signage’s/information board at few worksite missing. Time period for construction work for particular area and contact details of PIU, consultant in project display board for any grievances or suggestion	Arrangement of display board with all information	Contractor	20 th July 2015	Information disclosure
2	First Aid box not available at all working locations– partially complied	First Aid box should be available at all the working locations	Contractor	20 th July 2015	Maintain safety arrangement – availability to check
3	Non recording of consultations and disclosures conducted at local level during reported period	Local level consultation at least once in a week with proper recording	Contractor	20 th July 2015	Consultation document
4	EMP implementation induction for	Induction and	Contractor	20 th July	Training

	Non-compliance	Action Required	Responsible	Target Date	Indicator of Compliance
	workers not regular. Tool box training not done for all working locations	toll box training on regular basis		2015	document , photographs
5	Use of PPE partially	Use of PPE should be at all times as per site condition and work type.	Contractor	20 th July 2015	Availability and use of PPE
6	PUC certificates for all vehicles and equipment used for construction not submitted by contractor for sub project at Harihar	Submission of PUC certificate	Contractor	20 th July 2015	PUC certificate
7	Insufficient barricading at few locations	Need of properly barricading at all worksite.	Contractor	20 th July 2015	Availability of sufficient barricade
8	Establishment of separate GRC for GRM	Process initiated. Notification will be done shortly	PMU, PIU	15 th August 2015	GRM notification
9	Need to translate complaint register and complaint form into local language and ensure disclosure in project website and worksites	Action to be taken as per suggestion and requirement	PMU, PIU, Consultant	15 th August 2015	Document check

APPENDIX 1: Photo Illustration



First aid station within camp site and storage area at Davangere



First aid box available at camp - Davangere



Storage of scrap materials – proper demarcation



Fire point within the camp – Davangere



Toilet facility within camp



Separate storage of oil and lubricant – camp and storage at Davangere



Arrangement for labourers – within the camp of Davangere



Kitchen with LPG facility



Use of cover for storage of materials



Deep tube well – drinking water facility within camp of Davangere



Drinking water arrangement at camp



Barricading at pipe laying area of Davangere



Partial compliance – use of personal protective equipment at Davangere



Partial compliance – use of personal protective equipment at Davangere



Safety instructions before commencing work at Davangere project site



Pipe laying done –Davangere project site.



Labour camp at Harihar



Toilet facility within labour camp at Harihar



Caution tape and barricade noted at pipelaying area of Davangere



Partial compliance – use of Personal protective equipment



Partial compliance – use of Personal protective equipment



Temporary arrangement of caution tape at excavated area of pumping station. No hard and permanent barricade noted



Excavation of bunds at STP site just started




First aid box at one pipe laying location – noted at Harihar

APPENDIX 2: Consent, NOC, Labour license

Consent to Establish – Davangere STP – 20MLD

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


ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

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

25581383, 25589112
 25588151, 25588270
 25588142, 25586520

No.PCB/003/STP/2014/Reg. No. 79702 /By RPAD/
 1771

Date: 25 FEB 2015

To,
The Commissioner,
M/s. City Corporation, Davangere
Sy No: 10,11,12,13 and 126 of Doddabooihah village,
Shivanagara Davangere Taluk and district

Sir,

Sub: Consent for Establishment (CFE) under Water Act, 1974 for the establishment of Sewage Treatment Plant of capacity 20 MLD from **City Corporation, Davangere**, under the Water (Prevention & Control of Pollution) Act, 1974- reg.

Ref: 1. Your CFE application filed at Regional Office-Davangere dated: 01.10.2014
 2. Inspection of proposed STP location by the RO- on 27.10.2014.
 3. Proceedings of Consent Committee Meeting held on 14.01.2015.

*Handwritten in green: take action on the **** handling remaining for better STPs*

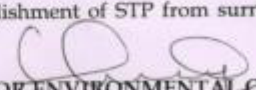
M/s. City Corporation, Davangere, have applied for CFE of the Board for the establishment of Sewage Treatment Plant (STP) of capacity 20 MLD (Module II) at Sy No: **10,11,12,13 and 126 of Doddabooihah village, Shivanagara Davangere Taluk and district** for the purpose of treating sewage generated from City Corporation (CC), Davangere

Handwritten in blue: Sir, I will handle this

The Board hereby accords Consent for Establishment (Expansion) under Water Act, 1974, subject to the following conditions:

- This Consent for Establishment is valid for **Five years** from date of issue.
- The consent is related only to the pollution aspects of the 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.
- The CC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.
- The CC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.
- There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution.

ರೆ.ಇ.ಯು. ಸಂಖ್ಯೆ: 19/3/2015
 ದಿನಾಂಕ: 19/3/2015


SENIOR ENVIRONMENTAL OFFICER

Page 1 of 4
 AVOID USE OF PLASTICS- BE 'ECO' FRIENDLY

6. The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.
7. The applicant shall not discharge treated sewage into nala/river.

I. SPECIFIC CONDITIONS:


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.
2. The CC shall provide UGD facility for the entire City Corporation and report to the Board.
3. The CC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.
4. The CC shall take adequate measures to avoid any entry of 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.
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.
7. The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court.
8. The CC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act, 1977 within three months.

II. WATER POLLUTION CONTROL:

1. The treatment plant shall be used for the treatment of sewage only, at any point of time.
2. The quantity of sewage treated shall not exceed 5MLD
3. The CC shall treat the sewage in the STP as per the proposals submitted to the Board. The CC shall provide the STP as follows,

a) Stilling chamber	5.6m x 5.6m x 6.5m
b) Fine screen	4.0m x 1.3m x 6.7m
c) Grit chamber (mechanical)	8.5m x 1.3m x 4.0m
d) Grit chamber (Manual)	8.5m x 1.3m x 4.0m
e) SBR tank	45.0m x 45.0m x 7.0m
f) Chlorine contact tank	24.0m x 6.0m x 4.0m
g) Sludge drying bed	12m x 6.0m x 4.0m

4. The CC shall utilize the treated sewage for irrigation purpose after treating the same to the standards stipulated in **Annexure-I**.
5. All the treatment units shall be made totally impervious.
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
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.


SENIOR ENVIRONMENTAL OFFICER

III. **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.


IV. **GENERAL:**

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 CC shall furnish point-wise compliance to the conditions given under Consent for Establishment within 30days.

Please note that, this is only Consent for Establishment issued to you to proceed with establishment of STP 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 Air (Prevention & Control of Pollution) Act, 1981 and 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 STP.

The receipt of this letter may please be acknowledged.

For and on behalf of
Karnataka State Pollution Control Board


SENIOR ENVIRONMENTAL OFFICER

ANNEXURE-I

ON LAND FOR IRRIGATION

Sl. No.	Characteristics	Tolerance limits
1.	Colour and Odour	See Note
2.	Suspended Solids, mg/l. max	30
3.	pH value.	5.5 to 9.0
4.	Oil and Grease, mg/l, Max	10
5.	Bio-chemical Oxygen Demand, mg/l. (5 days at 20° C max)	20

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 ³ /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

[Signature]
SENIOR ENVIRONMENTAL OFFICER



Consent to Establish – Davangere STP – 5 MLD

☎ / Fax : 080-25586321
✉ / E-mail : ho@kspcb.gov.in
🌐 / Website : http://kspcb.gov.in

08-1768

☎ 25581383, 25589112
25588151, 25588270
25588142, 25586520

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

“ಪರಿಸರಭವನ”, 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ.49, ಚರ್ಚ್‌ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ
“Parisara Bhavana”, 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA

No.PCB/003/STP/2014/Reg. No. 81367 /By RPAD/
1768

Date: 25 FEB 2015

To,
The Commissioner,
M/s. City Corporation, Davangere
Sy No: 371/1, Avaragere village, Davangere-tq & Dist

Sir,

Sub: Consent for Establishment (CFE) under Water Act, 1974 for the establishment of Sewage Treatment Plant of capacity 5 MLD from City Corporation, Davangere, under the Water (Prevention & Control of Pollution) Act, 1974- reg.

Ref: 1. Your CFE application filed at Regional Office-Davangere dated: 14.11.2014
2. Inspection of proposed STP location by the RO- on 27.10.2014.
3. Proceedings of Consent Committee Meeting held on 14.01.2015.

M/s. City Corporation, Davangere, have applied for CFE of the Board for the establishment of Sewage Treatment Plant (STP) of capacity 5 MLD at Sy No: 371/1, Avaragere village, Davangere-tq & Dist for the purpose of treating sewage generated from City Corporation, Davangere

The Board hereby accords Consent for Establishment (Expansion) under Water Act, 1974, subject to the following conditions:

1. This Consent for Establishment is valid for Five years from date of issue.
2. The consent is related only to the pollution aspects of the 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.
3. The CC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.
4. The CC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.
5. There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution.

3225

2 MAR 2015

Page 1 of 4

SENIOR ENVIRONMENTAL OFFICER

AVOID USE OF PLASTICS- BE 'ECO' FRIENDLY

Handwritten notes: DHO, 21/5/15, please refer to...

6. The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.
7. The applicant shall not discharge treated sewage into nala/river.


I. SPECIFIC CONDITIONS:

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.
2. The CC shall provide UGD facility for the entire City Corporation and report to the Board.
3. The CC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.
4. The CC shall take adequate measures to avoid any entry of 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.
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.
7. The consent is issued without prejudice to the Court Cases pending in any Hon'ble Court.
8. The CC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act, 1977 within three months.

II. WATER POLLUTION CONTROL:

1. The treatment plant shall be used for the treatment of sewage only, at any point of time.
2. The quantity of sewage treated shall not exceed 5MLD
3. The CC shall treat the sewage in the STP as per the proposals submitted to the Board. The CC shall provide the STP as follows,

a) Stilling chamber	1.85m x 1.85m x 1.2m
b) Coarse screen	3.0m x 1.25m x 1m
c) Fine screen	3m x 1.25m x 1m
d) Grit chamber (mechanical)	2.15m x 1.15m x 1m
e) Grit chamber (Manual)	2m x 1.25m x 1m
f) SBR tank	22m x 20.0m x 7.0m
g) Chlorine contact tank	15.5m x 9.0m x 3.0m
4. The CC shall utilize the treated sewage for irrigation purpose after treating the same to the standards stipulated in Annexure-I.
5. All the treatment units shall be made totally impervious.
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
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.


 SENIOR ENVIRONMENTAL OFFICER

SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

2. 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.

IV. GENERAL:

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 CC shall furnish point-wise compliance to the conditions given under Consent for Establishment within 30days.

Please note that, this is only Consent for Establishment issued to you to proceed with establishment of STP 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 Air (Prevention & Control of Pollution) Act, 1981 and 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 STP.

The receipt of this letter may please be acknowledged.

For and on behalf of
Karnataka State Pollution Control Board

Sd/-
SENIOR ENVIRONMENTAL OFFICER

Copy to:

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

J. Jagannath
SENIOR ENVIRONMENTAL OFFICER

ANNEXURE-I

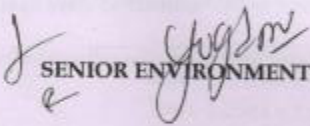
ON LAND FOR IRRIGATION

Sl. No.	Characteristics	Tolerance limits
1.	Colour and Odour	See Note
2.	Suspended Solids, mg/l. max	30
3.	pH value.	5.5 to 9.0
4.	Oil and Grease, mg/l, Max	10
5.	Bio-chemical Oxygen Demand, mg/l. (5 days at 20° C max)	20

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 ³ /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


SENIOR ENVIRONMENTAL OFFICER

Consent to Establish – Harihar STPExpansion

File in Harihar

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



25581383, 25589112
25588151, 25588270
25588142, 25586520

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

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

No.PCB/038/STP/2012/Reg. No. 70469 / 1555

Date: 22 JAN 2015

To,
The Municipal commissioner,
City Municipal council (CMC),
Harihara, Davangere Dist

Handwritten file number: 1185/14-15
Handwritten number: 24-1-15
ಇತರ: _____
ವಿಷಯ: _____
ಇದ್ದೇರಿನು _____
ದೌರ್ವಿಜ್ಞಾನವೇನು _____

Sir,

Sub: Consent for Establishment (CFE) under Water Act, 1974 for the establishment of expansion of Sewage Treatment Plant of capacity 8.84 MLD to 18 MLD from City Municipal Council, Harihara, Davangere Dist. Sy No 52/1, 62/1, 55/P3, 55/P2, 55/P1, 62/3, 62/2, 61/2, 52/P2, Harlapur Village Harihara taluk , Davangere Dist under the Water (Prevention & Control of Pollution) Act, 1974- reg.

- Ref: 1. Your CFE application filed at Regional Office-Davangere dated: 15.02.2014
2. Inspection of proposed STP location by the RO- on 05.04.2014.
3. Proceedings of Consent Committee Meeting held on 05.06.2014.
4. Proceedings of personal Hearing, dtd: 25.08.2014

Handwritten initials: EE, CA, and other scribbles.

M/s. City Municipal Council Harihara, have applied for CFExp of the Board for the expansion of Sewage Treatment Plant (STP) of capacity from 8.84 MLD to 18 MLD at 52/1, 62/1, 55/P3, 55/P2, 55/P1, 62/3, 62/2, 61/2, 52/P2, Harlapur Village Harihara taluk , Davangere Dist for the purpose of treating sewage generated from City Municipal Council Harihara

The Board hereby accords Consent for Establishment (Expansion) under Water Act, 1974, subject to the following conditions:

1. This Consent for Establishment is valid for Five years from date of issue.
2. The consent is related only to the pollution aspects of the 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.
3. The CMC shall not undertake expansion/ diversification/ modernization/ change of sites etc., without prior clearance from this Board.
4. The CMC shall obtain necessary license/ clearance from other relevant statutory agencies before taking up construction.
5. There shall not be any complaints against the establishment of STP from surrounding public in respect of any kind of pollution.

J/w (31)

Handwritten signature of Senior Environmental Officer
SENIOR ENVIRONMENTAL OFFICER

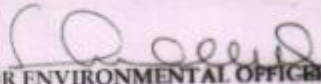
6. The applicant shall submit the land documents of the proposed site to the Board, before commissioning the establishment work of the proposed STP.

I. SPECIFIC CONDITIONS:

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.
2. The CMC shall provide UGD facility for the entire City Municipal Council and report to the Board.
3. The CMC shall maintain 100 mts buffer zone around the Sewage Treatment Plant area.
4. The CMC shall take adequate measures to avoid any entry of 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.
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.
7. This consent is issued without prejudice to the Court Cases pending in any Hon'ble Court.
8. The CMC shall pay balance cess under The Water (Prevention and Control of Pollution) Cess Act, 1977 within three months.

II. WATER POLLUTION CONTROL:

1. The treatment plant shall be used for the treatment of sewage only, at any point of time.
2. The quantity of sewage treated shall not exceed 18 MLD
3. The CMC shall treat the sewage in the STP as per the proposals submitted to the Board.
The CMC shall provide the STP as follows,
 - a) Inlet Chamber: 2.2m x 29.m x 2.1m (SWD)
 - b) Medium Screen chamber(Mechanical): 5m x 1.30m x 1.3m (SWD)
 - c) Medium screen chamber(manual): 5m x 1.30m x 1.3m (SWD)
 - d) Grit removal unit: 2No's: 7m x 7m x 2.3m (SWD)
 - e) Flow distribution chamber: 3.2m x 3.2 m x 1.1m (SWD)
 - f) Inlet Chamber: 1.7m x 1.7m x 0.6m depth+ 0.30 m FB
 - g) Facultative aerated lagoon: 4 No's; Size of each lagoon: 40m x 120 m x 5.5m (SWD)
 - h) Effluent Chamber connecting each lagoon: 2No's
Size of effluent chamber: 1.7m x 1.7 m x 0.6m depth
 - i) Polishing Pond: 4 No's
Size of polishing pond: 40m x 100m x 2.0m (SWD)
 - j) Outlet Chamber: 5.15m x 5.15m x 0.6m (SWD)
4. The CMC shall utilize the treated sewage for irrigation purpose after treating the same to the standards stipulated in Annexure-I.
5. All the treatment units shall be made totally impervious.
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
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.


SENIOR ENVIRONMENTAL OFFICER

III. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

The solid wastes collected in the treatment plant premises in the form of sludge, screenings 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.

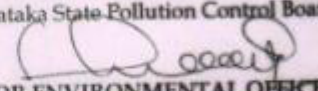
IV. GENERAL:

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 CMC shall furnish point-wise compliance to the conditions given under Consent for Establishment within 30days.

Please note that, this is only Consent for Establishment issued to you to proceed with establishment of STP 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 Air (Prevention & Control of Pollution) Act, 1981 and 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 STP.

The receipt of this letter may please be acknowledged.

For and on behalf of
Karnataka State Pollution Control Board


SENIOR ENVIRONMENTAL OFFICER


ANNEXURE-I
ON LAND FOR IRRIGATION

Sl. No.	Characteristics	Tolerance limits
1.	Colour and Odour	See Note
2.	Suspended Solids, mg/l. max	30
3.	pH value.	5.5 to 9.0
4.	Oil and Grease, mg/l, Max	10
5.	Bio-chemical Oxygen Demand, mg/l. (5 days at 20° C max)	20


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 ³ /hec/day
1	Sandy	225 to 280
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5	Clayey	035 to 055


SENIOR ENVIRONMENTAL OFFICER

Labour license – Davangere

<p>ಸಹಾಯಕ ಕಾರ್ಮಿಕ ಆಯುಕ್ತರ ಕಛೇರಿ ಬಳ್ಳಾರಿ ವಿಭಾಗ, ದಾವಣಗೆರೆ</p>	<p>ರಬೀಂದ್ರನ ಅವಧಿಗೆ 30 ದಿನಗಳ ಮೊದಲೇ ಸಮೀಕ್ಷಿಸಲ್ಪಟ್ಟು ಅರ್ಜಿ ಸಲ್ಲಿಸಬೇಕಾದುದಾಗಿ ವರ್ಷ 2014-15 ರ ದಾಖಲೆ ನಿರೀಕ್ಷಿಸಿ 21 ರ ಅರ್ಜಿ ಮಾಹಿತಿ ಕೊಡುವುದಾಗಿ ಸೂಚಿಸಿ 2014 ರಲ್ಲಿ ಮೂಲಕ 30 ದಿನಗಳ ಮೊದಲೇ ಸಲ್ಲಿಸಬೇಕಾದುದಾಗಿ</p>	
<p>FORM VI [Se Rule 25(1)] GOVERNMENT OF KARNATAKA Office of Licensing Officer</p>		
<p>Licence No: ಎಎಲ್‌ಸಿಡಿ/ಸಿಎಲ್‌ಎ/ಎಲ್‌ಸಿಎನ್-1436/2014-15 Date: <u>24-02-2015</u></p>		
<p>Fee Paid Rs.1500-00 Security Deposit Paid Rs. 2500-00</p>		
<p>1) Licence is hereby granted to <u>ಮೆ ಸಿಂಹಾಚಾರ್ಯಸ್ವಾಮಿ ಇನ್‌ಫ್ರಾಸ್ಟ್ರಕ್ಚರ್ಸ್, ಲಿಮಿಟೆಡ್,</u> <u># ನಂ-314, 3ನೇ ಮೇನ್, 3ನೇ ಕ್ರಾಸ್, ಎಸ್. ನಿಜಲಯ, ಲೇಔಟ್, ದಾವಣಗೆರೆ ಜಿ </u> Under Section 12(1) of the Contract Labour (Regulation and Abolition) Act 1970, Subject to the conditions specified in Annexure.</p>		
<p>2) This Licence is for doing the work of <u>ಎಕ್ಸ್‌ಪ್ಲೋಷನ್ ಇನ್ ಸೆಕ್ಟರ್</u> <u>ಸಿಸ್ಟಮ್ ಇನ್ ದಾವಣಗೆರೆ ಸಿಟಿ</u> (nature of work to be indicated in the establishment of <u>ಮೆ ಕಮಿಷನರ್, ಸಿಟಿ ಕಾರ್ಪೊರೇಷನ್</u> (name of the principal Employer to be indicated) at <u>ದಾವಣಗೆರೆ</u> (place of work to be indicate)</p>		
<p>3) The Licence shall remain in force till <u>23-02-2016</u></p>		
<p>Date: <u>24-02-2015</u> Officer</p>	<p> ಸಹಾಯಕ ಕಾರ್ಮಿಕ ಆಯುಕ್ತರು ಬಳ್ಳಾರಿ ವಿಭಾಗ, ದಾವಣಗೆರೆ</p> <p>Signature and Seal of Licensing Officer</p>	
<p>RENEWAL (Rule 29)</p>		
Date of Renewal	Fee Paid for renewal	Date of Expiry

ANNEXURE

The licence is subject to the following conditions :

- 1) The licence shall be non transferable
- 2) The number of workmen employed as contract labour in the establishment shall on One any day, exceed. **(100) ಒಂದು ಸುತ್ತು ಗುತ್ತಿಗೆ ಉದ್ಯೋಗಿಗಳು**
- 3) Except as provided in the Rules the fees paid for the grant of the licence may be non refundable
- 4) The rates of wages payable to the workmen by the contractor shall not be less than the minimum wages Act, 1948 and where the rates have been fixed by agreement, settlement or award in respect of such workmen, the contractor shall not pay less than the rates so fixed.
- 5) In case where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer in the establishment, the contractor shall be bound to pay to the workmen of the establishment the same or similar rates, holiday hours of work and other conditions of service as are applicable to the workmen directly employed by the principal employer of the establishment on the same or similar kind of work, provided that in the case of disagreement with regard to the type of work in the same establishment, the decision shall be final, to be decided by the Government of Karnataka or labour whose decision shall be final.
- 6) In other cases the wage rates, holiday hours of work, and other conditions of service payable to the workmen by the contractor shall be such as may be specified in this licence by the Government of Karnataka.
- 7) In every establishment where 20 or more women are employed as contract labour, the contractor shall be provided 2 rooms of reasonable dimensions for the use of their children, one for each of his years. One of such rooms would be used as play room for the children for the purpose of recreation. The contractor shall supply adequate number of toys and games in the play room and sufficient number of beds and bedding in the sleeping room. The standard of contract labour accommodation shall be such as may be specified in this licence by the Commissioner of Labour.
- 8) The licence shall notify any change in the number of contract labour employed in the establishment to the licensing officer.
- 9) A copy of the licence shall be displayed prominently in the establishment when the contract labour is being carried out.
- 10) If the licence is not renewed within the prescribed time, the contractor shall be liable to pay a period penalty of 25% of licence fees to be levied.
- 11) The contract labourers shall be provided with lunch dining room and recreation facilities at no cost during the working hours, if such facilities are extended to regular workmen employed by the principal employer.
- 12) The contract labourers shall be paid the minimum wages payable under the minimum wages Act, 1948, or the wages payable to the first category of regular workmen employed by the principal employer.
- 13) The contract labourers shall be paid with same rate of bonus as is payable to regular workmen employed by the principal employer.
- 14) The contract labourers shall be provided with free medical facilities, if such facilities are extended to the regular workmen employed by the principal employer.

HCL
ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ ಅಯುಕ್ತರು
ಬಳ್ಳಾರಿ ವಿಭಾಗ, ಬಳ್ಳಾರಿ

50

Harihar – Labour license

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಅಧಿಕಾರವು
ಬಹುಮಾನದಿಂದ
ಇವರಿಗೆ ಲಭಿಸಿದೆ

FORM VI [Se Rule 25(1)]
GOVERNMENT OF KARNATAKA
Office of Licensing Officer

Licence No: ಎಎಲ್‌ಸಿಡಿ/ಸಿಎಲ್‌ಎ/ಎಲ್‌ಸಿಎನ್-1464/2015-16 Date: 15-06-2015

Fee Paid **Rs.1500-00**
Security Deposit Paid **Rs.2500-00**

1) Licence is hereby granted to ಮೆ|| ಶ್ರೀ ರಾಜ್ ಇ.ಪಿ.ಸಿ. ಲಿಮಿಟೆಡ್, 13ನೇ ಹಂತ
ರಾಜಹ, ಅಣ್ಣಮಠ, ಬಿಲ್ಡಿಂಗ್, ನಂ-18/3, ರುಕ್ಮಿಣಿ ಲಕ್ಷ್ಮಿ ಪತಿ ಸಲ್ ಇನ್‌ವೆಸ್ಟರ್, ಬೆಂಗಳೂರು, ಕೆ.ಆರ್. ಸ್ಟ್ರೀಟ್
ಅಪ್ಪಿನ್ ಸಿಸ್ ಮುನಿಸಿಪಲ್ ಕೌನ್ಸಿಲ್, ಹರಿಹರ. 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 of ಎಲೆಕ್ಟ್ರಿಕಲ್ ಅಂಡ್ ಸವರೆಸ್ ಸಿಸ್ಟಮ್
ಇನ್ ಹರಿಹರ ಸಿಸ್ ವರ್ಕ್ಸ್ (nature of work to be indicated) in the
establishment of ಸಿಸ್ ಮುನಿಸಿಪಲ್ ಕೌನ್ಸಿಲ್, (name of the principal
Employer to be indicated) at ಹರಿಹರ, ದಾವಣಗೆರೆ ಜಿ|| (place of work to be
indicate)

3) The Licence shall remain in force till 14-06-2016

Date: 15-06-2015 HCL
Signature and Seal of the Licensing Officer

RENEWAL
(Rule 29)

Date of Renewal	Fee Paid for renewal	Date of Expiry
-----------------	----------------------	----------------

ANNEXURE

The licence is subject to the following conditions :

- 1) The licence shall be non transferable.
- 2) The number of workmen employed as contract labour in the establishment shall on One any day, exceed... (100) ಒಂದು ಸಾವಿರಕ್ಕಿಂತ ಹೆಚ್ಚಿರುವುದಿಲ್ಲ
- 3) Except as provided in the Rules the Fees paid for the grant as the case may be for renewal of the licence shall be non refundable.
- 4) The rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed for the schedule of employment under the minimum wages Act. 1948, and where the rates have been fixed by agreement settlement or award, not less than the rates fixed.
- 5) In case where the workmen employed by the contractor perform the same or similar kind of work as the workmen directly employed by the principal employer of the establishment, the wage rates, holiday hours of work and other conditions of service of the workmen of the workmen of the contractor shall be the same as applicable to the workmen directly employed by the principal employer of the establishment on the same or similar be kind of work; provided that in the case of disagreement with regard to the type of work in the same shall be decided by the commissioner of labour whose decision shall be final.
- 6) In other cases the wage rates, holidays hours, of work and conditions of service of the workmen of the contractor shall be such as may be specified in this behalf by the commissioner of Labour.
- 7) In every establishment where 20 or more women are ordinarily employed as contract labour there shall be provided 2 rooms of reasonable dimensions for the use of their children under the age of six years. Once of such rooms would be used as play room for the children for this purpose the contractor shall supply adequate number of toys and games in the play room and sufficient number of costs and beddings in the sleeping room. The standard of construction and maintenance of the crèches may be such as may be specified in this behalf by the commissioner of labour.
- 8) The licence shall notify any change in the number of workmen or the conditions of work to the licensing officer.
- 9) A copy of the licence shall be displayed prominently at the premises where the contract work is being carried on.
- 10) If the licence is not renewed with in the prescribed time i.e., within 30 days before the expiry of the period penalty of 25% of licence fees will be levied.
- 11) The contract labourers shall be provided with lunch dinner. Coffee/tea and break fast/sancks free of cost during the working hours, if such facilities are extended to regular workmen employed by the principal employer.
- 12) The contract labourers shall be paid the minimum wages fixed under the minimum wages Act 1948, or the wages payable to the last category of regular workmen employed by the principal employer.
- 13) The contract laboures shall be paid with same rete of Bonus and Ex-gratia Payable to the regular workmen employed by the principal employer.
- 14) The contract labourers shall be provided with free uniforms and shoes if such facilities are extended to the regular workmen employed by the principal employer.
- 15) Availing the services of child labour is subject the of the provisions of the child labours (Regulation and Prohibition) Act - 1986 and the judgment of the supreme court. Hence it is prohibited.
- 16) The letter and spirit of all labour laws should be complied without any deviation.

ಇದರಲ್ಲಿ ಉಲ್ಲೇಖಿಸಿರುವಂತಹ ಎಲ್ಲಾ ನಿಯಮಗಳನ್ನು ಅಳವಡಿಸಿ ಕಾರ್ಯನಿರ್ವಹಿಸುವುದಾಗಿ ದೃಢೀಕರಿಸಲಾಗಿದೆ.

APPENDIX 3: Sample filled weekly and monthly monitoring format

Monitoring Format KIUWMIP - Monthly

ENVIRONMENTAL MONITORING AND EVALUATION

FORMAT - ENV -01 (MONTHLY)

MONTHLY ENVIRONMENTAL COMPLIANCE MONITORING FORMAT FOR SUB-PROJECT

SECTOR: UGD
MONTH/YEAR: May 2015
PROJECT (PACKAGE): Expansion of Sewerage System in Harihara City.(01HRA01)
WORKING LOCATION: Guttur Colony, Harihara.
DATE OF OBSERVATION: 23-05-2015
NAME OF THE MONITORING PERSON FROM PMDCSC (Designation): Prakash B Abbigeri, (RE)

Sr. No.	Environmental Issues	Level of application of EMP					Suggestion/Remarks
		Poor	Below Satisfactory	Partially satisfactory	Satisfactory	Excellent	
1.	Mitigation/protection of Land Environment						
1a	Proper storage of construction materials and petroleum products – avoidance of land pollution				√		
1b	Conservation of top soil			√			
1c	Proper disposal of unusable soils and spoils to pre-approved disposal sites			√			
1d	Storm water control and wind screening to prevent soil loss from the site.			√			
1e	Arrangement of shoring			√			
2.	Mitigation/protection of Air Environment						
2a	Water sprinkling at construction site for arresting dust (if any during dry period)			√			
2b	Cover or damp down sand stockpiled at site						NA/NR.
2c	Utilize screen by using wooden supports and shade cloth where dust is unavoidable in residential/commercial /sensitive receptors areas						NA/NR
2d	Keep vehicles and machinery in good working order and meet manufacturers specifications for safety, fuel consumption etc.			√			
2e	Covering of materials						

Sr. No.	Environmental Issues	Level of application of EMP					Suggestion/Remarks
		Poor	Below Satisfactory	Partially satisfactory	Satisfactory	Excellent	
	carrying vehicles-reducing dust hazard				√		
2f	Vehicles and Equipments having Pollution Under Control Certificate	√					Instructed to submit the same to the contractor.
2g	No fires are allowed on site						NA/NR
2h	Carrying out air quality monitoring				√		Air quality monitoring test conducted on 4 th May 2015.
3.	Mitigation of Noise						
3a.	Regular maintenance of noise producing equipment				√		
3b.	At sensitive locations enclosures provided around generator set and other noise producing machinery						NA/NR
3c.	Use of ear plug by the workers at noise generating location	√					Instructed contractor to provide ear plugs
3d	Locate concrete batching, asphalt, crushing plants, lay down areas and construction camps away from sensitive receptors						NA/NR
3e	Plan construction activities to reasonable working hours where near sensitive receptors.						NA/NR
3f	Fit and maintain silencers to all machinery on site			√			
3g	Monitor noise levels in potential problem areas				√		
4.	Mitigation/protection of Water Environment						
4a.	Protection of water bodies nearby the project site by application of suitable mitigation measures- not to discharge waste water in nearby water body						NA/NR
4b	Chemicals or hazardous substances do not contaminate the water body, or groundwater on site.						NA/NR
5.	Mitigation/protection of Biological Environment						
5a	Vegetation clearing and tree-felling have prior permission as the work front progresses.						NA/NR
5b.	Plant and maintain five trees for every one removed- in case of tree felling (if any)						NA/NR
5c	Clearing of indigenous						

Sr. No.	Environmental Issues	Level of application of EMP					Suggestion/Remarks
		Poor	Below Satisfactory	Partially satisfactory	Satisfactory	Excellent	
	vegetation is kept in a nursery for use at a later stage (such as site rehabilitation process)						NA/NR
6.	Mitigation of Socio-economic Environment						
6a.	Level of mitigation measures for local people- placement of caution tape and barricade at excavated area			√			
6b.	Avoidance of pick traffic hour for carrying of materials like pipe			√			
6c.	Arrangement of employment at least 50% of workforce from communities near sites	√					
7.	Mitigation of overall environment, safety and health						
7a.	Use of Personal Protective Equipment like helmet, gumboot, gloves, nose mask, safety belt and earplugs at working place			√			Instructed to use PPE to the people working in site.
7b.	Provision of warning signs of hazardous working areas						NA/NR
7c.	Visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas			√			
7d.	Maintaining safety during movement of equipment				√		
7e.	Arrangement of First Aid box and fire extinguisher at Labor camp and site office and First Aid box at all working sites			√			
7f.	Use of modern vehicles and machinery and maintain as specified			√			
7g.	Demarcation of excavations and provide barriers (not just danger tape) to protect pedestrians from open trenches.				√		
7h.	Enclosure at construction site						
7i.	Placement of public information board with mention of safety requirement at working places		√				
7j.	Boards for hazardous areas						

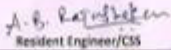

Sr. No.	Environmental Issues	Level of application of EMP					Suggestion/Remarks
		Poor	Below Satisfactory	Partially satisfactory	Satisfactory	Excellent	
	such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage						NA/NR
8	Material Management						
8a	Storage of stockpiles. Stockpiles do not obstruct natural water pathways		√				
8b	Exposure of stockpile to windy conditions or heavy rain with vegetation, cloth, or tarps.	√					
8c	Proper transportation of hazardous materials						NA/NR
9	Camp site Management						
9a	Camp and working areas are kept clean and tidy			√			
9b	Proper drainage of the camp site		√				Drain work under progress.
9c	Discharge into neighbors' properties.		√				No drainage at site. Instructed to construct the same.
9d	Maintenance of toilets in a clean state		√				Construction of toilet works under progress.
9e	Maintenance of eating area			√			Need improvement
9f	Arrangement of solid waste collection bin, dispose wastes at the pre-approved sites		√				
9g	Collection of litter from the work and camp areas			√			
8.	Mitigation of Sensitive environment						
8a.	Level of protection at religious, cultural and historic sites if any nearby				√		
8b.	Maintaining working schedule by avoiding sensitive time				√		

(Name & Signature of monitoring person of PMCDSC-R.E) – Prakash B Abbigeri

(Name & Signature of Safety Officer of Contractor) – Vignesh.

(Name and Signature of DTL/Environmental Specialist PMDCSC) – Shivashankar D N.

Sample Weekly Monitoring Format

WEEKLY REPORT ON ENVIRONMENTAL MONITORING.							
Name of the ULB: Davangere CC		PackageNo: 01DVG01		Name of the work: Expansion of sewerage system in Davangere city			
Working place: <i>P.B. Road</i>			Description of the Ongoing work: UGD Works				
Reporting period: <i>4 MAY 2015 - 9 MAY 2015</i>							
SLNO	PARAMETERS	1 day	2 day	3 day	4 day	5 day	6 day
1	No worker / labourer should be made to enter into trench / manhole without proper safety precautions and gears. Deep trenches should invariably have shoring & shuttering (See Code of Safety IS 3764).	✓	✓	✓	✓	✓	✓
2	Strong barricades should be provided for all excavated trenches deeper than 2m to prevent workers, public and children, from accidentally falling inside. All barricades should be provided with sign boards and reflectors.	✓	✓	✓	✓	✓	✓
3	All workers, site staff should wear helmets, gum boots, gloves, jackets, masks (under dusty condition). Site Engineers should ensure compulsory practice of safety measures.	✗	✗	✓	✓	✓	✓
4	While carrying out work in narrow streets with deep excavation precautions must be taken to secure dilapidated / old / shallow foundation structures.	NA	NA	NA	NA	NA	NA
5	Water sprinkling must be done at construction site twice or thrice in a day for arresting dust from the excavated soil placed along the trench may get disturbed by wind & movement of vehicles.	NA	NA	NA	NA	NA	NA
6	For all work sites and vehicles used for construction purpose they should be provided with First aid kits for emergency medical aid.	✗	✗	✗	✗	✓	✓
7	The Environmental Management Plan must be strictly adhered to.	✓	✓	✓	✓	✓	✓
8	The use of hearing protection should be enforced actively for the workers exposed to noise greater than 85 dBA for a duration of more than 8 hours per day.	✗	✗	✗	✓	✓	✓
9	The contractor to display/or hold in possession at all times a valid labour license and remain in force (not expired).The contractor is bound by the conditions of the license.	✓	✓	✓	✓	✓	✓
10	A labour register is to be maintained at all times and needs to be updated before the start of work everyday.	✓	✓	✓	✓	✓	✓
11	The labour camps shall be provided with appropriate facilities such as Camps/Sheds, Water Supply, sanitation (men and women separately), cooking area, etc and maintain clean surroundings.	✗	✗	✗	✗	✗	✗
12	The site shall be managed with appropriate housekeeping measures i.e., material and debris shall not be scattered, watering of dusty roads, etc.	✗	✓	✓	✓	✓	✓
13	Traffic management with appropriate direction and caution boards with prior information to the traffic police department, shall be displayed during implementation of works on busy roads.	✓	✓	✓	✓	✓	✓
 Resident Engineer/CSS		 Project Manager/TE					

WEEKLY REPORT ON ENVIRONMENTAL MONITORING.							
Name of the ULB: Davangere CC		PackageNo: 01DVG01	Name of the work: Expansion of sewerage system in Davangere city				
Working place: PD Road.		Description of the Ongoing work: UGD Works					
		Reporting period: 11 May 2015 - 16 May 2015					
S/NO	PARAMETERS	1 day	2 day	3 day	4 day	5 day	6 day
1	No worker / labourer should be made to enter into trench / manhole without proper safety precautions and gears. Deep trenches should invariably have shoring & shuttering (See Code of Safety IS 3764).	✓	✓	✓	✓	✓	✓
2	Strong barricades should be provided for all excavated trenches deeper than 2m to prevent workers, public and children, from accidentally falling inside. All barricades should be provided with sign boards and reflectors.	✓	✓	✓	✓	✓	✓
3	All workers, site staff should wear helmets, gum boots, gloves, jackets, masks (under dusty condition). Site Engineers should ensure compulsory practice of safety measures.	✓	✓	✓	✓	✓	✓
4	While carrying out work in narrow streets with deep excavation precautions must be taken to secure dilapidated / old / shallow foundation structures.	NA	NA	NA	NA	NA	NA
5	Water sprinkling must be done at construction site twice or thrice in a day for arresting dust from the excavated soil placed along the trench may get disturbed by wind & movement of vehicles.	NA	NA	NA	NA	NA	NA
6	For all work sites and vehicles used for construction purpose they should be provided with First aid kits for emergency medical aid.	✓	✓	✓	✓	✓	✓
7	The Environmental Management Plan must be strictly adhered too.	✓	✓	✓	✓	✓	✓
8	The use of hearing protection should be enforced actively for the workers exposed to noise greater than 85 dBA for a duration of more than 8 hours per day.	✓	✓	✓	✓	✓	✓
9	The contractor to display/or hold in possession at all times a valid labour license and remain in force (not expired). The contractor is bound by the conditions of the license.	✓	✓	✓	✓	✓	✓
10	A labour register is to be maintained at all times and needs to be updated before the start of work everyday.	✓	✓	✓	✓	✓	✓
11	The labour camps shall be provided with appropriate facilities such as Camps/Sheds, Water Supply, sanitation (men and women separately), cooking area, etc and maintain clean surroundings.	X	X	X	X	Partially Provided	Partially Provided
12	The site shall be managed with appropriate housekeeping measures i.e., material and debris shall not be scattered, watering of dusty roads, etc.	✓	✓	✓	✓	✓	✓
13	Traffic management with appropriate direction and caution boards with prior information to the traffic police department, shall be displayed during implementation of works on busy roads.	✓	✓	✓	✓	✓	✓
		A. B. Rajasekhar Resident Engineer/CSS		Shreyas ME-PIU		Lalit Project Manager/EE	

WEEKLY REPORT ON ENVIRONMENTAL MONITORING.							
Name of the ULB: Davangere CC		PackageNo: 01DVG01	Name of the work: Expansion of sewerage system in Davangere city				
Working place: PD Road.		Description of the Ongoing work: UGD Works					
		Reporting period: 15 May 2015 - 21 May 2015					
S/NO	PARAMETERS	1 day	2 day	3 day	4 day	5 day	6 day
1	No worker / labourer should be made to enter into trench / manhole without proper safety precautions and gears. Deep trenches should invariably have shoring & shuttering (See Code of Safety IS 3764).	✓	✓	✓	✓	✓	✓
2	Strong barricades should be provided for all excavated trenches deeper than 2m to prevent workers, public and children, from accidentally falling inside. All barricades should be provided with sign boards and reflectors.	✓	✓	✓	✓	✓	✓
3	All workers, site staff should wear helmets, gum boots, gloves, jackets, masks (under dusty condition). Site Engineers should ensure compulsory practice of safety measures.	✓	✓	✓	✓	✓	✓
4	While carrying out work in narrow streets with deep excavation precautions must be taken to secure dilapidated / old / shallow foundation structures.	✓	✓	✓	✓	✓	✓
5	Water sprinkling must be done at construction site twice or thrice in a day for arresting dust from the excavated soil placed along the trench may get disturbed by wind & movement of vehicles.	NA	✓	✓	✓	NA	NA
6	For all work sites and vehicles used for construction purpose they should be provided with First aid kits for emergency medical aid.	✓	✓	✓	✓	✓	✓
7	The Environmental Management Plan must be strictly adhered too.	✓	✓	✓	✓	✓	✓
8	The use of hearing protection should be enforced actively for the workers exposed to noise greater than 85 dBA for a duration of more than 8 hours per day.	✓	✓	✓	✓	✓	✓
9	The contractor to display/or hold in possession at all times a valid labour license and remain in force (not expired). The contractor is bound by the conditions of the license.	✓	✓	✓	✓	✓	✓
10	A labour register is to be maintained at all times and needs to be updated before the start of work everyday.	✓	✓	✓	✓	✓	✓
11	The labour camps shall be provided with appropriate facilities such as Camps/Sheds, Water Supply, sanitation (men and women separately), cooking area, etc and maintain clean surroundings.	Partially Provided	Partially Provided	Partially Provided	Partially Provided	Partially Provided	Partially Provided
12	The site shall be managed with appropriate housekeeping measures i.e., material and debris shall not be scattered, watering of dusty roads, etc.	✓	✓	✓	✓	✓	✓
13	Traffic management with appropriate direction and caution boards with prior information to the traffic police department, shall be displayed during implementation of works on busy roads.	✓	✓	✓	✓	✓	✓
		A. B. Rajasekhar Resident Engineer/CSS		Shreyas ME-PIU		Lalit Project Manager/EE	

Environment Management Plan (EMP), DAVANAGERE CC – MAY 2015



WEEKLY REPORT ON ENVIRONMENTAL MONITORING							
Name of the U.B. Engineering CE, Package No. 212V021		Name of the work/Execution of a storage system in Davanagere city					
Working place: PS. Road		Department of the Ongoing work: UBG Works					
Reporting period: From 20/05/2015 To 26/05/2015							
S.NO	PARAMETERS	1 day	2 day	3 day	4 day	5 day	6 day
1	To ensure / verify to ensure to check to ensure that workers / machine without proper safety provisions and gear, deep breather should normally use clearing & slushing (Set Code of Safety 5.2704)	✓	✓	✓	✓	✓	✓
2	Strong formaldehyde should be provided for all enclosed spaces (more than 24h) to provide workers, public and children, their occupants taking care. An formaldehyde should be provided with sign boards and notices.	✓	✓	✓	✓	✓	✓
3	An adequate size spill should water normally, such as: acids, gases, poisons, waste water with suitable fire extinguishers should be provided in accordance with the nature of work.	✓	✓	✓	✓	✓	✓
4	Welding activities and work in confined spaces, and other hazardous activities must be done in accordance with the safety and health regulations.	✓	✓	✓	✓	✓	✓
5	Major spreading must be done at construction site which is done in a way for spreading that there is no spread of material along the road which is not allowed to avoid a movement of vehicles.	✓	✓	✓	✓	✓	✓
6	For all work sites and vehicles used for construction purpose they should be provided with fire extinguishers for emergency purpose.	✓	✓	✓	✓	✓	✓
7	The Environmental Management Plan must be strictly followed.	✓	✓	✓	✓	✓	✓
8	The use of hearing protection should be advised strictly for the workers engaged in work where there is risk for a duration of more than 8 hours per day.	✓	✓	✓	✓	✓	✓
9	The workers should be provided with protective gear in accordance with the safety and health regulations. The workers should be provided with the necessary PPE.	✓	✓	✓	✓	✓	✓
10	A safety register is to be maintained at all times and needs to be updated before the start of work.	✓	✓	✓	✓	✓	✓
11	The safety register should be provided with appropriate details such as: Company/contractor, date, location, contact person and contact number, address, etc. and should be maintained.	✓	✓	✓	✓	✓	✓
12	The site should be managed with appropriate housekeeping, materials, etc. and should be maintained at all times.	✓	✓	✓	✓	✓	✓
13	Public management very important attention and public boards with proper information to the public should be displayed using information of work at any time.	✓	✓	✓	✓	✓	✓

A. B. Kishore
Resident Engineer,
PMDCSC

Shridhar
Assistant Executive Engineer
PIU

leob
Executive Engineer,
PIU

KUIDFC-KIUWMP

**SAMPLEMETHOD STATEMENT ADOPTED IN THE CONSTRUCTION WORK (UGD WORKS)
DAVANAGERE.**

.2 METHOD STATEMENT ADOPTED IN THE CONSTRUCTION WORK (UGD WORKS) DAVANAGERE.			
			Date: 30-06-
015			
SL NO	DETAILS OF WORK FOR A STRETCH OF 1KM SEWER WORKS/PIPE LINE	CONTRACTOR ADOPTED THE METHOD FOR SAFETY AND ENVIRONMENTAL MONITORING AS FOLLOWS	REMARKS
1	Work description	Sewer Line Laying Work	
2	No.of workers (skilled & unskilled)	Skilled-4 & Unskilled-8	
3	Details of Plant, equipment & machinery, vehicles	JCB- 2 Number	
		Tractor- 2 Numbers	
		Concrete Mixer- 1 Number	
		Hydra Crane- 1 Number	
4	Work duration (total, and activity-wise, for example for pipe laying, from excavation to road (resurfacing/testing)	9:00 to 18:00	13:00-15:00 Break.
5	PPE (helmet, gloves, boots, etc.) details for each type of work	Safety Shoes	
		Helmets	
		Ear Plug	
		Dust Mask	
		Gloves	
6	Details of materials at each site (type & quantity)	River Sand- 0.4 cumqty	
		Aggregates- 0.6 cumqty 20mm & downsize	
		Manholes- 4 sets.	

		Pipes- ϕ 150mm, GSW 60 numbers	
		Cements- 4 Bags SRC	
		Murrum- 4 Cum qty	
7	Risks/hazards associated with the work (for example, Trench excavation will have risks such as trench collapse, persons/vehicles falling into trench, structural risk to nearby buildings, damage to buildings, infrastructure etc.)	No risks/Hazards associated with the work. Shoring materials are provided. Barricading is provided.	
8	Construction waste/debris generated (details & quantity)	Earth generated during earth work excavation is reused to fill the trench.	
9	Detail the sequence of work process (step-by-step) including specific details of each work	a) Providing information to the residents, Barricading of Construction site, Ascertaining the materials, personnel, equipment required for the work b) Marking of Manhole and Sewer line alignment. c) Taking Pre-levels d) Earthwork Excavation, including proper stocking of the excavated earth. e) Murrum bedding f) Checking invert level g) Laying of sewer pipe, & Erection of manhole & related works of manholes,	

		refilling of the earth in layers.	
10	Contractor's supervision & management arrangements for the work	In Place	
11	Emergency: Designate (i) responsible person on site, and (ii) first aider	i) A B Rajashekar. Resident Engineer, PMDCSC. ii) AishwaryaSourav Das. Safety Officer, Contractor.	
12	Typical site layout plan including pipe trenching, placement of material, excavated earth, barricading etc.	Excavated earth is reused to fill the trench and Barricades are provided around working site.	
13	The pipeline/sewers are to be laid along the roads, Roads are provided with side drains to carry rain water. The excavated soil, placed along the trench may get disturbed due to wind, rain water and the movement of workers, vehicles and pedestrians, and spill onto road way –disturbing road users, creating dust, road safety issues, etc, and also into nearby open drains. The following should be included in the site layout plan : o Provide barricading/security personnel at the site to prevent entry/trespassing of pedestrian/vehicles into the work zone	Provided	
	o Location of temporary stockpiles and provision of bunds.	Excavated Earth is being reused.	

	o Separation of stockpiles areas with workers/vehicle movement paths to avoid disturbing the stockpiled soil	N/A		(Consultant) (Contractor)
	o Wetting of soil to arrest dust generation by sprinkling water	Not Required as of now.		
14	Waste/surplus soil and concrete debris utilization and disposal plan – indicate expected duration of temporary stockpiling along the trench at each site and identify final surplus soil utilization/disposal site in consultation with PIU	The surplus earth is carried by a Tractor from the road side to the yard. The final disposal dumping yard & debris management is being finalised in consultation with Corporation.		

APPENDIX 4: Form to summarize and record the consultations

PLACE OF CONSULTATION	
DATE OF CONSULTATION	
PROJECT NAME	
PACKAGE NO.	
NAME OF THE FIELD SUPERVISORS	
NAME OF THE PERSONS	
ADDRESS	

S.No.	POINTS DISCUSSED	REMARKS
01.		
02.		
03.		
04.		
05.		
06.		
07.		
08.		
09.		
10.		

**Consultation Summary
Participants**

APPENDIX 5: Details of Safeguard Training conducted

ENVIRONMENTAL SAFEGUARD – ORIENTATION TRAINING PROGRAM FOR CONTRACTOR, CONSTRUCTION SUPERVISOR and ENGINEER– Karnataka Integrated Urban Water Management Investment Program (KIUWMIP)

Safeguard induction training program has been conducted on safeguard issues and application of Environmental Management Plan (EMP) at Karnataka Urban Infrastructures Development and Finance Corporation (KUIDFC) office at Davangere on 2nd March 2015 morning.

Executive Engineer, Asst. Executive Engineer and other Engineer of PIU (KUIDFC), Dy. Team leader, Resident Engineer and other Engineers of PMDCSC, and Project Manager & Senior Engineer of Contractor agency are participated in the Training program.

The issues discussed like,

- Overall 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

EMP application requirement and methodology have also been discussed.

Instruction is given to supervisor engineer and construction contractor to arrange weekly consultation/ training program particularly on safety and other safeguard issues for labourer.

Instruction sheet handed over to contractor is attached as **Annex 1**

Attendance sheet attached as **Annex 2**



Photo: Safeguard Training



Photo: Safeguard Training



Photo: Safeguard Meeting

Ardhendu Mitra
(Dr. Ardhendu Mitra)
Environment Specialist PMDCSC

ANNEX 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 DSC
- 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/DSC 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

ENVIRONMENT SAFEGUARD ORIENTATION TRAINING PROGRAM- Attendance
LOCATION- KUIDFC – PIU and PMDCSC OFFICE at DAVANGERE,
DATE- 02.03.2015

Karnataka Integrated Urban Water Management Investment Program (KIUWMIP)

Environment and Safety – Orientation Program

Venue: Davangere, Project office

Date: 02.03.2015 TIME : 11.00 AM

Sr. No.	Name	Organization / Designation	Contact No. / E mail	Signature
1	R. C. Mohan	Executive Engineer	9945131415 mohanr09@ymail.co sudhakavare@gmail.com	
2	Sudhakar K. Cholachud	Asst. Ex Engineer	09741275291	
3	Ravi Kumar D.L.	Asst. Ex Engineer	ravisumard19@gmail.com 7676190997	
4	Prakash B. Abbigeri	Resident Engg GKA consultant	prakashba1963@gmail.com 8884416655	
5	ERONIMUS.A.	SENIOR MANAGER (PROJECTS)	eronimus@shriram apc.com 8792951505	
6	M.K. Banakar	Assistant Engineer	9591705661 mankumar@kbnakar@gmail.com	
7	Achintya Mendal	Sr. Surveyor	9742266650 achintya.mendal@gmail.com	
8	Sahidul Islam	Engg (Cons) G-1	9742263461 sahidul786@gmail.com	
9	Mohammad shaher	CONSULTANCY Engg ARE - IPE Global	8934416623 shaher@yaho.com.in	
10	Nagalinga.H.	ARE IPE Global	8884416649 nagalinga@gmail.com	
11	MD EUNUSH	Project Manager 9742263443	md.eunush@ simpleinforma.net	
12	Ganesh M.B.	Junior design Engineer IPE Global	9945561241 ganesh.m.bakar@gmail.com	
13	S. JAGADEESH	Engineer	7204888785 s.jagadeesh1980@gmail.com	
14	R Gnanaselvan	ARE GKW	9844897817 gna-692000@yahoo.com	
15	P.Rama goorthy	ARE GKW	8884416651 prm250@gmail.com	

Sr. No.	Name	Organization / Designation	Contact No./ E mail	Signature
16.	Sachinard G. Dackamad	Resident Engineer	8884416590 sachin@57226yachos.co.in	
17	Manjunath. L. T	QS Engineer	9741071444 manjunath.l.t@gmail.com	
18	Mishal Shetty	Office manager GKW	manjalshetty.vkhal@gmail.com 9886225454	
19	B. K. Saha	Gen. Maint./ Asst. Manager GKW	9002226910/ bksaha@bankbar	
20	Kishore Mukhopya	GKW consult/ CAD operator	9088962812	
21	Chetan. K. M.	CAD operator GKW	8880025613 chetan.k.m.chitra009@gmail.com	
22	Shiva Shankar. D. A.	DTL, PMDCSC	7629551771 gkw.mangalore@gmail.com	
23	Rasmanth. A.	GKW, Computer operator	8880050676 rasmanth.a@gmail.com	

Ardhendu Mitro

Environment SPI. PMDCSC
2/3/15

APPENDIX 6: Suggested Complaint Register and Complaint Form

The Karnataka Integrated Urban Water Management Investment Program (KIUWMIP) welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing ***(CONFIDENTIAL)*** above your name. Thank you.

Date		Place of registration			
Contact Information/Personal Details					
Name		Gender	Male	Female	Age
Home Address					
Village / Town					
District					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below:					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)	
If – then mode:	
<input type="checkbox"/>	Note/Letter
<input type="checkbox"/>	E-mail
<input type="checkbox"/>	Verbal/Telephonic
Reviewed by: (Names/Positions of Official(s) reviewing grievance)	
Action Taken:	
Whether Action Taken Disclosed:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Means of Disclosure:	

GRIEVANCES RECORD AND ACTION TAKEN

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks