

# **HALF YEARLY ENVIRONMENTAL CLEARANCE COMPLIANCE REPORT**

**For the Period of April 2024 – September 2024**

*for*

**“Development of Industrial Park”**

*at*

**Manallur & Soorapoondi Villages, Gummidipoondi Taluk  
Thiruvallur District, Tamil Nadu**

**EC obtained vide File No .21-59/2015-IA.III Dated: 10.11.2020**

**Submitted by**



**M/S. STATE INDUSTRIES PROMOTION CORPORATION OF  
TAMILNADU LTD.**

**19/A, Rukmani Lakshmipathy Road,  
Egmore, Chennai-600008.**

**Prepared by**



**HUBERT ENVIRO CARE SYSTEMS (P) LTD CHENNAI  
(ENVIRONMENTAL CONSULTANT)**

**November- 2024**

## TABLE OF CONTENTS

S.No.	Table of Contents	Page No.
1.	Project details	3
2.	Location map	4
3.	Site photograph	5
4.	Six monthly environmental clearance statement	6
5.	Environmental Monitoring Details	16
	5.1 Ambient air quality monitoring	16
	5.2 Ambient noise level monitoring	16
	5.3 Soil Quality monitoring	16
	5.4 Ground water quality monitoring	16
	5.5 Surface water quality monitoring	16
6.	Conclusion	17

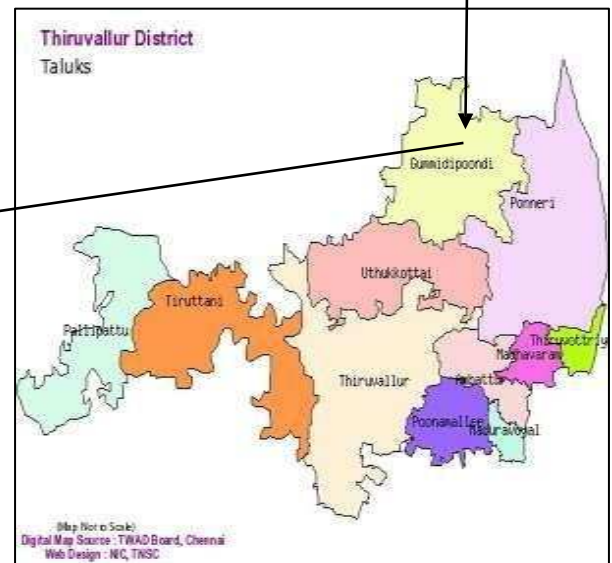
## LIST OF ANNEXURE

S. No	List of Annexure
Annexure 1	Environmental Clearance Copy
Annexure 2	CMWSSB Approval Letter Copy
Annexure 3	Plan of expenditure with implementation schedule submission Acknowledgment from MoEF
Annexure 4	Site Specific Wildlife Conservation Plan
Annexure 5	Environmental Monitoring Reports
Annexure 6	SIPCOT Board Resolution of Approved Environment Policy
Annexure 7	Environmental Cell
Annexure 8	Newspaper Advertisement
Annexure 9	EC copy submission to Local body/relevant Government offices
Annexure 10	Screenshot of EC copy uploaded in our website
Annexure 11	Screenshot of Compliance Report uploaded in our website
Annexure 12	Acknowledgement of Form V submission
Annexure 13	Environmental Monitoring Photos

## 1. PROJECT DETAILS

<b>Name of the Project</b>	Development of Industrial Park at Manallur
<b>Name of the Proponent</b>	M/s. State Industries Promotion Corporation of Tamil Nadu Ltd
<b>Location</b>	Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu
<b>EC. No</b>	EC Obtained vide File No .21-59/2015-IA.III Dated: 10.11.2020 EC copy enclosed as <b>Annexure 1.</b>
<b>Total Plot Area</b>	279.995Ha (691.587Acres)
<b>Water Requirements</b>	<b>Construction phase:</b> 63 KLD <b>Operation phase:</b> Total water Requirement – 8627 KLD (Fresh water- 900 KLD (CMWSSB); TTRO Water- 4339 KLD (CMWSSB), Recycled water- 3388 KLD.
<b>Project Cost</b>	Rs. 250 Crores

## 2. LOCATION MAP



### 3. SITE PHOTOGRAPHS



## 4. HALF YEARLY ENVIRONMENTAL CLEARANCE COMPLIANCE STATEMENT

### A. SPECIFIC CONDITIONS

S.NO	CONDITION	STATUS OF COMPLIANCE
1	The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. It does not amount to approvals/ consent/ permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.	<b>Condition noted and will be complied.</b>
2	The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP report, submissions made during Public Hearing and also that have been made during their presentation to EAC.	<b>The conditions will be complied.</b>
3	No groundwater shall be used at any stage of project.	No ground water will be used for the project. Approval has been obtained from CMWSSB for 1.3 MLD of fresh water and 5 MLD of TTRO water. Same is enclosed as <b>Annexure 2</b> .
4	No waste water shall be discharged to the rivers/streams or water bodies. The proponent shall utilize the treated effluent and sewage for achieving zero discharge and scheme for the same shall be approved by CPCB and SPCB.	<b>Condition Noted.</b> SIPCOT will mandate the individual industries to install STP / ETP as applicable & treat the sewage / effluent. Treated sewage will be used by individual industries for flushing and green belt development. Individual industries will be mandated to install ZLD system and recycling of treated effluent for process and utilities.
5	Permission from Irrigation Department for obtaining surface water to be obtained. Consent to Operate shall not be issued without obtaining permission competent authority for use of surface water.	<b>Condition complied.</b> Approval has been obtained from CMWSSB for 1.3 MLD of fresh water and 5 MLD of TTRO water. Same is enclosed as <b>Annexure 2</b> .
6	Detailed plan of expenditure with implementation schedule to address issues	<b>Condition Noted.</b> Plan of expenditure with implementation

	raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.	schedule to address the issues raised during Public Hearing was submitted to MoEF and copy of the same is attached as <b>Annexure 3</b> .
7	As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30 <sup>th</sup> September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.	<b>Conditions Noted.</b>

## B. STANDARD CONDITIONS

S.No	Conditions	Status of Compliance
<b>I. Statutory Compliance</b>		
1.	The project proponent shall prepare a Site-Specific Conservation Plan & wild life Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site- Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).	<b>Condition Noted.</b> Site specific wildlife conservation plan has been submitted to The Chief Wildlife Warden, Guindy for approval. Copy of the wildlife conservation plan and acknowledgment copy is enclosed as <b>Annexure 4</b> . Upon receipt of approved plan, the same will be submitted to Ministry.
2.	The project proponent shall obtain the	There will be no abstraction of ground water



	necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.	for the project. Approval has been obtained from CMWSSB for 1.3 MLD of fresh water and 5 MLD of TTRO water. Same is enclosed as <b>Annexure 2</b> .
3.	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction	No ground water abstraction is proposed for the project.
4.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	<b>Condition Noted.</b>
5.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities	<b>Condition will be Complied.</b> Individual industries will be mandated to obtain all necessary statutory clearances and approvals.
<b>II. Air quality monitoring and preservation:</b>		
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.	<b>Condition is being Complied.</b> Presently there is no construction at site. Ambient Air Quality monitoring has been done and its monitoring report is enclosed as <b>Annexure - 5</b> .
2.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply rescribed emission standards.	Individual Industries will be instructed to follow applicable rules and guidelines.
3.	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions hrough provision of shade for the workers	<b>Condition Noted.</b>
4.	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective	Individual industries will be instructed to comply with.



	dispersion.	
5.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.	Individual Industries will be instructed to follow applicable rules and guidelines.
6.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 0.5 km radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.	<b>Condition noted.</b>

### III. Water quality monitoring and preservation

1.	Total shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.	<b>Condition Noted.</b> Approval has been obtained from CMWSSB for 1.3 MLD of fresh water and 5 MLD of TTRO water. Same is enclosed as <b>Annexure 2</b> .
2.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the Project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.	STP is not proposed by SIPCOT. Individual industries will be mandated to provide Sewage Treatment Plant to treat the sewage generated from their project and use the treated sewage for flushing and green belt development as per norms.
3.	A certificate from the competent authority for discharging treated effluent/ untreated Effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.	Not applicable. ZLD system will be mandated to the industries.
4	No diversion of the natural course of the	There is no water body present in the site.

	river shall be made without prior permission from the Ministry of Water resources.	
<b>IV. Noise monitoring and prevention:</b>		
1	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report	<b>Condition is being complied.</b> Ambient Noise level survey has been carried as per the prescribed guidelines and report is attached as <b>Annexure-5</b> .
2	Noise from vehicles, power machinery and equipment on-site should not exceed the Prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.	Individual member units will be instructed to follow all applicable rules and guidelines.
3	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	Individual member units shall comply with.
4	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB (A) during day time and 70 dB (A) during night time.	Individual member units will be instructed to follow all applicable rules and guidelines. Ambient Noise level survey is being carried out and the report is attached as <b>Annexure-5</b> .
<b>V. Energy Conservation measures:</b>		
1	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;	All the Individual industries shall comply with.
2	Provide LED lights in their offices and residential areas	<b>Condition will be complied.</b> All the Individual industries will be instructed to comply with the same.
<b>VI. Waste management:</b>		
1	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.	Individual member units will be instructed to follow all applicable rules and guidelines.
2	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.	<b>Condition will be complied.</b> Individual member units will be instructed to follow all applicable rules and guidelines.
3	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016	Condition will be complied. Individual member units will be instructed to follow all applicable rules and guidelines.
4	A certificate from the competent authority	Separate area has been earmarked for Solid

	handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.	Waste management Facility and the compost will be used for greenbelt development. Individual industries shall dispose the inorganic waste through authorized recyclers.
5	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.	<b>Condition noted.</b> Individual member units will be instructed to follow all applicable rules and guidelines.
<b>VII. Green Belt:</b>		
1	An overall green area of at-least 33% of the Industrial Area should be developed with native species. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt	<b>Condition will be Complied.</b> Minimum 33% of greenbelt will be developed with native and indigenous species.
2	The Industrial Areas are directed to accordingly allocate the area to be developed as green cover to respective individual industrial units so as to achieve the above mentioned condition.	<b>Condition Noted.</b> Industrial units will be instructed to develop green belt in 33 % of allotted area.
3	The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area for the area allocated to them to be developed as green cover as a part of obligation from the Industrial Area	<b>Condition noted.</b>
4	Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.	<b>Condition will be Complied.</b>
5	The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.	<b>Condition will be Complied.</b>
<b>VIII. Public hearing and human health issues:</b>		
1	Workers shall be strictly enforced to wear personal protective equipments like dust mask, Ear muffs or ear plugs, whenever and wherever necessary/ required. Special viscous-elastic gloves will be used by labour	<b>Condition will be complied.</b> Individual industries shall comply with.

	exposed to hazards from vibration.	
2	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.	Individual industries shall comply with.
3	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	<b>Condition will be complied.</b> Individual industries will be instructed to comply with the same.
4	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Housing for construction workers is not proposed. Local manpower will be used for construction.
5	Occupational health surveillance of the workers shall be done on a regular basis.	<b>Condition will be complied.</b> Individual industries will be instructed to comply with the same.

#### **IX. Corporate Environment Responsibility:**

1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF & CC as a part of six-monthly report.	<b>Condition complied.</b>  SIPCOT has derived Environmental Policy approved by the Board of Directors. The copy of the Board Resolution is enclosed as <b>Annexure 6.</b>
2	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	<b>Condition complied.</b> A separate Environmental Cell with qualified personnel has been set up and it is attached as an <b>Annexure 7.</b>
3	Action plan for implementing EMP and	<b>Condition will be complied.</b>

	environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report	
4	Self-environmental audit shall be conducted annually. Every three years third party Environmental audit shall be carried out.	<b>Condition will be complied.</b>
<b>Miscellaneous:</b>		
1	The project proponent shall make public the environmental clearance granted for their Project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	<b>Condition complied.</b> Newspaper advertisement copy is enclosed as <b>Annexure-8.</b> The screenshot of EC copy uploaded in SIPCOT website is enclosed as <b>Annexure-10.</b>
2	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayat and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt	<b>Condition Complied.</b> The copies of the environmental clearance are submitted to the Heads of local bodies, Panchayat and Municipal Bodies in addition to the relevant offices of the Government. Acknowledgement copies are enclosed as <b>Annexure- 9.</b>
3	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	<b>Condition is being complied.</b> The screenshot of uploaded Half Yearly compliance report in our website is enclosed as <b>Annexure-11.</b>
4	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	<b>Condition is being complied.</b>
5	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the	<b>Condition is being complied.</b> Acknowledgement from TNPCB on submission of Form V is enclosed as <b>Annexure- 12.</b>

	website of the company.	
6	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical Sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	All the industries will be instructed to comply with.
7	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	<b>Condition Noted.</b>
8	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	<b>Condition Noted.</b>
9	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	<b>Condition Noted.</b>
10	No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MOEF&CC)	<b>Condition Noted.</b>
11	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986	<b>Condition Noted.</b>
12	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	<b>Condition Noted.</b>
13	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	<b>Condition Noted.</b>
14	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	<b>Condition Noted.</b>
15	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act,	<b>Condition Noted.</b>

	1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	
16	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	<b>Condition Noted.</b>



## **5. ENVIRONMENTAL CLEARANCE SIX MONTHLY REPORTS**

It is mandatory to submit six-month compliance report to MoEF&CC Regional Office by the proponent for the purpose of obtaining six month compliance certificate the environmental monitoring was carried out at site by M/s. Hubert Enviro Care Systems Pvt. Ltd an NABL accredited laboratory for the period of April 2024 – September 2024

### **5.1 Ambient Air Quality Monitoring**

The Ambient Air Quality parameters such as suspended particulate matter (PM<sub>10</sub>), Respirable matter (PM<sub>2.5</sub>), Sulphur dioxide, Oxides of Nitrogen (NO<sub>x</sub>) and Carbon monoxide were monitored. The test report of ambient air quality recorded during the month of April 2024 – September 2024 and it is attached as **Annexure-5**.

### **5.2 Ambient Noise Level Monitoring**

Ambient Noise level was Monitored and the test report of ambient noise recorded during the month of April 2024 – September 2024 it is attached as **Annexure - 5**.

### **5.3 Soil Quality Monitoring**

Soil samples were collected and analyzed for nutrients and heavy metals. The test report of soil samples collected and analyzed during the period of April 2024 – September 2024. it is attached as **Annexure -5**.

### **5.4 Ground Water Quality Monitoring**

Ground water was collected and analyzed for various water quality parameters during the period of April 2024 – September 2024. The test report is attached as **Annexure -5**.

### **5.5 Surface Water Quality Monitoring**

The surface water samples were collected and analyzed during the period of April 2024 – September 2024. The test report of surface water collected and analyzed is enclosed as **Annexure - 5**.

## **6. CONCLUSION**

- 1. The environmental monitoring was carried out at site during the period of April 2024-September 2024.**
- 2. All the conditions stipulated in Environmental Clearance are being / will be complied.**



**Dr. RAJKUMAR SAMUEL**  
Director Technical

**Name: Dr. Rajkumar Samuel**

**Designation: Director Technical**

**Company Name: Hubert Enviro Care  
Systems Private Limited**

# **Annexure**

**File No.: 21-59/2015-IA.III**  
 Government of India  
 Ministry of Environment, Forest and Climate Change  
 (Impact Assessment Division)

Indira Paryavaran Bhawan,  
 Jor Bagh Road, Ali Ganj  
 New Delhi - 110 003

**Dated: 10<sup>th</sup> November, 2020**

To

**The Managing Director,**  
 State Industries Promotion Corp. of Tamil Nadu Ltd. (SIPCOT),  
 19/A, Rukmani Lakshminpathy Road, Egmore,  
 Chennai - 8

**Subject: Development of Manallur Industrial Park in Gummidipoondi Taluk of District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited – Environmental Clearance**

Sir,

This has reference to your online proposal to this Ministry on 24<sup>th</sup> December, 2019 regarding Environmental Clearance for Development of "Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State" over an extent of 279.99.5 Ha (691.587 Acres) area at Manallur and Soorapoondi villages, Gummidipoondi Taluk, Thiruvallur District.

2. The above mentioned proposal was considered by the Expert Appraisal Committee (EAC) for Infrastructure, CRZ and other Miscellaneous projects in its 241st meeting on 25-26th August, 2020.

3. The project proponent along with the EIA consultant M/S Hubert Enviro Care Systems (P) Ltd., Chennai, made a presentation through Video Conferencing and provided the following information:

- (i) **Brief description of the Proposal:** M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited had proposed the development of a Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State" over an extent of 279.99.5 Ha (691.587 Acres) at Manallur and Soorapoondi villages, Gummidipoondi Taluk, Thiruvallur District. The ToR for the proposal was issued on 22<sup>nd</sup> July 2015, and its extension issued on 13th November, 2018. The required EIA studies were undertaken including conduct of Public Hearing on 03/07/ 2019. The project was earlier taken in 230<sup>th</sup> EAC meeting on 28 - 29 January, 2020. The EAC had raised queries and based on the queries, the EAC suggested for submission of revised EIA report. The extant proposal falls under Schedule 7 (c), Category A under EIA Notification, 2006.
- (ii) **Nature of project (New/Expansion/Amendment/Extension etc.):** New Project.
- (iii) **Whether the proposal was considered in earlier meetings of EAC: If yes, provide date of EAC meeting and reasons for deferment, if any:** The project was taken in 230<sup>th</sup> EAC meeting for Projects related to Infrastructure Development, Industrial estate/parks/complexes/areas, Export Processing Zones, Special Economic Zones, Biotech

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Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020. The EAC has raised queries and based on the queries, the EAC suggested revising the EIA report and submitting.

- (iv) **Whether proposal is part of interlinked project: If yes, provide details in brief:** No.
- (v) **Address of project site (Plot No./Village/ Tehsil/ District/State):** Plot No: Manallur village Survey No. - 203/1, 204/2, 207/2, 208, 209/1, 209/3, 210/1, 210/3, 211, 212/1, 212/3, 213, 214, 215, 216/1, 216/3, 217/1, 217/3, 218/1, 218/3, 219/1, 220/1, 223/4, 224, 225/1, 226/1, 227/1, 227/3, 228, 229, 230, 231, 232, 233/1, 234/1, 234/3, 235/3, 236, 237/1, 237/3, 238, 239, 240, 241, 242, 243, 244, 245, 248, 249, 250, 252, 253, 270/1, 270/8, 274/1, 274/29; Soorapoondi Village Survey No. 1, 2, 3, 4, 5, 6/2, 9/1, 9/3, 9/5, 9/6, 9/11, 10/4, 10/9, 12/2, 12/3, 12/4, 12/5, 12/6, 12/7, 12/8, 12/9, 12/10, 12/11, 12/12, 12/13, 12/14, 12/15, 12/16, 12/17, 13/1, 13/2, 13/3, 13/4, 13/5, 13/6, 13/7, 13/8, 13/9, 15, 16/1, 37/1, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49; **Taluk:** Gummidipoondi, **District:** Thiruvallur, **State:** Tamil Nadu.
- (vi) **Geo-coordinates of project site:** Latitude: 13°26'54.55"N (From 13.44295446 to 13.44596133); Longitude: 80°01'34.32"E (From 80.03484487 to 80.01417061)
- (vii) **Area (ha)/Length (km) of the proposed project:** 279.99.5 Ha (691.587 Acres)
- (viii) **Connectivity to the site:** Madharappakkam- Gummidipoondi Road is adjacent to site Chennai -Kolkata Highway (NH-5) at a distance of ~8.04 km towards E.
- (ix) **Investment/Cost of the project:** The total cost of the project is ₹250 Crores.
- (x) **Item of Schedule to the EIA Notification, 2006:** The proposed project is categorized under Schedule 7 (c), Category A of EIA Notification, 2006.
- (xi) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Interstate Boundary TN - AP is situated at ~3.13 Km (towards NNW) from the project boundary and Pulicat lake bird Sanctuary ~5.77 Km (towards NE).
- (xii) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** Not applicable.
- (xiii) **Landuse/Landcover of project site in tabular form:**

S. No	Land use/Land cover	Area (Ha)	Area (%)	Remarks
01.	Plotted area (including 25% green belt in plotted area)	193.01	68.93	<ul style="list-style-type: none"> <li>19. 41 Ha (47.95 Acres) for 5 (f) - Non pharma - Synthetic acrylic polymers and resins, water proofing compounds and synthetic adhesives etc.</li> <li>92.11 Ha (227.51 Acres) for Non EC Category-E vehicle and its components manufacturing.</li> <li>81.49 Ha (201.27 Acres) for Non EC category - Automobiles and accessories industries, Engineering and fabrication, Plastics industries etc.</li> </ul>
02.	Common amenities	5.603	2.0	
03.	Commercial activities	5.603	2.0	
04.	Solid Waste Management	9.741	3.48	
05.	Roads, Storm water drain	15.733	5.63	

06.	OSR (To be developed as green belt)	28.00	10	
07.	Green belt area (road side, periphery)	22.305	7.96	
	<b>Total plot area</b>	<b>279.995</b>	<b>100</b>	

(xiv) Landuse/Landcover around 10 km radius of project site (1 km in case of Highway projects):

S. No	Land use/Land cover	Area (Ha)	Area (%)
1.	Cropland	22444	54.42
2.	Plantation	3445	8.35
3.	Fallow land	3104	7.53
4.	Forest Plantation	2348	5.69
5.	Scrub land	2063	5.00
6.	Forest, Deciduous	1811	4.39
7.	Rural	1718	4.17
8.	Reservoirs/ Lakes/ Ponds	1654	4.01
9.	Urban	1429	3.47
10.	Coastal Wetland	910	2.21
11.	Scrub Forest	226	0.55
12.	River/ Stream/ Canals	46	0.11
13.	Sandy area	42	0.10
	<b>Total</b>	<b>41240</b>	<b>100</b>

(xv) List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

S. No.	Industry sector	Type of Industry	As per EIA notification 2006 and its amendments		Area details
			Schedule	Category	
1.	EC Category – Chemical: Non Pharma	Synthetic acrylic polymers and resins	5(f)	A	10 % of plotted area – 47.95 Acres (19.41 Ha)
2.		Synthetic resins and water proofing compounds	5(f)	A	
3.	Non EC category- E Vehicle and its components manufacturing industries	Electronic and electrical parts manufacturing industries	Nil	Nil	47.72% of plotted area - 227.51 Acres (92.11 Ha)
4.		Electronic and electrical parts assembling industries	Nil	Nil	
5.		Tyre, tube and rubber Components	Nil	Nil	42.28 % of plotted area -

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6.	Non category-Chemical	EC	Synthetic detergents and soaps (excluding formulation) having waste water generation < 100KLD	Nil	Nil	201.27 Acres (81.49 Ha)
7.			Paints and varnishes (mixing & blending)	Nil	Nil	
8.			Printing ink manufacturing	Nil	Nil	
9.			Spray painting, paint baking, paint shipping	Nil	Nil	
10.	Non category-Automobile & accessories Manufacturing	EC	Automobile manufacturing	Nil	Nil	
11.			Automobile parts manufacturing	Nil	Nil	
12.	Non category-Engineering & Fabrication	EC	Foundry units <5 MT/Hr	Nil	Nil	
13.			Steel and steel products using furnaces	Nil	Nil	
14.			Fabrication Industries – dry process	Nil	Nil	
15.	Non category-Glass and Ceramics	EC	Fibre glass production and processing	Nil	Nil	
16.			Manufacturing of glass (except Lead glass)	Nil	Nil	
17.			Glass ceramics, earthen potter and tile manufacturing	Nil	Nil	
18.	Non category-Plastics Manufacturing	EC	Reprocessing of waste plastics	Nil	Nil	
19.			Polythene and plastic processed products manufacturing (virgin products)	Nil	Nil	

(xvi) **Terrain and topographical features:** The site is a plain terrain. Elevation of site is 28 m AMSL. The site is mostly barren land with some trees. There are no water bodies within the site.

(xvii) **Details of water bodies, impact on drainage, if any:** There are no water bodies within the site. But there are two water bodies adjacent to the site. One towards the south and other on the East. There will not be any impact on the nearby water bodies or the drainage. Storm water drains will be provided along the road and rainwater harvesting pits are proposed for the project.

(xviii) **Water requirements, sources (during construction and operation phases) and NOC:**  
**Construction phase:** Water requirement is estimated to be 63 KLD. Source will be private tankers. **Operation phase:** Total water requirement – 8627 KLD, Fresh water – 900 KLD





(CMWSSB), TTRO water- 4339 KLD, (CMWSSB) Recycled water – 3388 KLD, Source: Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB).

- (xix) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** Not applicable. Water requirement will be met from CMWSSB and recycling of treated wastewater.
- (xx) **ToR details:** File No.: 21-59/2015-IA.III, Proposal No.: **IA/TN/NCP/27117/2015**, Date of ToR Application Submission: 13 Mar 2015, Date of EAC Meeting (Infra-1): 147<sup>th</sup> EAC meeting held on 23<sup>rd</sup> - 24<sup>th</sup> April, 2015, Date of ToR Issue: 22<sup>nd</sup> July, 2015.
- (xxi) **Public Hearing Details and Summary of issues raised and response/commitments by Proponent:** The public hearing was conducted on 03/07/2019 at K.V.C. Mahal, Sathyavedu Road, Madharapakkam, Gummidipoondi Taluk, Thiruvallur District under the supervision of District Collector. The Project was appraised in 230<sup>th</sup> EAC meeting on 28-29<sup>th</sup> January, 2020. Following are the Summary of issues raised and response/commitments given by the Proponent:

S. No	Category of issues raised	Response / Commitment by proponent	Remarks if any
1	Employment opportunity	Skill development centre will be established for providing training related to E-Vehicle/ auto components repairing, etc to local people at cost of Rs.25 lakhs	<p>SIPCOT will earmark ₹3.75 crores for undertaking the following CER Activities in Manallur, Soorapoondi, Ramachandrapuram, Madharapakkam, Sathyavedu, Irukulam villages:</p> <ul style="list-style-type: none"> <li>• Construction of toilets</li> <li>• Providing water supply and sewerage system</li> <li>• Conducting Health camps</li> <li>• Desilting of two nearby lakes</li> <li>• PC with a printer and scanner to the Government schools.</li> <li>• Drinking water dispensers for the Government schools.</li> <li>• Class room furniture for the Government schools.</li> <li>• Sports equipments for the Government schools.</li> <li>• Solar lighting facilities for the Government schools.</li> <li>• Providing Medical equipments for primary health centre.</li> </ul>
2	Proposed development will lead to Health issues in nearby areas	Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.	
3	Adequate toilet facilities are not available	10 no. of common toilets will be constructed. 5 Nos at Manallur Village and 5 Nos at Soorapoondi village. Total cost incurred towards construction, operation and maintenance of 10 common toilets will be Rs. 25 Lakhs.	
4	Water availability is a problem in the areas	75 KLD of water will be provided for Manallur villages by SIPCOT along with 75 KLD water storage tank also Sewerage system will be provided. Cost towards the same will be around Rs.50 Lakhs	
5	Desilting has not been done in two	Desilting will be undertaken in the nearby 2 lakes. The Cost for same will be around Rs.15 lakhs	

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	lakes near project site		<ul style="list-style-type: none"> <li>• Providing trolleys to Local Panchayat for transport of Municipal Solid Waste</li> <li>• Solid Waste Disposal Bins</li> <li>• Construction of Rainwater Harvesting Pits</li> <li>• Avenue Plantation</li> <li>• Solar lighting facilities</li> <li>• Scientific Support/Awareness to farmers</li> <li>• Skill development for youth</li> </ul>
6	No approach to burial ground	As per the Thiruvallur Collector Letter dated 10.06.2019, the burial ground is excluded from the proposed Industrial Park area and SIPCOT will provide and maintain access road for the burial ground	

- (xxii) **Whether the project involves diversion of forest land and status of the forest clearance:**  
Not applicable.
- (xxiii) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Pulicat Bird Sanctuary is located 5.77 km (NE) from the project site. No Objection Certificate (NOC) from National Board for Wildlife (NBWL) has been applied.
- (xxiv) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** The project site is not located within any Eco-Sensitive Zone or Eco-Sensitive Area notified by MoEF&CC.
- (xxv) **Waste Management:** M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited will handles and disposes various waste generated in the following ways:

- **Sewage generation-** 210 KLD. – Individual industries will be mandated to provide STP for recycling of treated sewage for green belt development
- **Effluent generation** -3472 KLD – Individual industries will be mandated to provide ETP to achieve Zero Liquid Discharge concept. Treated effluent will be recycled by industries for process and utilities. The rejects from RO will be treated by individual industries in ATFD and salt will be disposed as hazardous waste. ATFD condensate will be recycled for utilities/ process.

Following are the Municipal Solid Waste Generation and Management plan:

S. No.	Waste type	Construction phase (kg/day)	Operation phase (kg/day)	Management measure (for operational phase)
1	Organic waste	13.5	1350	<b>MSW in Industrial Plots:</b> SIPCOT will mandate all the industries to manage the Municipal Solid generated by them within their premises as per norms. Municipal Solid wastes will be segregated by individual industries
2	Inorganic waste	9	900	

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				<p>as organic and inorganic wastes. Organic wastes will be composted by individual industries in Organic Waste Converter or Bio methanation plant and used for green belt development. Inorganic wastes will be sold to TNPCB authorized recyclers by the industries.</p> <p><b>MSW in area apart from Industrial Plots:</b></p> <p>SIPCOT has earmarked 24.060 Acres of land for establishment of Solid Waste Management facility</p> <p>Organic wastes will be composted by vermi composting and compost will be used as manure for green belt development. Inorganic waste will be sold to TNPCB authorized recyclers</p>
<b>3</b>	<b>Total</b>	<b>22.5</b>	<b>2250</b>	
<p>Norms: waste generation @0.45 Kg/capita/day.</p> <p>Population for construction phase – 50 nos. operation phase – 5000 nos. As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48% of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis. <b>Hazardous waste generation and Management:</b> Individual industries, will have their own storage area for storing Hazardous waste, within their premises and the hazardous wastes will be sent to TNWML for recycling /disposal as per the Hazardous and other Wastes (Management and transboundary movement) amended rules 2016.</p>				

- (xxvi) **CETP/STP details:** Not applicable. Individual industries will be mandated to provide ETP/STP. Treated sewage will be recycled for green belt development and flushing by individual industries.
- (xxvii) **Details of tree cutting and Green belt development:** The trees available at site are Mango, Coconut, Guava, Sappota, Eucalyptus, amla, Neem, Cashew, Banyan, Papaya, Palm, Teak and Naga. The trees along the periphery of the site and in OSR area will be preserved as such. If not possible the trees will be uprooted and planted along the green belt area allotted at site. In case of necessity to cut the trees by individual industries in their plots, the industry will plant additional 3 trees for cutting one tree as compensation in their greenbelt area. Greenbelt area is 243.437 Acres (35.20% of total area of Industrial Park).

Following are the proposed Green belt area breakup within the Industrial Park:

S. No.	Green belt details	Area (Acres)
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1	OSR area	69.160
2	25% Green belt along the plotted area	119.18
3	3 m green belt along the road side	15.94
4	Green belt along the periphery of the site	39.157
<b>Total greenbelt area</b>		<b>243.437</b>

- (xxviii) **Energy conservation measures with estimated saving:** Solar lighting is proposed for 70% of lighting along the roads. The estimated solar power generation would be around 40KW. Apart from this, individual industries will be insisted to provide roof top solar panels to reduce power consumption.
- (xxix) **Parking requirement with provision made:** 100 Sq.m areas will be allotted for parking in the common amenities. Upon establishment of the Industrial Park, individual industries will have their own parking area within the industrial plots.
- (xxx) **Details of Rain Water Harvesting:** Rainwater harvesting pits are proposed in common amenities, green belt area and roads for recharging the ground water table. Around 166 no of pits are proposed with 250mm dia and 1000mm depth. Apart from these individual industries will be mandated to provide rain water harvesting pits in their plots.
- (xxxi) **Brief description of Socio-economic condition of local people:** Though agriculture is the main occupation of Thiruvallur district, being close to Chennai and fast industrialization has resulted in shift in the occupation pattern. Out of the total workers only 4.78% of workers are cultivators and 17.59% of workers are Agricultural labourers. The district has good number of public health systems accessible and affordable apart from the private health facilities. The project site is free from habitation. The entire extent of land (279.995 ha) is Government poramboke land and is already handed over to SIPCOT by Government of Tamil Nadu for development of Industrial Park. Hence, there is no Rehabilitation and Resettlement for this project.
- (xxxii) **Land acquisition and R&R issues involved:** The entire land of 279.995 Ha has been allotted to SIPCOT. While obtaining ToR for the Industrial Park, the land area was considered as 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land) based on the administrative sanction issued by Government of Tamil Nadu for development of Industrial Park at Manallur vide G.O (Ms) No.119 dated 07.06.2013. Details are given below.
- **G.O (Ms) No.119 dated 07.06.2013:** While applying for EC, the poramboke land extent was reduced to 283.08 ha vide Government of Tamil Nadu land alienation GO (Ms) No. 285 dated 03/08/2018. Accordingly, in EC application the land extent was considered at 286.065 Ha (283.08 Ha of poramboke land vide per GO (Ms) No. 285 dated 03/08/2018 and 2.985 Ha of patta land vide GO.(Ms) no. 119 dated 07.06.2013).
  - **GO (Ms) No. 285 dated 03/08/2018:** The project area is now further reduced from 286.065 ha to 279.99.5 ha due to the following reasons:
    - 3.085 Ha of poramboke land has been excluded by Thiruvallur District Collector vide letter no. 14888/2018 dated 10.06.2019.
    - 2.985 Ha of patta land is also excluded from land acquisition and the total area of the Industrial Park is reduced to 279.99.5 Ha.

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- Land Delivery Receipt in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar.
- Land Delivery Receipt: As per the Land delivery receipt, the entire land has been handed over to SIPCOT. There is no R&R involved for this project.

(xxxiii) **Employment potential, No. of people to be employed:** A total of 100,000 people will be employed for the current project, inclusive of temporary and permanent employees. The detailed breakup of employee numbers during both construction and operation phases are given below:

Phase	Employment Type	No. of Persons
Construction	Permanent	100
	Temporary	1000
Operation	Permanent	10,000
	Temporary	88900
	<b>Total</b>	<b>100,000</b>

(xxxiv) **Benefits of the project:**

- Development of facilities and infrastructure will lead to economic growth in the region.
- Proposed development will help in revenue generation for the State as well as to the Country.
- This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow to the Tamil Nadu Government.
- Proposed Development will lead to creation of both direct and indirect job opportunities. SIPCOT in coordination with the candidate industries will improve the employment potential directly in its activities of processing, purchase/sale, management, etc., and will also indirectly enable the community to have alternative earnings through opportunities of hotels, travels, transfer, etc.

(xxxv) **Brief summary of specialised Studies carried out for the project as per the ToR:** Not applicable.

(xxxvi) **Details of Court cases:** There are no court cases against the proposed project.

4. The EAC during its 241<sup>st</sup> meeting on 25-26<sup>th</sup> August, 2020, taken into account the submissions made by the project proponent M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited that the current proposal only pertains to the development of a Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State" over an extent of 279.99.5 Ha (691.587 Acres) at Manallur and Soorapoondi villages, Gummidipoondi Taluk, Thiruvallur District. After a detailed deliberation, the EAC recommended the proposal for grant of Environmental Clearance subject to fulfilment of specific conditions other than all standard conditions applicable for this project.

5. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects) and hereby decided to grant Environmental Clearance for the



development of an Industrial Park over an extent of 279.99.5 Ha (691.587 Acres) land area at Manallur and Soorapoondi villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu under the EIA Notification, 2006 as amended, subject to strict compliance of the following specific conditions, in addition to all standard conditions applicable for such projects.

**A. SPECIFIC CONDITIONS**

- (i) The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.
- (ii) The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP report, submissions made during Public Hearing and also that have been made during their presentation to EAC.
- (iii) No groundwater shall be used at any stage of project.
- (iv) No waste water shall be discharged to the rivers/streams or waterbodies. The proponent shall utilize the treated effluent and sewage for achieving zero discharge and scheme for the same shall be approved by CPCB and SPCB.
- (v) Permission from Irrigation Department for obtaining surface water to be obtained. Consent to Operate shall not be issued without obtaining permission competent authority for use of surface water.
- (vi) Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.
- (vii) As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30<sup>th</sup> September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

**B. STANDARD CONDITIONS:**

**I. Statutory compliance:**

- (i) The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be

implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).

- (ii) The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- (iii) All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
- (iv) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- (v) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

## **II. Air quality monitoring and preservation:**

- (i) The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.
- (ii) Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
- (iii) Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
- (iv) Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
- (v) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- (vi) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

## **III. Water quality monitoring and preservation:**





- (i) Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- (ii) Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
- (iii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- (iv) No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.

#### **IV. Noise monitoring and prevention:**

- (i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- (ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- (iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- (iv) The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

#### **V. Energy Conservation measures:**

- (i) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- (ii) Provide LED lights in their offices and residential areas.

#### **VI. Waste management:**

- (i) Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
- (ii) The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- (iii) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
- (iv) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- (v) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.



## **VII. Green Belt:**

- (i) An overall green area of at-least 33% of the Industrial Area should be developed with native species. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt.
- (ii) The Industrial Areas are directed to accordingly allocate the area to be developed as green cover to respective individual industrial units so as to achieve the above mentioned condition.
- (iii) The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area for the area allocated to them to be developed as green cover as a part of obligation from the Industrial Area.
- (iv) Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.
- (v) The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.

## **VIII. Public hearing and human health issues:**

- (i) Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
- (ii) Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
- (iii) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- (iv) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (v) Occupational health surveillance of the workers shall be done on a regular basis.

## **X. Corporate Environment Responsibility:**

- (i) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.



- (ii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- (iii) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (iv) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

#### **XI. Miscellaneous:**

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (v) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (vi) The criteria pollutant levels namely; PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (vii) The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- (viii) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (ix) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (x) No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).



- (xi) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiii) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xiv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xv) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- (xvi) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

7. This issues with the approval of the Competent Authority.

  
 (Amardeep Raju)  
 Scientist-E

Copy to:

1. The Member Secretary, Tamil Nadu Pollution Control Board, No. 76, Mount Salai, Guindy, Chennai - 32
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi.
3. The APCCF (C), MoEF& CC, RO Regional Office (SEZ), 1st and IInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 34
4. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
5. Guard File/Record File
6. Notice Board.

  
 (Amardeep Raju)  
 Scientist-E





**CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**  
**No.1, Pumping Station Road, Chintadripet, Chennai - 600 002.**

MANAGING DIRECTOR

Lr. No. CMWSSB/O&M II/WT&T/ROII/SIPCOT/01/2020, Dt. 20.05.2020

To

The Managing Director  
 SIPCOT No.19-A,  
 Rukmani Lakshmipathy Road,  
 Post Box No.7223  
 Egmore,  
 Chennai-600 008

Sir,

Sub: CMWSSB - O&M II - WT&T- RO II - Establishment of Industrial park at Manallur - Obtaining environmental clearance – Supply of 1.3 MLD fresh water to the proposed Industrial park – No objection to utilize the water supplied to Thervoykandigai SIPCOT issued - Reg.

Ref: Lr.No. Projects/EIA/Fresh water supply/ Manallur/2020 dated 12.05.2020

\*\*\*

In the reference cited above, it is informed that it has been proposed to establish an Industrial park at Manallur, SIPCOT and is in the process of obtaining Environmental clearance from MoEF & CC, Govt. of India, New Delhi for the proposed Manallur Industrial Park. In the first phase, an extent of 279.995 Hectares is to be developed and the water requirement is 6.3 MLD out of which 5 MLD is proposed from TTRO water and 1.3 MLD of fresh water is required.

In this regard, it is informed that CMWSSB has developed infrastructure to supply 14 MLD of raw water from Redhills Lake to SIPCOT Industrial Park at Thervoykandigai as deposit work. SIPCOT may develop infrastructure to convey the required quantity of 1.3 MLD of water from Thervoykandigai pump house to Manallur SIPCOT from the overall allocation of 14 MLD to Thervoykandigai SIPCOT.

  
 20/5/2020  
 Managing Director.



## CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

### MANAGING DIRECTOR

Lr.No.CMWSSB/CE(O&M)II/STP(N)/45TTRO - KOD/039/SIPCOT-MANALLUR, Date: 30.01.2020

To,

The Managing Director,  
SIPCOT,  
No.19 - A, Rukmani Lakshmipathy Road,  
Egmore,  
Chennai - 600 008.

Sir,

Sub: CMWSS Board - C.E.(O&M) II - S.E.(WWT&R) - "Design, Build and Operate for 15 years (DBO) a 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) Kodungaiyur expandable to 60 MLD including supply, laying and maintenance of D.I. Transmission mains for conveyance of Product water to industries located in Manali - Minjur and Manali - Ennore corridor - Request received from SIPCOT to supply 20MLD TTRO water to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Confirmation on supply to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Reg.

Ref: 1) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :27.12.2019  
2) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :29.01.2020

\*\*\*\*\*

The Managing Director, SIPCOT, has requested to extend the supply of 20MLD TTRO water from TTRO plant at Kodungaiyur to the proposed SIPCOT industrial park at Manallur and other parks in the vicinity and also to furnish letter of confirmation for the supply of TTRO Water in order to obtain Environmental clearance for the proposed industrial complex at Manallur, vide reference 1<sup>st</sup> and 2<sup>nd</sup> cited respectively.

Your requirement of 20MLD of TTRO water has already been factored in the estimation and we hereby convey our acceptance to supply 20 MLD of Tertiary Treated water to SIPCOT industries including 5MLD for the proposed SIPCOT industrial park at Manallur and 15 MLD for other parks in the vicinity from the expandable 60MLD TTRO plant at Kodunagiur on completion of entire works in all respects.

  
30/01/2020  
MANAGING DIRECTOR





# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects-II/EIA/Manallur/2021

Date: 21.01.2021

The Deputy Director General of Forests (C),  
Ministry of Environment, Forest and Climate Change,  
Regional Office (SEZ), I<sup>st</sup> and II<sup>nd</sup> Floor,  
Handloom Export Promotion Council,  
34, Cathedral Garden Road,  
Nungambakkam, Chennai – 34.

Sir,

Sub: SIPCOT - Submission of Detailed Plan of Expenditure under CER with implementation schedule for the issues raised during Public Hearing for the proposed Development of Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District – Reg.

Ref: EC issued vide File No 21-59/2015-IA. III dated 10.11.2020 (copy enclosed)

\*\*\*\*\*

With reference to the above, we hereby enclose the detailed plan of expenditure under Corporate Environment Responsibility (CER) with implementation schedule for the issues raised during Public Hearing vide Specific Condition No. (vi) of Environmental Clearance. We assure that, we will adhere to the compliance of expenditure plan to utilize the funds as per the schedule enclosed.

Thanking you

Yours faithfully,

Sd/-

MANAGING DIRECTOR

/Forwarded by Order/

*H. Prathapathy*  
GENERAL MANAGER (P-II)i/c.

Encl:

1. EC issued for the project dated 10.11.2020.
2. Detailed plan of expenditure under CER with implementation schedule to address issues raised during Public Hearing.



**Detailed Plan of Expenditure under Corporate Environment Responsibility with Implementation Schedule to address issues raised during Public Hearing**

S.No	Activity	Year Wise Expenditure Plan (INR Lakhs)				
		2020-2022	2022-2023	2023-2024	2024-2025	2025-2026
1	Fund allocation to Tamil Nadu Government Health Department	150 (To be implemented before 31.12.2021)				
2	Providing 10 nos. of common toilets (5 nos. in Manallur village and 5 nos. in Soorapoondi Village)		12.5	12.5		
3	Skill development centre for providing training related to E-Vehicle/ auto components repairing, etc to local people.				30	20
4	Desilting two lakes near the project site			20	20	
5	Construction of 75 KL water storage tank for Manallur Village and providing 75 KL water to Manallur village, along with development of sewerage system.				50	45
6	Providing health equipments to nearby Primary Heath Centre		15			
	<b>Total</b>	<b>150</b>	<b>27.5</b>	<b>32.5</b>	<b>100</b>	<b>65</b>
	<b>Grand Total</b>	<b>375</b>				



# State Industries Promotion Corporation of Tamil Nadu Limited

A Government of Tamil Nadu Undertaking

CIN : UT4056TN19710005967

Projects-III/EIA/Manallur/2021

Date: 25.04.2021

The Chief Wildlife Warden,  
Government of Tamil Nadu Forest Department,  
Gunddy Children's Park,  
Raj Bhavan (Post), Chennai - 600 022.

Sir/Madam,

Sub: SIPCOT - Site-Specific Conservation Plan & Wildlife Management Plan - Development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Tiruvallur District, Tamil Nadu - Approval Requested - Reg.

Ref: Environmental Clearance issued by MoEF&CC vide F.No. 21-59/2015 IA.III, dated 10.11.2020.

\*\*\*\*\*

With reference to letter cited above, we wish to inform you that the MoEF&CC has granted Environmental Clearance (EC) for the proposed development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Tiruvallur District, Tamil Nadu.

As per Clause I. Statutory Compliance under Part-B Standard Conditions of the Environmental Clearance, "The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department."

Accordingly, we have prepared the Site-Specific Conservation Plan & Wildlife Management Plan for the project and the same is enclosed for your approval.

We request you to kindly approve the same at the earliest for implementation.

Yours faithfully,  
Sd/-

MANAGING DIRECTOR

/Forwarded by Order/

GENERAL MANAGER (P-III)

Encl:-

1. EC issued for the project by MoEF&CC
2. Site Specific Wildlife Conservation Plan

Sir,  
Received  
Date 15/4/21  
Per [Signature]

# **SITE SPECIFIC WILDLIFE CONSERVATION PLAN**

**For Manallur Industrial Park**

**At**

**Villages : Manallur and Soorapoondi**

**Taluk: Gummidioondi**

**District :Thiruvallur**

**State:Tamil Nadu**

**BY:**

**State Industries Promotion Corporation of Tamil Nadu Limited  
(SIPCOT)**

**March 2021**

## 1. PROJECT BACKGROUND

State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) is the nodal agency of Government of Tamil Nadu to ensure sustainable development of industries. The objective of SIPCOT is to establish, develop, maintain and manage industrial complexes, parks and Growth Centres at various places across the State of Tamil Nadu. SIPCOT has so far developed 21 Industrial Complexes/Parks/Growth Centres including 7 sector specific Special Economic Zones in a total extent of 32,004 acres spread over 12 Districts. Out of the allottable extent of 26376 acres, 21500 acres have been allotted to 2591 units and thereby attracted investment of about Rs.1,13,630 crores, which created employment opportunity for about 6.40 lakh persons.

Considering the demand for industrial land in the vicinity of Chennai, SIPCOT proposes to develop an “Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State” over an extent of 279.99.5 Ha. The Industrial Park is planned with 10% plotted area for 5(f) category industries and balance 90% for non EC category. Thus, as per the EIA Notification 2006 and its amendments the project is termed under Schedule 7 (c), Category A (**If at least one industry in the proposed industrial estate falls under the Category A**, entire Industrial Park shall be treated as Category A, irrespective of the area). Besides TN – AP interstate boundary is ~3.13 Km (towards NNW) from the project boundary and Pulicat lake bird Sanctuary is ~5.77 Km (towards NE).

Environmental Clearance for the project was issued vide F.No 21-59/2015-IA.III, dated 10<sup>th</sup> November, 2020.

As per the standard conditions issued in the EC, Site-Specific Conservation Plan & Wildlife Management Plan has to be prepared and approved by the Chief Wildlife Warden.

Hence the site specific wildlife conservation plan is prepared for obtaining approval from Chief Wildlife Warden.

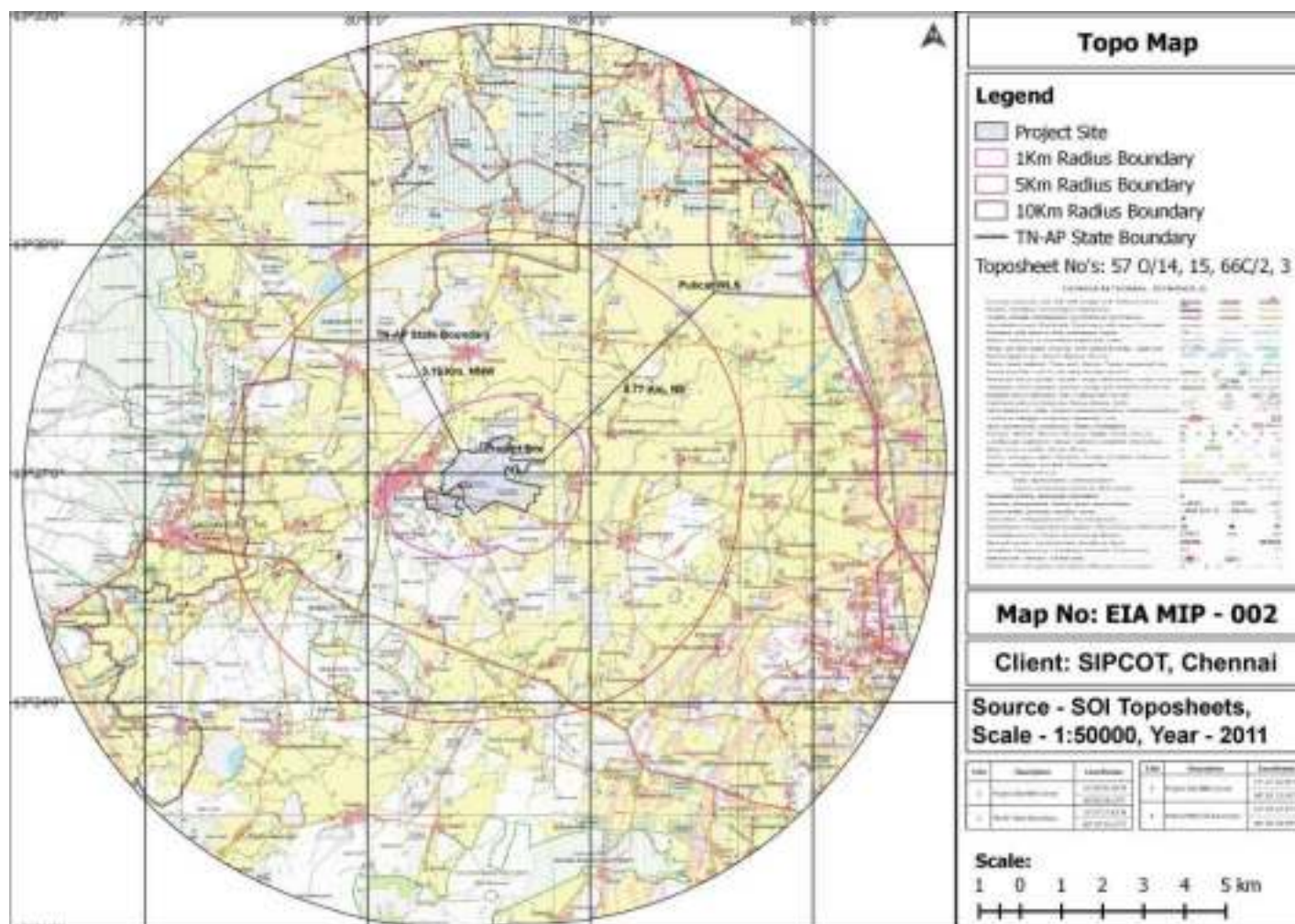


Figure 1 Topo Map of the study area showing the distance of Pulicat Bird Sanctuary and TN- AP boundary from project site



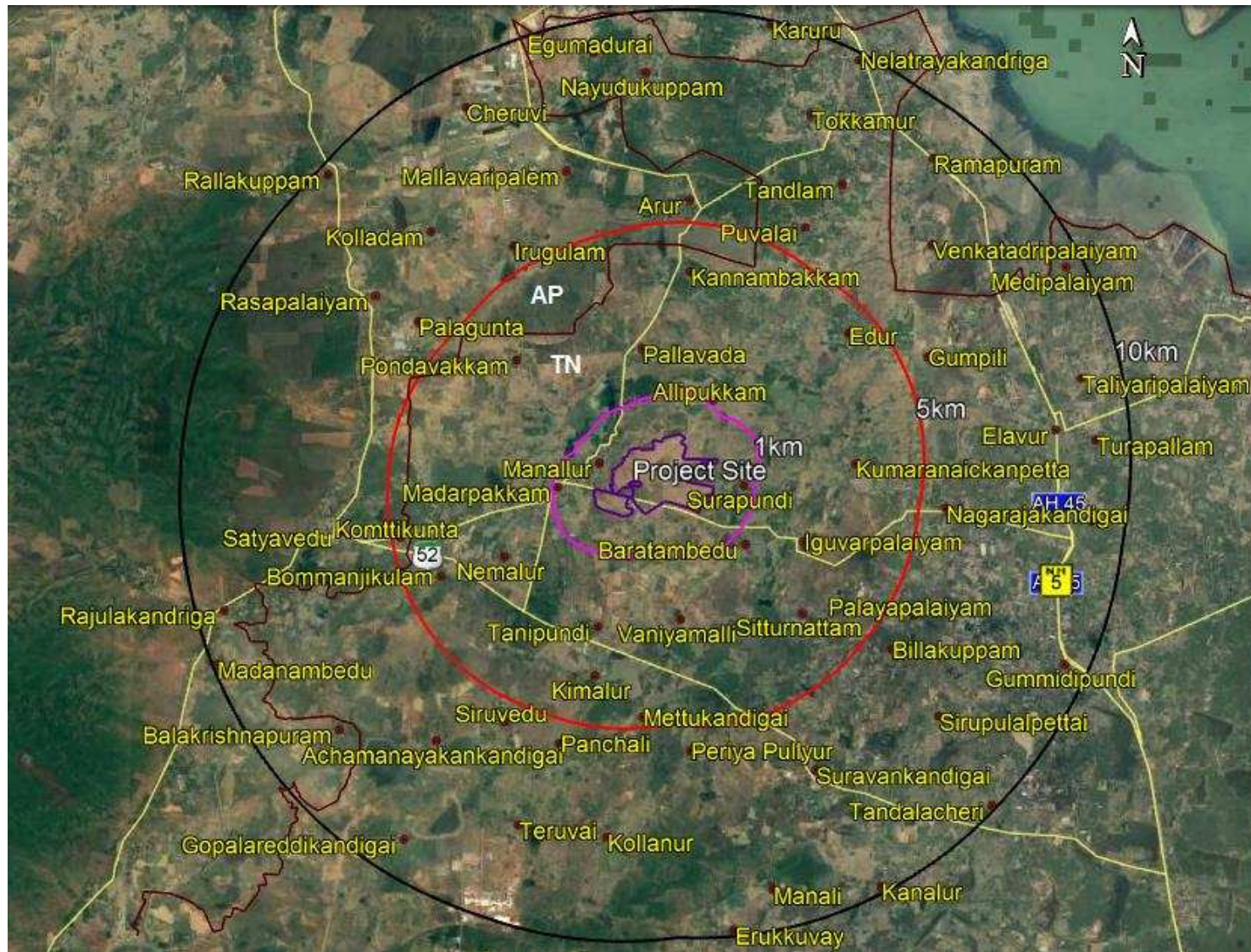


Figure 2 Satellite image covering 10 Km radius from project site

## **2. NATURAL RESOURCES**

### **2.1 Flora & Fauna**

Manallur is covered with dry and evergreen species of vegetation typical in tropical regions. Main trees grown in this region are those which are a good supply of firewood. Eucalyptus is one example of this kind. You will find rows of tamarind tree along the roadside. Just like flora; Manallur in Thiruvallur district is equally rich in fauna as well. There are two wildlife refuges in Thiruvallur district with a great variety of birds. The bog, ponds and streams house many species. Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering and migration.

### **2.2 Biological Environment**

A habitat or an area comprises of different kinds of plants and animals within its boundary. The distribution of flora and fauna in the given area represents the biological elements present in the study area, its value, description of community uniqueness, the dominant species, its response to impacts and mitigation measures to overcome any negative impacts. The detailed ecological assessment of the study area has been carried out. There are about 12 Reserve Forest (RF) areas found within 15km radius of the project site. The Pulicat Bird Sanctuary is located at ~5.77km NE from the project site. Pulicat Bird Sanctuary, spanning northern Tamil Nadu and southern Andhra Pradesh is the 2nd largest brackish water ecosystem in India.

## **3. Objectives of the Study**

- a) Carryout baseline ecological observation of the study area with respect to Schedule-I fauna and flora.
- b) To evaluate the impacts of project activities on Schedule-I fauna, flora and wildlife in the region and predict the potential impacts in future.
- c) To suggest any mitigation measures in order to minimize the impact of project activities on surrounding environment especially on Schedule-I fauna, flora and wildlife there in.

## **4. General Ecological Assessment**

The observations and assessment of overall ecological scenario involves details such as classification of Biogeographic zone, eco-region, habitat types and land cover, distances from natural habitats, vegetation/forest types, sensitive ecological habitats such as



Wetlands sites, Important Bird Areas, migration corridors of important wildlife etc. present in the study area. Reserve forests within the study is given in **Table 1**.

**Table 1 Reserve Forests (RF) found within PIA**

<b>S.No.</b>	<b>Reserve Forests</b>	<b>~ Distance (Km)</b>	<b>Direction</b>
1	Nemalur RF	1.13	WSW
2	Irukulam RF	3.05	NNW
3	Siruvedu RF	4.02	SSW
4	Panchali RF	4.03	SSW
5	Rajugunta RF	5.58	WNW
6	Vanalur RF	6.67	WNW
7	Palavakkam RF	7.36	S
8	Satyavedu RF	7.56	WNW
9	Manali RF	7.98	SSE
10	Arudur RF	9.05	NNW
11	Ambakkam RF	11.03	WSW
12	Senjiyagaram RF	13.87	SW

Such baseline information provides better understanding of the situation and overall ecological importance of the area. The important ecological habitats and features were identified based on our field visits and also mapping of landuse types in the study area. We identified ecologically important habitats through primary survey, literature survey and consulting local people etc. These important ecological habitats and features were then identified on landuse map that is prepared for the study area. Land use map of 10 km radius of the proposed project site was prepared and used for the present study. Prominent landuse features such as, roads, rivers/waterbody/drainages, agriculture, sea, sandy beach, mangrove, mudflats, industrial and built up areas, forest area, scrubland etc. were digitized using open source software such as QGIS and their areas were calculated.

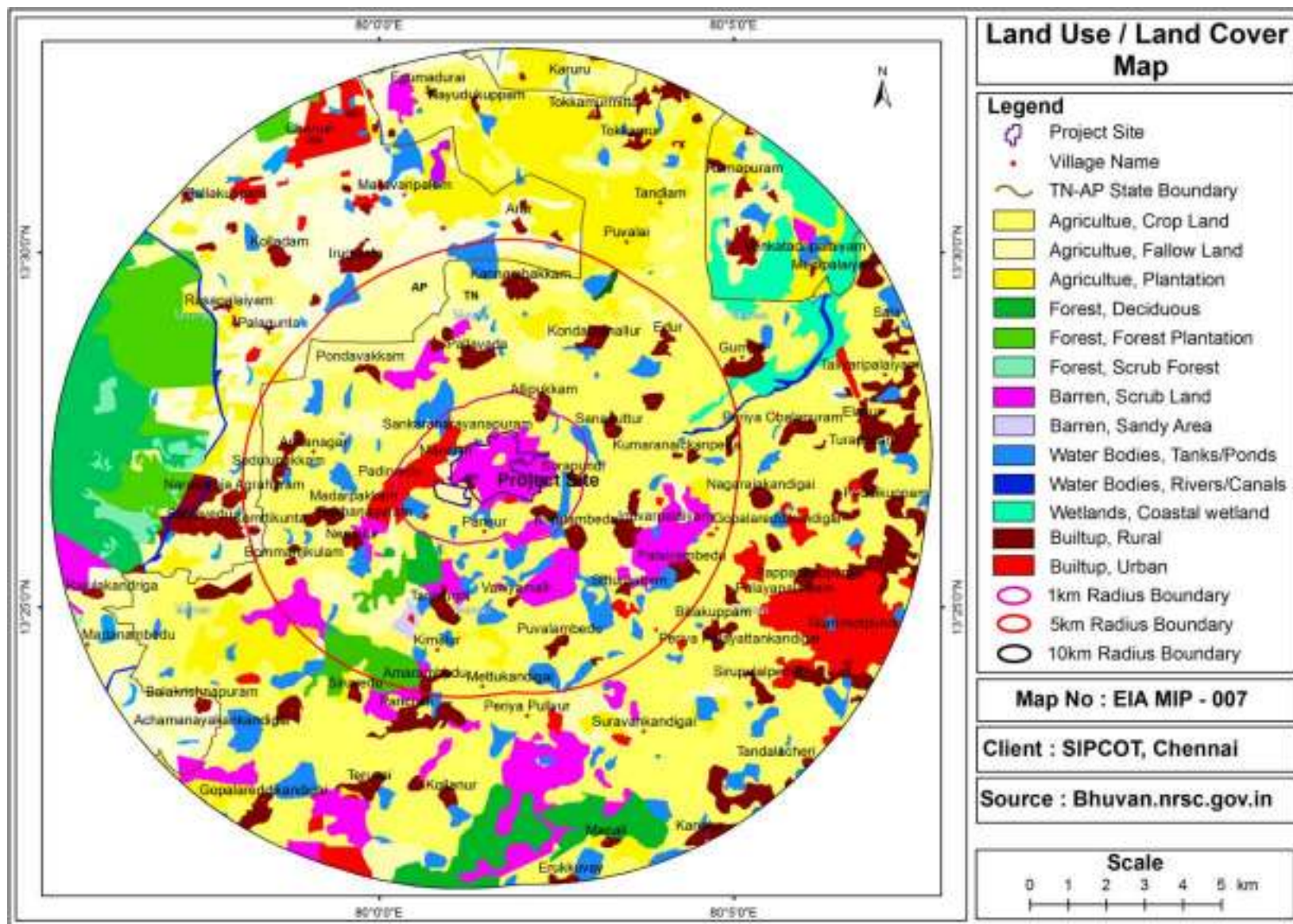


Figure 3 Land use map of the study area





Figure 4 Google map showing Environmental Sensitive areas within 15 Km radius from the project site

**Table 2 Floral diversity observed within 15km radius**

S.No	Botanical Name	Family Name	Local Name(Tamil)	IUCN Status
<b>Trees</b>				
1	<i>Acacia auriculoformis</i>	Fabaceae.	Kaththi Savukku	LC
2	<i>Acacia nilotica</i>	Fabaceae	Karuvelamaram	LC
3	<i>Albezia lebbeck</i>	Fabaceae	Siridam	NA
4	<i>Alstonia scholaris</i>	Apocynaceae	Ezhilai pillai	LC
5	<i>Annona squamosa</i>	Annonaceae	Sitapalam	NA
6	<i>Azadirachta indica</i>	Meliaceae	Veppamaram	NA
7	<i>Cocos nucifera</i>	Arecaceae	Thennai	NA
8	<i>Ficus religiosa</i>	Moraceae	Arasamaram	NA
9	<i>Fluggea leucopyrus</i>	Malvaceae	Mulluppulatti	NA
10	<i>Mangifera indica</i>	Anacardiaceae	Mamaram	DD
11	<i>Manilkara zapota</i> (L.) <i>P.Royen</i>	Sapotaceae	Sappotta	NA
12	<i>Prosopis juliflora</i>	Fabaceae	Seemai karuvel	LC
13	<i>Psidium guajava</i> L.	Myrtaceae	Koiyya	NA
14	<i>Spondias mangifera</i>	Anacardiaceae	Pulicha kaai	NA
15	<i>Syzygium cumini</i>	Myrtaceae	Navva Pazham	NA
16	<i>Tamarindus indica</i>	Legumes	Puliyamaram	LC
17	<i>Terminalia arjuna</i>	Combretaceae	Marudha maram	LC
18	<i>Thespesia Populnea</i>	Mallows	Poovarasu	NA
19	<i>Thevetia peruvannia</i>	Apocynaceae	Ponnarali	NA
20	<i>Ziziphus mauritiana</i>	Rhamnaceae	Elenthai	LC
<b>Grasses</b>				
21	<i>Digitaria bicornis</i>	Poaceae	Menmaiya kutai pul	DD
22	<i>Chloris montana</i>	Poaceae	-	LC
23	<i>Heteropogan contortus</i>	Poaceae	-	LC
<b>Herbs</b>				
25	<i>Solanum trilobatum</i>	Nightshade	Thoodhuvalai	NA
26	<i>Crotolaria verrucose</i>	legume	Salangaichedi	DD
27	<i>Barringtonia acutangula</i>	Lecythidaceae	Samudra Pazham	LC
28	<i>Abrus precatorius</i>	Legumes	Kundumani	DD
29	<i>Asparagus racemosus</i>	Asparagaceae	Thannir-vittan	LC
<b>Aquatic Plants</b>				
30	<i>Pontederia crassipes</i>	Pontederiaceae	Water hyacinth	LC
<b>Climbers</b>				
31	<i>Canavalia cathartica</i>	Fabaceae	—	NA
32	<i>Canavalia rosea</i>	Fabaceae	—	NA
33	<i>Passiflora foetida</i>	Passifloraceae	Sirupunaikali	NA

S.No	Botanical Name	Family Name	Local Name(Tamil)	IUCN Status
34	<i>Percularia daemia</i>	Asclepiadaceae	—	NA
35	<i>Canavalia cathartica</i>	Fabaceae	Maunaloa	LC
<b>Shrub</b>				
36	<i>Abutilon indicum</i>	Malvaceae	Thuthi	NA
37	<i>Aerva persica</i>	Amaranthaceae	Perumpulai	NA
38	<i>Calotropis gigantea</i>	Asclepiadaceae	Erukku	NA
39	<i>Euphorbia tortilis</i>	Euphorbiaceae	Tirukukalli	NA
40	<i>Opuntia stricta</i>	Cactaceae	Sappathikalli	LC
<b>UnderShrub</b>				
41	<i>Tephrosia purpurea</i>	Fabaceae	Kolingi	NA

LC- Least Concern, NT- near Threatened, EN- Endangered, NA-Not yet assessed, DD -Data Deficient, VU-Vulnerable, IUCN- International Union for Conservation of Nature.

Source : 1. List of Trees: <https://www.tntreepedia.com/location-result/?id=Thiruvallur>

2. List of flora: Flora of Tamil Nadu India. Series 1. Botanical Survey of India. 1983.

**Table 3 Faunal diversity observed within 15km radius**

S.No	Botanical Name	Family Name	Common Name	IUCN Status	Schedule WPA 1972
<b>Amphibians</b>					
1	<i>Bufo melanostictus</i>	Bufonidae	Toad	LC	-
2	<i>Euphlyctis hexadactylus</i>	Dicroglossidae	Green pond frog	LC	-
3	<i>Rana cyanophlyctis</i>	Bufonidae	Frog	LC	-
4	<i>Hoplobatrachus tigerinus</i>	Bufonidae	Bull Frog	LC	-
<b>Mammals</b>					
5	<i>Bandicota bengalensis</i>	Muridae	Sind Rice Rat	LC	-
6	<i>Cynopterus sphinx</i>	Megabat	Short-nosed Fruit Bat	LC	-
7	<i>Funambulus palmaram</i>	Sciuridae	Three striped palm Squirrel	LC	-
8	<i>Rattus rattus</i>	Muridae	House rat	LC	Shed IV
9	<i>Suncus mllrinus murinus</i>	Muridae	House shrew	LC	-
10	<i>Funambulus palmaram</i>	Sciuridae	Three striped Squirrel	LC	-
11	<i>Herpestes edwardii</i>	Herpestidae	Mongoose	VU	Sch II (Part I)
12	<i>Rattus norvegicus</i>	Muridae	Field mouse	LC	Sch IV
<b>Reptiles</b>					
13	<i>Bungarus fasciatus</i>	Elapidae	Banded Krait	LC	-
14	<i>Calotes ellioti</i>	Agamidae	Elliot's Forest Lizard	LC	-
15	<i>Chameleo zeylanicus</i>	Chamaeleonidae	Indian chameleon	LC	-
16	<i>Eryx johnii</i>	Boidae	Indian sand boa	LC	-
17	<i>Naja naja</i>	Elapidae	Indian cobra	LC	Shed I

S.No	Botanical Name	Family Name	Common Name	IUCN Status	Schedule WPA 1972
<b>Butterflies</b>					
17	<i>Graphium agamemnos</i>	Papilionidae	Tailed jay	NA	-
18	<i>Hypolimnas bolina</i>	Nymphalidae	Great egg fly	NA	-
19	<i>Junonia almanac</i>	Nymphalidae	Peacock pansy	LC	-
20	<i>Pachliopta hector Lin.</i>	Papilionidae	Crimson rose	NA	-
21	<i>Papilio demoleu</i>	Papilionidae	Lime butterfly	NA	-
<b>Birds</b>					
22	<i>Ardea purpurea</i>	Ardeidae	Purple Heron	LC	-
23	<i>Alcedo atthis</i>	Alcedinidae	Common Kingfisher	LC	-
24	<i>Athene brama</i>	Strigidae	Spotted Owlet	LC	-
25	<i>Bubulcus ibis</i>	Ardeidae	Cattle egret	LC	-
26	<i>Centropus sinensis</i>	Cuculidae	Crow Pheasant	LC	-
27	<i>Chloropsis aurifrons</i>	Chloropseidae	Golden-fronted Leafbird	LC	-
28	<i>Clamator jacobinus</i>	Cuculidae	Pied Crested Cuckoo	LC	-
29	<i>Copsychus saularis</i>	Muscicapidae	Magpie robin	LC	-
30	<i>Dicrurus paradiseus</i>	Dicruridae	Racket tailed drongo	LC	-
31	<i>Dicrurus adsimilis</i>	Dicruridae	King Crow	LC	-
32	<i>Egretta garzetta</i>	Ardeidae	Little egret	LC	-
33	<i>Elanus caeruleus</i>	Accipitridae	Kite	LC	-
34	<i>Francolinus pondicerianus</i>	Phasianidae	Grey Francolin	LC	-
35	<i>Galerida cristata</i>	Alaudidae	Crested Lark	LC	-
36	<i>Gallus sonneratii</i>	Phasianidae	Grey jungle fowl	LC	-
37	<i>Motacilla maderaspatensis</i>	Motacillidae	Large pied Wagtail	LC	-
38	<i>Nectarinia asiatica</i>	Nectariniidae	Purple Sun Bird	LC	-
39	<i>Pavo cristatus</i>	Phasianidae	Indian Peafowl	LC	Shed I
40	<i>Pycnonotus cafer</i>	Pycnonotidae	Red vented Bulbul	LC	-
41	<i>Spilornis cheela</i>	Accipitridae	Crested Serpent-eagle	LC	-
42	<i>Tachybaptus ruficollis</i>	Podicipedidae	Little grebe	LC	Shed IV

LC- Least Concern, NT- near Threatened, EN- Endangered, NA-Not yet assessed, DD -Data Deficient, VU-Vulnerable, IUCN- International Union for Conservation of Nature.

Source:

1. **List of Schedule Species**[http://wiienvis.nic.in/Database/ScheduleSpeciesDatabase\\_7969.aspx](http://wiienvis.nic.in/Database/ScheduleSpeciesDatabase_7969.aspx)
2. **List of fauna:** Fauna of Tamil Nadu (Part-1), state fauna series 17, ZSI 2009.

## 5. Evaluating the Potential Impacts

There are species of Schedule-I Birds and reptiles reported from the study area (**Table 3**). None from core area and most of these species are reported from the Birds Sanctuary as per literature survey. The information collected on status of flora and fauna and, their spatio-temporal distributions hotspots, and potential impacts of proposed project development were logically analyzed and conclusions were extracted for preparation of conservation plan for the project proponent to implement.

## 6. Preparation of Wildlife Conservation Action Plan

After identification of key impacts of the project, on flora, fauna or any key habitats of any important species or their corridors, a comprehensive wildlife conservation action plan was prepared for 5 years with monitoring mechanism and financial projections.

**Table 4 Faunal species of high conservation significance in Pulicat Bird Sanctuary**

Sl.No.	Species Name	Family	Common Name	IUCN Red List Status	Schedule WPA 1972
1	<i>Limosa limosa</i>	Scolopacidae	Black-tailed Godwit	NT	-
2	<i>Himantopus himantopus</i>	Recurvirostridae	Black-winged Stilt	LC	-
3	<i>Tringa nebularia</i>	Scolopacidae	Common Greenshank	LC	-
4	<i>Tringa totanus</i>	Scolopacidae	Common Redshank	LC	-
5	<i>Actitis hypoleucos</i>	Scolopacidae	Common Sandpiper	LC	-
6	<i>Gallinago gallinago</i>	Scolopacidae	Common Snipe	LC	-
7	<i>Calidris ferruginea</i>	Scolopacidae	Curlew Sandpiper	LC	-
8	<i>Numenius arquata</i>	Scolopacidae	Eurasian Curlew	NT	-
9	<i>Burhinus oedecnemus</i>	Burhinidae	Eurasian Thick-Knee	LC	-
10	<i>Pluvialis squatarola</i>	Charadriidae	Grey Plover	LC	-
11	<i>Charadrius alexandrinus</i>	Charadriidae	Kentish Plover	LC	-
12	<i>Podiceps ruficollis</i>	Podicipedidae	Little Grebe	LC	Shed IV
13	<i>Pelicanus philippensis</i>	Pelecanidae	Spotted-billed Pelican	NT	-
14	<i>Phalacrocorax carbo</i>	Phalacrocoracidae	Cormorant	LC	-
15	<i>Phalacrocorax niger</i>	Phalacrocoracidae	Little Cormorant	LC	-
16	<i>Anhinga rufa</i>	Anhingidae	Darter	LC	-
17	<i>Ardea cineria</i>	Ardeidae	Grey Heron	LC	-
18	<i>Ardeola grayii</i>	Ardeidae	Pond Heron or Paddy Bird	LC	-
19	<i>Bulbulcus ibis</i>	Ardeidae	Cattle Egret	LC	-
20	<i>Ardea alba</i>	Ardeidae	Large Egret	LC	-
21	<i>Egretta garzetta</i>	Ardeidae	Little Egret	LC	-



Sl.No.	Species Name	Family	Common Name	IUCN Red List Status	Schedule WPA 1972
22	<i>Egretta gularis</i>	Ardeidae	Indian Reef Heron	LC	-
23	<i>Nycticorax nycticorax</i>	Ardeidae	Night Heron	LC	-
24	<i>Mycteria leucocephala</i>	Ardeidae	Painted Stork	NT	-
25	<i>Anastomus oscitans</i>	Ardeidae	Opnebill Stork	LC	-
26	<i>Ciconia episcopus</i>	Ciconiidae	White-necked Stork	VU	-
27	<i>Pseudibis papillosa</i>	Threskiornithidae	Black Ibis	LC	-
28	<i>Platalea leucorodia</i>	Threskiornithidae	Spoonbill	LC	-
29	<i>Phoenicopiterus roseus</i>	Phoenicopteridae	Flamingo	LC	-
30	<i>Anas acuta</i>	Anatidae	Pintail	LC	-
31	<i>Anas crecca</i>	Anatidae	Common Teal	LC	-
32	<i>Pavo cristatus</i>	Phasianidae	Indian peafowl	LC	Shed I

CE-Critically Endangered; EN-Endangered; NT-Near Threatened

S-I- Schedule I; S-IV- Schedule IV.

**Source:**

**1. List of Fauna at Pulicat lake:**

- Ramesh R, Nammalwar P, Gowri VS. Database of coastal information of Tamil Nadu. Report submitted to environmental information system (ENVIS) Centre Department of Environment, Government of Tamil Nadu. 2008; 1-133.
- Macro Fauna of Pulicat Lake, National Biodiversity Authority, 2006

**2. List of schedule species :** [http://wiienvs.nic.in/Database/ Schedule species database](http://wiienvs.nic.in/Database/Schedule%20species%20database).

**Table 5 Fish species of high conservation significance in Pulicat Lake**

Sl.No	Family	Scientific Name	IUCN Red list	Schedule WPA 1972
1	Acanthuridae	<i>Acanthurus mata</i>	LC	-
2	Carangidae	<i>Alepes kleinii</i>	NA	-
3	Carangidae	<i>Alectis indica</i>	NA	-
4	Carangidae	<i>Alectis ciliaris</i>	LC	-
5	Lutjanidae	<i>Aphareus rutilans</i>	NA	-
6	Ariidae	<i>Arius thalassinus</i>	NA	-
7	Balistidae	<i>Balistes niger</i>	LC	-
8	Belonidae	<i>Belone strongylurus</i>	NA	-
9	Carangidae	<i>Caranx heberi</i>	NA	-
10	Chanidae	<i>Chanos chanos</i>	NA	-
11	Tetraodontidae	<i>Chelenodon patoca</i>	NA	-
12	Chirocentridae	<i>Chirocentrus nudus</i>	NA	-
13	Clariidae	<i>Clarias batrachus</i>	LC	-

Sl.No	Family	Scientific Name	IUCN Red list	Schedule WPA 1972
14	Cynoglossidae	<i>Cynoglossus puncticeps</i>	NA	-
15	Cynoglossidae	<i>Cynoglossus macrostomus</i>	NA	-
16	Haemulidae	<i>Diagramma pictum</i>	NA	-
17	Diodontidae	<i>Diodon hystrix</i>	LC	-
18	Echeneidae	<i>Echeneis brachyptera</i>	LC	-
19	Serranidae	<i>Epinephelus fasciatomaculosus</i>	NA	-
20	Ephippidae	<i>Ephippus orbis</i>	NA	-
21	Serranidae	<i>Epinephelus lanceolatus</i>	V	-
22	Serranidae	<i>Epinephelus retouti</i>	NA	-
23	Cichlidae	<i>Etroplus suratensis</i>	LC	-
24	Scombridae	<i>Euthynnus affinis</i>	LC	-
25	Exocoetidae	<i>Exocoetus bahiensis</i>	LC	-
26	Exocoetidae	<i>Exocoetus poecilopterus</i>	NA	-
27	Fistulariidae	<i>Fistularia serrata</i>	NA	-
28	Carangidae	<i>Formio niger</i>	NA	-
29	Gerreidae	<i>Gerres lucidus</i>	NA	-
30	Pleuronectidae	<i>Glyptocephalus cynoglossus</i>	NA	-
31	Gymnuridae	<i>Gymnura poecilura</i>	NT	-
32	Muraenidae	<i>Gymnothorax reticularis</i>	NA	-
33	Hemiramphidae	<i>Hemiramphus limbatus</i>	NA	-
34	Paralichthyidae	<i>Hippoglossina oblonga</i>	LC	-
35	Kyphosidae	<i>Kyphosus vaigiensis</i>	LC	-
36	Leiognathidae	<i>Leiognathus splendens</i>	LC	-
37	Trichiuridae	<i>Lepturacanthus savala</i>	NA	-
38	Lutjanidae	<i>Lutjanus ehrenbergii</i>	NA	-
39	Lutjanidae	<i>Lutjanus jocu</i>	NA	-
40	Lutjanidae	<i>Lutjanus Priacanthid</i>	NA	-
41	Mugilidae	<i>Mugil cephalus</i>	LC	-
42	Muraenesocidae	<i>Muraenesox cinereus</i>	NA	-
43	Triakidae	<i>Mustelus canis</i>	NA	-
44	Cottidae	<i>Myoxocephalus octodecemspinosus</i>	NA	-
45	Narcinidae	<i>Narcine timplei</i>	DD	-
46	Clupeidae	<i>Nematalosa nasus</i>	LC	-
47	Nemipteridae	<i>Nemipterus bipunctatus</i>	NA	-
48	Nemipteridae	<i>Nemipterus metopias</i>	NA	-
49	Nemipteridae	<i>Nemipterus randalli</i>	NA	-
50	Sciaenidae	<i>Nibea maculata</i>	NA	-
51	Lutjanidae	<i>Pinjalo pinjalo</i>	NA	-
52	Platycephalidae	<i>Platycephalus indicus</i>	DD	-

Sl.No	Family	Scientific Name	IUCN Red list	Schedule WPA 1972
53	Haemulidae	<i>Plectorhynchus gibbosus</i>	NA	-
54	Plotosidae	<i>Plotosus canius</i>	NA	-
55	Polynemidae	<i>Polydactylus quadrifilis</i>	LC	-
56	Haemulidae	<i>Pomadasys maculatus</i>	LC	-

## 6.1 Fauna Species of High Conservation Significance

Based on our extensive literature survey, and consultation local people, we found 14 faunal species of high conservation significance as they belong to Schedule-I of Indian Wildlife Protection Act 1972 (**Table-3,4**). These species include species of reptiles, species of birds and species of mammals. Whereas, Migratory birds are one of the eight large Endemic species groups reported from the study area. Many of the species are reported from Pulicate bird sanctuary which fall in the buffer area of the proposed project site and therefore, mentioned in the list of species found in the study area.

For the present study, the focus is mainly given for vertebrate classes i.e. avifauna, (birds) and reptiles particularly on important and Schedule-I species.

### 6.1.1 Conservation Plan for Schedule-I Fauna

Based on field observations and literature survey, important avifauna species which are threatened and or Schedule-I wildlife species in the study area, 1 species of reptiles, 1 species of bird were reported in the study area i.e. 15 km buffer area.

#### 6.1.1.1 Reptile/ *Naja naja*

**Status:** During our study this species of reptile was recorded in villages in the study area. The species is resident and breeding in the buffer areas. The cobra (*Naja naja*) is a terrestrial species widespread and common in the this region. They are listed as Schedule-I species under Wildlife Protection Act 1972 and as Least Concerned as per IUCN threat categories.

**Impacts:** Since this species is found on land, it may be subjected to impacts related to water pollution and hydrological impacts arising due to project activities. These may include degradation of water sources, soil characteristics. This species is otherwise not hunted or eaten by the people. Therefore, changes

of degradation of overall land environment in the buffer area are likely to affect these species and their distribution.

**Recommendations:**

1. Individual industries will have their own STP/ ETP as applicable and treat the sewage /effluent generated from their premises. Zero Liquid discharge system will be proposed by individual industries.
2. There will be institutional arrangement to check the efficiency of Zero Liquid Discharge.
3. Municipal solid wastes will be segregated by individual industries and organic waste will be composted in the Solid waste management area and used for green belt development. Inorganic wastes will be sold to authorised recyclers.
4. Individual industries will have their own hazardous waste storage areas and the hazardous wastes generated will be disposed as per Hazardous and other wastes (Management and Transboundary movement) amendment Rules 2016.
5. Good housekeeping and best practices of waste handling shall be adopted to eliminate/minimize the risks of soil contamination.

The project proponent shall put all kind of pollution control measures in place so that the ecological conditions of surrounding area are preserved..

**6.1.1.2 Birds/ Indian Peafowl**

**Status:** The Indian Peafowl ( *Pavo cristatus* ) is a resident breeder in the Indian subcontinent. The bird was justifiably declared as the national bird of India in year 1963 due to its “flagship” value founded on its glorious position in mythology and its widespread distribution in the country. The species is found in dry semi-desert grasslands, scrub and deciduous forests. It forages and nests on the ground but roosts on top of trees. It eats seeds, insects, fruits, small mammals and reptiles. The Indian Peafowl is a ground nesting bird and it lays a clutch of 4-8 eggs which take 28 days to hatch. The eggs are light brown and are laid every other day usually in the afternoon. The male does not assist with the rearing, and is polygamous. Poaching of peacocks for their feathers and poisoning by feeding on pesticide treated seeds are being noticed in this region.

**Impacts:** Field study reported presence of Indian Peafowl in the buffer areas of project site. The species was observed in the buffer area of 15 km radius particularly near human habitations, villages and agriculture fields. Since the study reported presence of Indian Peafowl in the buffer area, its possibility of nesting in buffer area could not be ruled out. Since Indian Peafowl is a ground nester, several project activities can have adverse impacts on their nesting grounds such as pollution, degradation of soil and vegetation from surrounding area and in the forest areas. Direct disturbance by presence of people, vehicle, their noise, vibrations, lights etc. Can potentially disturb most of the bird species.

**Recommendations:**

Following actions for the conservation and protection are suggested in wildlife conservation action plan to reduce impacts of project related activities on the species. Based on our field observation on the distribution, behavioral ecology, conservation need, and envisaged impacts of proposed project, we identified several species specific actions that would help reduce the impacts of project activities on Indian Peafowl as under.

- A rapid survey for the breeding population of Indian Peafowl during their nesting season shall be carried out in pre-monsoon season by wildlife experts so as to ensure that no nesting of the species is present in and around project or core area.
- Since Indian Peafowl is a ground nesting bird, if found in project area, construction activities could disturb their nesting activities. Therefore if nesting of peafowl is found, in close proximity of the construction area, it should not be carried out in that particular block.
- Avoid vehicle movement in the area where nesting is found. The movement of vehicles or humans should be prohibited in vicinity of the nesting area.
- Electric lines shall be designed to minimize the potential for electrocution of Indian peafowl and other such large birds inside the project area.
- Lightings within the project area could potentially deter the species presence. Therefore, project proponent shall ensure that minimum illumination comes out from the project area. This can be done by adjusting the angles of the light sources and using low intensity focused bulbs inside the project area.

- Tree Plantation shall be carried out by project proponent in the surrounding villages and schools etc. in the buffer area. This would help the species and provide them much needed roosting place.
- Staff involved in construction activities shall be trained staff and made aware of Indian Peafowl's status as National Bird of India, and Schedule-I species protected under Indian Wildlife Protection Act 1972. This is important because if there any casualties of the species are found then they should report to the project authorities and the local forest department to carry out further necessary actions.

### **6.1.2 General Mitigation/Conservation Measures**

- Strict control of fugitive dust emission during construction activities, vehicle movements etc. using various methods and technologies shall be carried out. During construction, operation, activities water sprinkling on external and internal roads, shall be carried out regularly to control dust pollution.
- During operation phase ambient air quality standards (emission of pollutants like Particulate Matter) must be maintained as per CPCB norms in and around the project site.
- Ambient noise pollution and vibrations during construction and operation phases should be within limits of the standards mentioned.
- Plantation of thick green belt on periphery of the project site shall be created using local and hardy species.
- Ensure no movement of vehicles or people through Forest Areas located nearby in the project area.

### **6.1.3 Financial Allocation for Wildlife Conservation Activities**

Professional judgements are made based on our experience used often for predicting impacts. We tried to bring information as much as possible from all sources; however, there may be some lack of information in the study which we could not gather. The general impacts of proposed project activities are air, water, noise pollution and the anthropogenic activities, direct disturbance, illumination, safety of animals and humans.

Following is the proposed budget allocation for 5 years after approval from all statutory bodies permitting the protection plan (**Table 6**).

**Table 6 Proposed financial allocation for mitigation and conservation measures**

Sl.No	Activity	Agency	Duration (Years)	Rate/ Year (Lakh)	Total Amount for 5 years (Lakh)
1	Support for Habitat improvement for Schedule-I species	Forest Department	Five years	3.0	15.0
2	Support for Wildlife awareness camps activity by Forest Department. (2 camps /year @Rs.25000/camp)	Forest Department	Five years	0.5	2.5
3	Support for covering of open wells in the surrounding villages by Forest Department.	Forest Department	Five years	1.0	5.0
4	Support for plantation in nearby villages	Forest Department	Five years	0.5	2.5
<b>Total Amount</b>					<b>25.0</b>

## 6.2 Further Suggestions/recommendations

### 6.2.1 Habitat vegetation Improvement Action Plan

- Habitat improvement programme will include plantation of various plant species like as in the table and other species reported from the study area will be taken in to priority.
- In order to improve vegetation cover, it is suggested to carry out extensive afforestation program in different phases.
- These species will help to provide habitat for faunal species, and also increase the species diversity and maintain the naturalness of the surrounding area.
- Seed distribution among the villagers: During this habitat improvement programme the seeds of local fruit bearing trees like Mango, Jamun, Sitafal will be distributed in the various villages of the study area.
- Compost packets will be also provided at the intervals of the every six months by the proponent (in consultation of forest department).



### **6.2.2 Inference - Buffer Zone Improvement**

Present survey in the buffer zone of the project site shows that, there are wild animals within the RF as well as fringes of forest of the study area. However, the following points can give an insight on the overall conservation of the vulnerable species in the study area and thereby plan for better management strategies related to proposed project activities.

The buffer zones of the project site consist of some agriculture fields and various rural habitats which are used as a feeding ground for wild animals. It clearly indicates that wild animals normally use such ecosystems or habitats adjacent to village for feeding purpose.

From the above said facts, it can be inferred that, some villages of the buffer zone provide resting and feeding ground for the wild animals. Therefore, it has been visualized that, the proposed project will not have any significant impact on wild animals in terms of their normal movements and other activities. However, it is necessity to take some management options like habitat improvement in the villages located in the immediate vicinity of the buffer zone of the project site. So, habitat improvement program (plantation of recommended and local plant species) will be undertaken in (consultation of forest department) different villages located in the close vicinity of the project area. Under this program, saplings will be distributed in the nearby villages with the consultation of the local forest department.

### **6.2.3 Conservation measures**

Habitat improvement program in different villages will be undertaken in the buffer zone. This will be achieved by plantation of local varieties of the tree species near villages in buffer area. Plantation will also be carried in some forest patches identified by local forest department.

## **7. Conclusion**

Based on preliminary environmental effects, mitigation measures are proposed in the design of the project to ensure the protection of the physical, biological and human environment.

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# Annexure-5

## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

**TEST REPORT**

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Atmospheric Pollution

Sample Name : Ambient Air(Air)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method &amp; Plan : IS 5182 Part 5 &amp; PART 14

ULR : TC1231024000043463F

Report No. : HECS/AP/005/110924

Sample ID No : 110924006

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Arsenic	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
2	Nickel	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
3	Benzene-AAQ	µg/m3	BLQ (LOQ: 0.1 )	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
4	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
5	Ammonia as NH3	µg/m³	7.36	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
6	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
7	Nitrogen dioxides as NO2	µg/m³	24.71	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
8	Ozone as O3	µg/m³	12.46	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
9	Particulate matter (Size less than 10 µm)	µg/m³	46.32	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
10	Particulate matter (Size less than 2.5 µm)	µg/m³	25.11	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
11	Sulphur dioxide as SO2	µg/m³	9.37	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
12	Lead	µg/m3	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m<sup>3</sup>- Micrograms per cubic meter, mg/m<sup>3</sup>-Milligrams per cubic meter, ng/m<sup>3</sup>-Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

\*\*\*End of Report\*\*\*

Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS, FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air(AII)  
Sample Mark : Near Project Area  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & PART 14

Report No. : HECS/AP/005/110924/N  
Sample ID No : 110924006  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	TVOC	ppmv	BLQ(LOQ 0.1)	HECS-G/ENV/AAQ/SOP/005 Issue No.:01 Issue Date:02/07/2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppmv- Parts per million by Volume.

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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**Laboratory Services Division**(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.**TEST REPORT**

Page : 1 of 1

ULR : TC1231024000043464F  
Report No. : HECS/AP/006/110924  
Sample ID No : 110924007  
Sampling Date : 11/09/2024

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Atmospheric Pollution

Sample Name : Ambient Air(Air)

Sample Mark : Near Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method &amp; Plan : IS 5182 Part 5 &amp; PART 14

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024


Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Arsenic	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
2	Nickel	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
3	Benzene-AAQ	µg/m3	BLQ (LOQ: 0.1 )	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
4	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
5	Ammonia as NH3	µg/m³	5.77	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
6	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
7	Nitrogen dioxides as NO2	µg/m³	18.42	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
8	Ozone as O3	µg/m³	13.97	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
9	Particulate matter (Size less than 10 µm)	µg/m³	52.62	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
10	Particulate matter (Size less than 2.5 µm)	µg/m³	23.49	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
11	Sulphur dioxide as SO2	µg/m³	12.60	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
12	Lead	µg/m3	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m<sup>3</sup>- Micrograms per cubic meter, mg/m<sup>3</sup>-Milligrams per cubic meter, ng/m<sup>3</sup>-Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

\*\*\*End of Report\*\*\*

  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



## Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS, FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air(Air)  
Sample Mark : Near Madharpakkam  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & PART 14

Report No. : HECS/AP/006/110924/N  
Sample ID No : 110924007  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	TVOC	ppmv	BLQ(LOQ 0.1)	HECS-G/ENV/AAQ/SOP/005 Issue No.:01 Issue Date:02.07 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppmv- Parts per million by Volume.

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.

Address of the Client : Manalur.

Group : Atmospheric Pollution

Sample Name : Ambient Air(Air)

Sample Mark : Near Papankuppam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 5182 Part 5 & PART 14

ULR : TC1231024000044800F

Report No. : HECS/AP/007/110924

Sample ID No : 110924008

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 24/09/2024

Report Date : 17/09/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Arsenic	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
2	Nickel	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
3	Benzene-AAQ	µg/m3	BLQ (LOQ: 0.1 )	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
4	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS 5182 Part 12: 2004	1 (Annual)	1 (Annual)
5	Ammonia as NH3	µg/m³	6.12	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
6	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
7	Nitrogen dioxides as NO2	µg/m³	24.89	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
8	Ozone as O3	µg/m³	10.32	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
9	Particulate matter (Size less than 10 µm)	µg/m³	53.19	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
10	Particulate matter (Size less than 2.5 µm)	µg/m³	20.75	IS 5182 (Part 74) 2019	60 (24 hours)	40 (Annual)
11	Sulphur dioxide as SO2	µg/m³	9.30	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
12	Lead	µg/m3	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m<sup>3</sup>- Micrograms per cubic meter, mg/m<sup>3</sup>-Milligrams per cubic meter, ng/m<sup>3</sup>-Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air(AII)  
Sample Mark : Near Papankuppam  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & PART 14

Report No. : HECS/AP/007/110924/N  
Sample ID No : 110924008  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 24/09/2024  
Report Date : 17/09/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	TVOC	ppmv	BLQ(LOQ 0.1)	HECS-G/ENV/AAQ/SOP/005 Issue No.01 Issue Date:02.07 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppmv- Parts per million by Volume.

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Atmospheric Pollution

Sample Name : Ambient Air(AII)

Sample Mark : Near RoshanNagaram

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 5182 Part 5 & PART 14

U/LR : TC1231024000044801F

Report No. : HECS/AP/008/110924

Sample ID No : 110924009

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 24/09/2024

Report Date : 17/09/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Arsenic	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
2	Nickel	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
3	Benzene-AAQ	µg/m3	BLQ (LOQ: 0.1 )	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
4	Benzo (a) pyrene-AAQ	ng/m3	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
5	Ammonia as NH3	µg/m3	8.41	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
6	Carbon Monoxide (CO)	mg/ m3	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
7	Nitrogen dioxides as NO2	µg/m3	19.63	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
8	Ozone as O3	µg/m3	13.90	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
9	Particulate matter (Size less than 10 µm)	µg/m3	43.75	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
10	Particulate matter (Size less than 2.5 µm)	µg/m3	25.18	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
11	Sulphur dioxide as SO2	µg/m3	13.60	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
12	Lead	µg/m3	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m<sup>3</sup>- Micrograms per cubic meter, mg/m<sup>3</sup>-Milligrams per cubic meter, ng/m<sup>3</sup>-Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

\*\*\*End of Report\*\*\*



Dr. Raghunath Samuel  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air(Air)  
Sample Mark : Near RoshanNagaram  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & PART 14

Report No. : HECS/AP/008/110924/N  
Sample ID No : 110924009  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 24/09/2024  
Report Date : 17/09/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	TVOC	ppmv	BLQ(LOQ 0.01)	HECS-G/ENV/AAQ/SOP/005 Issue No.:01 Issue Date:02.07 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppmv- Parts per million by Volume.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

ULR : TC1231024000047242F

Report No. : HECS/AP/009/110924

Sample ID No : 110924010

Sampling Date : 11/09/2024

Group : Atmospheric Pollution

Sample Name : Ambient Air(Air)

Sample Mark : Near Soorapoondi

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 5182 Part 5 & PART 14

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 05/10/2024

Report Date : 17/09/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Arsenic	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
2	Nickel	ng/m3	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
3	Benzene-AAQ	µg/m3	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
4	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
5	Ammonia as NH3	µg/m³	5.28	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
6	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
7	Nitrogen dioxides as NO2	µg/m³	25.41	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
8	Ozone as O3	µg/m³	10.89	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
9	Particulate matter (Size less than 10 µm)	µg/m³	56.23	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
10	Particulate matter (Size less than 2.5 µm)	µg/m³	24.70	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
11	Sulphur dioxide as SO2	µg/m³	11.59	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
12	Lead	µg/m3	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m<sup>3</sup>- Micrograms per cubic meter, mg/m<sup>3</sup>-Milligrams per cubic meter, ng/m<sup>3</sup>-Nanograms per cubic meter.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air(AII)  
Sample Mark : Near Sourapoondi  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & PART 14

Report No. : HECS/AP/009/110924/N  
Sample ID No : 110924010  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 05/10/2024  
Report Date : 17/09/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	TVOC	ppmv	BLQ(LOQ 0.1)	HECS-G/ENV/AAQ/SOP/005 Issue No.01 Issue Date:02.07.2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppmv- Parts per million by Volume.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043548F

Report No. : HECSL/WT/001/110924

Sample ID No : 110924017

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10580 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Ammonia as NH3	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 34:Sec 2: 2021 ( Nesslerization Method)	0.5	No relaxation
2	Anionic Surface Active agents as MBAS	mg/l	BLQ(LOQ:0.05)	APHA 23rd edition (Method 5540 B , Cl: 2017)	0.2	1
3	Bi carbonate	mg/l	150.0	IS 3025 Part 51: 2001	NA	NA
4	Biological Oxygen Demand (BOD)@ 27°C For 3 days	mg/l	BLQ(LOQ:2.0)	IS 3025 Part 44: 1993	NA	NA
5	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025 Part 57 -Curcumin Method: 2021	0.5	2.4
6	Calcium as Ca	mg/l	56.11	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
7	Carbonate	mg/l	BLQ(LOQ:1.0)	IS 3025 Part 51: 2001	NA	NA
8	Chemical Oxygen Demand (COD)	mg/l	BLQ(LOQ:4.0)	IS 3025 Part 58: 2006	NA	NA
9	Chloride as Cl	mg/l	171.47	IS 3025 Part 32: 1988 ( Argentometric Method)	250	1000
10	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 (Part4): 2021	5	15
11	Cyanide as CN	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 27 Sec 1: 2021	0.05	No relaxation
12	Dissolved oxygen	mg/l	6.6	IS 3025 (Part 38): 1989 ( Titrimetric Method)	NA	NA



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### TEST REPORT

Page : 2 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043548F

Report No. : HECSL/WT/001/110924

Sample ID No : 110924017

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
13	Electrical Conductivity at 25°C	µS/cm	931.0	IS 3025 Part-14: 2013	NA	NA
14	Fluoride as F	mg/l	0.40	APHA 23rd edition (Method 4500F-B, D): 2017	1.0	1.5
15	Iron as Fe	mg/l	0.031	IS 3025 (Part 53): 2003	1.0	No relaxation
16	Magnesium as Mg	mg/l	26.73	IS 3025 Part 46: 1994 ( Volumetric Method using EDTA)	30	100
17	Nitrate as NO3	mg/l	8.91	APHA 23rd edition (Method 4500 NO3B): 2017	45	No relaxation
18	Percent Sodium	%	41.73	HECS /WT/SOP/002: 2019	NA	NA
19	pH at 25°C	-	7.81	IS 3025(Part 11) : 2022 ( Electrometric method)	6.5-8.5	No relaxation
20	Phenolic compounds as C6H5OH	mg/l	BLQ(LOQ:0.001)	IS 3025 Part 43 Sec 1: 2022	0.001	0.002
21	Potassium as K	mg/l	5.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA
22	Residual Sodium Carbonate	meq/l	BLQ(LOQ:1.0)	IS 11624: 2019	NA	NA
23	Sodium Adsorption Ratio(SAR)	Square root of (millimole/lit)	2.33	IS 11624 : 2019	NA	NA
24	Sodium as Na	mg/l	85.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA



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### TEST REPORT

Page : 3 of 4

Name of the Client : M/s. SHPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043548F

Report No. : HECSL/WT/001/110924

Sample ID No : 110924017

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
25	Sulphate as SO4	mg/l	49.61	IS 3025 Part 24 Sec 1: 2022 (Turbidity Method)	200	400
26	Total alkalinity as CaCO3	mg/l	150.0	IS 3025 (Part 23): 1986	200	600
27	Total dissolved solids	mg/l	521.0	IS 3025 (Part 16): 1984	500	2000
28	Total Suspended Solids	mg/l	BLQ(LOQ:2.0)	IS 3025 (Part 17): 1984	NA	NA
29	Phosphate as PO4	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
30	Phosphorous as P	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
31	Total hardness as CaCO3	mg/l	250.0	IS 3025 (Part 21): 2009	200	600
32	Turbidity, NTU	NTU	BLQ(LOQ:0.1)	IS 3025 (Part 10): 1984	1	5
33	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
34	Barium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.7	No relaxation
35	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation
37	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5



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Director Technical  
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## Laboratory Services Division

(Chemical & Biological Testing)  
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BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 4 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U.L.R : TC1231024000043548F

Report No. : HECSL/WT/001/110924

Sample ID No : 110924017

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
38	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
39	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.1	0.3
40	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
41	Nickel	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.02	No relaxation
42	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
43	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Near Project Area

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

Report No. : HECST/WT/001/110924/N

Sample ID No : 110924017

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Hexavalent Chromium as Cr6+	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 52: 2003 ( Diphenyl Carbazide method)

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 4

Name of the Client : M/s. SHPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043549F

Report No. : HECSL/WT/002/110924

Sample ID No : 110924018

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Ammonia as NH3	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 34:Sec 2: 2021 ( Nesslerization Method)	0.5	No relaxation
2	Anionic Surface Active agents as MBAS	mg/l	BLQ(LOQ:0.05)	APHA 23rd edition (Method 5540 B , C): 2017	0.2	1
3	Bi carbonate	mg/l	160.0	IS 3025 Part 51: 2001	NA	NA
4	Biological Oxygen Demand (BOD)@ 27°C For 3 days	mg/l	BLQ(LOQ:2.0)	IS 3025 Part 44: 1993	NA	NA
5	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025 Part 57 -Curcumin Method: 2021	0.5	2.4
6	Calcium as Ca	mg/l	52.10	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
7	Carbonate	mg/l	BLQ(LOQ:1.0)	IS 3025 Part 51: 2001	NA	NA
8	Chemical Oxygen Demand (COD)	mg/l	BLQ(LOQ:4.0)	IS 3025 Part 58: 2006	NA	NA
9	Chloride as Cl	mg/l	195.96	IS 3025 Part 32: 1988 ( Argentometric Method)	250	1000
10	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 (Part4): 2021	5	15
11	Cyanide as CN	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 27 Sec 1: 2021	0.05	No relaxation
12	Dissolved oxygen	mg/l	6.6	IS 3025 (Part 38): 1989 ( Titrimetric Method)	NA	NA



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TC-12310

## Laboratory Services Division

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### TEST REPORT

Page : 2 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U.L.R : TC1231024000043549F

Report No. : HECSL/WT/002/110924

Sample ID No : 110924018

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
13	Electrical Conductivity at 25°C	µS/cm	1043.0	IS 3025 Part-14: 2013	NA	NA
14	Fluoride as F	mg/l	0.39	APHA 23rd edition (Method 4500F-B, D): 2017	1.0	1.5
15	Iron as Fe	mg/l	BLQ(LOQ:0.01)	IS 3025 (Part 53): 2003	1.0	No relaxation
16	Magnesium as Mg	mg/l	24.3	IS 3025 Part 46: 1994 (Valometric Method using EDTA)	30	100
17	Nitrate as NO3	mg/l	7.24	APHA 23rd edition (Method 4500-NO3B): 2017	45	No relaxation
18	Percent Sodium	%	46.20	HECS/WT/SOP/002: 2019	NA	NA
19	pH at 25°C	-	8.14	IS 3025(Part 11) : 2022 (Electrometric method)	6.5-8.5	No relaxation
20	Phenolic compounds as C6H5OH	mg/l	BLQ(LOQ:0.001)	IS 3025 Part 43 Sec 1: 2022	0.001	0.002
21	Potassium as K	mg/l	7.0	IS 3025 Part 45: 1993 (Flame emission Photometric Method)	NA	NA
22	Residual Sodium Carbonate	meq/l	BLQ(LOQ:1.0)	IS 11624: 2019	NA	NA
23	Sodium Adsorption Ratio(SAR)	Square root of (millimole/lit)	2.71	IS 11624 : 2019	NA	NA
24	Sodium as Na	mg/l	95.0	IS 3025 Part 45: 1993 (Flame emission Photometric Method)	NA	NA



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### TEST REPORT

Page : 3 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U/LR : TC1231024000043549F

Report No. : HECSL/WT/002/110924

Sample ID No : 110924018

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
25	Sulphate as SO <sub>4</sub>	mg/l	57.61	IS 3025 Part 24 Sec 1: 2022 (Turbidity Method)	200	400
26	Total alkalinity as CaCO <sub>3</sub>	mg/l	160.0	IS 3025 (Part 23): 1986	200	600
27	Total dissolved solids	mg/l	574.0	IS 3025 (Part 16): 1984	500	2000
28	Total Suspended Solids	mg/l	BLQ(LOQ:2.0)	IS 3025 (Part 17): 1984	NA	NA
29	Phosphate as PO <sub>4</sub>	mg/l	0.19	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
30	Phosphorous as P	mg/l	BLQ(LOQ:0.05)	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
31	Total hardness as CaCO <sub>3</sub>	mg/l	230.0	IS 3025 (Part 21): 2009	200	600
32	Turbidity, NTU	NTU	BLQ(LOQ:0.1)	IS 3025 (Part 10): 1984	1	5
33	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
34	Barium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.7	No relaxation
35	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation
37	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5



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### TEST REPORT

Page : 4 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur,

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043549F

Report No. : HECSL/WT/002/110924

Sample ID No : 110924018

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
38	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
39	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.1	0.3
40	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
41	Nickel	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.02	No relaxation
42	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
43	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

Report No. : HECSL/WT/002/110924/N

Sample ID No : 110924018

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Hexavalent Chromium as Cr6+	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 52: 2003 ( Diphenyl Carbazide method)

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.  
\*\*\*End of Report\*\*\*



  
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**TEST REPORT**

Page : 1 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Soorapundi

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method &amp; Plan : IS 176104(Part-1):2021

ULR : TC1231024000043550F

Report No. : HECSL/WT/003/110924

Sample ID No : 110924019

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Ammonia as NH <sub>3</sub>	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 34:Sec 2: 2021 ( Nesslerization Method)	0.5	No relaxation
2	Anionic Surface Active agents as MBAS	mg/l	BLQ(LOQ:0.05)	APHA 23rd edition (Method 5540 B, CY: 2017	0.2	1
3	Bi carbonate	mg/l	130.0	IS 3025 Part 51: 2001	NA	NA
4	Biological Oxygen Demand (BOD) <sub>at 27°C</sub> For 3 days	mg/l	BLQ(LOQ:2.0)	IS 3025 Part 44: 1993	NA	NA
5	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025 Part 57 -Curcumin Method: 2021	0.5	2.4
6	Calcium as Ca	mg/l	64.13	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
7	Carbonate	mg/l	BLQ(LOQ:1.0)	IS 3025 Part 51: 2001	NA	NA
8	Chemical Oxygen Demand (COD)	mg/l	BLQ(LOQ:4.0)	IS 3025 Part 58: 2006	NA	NA
9	Chloride as Cl	mg/l	186.17	IS 3025 Part 32: 1988 ( Argentometric Method)	250	1000
10	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 (Part4): 2021	5	15
11	Cyanide as CN	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 27 Sec 1: 2021	0.05	No relaxation
12	Dissolved oxygen	mg/l	6.7	IS 3025 (Part 38): 1989 ( Titrimetric Method)	NA	NA



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### TEST REPORT

Page : 2 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Soorapundi

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U.L.R : TC1231024000043550F

Report No. : HECSL/WT/003/110924

Sample ID No. : 110924019

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
13	Electrical Conductivity at 25°C	µS/cm	986.0	IS 3025 Part-14: 2013	NA	NA
14	Fluoride as F	mg/l	0.42	APHA 23rd edition (Method 4500F-B, D): 2017	1.0	1.5
15	Iron as Fe	mg/l	0.038	IS 3025 (Part 53): 2003	1.0	No relaxation
16	Magnesium as Mg	mg/l	31.59	IS 3025 Part 46: 1994 ( Volumetric Method using EDTA)	30	100
17	Nitrate as NO3	mg/l	8.41	APHA 23rd edition (Method 4500-NO3B): 2017	45	No relaxation
18	Percent Sodium	%	38.86	HECS /WT/SOP/002: 2019	NA	NA
19	pH at 25°C	-	7.44	IS 3025(Part 11) : 2022 ( Electrometric method)	6.5-8.5	No relaxation
20	Phenolic compounds as C6H5OH	mg/l	BLQ(LOQ:0.001)	IS 3025 Part 43 Sec 1: 2022	0.001	0.002
21	Potassium as K	mg/l	7.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA
22	Residual Sodium Carbonate	meq/l	BLQ(LOQ:1.0)	IS 11624: 2019	NA	NA
23	Sodium Adsorption Ratio(SAR).	Square root of (millimole/li)	2.24	IS 11624 : 2019	NA	NA
24	Sodium as Na	mg/l	88.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA



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### TEST REPORT

Page : 3 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur,

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Soorapundi

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature ( $^{\circ}$ C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043550F

Report No. : HECSL/WT/003/110924

Sample ID No : 110924019

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
25	Sulphate as SO <sub>4</sub>	mg/l	65.37	IS 3025 Part 24 Sec 1: 2022 (Turbidity Method)	200	400
26	Total alkalinity as CaCO <sub>3</sub>	mg/l	130.0	IS 3025 (Part 23): 1986	200	600
27	Total dissolved solids	mg/l	552.0	IS 3025 (Part 16): 1984	500	2000
28	Total Suspended Solids	mg/l	BLQ(LOQ:2.0)	IS 3025 (Part 17): 1984	NA	NA
29	Phosphate as PO <sub>4</sub>	mg/l	0.12	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
30	Phosphorous as P	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 31 Sec 1: 2022 (Stannous Chloride method)	NA	NA
31	Total hardness as CaCO <sub>3</sub>	mg/l	290.0	IS 3025 (Part 21): 2009	200	600
32	Turbidity, NTU	NTU	BLQ(LOQ:0.1)	IS 3025 (Part 10): 1984	1	5
33	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
34	Barium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.7	No relaxation
35	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation
37	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5



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## Laboratory Services Division

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### TEST REPORT

Page : 4 of 4

Name of the Client : M/s. SHPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Soorapundi

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043550F

Report No. : HECSL/WT/003/110924

Sample ID No : 110924019

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
38	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
39	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.1	0.3
40	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
41	Nickel	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.02	No relaxation
42	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
43	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15

Note : BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur,

Group : Water

Sample Name : Ground Water (All)

Sample Mark : Soorapundi

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

Report No. : HECSL/WT/003/110924/N

Sample ID No : 110924019

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Hexavalent Chromium as Cr6+	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 52: 2003 ( Diphenyl Carbazide method)

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*\*\*End of Report\*\*\*



  
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### TEST REPORT

Page : 1 of 4

Name of the Client : M/s. SIPCOT,

Address of the Client : Manalur,

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Madharpakkam Eri

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U.L.R : TC1231024000043551F

Report No. : HECSL/WT/004/110924

Sample ID No : 110924020

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
Discipline : Chemical					
1	Ammonia as NH <sub>3</sub>	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 34 Sec 2: 2021	NA
2	Bi carbonate	mg/l	150.0	IS 3025 Part 51: 2001	NA
3	Biological Oxygen Demand (BOD) <sub>5</sub> at 27°C For 3 days	mg/l	2.0	IS 3025 Part 44: 1993	2
4	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025 Part 57: 2021 ( Curcumin Method)	NA
5	Calcium as Ca	mg/l	36.07	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	80.10
6	Chemical Oxygen Demand (COD)	mg/l	26.0	IS 3025 Part 58: 2006	NA
7	Chloride as Cl	mg/l	51.44	IS 3025 Part 32: 1988 ( Argentometric Method)	250
8	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 Part 4: 2021	10
9	Dissolved oxygen	mg/l	6.1	IS 3025 Part 38: 1989	6
10	Electrical Conductivity at 25°C	µS/cm	491.0	IS 3025 Part 14: 2013	NA
11	Fluoride as F	mg/l	0.35	APHA 23rd edition Method 4500 F -B,D: 2017	1.5
12	Iron as Fe	mg/l	0.074	IS 3025 Part 53: 2003	0.3
13	Nitrate as NO <sub>3</sub>	mg/l	5.74	APHA 23rd edition Method 4500 NO <sub>3</sub> B: 2017	20

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### TEST REPORT

Page : 2 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Madharpakkam Eri

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U/LR : TC1231024000043551F

Report No. : HECSL/WT/004/110924

Sample ID No : 110924020

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
14	pH at 25°C	-	7.02	IS 3025 Part 11: 2022 ( Electrometric Method)	8.5
15	Total dissolved solids	mg/l	275.0	IS 3025 Part 16: 1984	500
16	Amionic Surface Active agents as MBAS	mg/l	BLQ(LOQ:0.05)	APHA 23rd edition Method 5540 B, C: 2017	0.2
17	Carbonate	mg/l	BLQ(LOQ:1.0)	IS 3025 Part 51: 2001	NA
18	Cyanide as CN	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 27 sec: 1: 2021	0.05
19	Magnesium as Mg	mg/l	19.44	IS 3025 Part 46: 1994 ( Volumetric Method using EDTA)	24.28
20	Percent Sodium	%	24.55	HECSG /WT/SOP/002 Issue No:01, Issue date 18.12: 2021	NA
21	Phenolic compounds as C6H5OH	mg/l	BLQ(LOQ:0.001)	IS 3025 Part 43: Sec 1: 2022	0.002
22	Phosphate as PO4	mg/l	0.098	APHA 23rd edition Method 4500-P B,D: 2017	NA
23	Potassium as K	mg/l	2.0	IS 3025 Part 45: 1993	NA
24	Residual Sodium Carbonate	mg/l	BLQ(LOQ:1.0)	IS 11624: 2019	NA
25	Sodium Adsorption Ratio(SAR)	Square root of (millimole/lit)	0.86	IS 11624: 2019	NA



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### TEST REPORT

Page : 3 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Madharpakkam Eri

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

U/LR : TC1231024000043551F  
Report No. : HECSL/WT/004/110924  
Sample ID No : 110924020  
Sampling Date : 11/09/2024

Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
26	Sodium as Na	mg/l	26.0	IS 3025 Part 45: 1983	NA
27	Sulphate as SO <sub>4</sub>	mg/l	21.44	IS 3025 Part 24 Sec 1: 2022	400
28	Total alkalinity as CaCO <sub>3</sub>	mg/l	150.0	IS 3025 Part 23: 1986	NA
29	Total Hardness as CaCO <sub>3</sub>	mg/l	170.0	IS 3025 Part 21: 2009	300
30	Total Phosphorous as P	mg/l	0.029	IS 3025 Part 31 Sec 1: 2022	NA
31	Total Suspended Solids	mg/l	2.0	IS 3025 Part 17: 1984	NA
32	Turbidity	NTU	1.7	IS 3025 Part 10: 1984	1
33	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.05
34	Barium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	1
35	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.001
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05
37	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	1.5
38	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.1
39	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.5
40	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001



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### TEST REPORT

Page : 4 of 4

ULR : TC1231024000043551F  
Report No. : HECSL/WT/004/110924  
Sample ID No : 110924020  
Sampling Date : 11/09/2024

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water  
Sample Name : Surface Water (All)  
Sample Mark : Madharpakkam Eri  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 28.0 Humidity (%) : 50.0  
Sampling Method & Plan : IS 176104(Part-1):2021

Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
41	Nickel	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	NA
42	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01
43	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Water  
Sample Name : Surface Water (All)  
Sample Mark : Madharpakkam Eri  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0  
Sampling Method & Plan : IS 176104(Part-1):2021

Report No. : HECSL/WT/004/110924/N  
Sample ID No : 110924020  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Hexavalent Chromium	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 52: 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*\*\*End of Report\*\*\*



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### TEST REPORT

Page : 1 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Pallavada Lake

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043552F  
Report No. : HECS/WT/005/110924  
Sample ID No : 110924021  
Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
Discipline : Chemical					
1	Ammonia as NH <sub>3</sub>	mg/l	BLQ(LOQ:0.02)	IS 3025 Part 34 Sec 2: 2021	NA
2	Bi carbonate	mg/l	140.0	IS 3025 Part 51: 2001	NA
3	Biological Oxygen Demand (BOD)@ 27°C For 3 days	mg/l	3.0	IS 3025 Part 44: 1993	2
4	Boron as B	mg/l	BLQ(LOQ:0.1)	IS 3025 Part 57: 2021 ( Carcumin Method)	NA
5	Calcium as Ca	mg/l	34.07	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	80.10
6	Chemical Oxygen Demand (COD)	mg/l	28.0	IS 3025 Part 58: 2006	NA
7	Chloride as Cl	mg/l	53.89	IS 3025 Part 32: 1988 ( Argentometric Method)	250
8	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 Part 4: 2021	10
9	Dissolved oxygen	mg/l	6.2	IS 3025 Part 38: 1989	6
10	Electrical Conductivity at 25°C	µS/cm	437.0	IS:3025 Part 14: 2013	NA
11	Fluoride as F	mg/l	0.31	APHA 23rd edition Method 4500 F -B,D: 2017	1.5
12	Iron as Fe	mg/l	0.074	IS 3025 Part 53: 2003	0.3
13	Nitrate as NO <sub>3</sub>	mg/l	5.17	APHA 23rd edition Method 4500 NO3B: 2017	20



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### TEST REPORT

Page : 2 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Pallavada Lake

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-I):2021

ULR : TC1231024000043552F

Report No. : HECSL/WT/005/110924

Sample ID No : 110924021

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
14	pH at 25°C	-	6.95	IS 3025 Part 11: 2022 ( Electrometric Method)	8.5
15	Total dissolved solids	mg/l	265.0	IS 3025 Part 16: 1984	500
16	Anionic Surface Active agents as MBAS	mg/l	BLQ(LOQ:0.05)	APHA 23rd edition Method 5540 B , C: 2017	0.2
17	Carbonate	mg/l	BLQ(LOQ:1.0)	IS 3025 Part 51: 2001	NA
18	Cyanide as CN	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 27 sec 1: 2021	0.05
19	Magnesium as Mg	mg/l	18.23	IS 3025 Part 46: 1994 ( Volumetric Method using EDTA)	24.28
20	Percent Sodium	%	30.31	HECSG /WT/SOP/002 Issue No:01, Issue date 18.12: 2021	NA
21	Phenolic compounds as C6H5OH	mg/l	BLQ(LOQ:0.001)	IS 3025 Part 43:Sec 1: 2022	0.002
22	Phosphate as PO4	mg/l	0.11	APHA 23rd edition Method 4500-P B,D: 2017	NA
23	Potassium as K	mg/l	2.0	IS 3025 Part 45: 1993	NA
24	Residual Sodium Carbonate	mg/l	BLQ(LOQ:1.0)	IS 11624: 2019	NA
25	Sodium Adsorption Ratio(SAR)	Square root of (millimole/lit)	0.75	IS 11624: 2019	NA

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### TEST REPORT

Page : 3 of 4

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Water

Sample Name : Surface Water (All)

Sample Mark : Pallavada Lake

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0

Sampling Method & Plan : IS 176104(Part-1):2021

ULR : TC1231024000043552F

Report No. : HECSL/WT/005/110924

Sample ID No : 110924021

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
26	Sodium as Na	mg/l	25.0	IS 3025 Part 45: 1983	NA
27	Sulphate as SO <sub>4</sub>	mg/l	19.44	IS 3025 Part 24 Sec 1: 2022	400
28	Total alkalinity as CaCO <sub>3</sub>	mg/l	140.0	IS 3025 Part 23: 1986	NA
29	Total Hardness as CaCO <sub>3</sub>	mg/l	160.0	IS 3025 Part 21: 2009	300
30	Total Phosphorous as P	mg/l	0.034	IS 3025 Part 31 Sec 1: 2022	NA
31	Total Suspended Solids	mg/l	2.0	IS 3025 Part 17: 1984	NA
32	Turbidity	NTU	1.3	IS 3025 Part 10: 1984	1
33	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.05
34	Barium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	1
35	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.001
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05
37	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	1.5
38	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.1
39	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.5
40	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001



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### TEST REPORT

Page : 4 of 4

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Water  
Sample Name : Surface Water (All)  
Sample Mark : Pallavada Lake  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0  
Sampling Method & Plan : IS 176104(Part-1):2021


ULR : TC1231024000043552F  
Report No. : HECSL/WT/005/110924  
Sample ID No : 110924021  
Sampling Date : 11/09/2024

Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method	Surface water Standards (IS 2296 Class-A)
41	Nickel	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	NA
42	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01
43	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.  
\*\*\*End of Report\*\*\*



  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Water  
Sample Name : Surface Water (All)  
Sample Mark : Pallavada Lake  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 28.0 | Humidity (%) : 50.0  
Sampling Method & Plan : IS 176104(Part-1):2021

Report No. : HECSL/WT/005/110924/N  
Sample ID No : 110924021  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Hexavalent Chromium	mg/l	BLQ(LOQ:0.01)	IS 3025 Part 52: 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

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## Laboratory Services Division

(Chemical & Biological Testing)  
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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

ULR : TC1231024000043543F

Report No. : HECS/PE/001/110924

Sample ID No : 110924012

Sampling Date : 11/09/2024

Group : Pollution & Environment

Sample Name : Soil(AH)

Sample Mark : Near Project Site

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Cadmium	mg/Kg	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
2	Chromium	mg/Kg	31.20	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
3	Copper	mg/Kg	7.31	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
4	Zinc	mg/kg	20.15	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
5	Soil Texture	-	Silty clay loam	FAO of United Nations, Rome Chapter - III 2008
6	Soil Texture i)Sand	%	18.8	FAO of United Nations, Rome Chapter - III 2008
7	Soil Texture ii)Silt	%	43.2	FAO of United Nations, Rome Chapter - III 2008
8	Soil Texture iii)Clay	%	38.0	FAO of United Nations, Rome Chapter - III 2008
9	pH Value @ 25 ° C (1 : 2.5)	-	7.24	IS 2720 (Part 26) 1987
10	Electrical conductivity @ 25 ° C (1 : 2)	µS/cm	235.0	IS 14767: 2000



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### TEST REPORT

Page : 2 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(AH)

Sample Mark : Near Project Site

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

ULR : TC1231024000043543F

Report No. : HECS/PE/001/110924

Sample ID No : 110924012

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
11	Bulk Density	gm/cm <sup>3</sup>	1.12	FAO of United Nations Rome 2007
12	Organic Carbon	%	0.46	IS 2720 (Part 22) Section 1 1972
13	Organic Matter	%	0.80	IS 2720 (Part 22) Section 1 1972
14	Available Potassium	mEq/100g	5.54	FAO of United Nations, Rome Chapter - III 2008
15	Boron as B	mg/kg	BLQ(LOQ 0.1)	HECS-G/ENV/SSW/SOP/018 Issue No.:01 Issue Date:02-07-2020
16	Total Nitrogen as N	%	0.0135	IS 14684 Clause 4 1999
17	Exchangable Calcium as Ca	mEq/L	7.92	FAO of United Nations, Rome Chapter - III 2008
18	Exchangable Magnesium as Mg	mEq/L	8.48	FAO of United Nations, Rome Chapter - III 2008
19	Cation Exchange Capacity	mEq/100g	3.1	IS 2720 (Part 24) Clause 5 1976
20	Water Holding capacity	%	21.6	IS 14765: 2000
21	Colour	-	Red	HECS-G/ENV/SSW/SOP/011 Issue No.:01 Issue Date:02-07-2020
22	Phosphorus	µg/g	5.60	FAO of United Nations, Rome Chapter -

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram ,  
% - Percentage.

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Pollution & Environment  
Sample Name : Soil(All)  
Sample Mark : Near Project Site  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0  
Sampling Method & Plan : ICARDA:2013

Report No. : HECS/PE/001/110924/N  
Sample ID No : 110924012  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Manganese	mg/kg	146.20	HECS-G/INS/SOP/ 042
2	Iron	mg/kg	BLQ(LOQ 0.02)	Inhouse method
3	Infiltration Rate	cm/hr	5.5	Inhouse method
4	Moisture	%	6.54	HECS-G/ENV/SSW/SOP/003 Issue No.:01 Issue Date:02-07- 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram -  
\*\*\*End of Report\*\*\*



  
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**TEST REPORT**

Page : 1 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution &amp; Environment

Sample Name : Soil(All)

Sample Mark : Near Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method &amp; Plan : ICARDA:2013

ULR : TC1231024000043544F

Report No. : HECS/PE/002/110924

Sample ID No : 110924013

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
<b>Discipline : Chemical</b>				
1	Cadmium	mg/Kg	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
2	Chromium	mg/Kg	28.08	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
3	Copper	mg/Kg	6.82	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
4	Zinc	mg/kg	12.93	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
5	Soil Texture	-	Clay loam	FAO of United Nations, Rome Chapter - III 2008
6	Soil Texture i)Sand	%	27.4	FAO of United Nations, Rome Chapter - III 2008
7	Soil Texture ii)Silt	%	41.9	FAO of United Nations, Rome Chapter - III 2008
8	Soil Texture iii)Clay	%	30.7	FAO of United Nations, Rome Chapter - III 2008
9	pH Value @ 25 ° C (1 : 2.5)	-	7.18	IS 2720 (Part 26) 1987
10	Electrical conductivity @ 25 ° C (1 : 2)	µ S/cm	192.0	IS 14767: 2000



  
Dr. Rajkumar Samuel  
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Authorized Signatory

**TEST REPORT**

Page : 2 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution &amp; Environment

Sample Name : Soil(All)

Sample Mark : Near Madharpakkam

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method &amp; Plan : ICARDA:2013

ULR : TC1231024000043544F

Report No. : HECS/PE/002/110924

Sample ID No : 110924013

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
11	Bulk Density	gm/cm <sup>3</sup>	1.16	FAO of United Nations Rome 2007
12	Organic Carbon	%	0.53	IS 2720 (Part 22) Section I 1972
13	Organic Matter	%	0.92	IS 2720 (Part 22) Section I 1972
14	Available Potassium	mEq/100g	6.20	FAO of United Nations, Rome Chapter - III 2008
15	Boron as B	mg/kg	BLQ(LOQ 0.1)	HECS-G/ENV/SSW/SOP/018 Issue No. 01 Issue Date: 02-07-2020
16	Total Nitrogen as N	%	0.0095	IS 14684 - Clause 4 1999
17	Exchangable Calcium as Ca	mEq/l.	6.04	FAO of United Nations, Rome Chapter - III 2008
18	Exchangable Magnesium as Mg	mEq/l.	6.54	FAO of United Nations, Rome Chapter - III 2008
19	Cation Exchange Capacity	mEq/100g	2.5	IS 2720 (Part 24) Clause 5 1976
20	Water Holding capacity	%	24.2	IS 14765: 2000
21	Colour	-	Red	HECS-G/ENV/SSW/SOP/011 Issue No. 01 Issue Date: 02-07-2020
22	Phosphorous	µg/g	BLQ(LOQ 5.0)	FAO of United Nations, Rome Chapter -

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram ,  
% - Percentage.

\*\*\*End of Report\*\*\*



Dr. Rajanar Samuel  
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## Laboratory Services Division

(Chemical & Biological Testing)  
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ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Pollution & Environment  
Sample Name : Soil(All)  
Sample Mark : Near Madharpakkam  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0  
Sampling Method & Plan : ICARDA:2013

Report No. : HECS/PE/002/110924/N  
Sample ID No : 110924013  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Manganese	mg/kg	128.14	HECS-G/INS/SOP/ 042
2	Iron	mg/kg	BLQ(LOQ 0.02)	Inhouse method
3	Infiltration Rate	cm/hr	7.3	Inhouse method
4	Moisture	%	7.34	HECS-G/ENV/SSW/SOP/003 Issue No.:01 Issue Date:02-07- 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram .

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(AH)

Sample Mark : Near Papankuppam

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

ULR : TC1231024000043545F

Report No. : HECS/PE/003/110924

Sample ID No : 110924014

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Cadmium	mg/Kg	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
2	Chromium	mg/Kg	26.37	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
3	Copper	mg/Kg	8.19	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
4	Zinc	mg/kg	28.66	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
5	Soil Texture	-	Loam	FAO of United Nations, Rome Chapter - III 2008
6	Soil Texture i) Sand	%	29.9	FAO of United Nations, Rome Chapter - III 2008
7	Soil Texture ii) Silt	%	47.2	FAO of United Nations, Rome Chapter - III 2008
8	Soil Texture iii) Clay	%	22.9	FAO of United Nations, Rome Chapter - III 2008
9	pH Value @ 25 ° C (1 : 2.5)	-	7.20	IS 2720 (Part - 26) 1987
10	Electrical conductivity @ 25 ° C (1 : 2)	µS/cm	294.0	IS 14767: 2000



  
Dr. Rajkumar Samuel  
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### TEST REPORT

Page : 2 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(All)

Sample Mark : Near Papankuppam

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

U/LR : TC1231024000043545F

Report No. : HECS/PE/003/110924

Sample ID No : 110924014

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
11	Bulk Density	gm/cm <sup>3</sup>	1.22	FAO of United Nations Rome 2007
12	Organic Carbon	%	0.63	IS 2720 (Part 22) Section 1 1972
13	Organic Matter	%	1.10	IS 2720 (Part 22) Section 1 1972
14	Available Potassium	mEq/100g	6.12	FAO of United Nations, Rome Chapter - III 2008
15	Boron as B	mg/kg	BLQ(LOQ 0.1)	HECS-G/ENV/SSW/SOP/018 Issue No.:01 Issue Date:02-07-2020
16	Total Nitrogen as N	%	0.0195	IS 14684 Clause 4 1999
17	Exchangable Calcium as Ca	mEq/L	6.32	FAO of United Nations, Rome Chapter - III 2008
18	Exchangable Magnesium as Mg	mEq/L	7.38	FAO of United Nations, Rome Chapter - III 2008
19	Cation Exchange Capacity	mEq/100g	2.4	IS 2720 (Part 24) Clause 5 1976
20	Water Holding capacity	%	29.2	IS 14765: 2000
21	Colour	-	Red	HECS-G/ENV/SSW/SOP/011 Issue No.:01 Issue Date:02-07-2020
22	Phosphorous	µg/g	5.14	FAO of United Nations, Rome Chapter -

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram , % - Percentage.

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur.  
Group : Pollution & Environment  
Sample Name : Soil(AH)  
Sample Mark : Near Papankuppam  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0  
Sampling Method & Plan : ICARDA:2013


Report No. : HECS/PE/003/110924/N  
Sample ID No : 110924014  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Manganese	mg/kg	163.54	HECS-G/INS/SOP/ 042
2	Iron	mg/kg	BLQ(LOQ 0.02)	Inhouse method
3	Infiltration Rate	cm/hr	6.5	Inhouse method
4	Moisture	%	7.24	HECS-G/ENV/SSW/SOP/003 Issue No.01 Issue Date:02-07: 2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram .

\*\*\*End of Report\*\*\*



  
Dr. Raghunath Samuel  
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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(All)

Sample Mark : Near RoshanNagaram

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

ULR : TC1231024000043546F

Report No. : HECS/PE/004/110924

Sample ID No : 110924015

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Cadmium	mg/Kg	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
2	Chromium	mg/Kg	26.12	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
3	Copper	mg/Kg	4.82	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
4	Zinc	mg/kg	19.65	HECS-G/INS/SOP/ 042 Issue No.:01 Issue Date:01.03.2021
5	Soil Texture	-	Clay loam	FAO of United Nations, Rome Chapter - III 2008
6	Soil Texture i)Sand	%	31.2	FAO of United Nations, Rome Chapter - III 2008
7	Soil Texture ii)Silt	%	38.4	FAO of United Nations, Rome Chapter - III 2008
8	Soil Texture iii)Clay	%	30.4	FAO of United Nations, Rome Chapter - III 2008
9	pH Value @ 25 ° C (1 : 2.5)	-	7.34	IS 2720 (Part 26) 1987
10	Electrical conductivity @ 25 ° C (1 : 2)	µS/cm	120.0	IS 14767: 2000



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### TEST REPORT

Page : 2 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(All)

Sample Mark : Near RoshanNagaram

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

U.L.R : TC1231024000043546F

Report No. : HECS/PE/004/110924

Sample ID No. : 110924015

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
11	Bulk Density	gm/cm <sup>3</sup>	1.08	FAO of United Nations Rome 2007
12	Organic Carbon	%	0.53	IS 2720 (Part 22) Section 1 1972
13	Organic Matter	%	0.92	IS 2720 (Part 22) Section 1 1972
14	Available Potassium	mEq/100g	5.64	FAO of United Nations, Rome Chapter - III 2008
15	Boron as B	mg/kg	BLQ(LOQ 0.1)	HECS-G/ENV/SSW/SOP/018 Issue No.:01 Issue Date:02-07-2020
16	Total Nitrogen as N	%	0.0140	IS 14684 Clause 4 1999
17	Exchangable Calcium as Ca	mEq/L	6.48	FAO of United Nations, Rome Chapter - III 2008
18	Exchangable Magnesium as Mg	mEq/L	7.28	FAO of United Nations, Rome Chapter - III 2008
19	Cation Exchange Capacity	mEq/100g	1.7	IS 2720 (Part 24) Clause 5 1976
20	Water Holding capacity	%	27.4	IS 14765: 2000
21	Colour	-	Black	HECS-G/ENV/SSW/SOP/011 Issue No.:01 Issue Date:02-07-2020
22	Phosphorous	µg/g	6.25	FAO of United Nations, Rome Chapter -

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram ,  
% - Percentage.

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in

## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS, FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur,  
Group : Pollution & Environment  
Sample Name : Soil(All)  
Sample Mark : Near RoshanNagaram  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0  
Sampling Method & Plan : ICARDA:2013

Report No. : HECS/PE/004/T10924/N  
Sample ID No : 110924015  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Manganese	mg/kg	125.32	HECS-G/INS/SOP/ 042
2	Iron	mg/kg	7.44	Inhouse method
3	Infiltration Rate	cm/hr	5.9	Inhouse method
4	Moisture	%	7.64	HECS-G/ENV/SSW/SOP/003 Issue No.:01 Issue Date:02-07-2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram .

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

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BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(AH)

Sample Mark : Near Soorapoondi

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

ULR : TC1231024000043547F

Report No. : HECS/PE/005/110924

Sample ID No : 110924016

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Cadmium	mg/Kg	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
2	Chromium	mg/Kg	25.11	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
3	Copper	mg/Kg	6.71	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
4	Zinc	mg/kg	16.74	HECS-G/INS/SOP/042 Issue No.:01 Issue Date:01.03.2021
5	Soil Texture	-	Clay loam	FAO of United Nations, Rome Chapter - III 2008
6	Soil Texture i)Sand	%	23.5	FAO of United Nations, Rome Chapter - III 2008
7	Soil Texture ii)Silt	%	38.2	FAO of United Nations, Rome Chapter - III 2008
8	Soil Texture iii)Clay	%	38.3	FAO of United Nations, Rome Chapter - III 2008
9	pH Value @ 25 ° C (1 : 2.5)	-	7.26	IS 2720 (Part - 26) 1987
10	Electrical conductivity @ 25 ° C (1 : 2)	µS/cm	225.0	IS 14767: 2000



Dr. Rakumar Samuel  
Director Technical  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

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Ph: 42985555 / 43635555 Fax : 42985500  
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## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 2 of 2

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Pollution & Environment

Sample Name : Soil(All)

Sample Mark : Near Soorapoondi

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0

Sampling Method & Plan : ICARDA:2013

ULR : TC1231024000043547F

Report No. : HECS/PE/005/110924

Sample ID No : 110924016

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 17/09/2024

Report Date : 17/09/2024

Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
11	Bulk Density	gm/cm <sup>3</sup>	1.16	FAO of United Nations Rome 2007
12	Organic Carbon	%	0.56	IS 2720 (Part 22) Section 1 1972
13	Organic Matter	%	0.97	IS 2720 (Part 22) Section 1 1972
14	Available Potassium	mEq/100g	5.67	FAO of United Nations, Rome Chapter - III 2008
15	Boron as B	mg/kg	BLQ(LOQ 0.1)	HECS-G/ENV/SSW/SOP/018 Issue No.:01 Issue Date:02-07-2020
16	Total Nitrogen as N	%	0.0155	IS 14684 Clause 4 1999
17	Exchangable Calcium as Ca	mEq/L	6.84	FAO of United Nations, Rome Chapter - III 2008
18	Exchangable Magnesium as Mg	mEq/L	6.34	FAO of United Nations, Rome Chapter - III 2008
19	Cation Exchange Capacity	mEq/100g	1.8	IS 2720 (Part 24) Clause 5 1976
20	Water Holding capacity	%	25.2	IS 14765: 2000
21	Colour	-	Black	HECS-G/ENV/SSW/SOP/011 Issue No.:01 Issue Date:02-07-2020
22	Phosphorous	µg/g	5.26	FAO of United Nations, Rome Chapter -

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram ,  
% - Percentage.

\*\*\*End of Report\*\*\*



Dr. Rajendran Samuel  
Director Technical  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.

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## Laboratory Services Division

(Chemical & Biological Testing)  
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BIS, FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,  
Address of the Client : Manalur,  
Group : Pollution & Environment  
Sample Name : Soil(AH)  
Sample Mark : Near Soorapoondi  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 31.0 | Humidity (%) : 52.0  
Sampling Method & Plan : ICARDA:2013

Report No. : HECS/PE/005/110924/N  
Sample ID No : 110924016  
Sampling Date : 11/09/2024  
Received Date : 11/09/2024  
Commenced Date : 11/09/2024  
Completed On : 17/09/2024  
Report Date : 17/09/2024  
Sample quantity : 1 Kg

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Manganese	mg/kg	154.32	HECS-G/INS/SOP/ 042
2	Iron	mg/kg	2.76	Inhouse method
3	Infiltration Rate	cm/hr	5.8	Inhouse method
4	Moisture	%	7.52	HECS-G/ENV/SSW/SOP/003 Issue No.:01 Issue Date:02-07-2020

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/kg- Milligrams per kilogram .

\*\*\*End of Report\*\*\*



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



## Laboratory Services Division

(Chemical & Biological Testing)  
Recognized by CPCB (MoEF & CC)  
BIS FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. SIPCOT.,

Address of the Client : Manalur.

Group : Atmospheric Pollution

Sample Name : Ambient Noise Levels (Excluding vibration)

Sample Mark : Noise

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 9989:1981

ULR : TC1231024000047369F

Report No. : HECS/AP/010/110924

Sample ID No : 110924011

Sampling Date : 11/09/2024

Received Date : 11/09/2024

Commenced Date : 11/09/2024

Completed On : 07/10/2024

Report Date : 07/10/2024

Sample quantity : NA

S.No	Sampling Location	Day Noise level in dB (A)	Night Noise level in dB (A)
1	Project Site	50.8	43.9
2	Soorapundi	54.2	42.5
3	Roshan Nagaram	50.5	43.2
4	Madharpakkam	46.1	42.8
5	Papankuppam	48.5	43.0

#### Noise Standards - CPCB:

i.	Industrial Area	: Day Time-75 dB (A);	Night Time-70 dB (A).
ii.	Commercial Area	: Day Time-65 dB (A);	Night Time-55 dB (A).
iii.	Residential Area	: Day Time-55 dB (A);	Night Time-45 dB (A).
iv.	Silence Zone	: Day Time-50 dB (A);	Night Time-40 dB (A).

**Note:** 1. Day Time shall mean from 6.00 am to 10.00 pm.

2. Night Time shall mean from 10.00 pm to 6.00 am.

\*\*\*End of Report\*\*\*



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

**EXTRACT OF MINUTES OF THE 491<sup>st</sup> BOARD MEETING OF SIPCOT HELD AT 4.00 P.M. ON FRIDAY, THE 29<sup>TH</sup> MAY, 2020 AT THE CONFERENCE HALL, INDUSTRIES DEPARTMENT, SECRETARIAT, CHENNAI-9**

<b>DIRECTORS PRESENT (IN PERSON)</b>	1. Thiru N. Muruganandam, IAS, Principal Secretary/Chairman 2. Thiru J. Kumaragurubaran, IAS, Managing Director 3. Thiru. S. Krishnan, IAS, Director 4. Tmt. Kakarla Usha, IAS, Director 5. Tmt. Anu George, IAS, Director 6. Tmt. R. Gajalakshmi, IAS, Director 7. Dr. K.P. Karthikeyan, IAS, Director
<b>DIRECTORS PRESENT (ONLINE)*</b>	8. Dr. M. Aarthi, IAS, Director 9. Tmt. M.A. Helen, Director 10. Thiru. S. Kumararajan, Independent Director 11. Dr. A. Jebamalar, Independent Director 12. Thiru S.V. Arumugam, Independent Director 13. Dr. N. Sundaradevan, IAS (Retd.), Independent Director
<b>IN ATTENDANCE:</b>	Thiru. SP. Meyyappan, Consultant (Operations) Tmt. S. Shoba, GM(F) /CFO Tmt. H. Prabhavathy, GM(P-II) i/c Thiru A.R. Chandramohan, GM(P-III) i/c Tmt. M.G. Shanthi, Company Secretary

\* Ministry of Corporate Affairs in its circular dated 19.3.2020 and 5.5.2020 relaxed the requirement of holding Board Meetings with physical presence of Directors for approval and also encouraged Companies to hold meetings through Video Conferencing or through audio-visual means.

\*\*\*\*\*

**9. SIPCOT INDUSTRIAL COMPLEXES/PARKS/GROWTH CENTRES – DRAFT ENVIRONMENT POLICY - APPROVAL – REG.**

Board deliberated the draft environment policy as annexed in the Board note and passed the following:

**"RESOLVED** to approve the Environmental Policy of SIPCOT as annexed in the Board note and authorize Managing Director to implement the same."

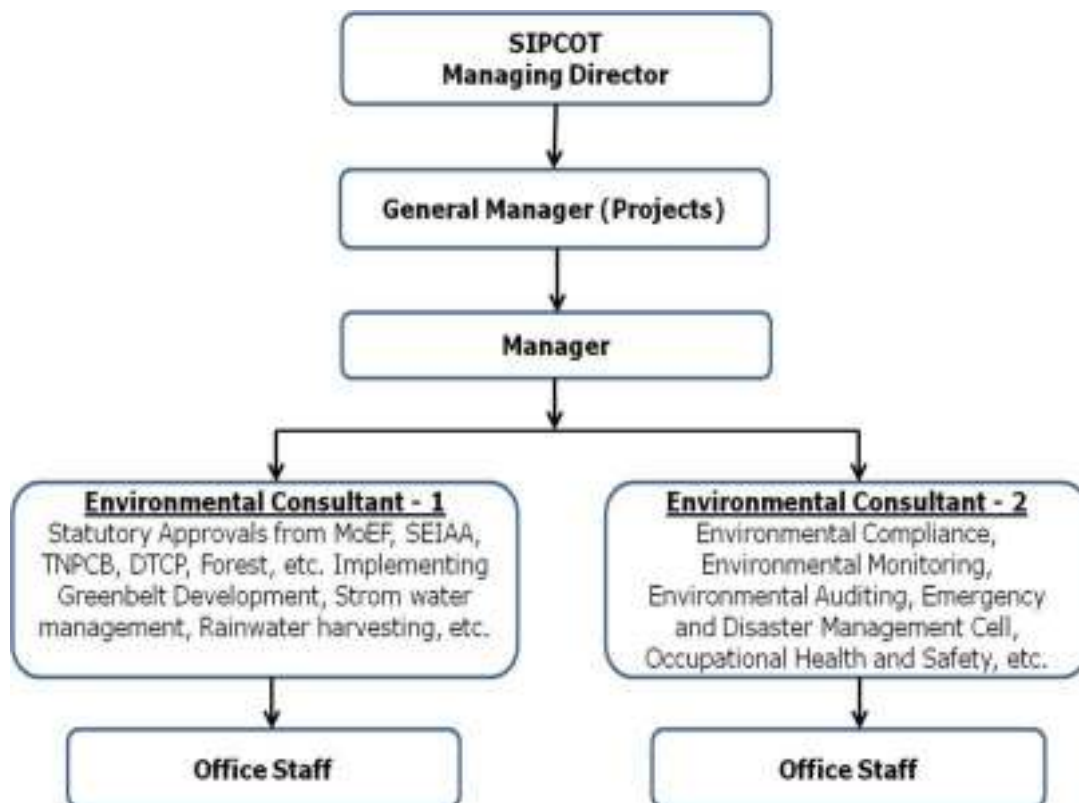
**//TRUE COPY//**

  
**COMPANY SECRETARY**

## **ENVIRONMENTAL MANAGEMENT CELL**

### **1. INTRODUCTION:**

- 1.1. For effective implementation and monitoring of environmental management system, it is necessary to have a permanent organizational set-up as Environmental Management Cell (EMC). This is done by assigning responsibility to the concerned personnel for implementation of environmental control measures.
- 1.2. SIPCOT Environmental Management Cell consist of 7 team members headed by SIPCOT Managing Director, General Manager (Projects), Manager and two Environmental Consultants assisted by two Office Staffs which will enforce and implement the Environmental Plan.
- 1.3. The Organization of Environmental Management Cell (EMC) proposed is given in **Figure - 1**.



**Figure - 1 Organogram for Environmental Management Cell**

## **2. RESPONSIBILITIES OF ENVIRONMENTAL MANAGEMENT CELL:**

- 2.1. Environmental Management Cell (EMC) shall obtain all applicable statutory clearances and approvals as mandated by the regulatory authorities and maintain the Industrial Parks in compliance with all applicable rules and regulations.
- 2.2. Other responsibilities of the cell will include:
  - a) Review the progress of regulatory compliance of SIPCOT and initiate necessary action for the compliance of the same.
  - b) The EMC will review, implement, update, and comply with the Environment Policy to ensure the effective implementation of environmental safeguard measures.
  - c) Keeping the Board updated on regular basis about the activities carried out under environmental measures and suggests measures to improve environment preservation and protection.
  - d) Encourages allottee units to implement, adopt and use of green and sustainable technologies such as Solar, Wind, Thermal, Biomass, Electric & Hybrid vehicles, etc. to achieve more resource-efficient, clean and resilient growth towards reducing pollution during their process, manufacturing and transportation of goods and encourages energy recovery for self sustainability from their Industrial process.
  - e) Mandate industries to reduce the use of one time use plastics, Styrofoam, and other plastic material during the packing and delivery of goods.



**Table – 1: Roles and responsibilities of EMC**

<b>S.No.</b>	<b>Designation</b>	<b>Responsibilities</b>
1	Managing Director	<ul style="list-style-type: none"> <li>➤ Responsible for overall environmental management.</li> <li>➤ Regularly conduct meeting with EMC and take feedback regarding all the activities performed under Environmental Management and give directions to succeeding component.</li> <li>➤ Approval of funds for carrying out environmental management activities.</li> </ul>
2	GM – Projects	<ul style="list-style-type: none"> <li>➤ Keep aware about all the activities performed under EMC in the industrial parks.</li> <li>➤ Issuing direction to Project officers for implementing Greenbelt development, Storm water management, rain water harvesting, etc.</li> <li>➤ To deal with legal entity pertaining to environmental issues.</li> </ul>
3	Manager	<ul style="list-style-type: none"> <li>➤ To prepare and allocate budget for Environment Management Plan.</li> <li>➤ Ensuring compliance to the conditions prescribed by statutory authority.</li> <li>➤ Mandating member industries to comply with the conditions stipulated in the statutory approvals and non-compliance if any shall be reported to GM and immediately required action will be taken.</li> </ul>
4	Environmental Consultants (Two)	<ul style="list-style-type: none"> <li>➤ Obtaining Statutory Approvals from MoEF&amp;CC / SEIAA / TNPCB, etc.</li> <li>➤ Addressing the various queries received from statutory authorities on environmental front.</li> <li>➤ Submitting Environmental compliance report and coordinating with project officers for Environmental monitoring, audit, etc.</li> <li>➤ Compliance with the environmental laws and implications which dynamically changes from time to time due to the emerging challenges.</li> </ul>

**தமிழ்நாடு தொழில் முன்னேற்ற நிறுவனம்**  
 சிப்காட் தொழிற் பூங்கா - மாநல்லூர்.  
 கும்மிடிப்பூண்டி தாலுகா, திருவள்ளூர் மாவட்டம்.

**சுற்றுச்சூழல் இசைவாணை**

மத்திய சுற்றுச்சூழல் வனத்துறை மற்றும் பருவநிலை மாற்ற அமைச்சகம் F.No:21-59/2015-IA.III தேதி 10.11.2020 மூலம் மாநல்லூர் மற்றும் சூரபூண்டி கிராமம், கும்மிடிப்பூண்டி தாலுகா, திருவள்ளூர் மாவட்டத்தில் அமையவுள்ள தொழிற் பூங்காவிற்கு சுற்றுச்சூழல் இசைவாணை வழங்கியுள்ளது.

இசைவாணையின் முழுவிவரங்களை சிப்காட் இணையதளமான [www.sipcot.tn.gov.in](http://www.sipcot.tn.gov.in) மற்றும் மத்திய சுற்றுச்சூழல் வனத்துறை மற்றும் பருவநிலை மாற்ற அமைச்சகத்தின் இணையதளமான [www.environmentclearance.nic.in](http://www.environmentclearance.nic.in) ஆகியவற்றில் பதிவிறக்கம் செய்து கொள்ளலாம். மேலும் இவ்விசைவாணையின் நகலினை இவ்வலுவலகத்திலும் பெற்றுக்கொள்ளலாம்.

மேலாண்மை இயக்குநர்,  
 சிப்காட்,  
 19-அ, ருக்மணி இலட்சுமிபதி சாலை,  
 எழும்பூர், சென்னை-600 008.

செ.ம.செ.இ/102/வனநகலை/2020

**STATE INDUSTRIES PROMOTION CORPORATION OF TAMILNADU LIMITED**  
 SIPCOT INDUSTRIAL PARK - MANALLUR  
 GUMMIDIPOONDI TALUK, THIRUVALLUR DISTRICT

**ENVIRONMENTAL CLEARANCE**

Environmental Clearance has been obtained for the Development of SIPCOT Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu from Ministry of Environment Forest and Climate Change (MoEF&CC), New Delhi vide File.No.: 21-59/2015-IA.III Dated 10.11.2020.

The contents of the Environmental Clearance can be downloaded from SIPCOT website [www.sipcot.tn.gov.in](http://www.sipcot.tn.gov.in) and also in the MoEF&CC website [www.environmentclearance.nic.in](http://www.environmentclearance.nic.in). Further the copies of the Environmental Clearance could be obtained from the Head Office of SIPCOT.

**MANAGING DIRECTOR,**  
 SIPCOT,  
 19A, RUKMANI LAKSHMIPATHY ROAD,  
 EGMORE, CHENNAI-8.

SIPR/ 1102 /Display/2020

**State Industries Promotion Corporation of Tamil Nadu Limited****(A Government of Tamil Nadu Undertaking)**

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The Member Secretary,  
State Level Environmental Impact Assessment Authority, /RPAD/  
3rd Floor, Panagal Maligai,  
No.1. Jeenis Road,  
Saidapet, Chennai - 600 015.

Sir,

Sub: SIPCOT - Development of Manallur Industrial Park - Copy of the  
Environmental Clearance issued by MoEF&CC - Forwarded - Reg.

Ref: EC File No.: 21-59/2015-IA.III dated 10.11.2020.

\*\*\*\*\*

We wish to inform that, SIPCOT has obtained Environmental Clearance (EC) for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed. Further, as per the EC Condition (Part B - Standard Conditions, Section XI: Miscellaneous) we request you to display the same for 30 days from the date of receipt of this letter.

Yours faithfully,

*H. Prakashanathan*  
GENERAL MANAGER (P-II)i/c

Encl.: as above



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74998TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The Deputy Director General of Forests (C),  
Ministry of Environment, Forest and Climate Change,  
Regional Office (SEZ), 1st and IIInd Floor,  
Handloom Export Promotion Council, 34, Cathedral Garden Road,  
Nungambakkam, Chennai – 600 034.

/RPAD/

Sir,

Sub: SIPCOT – Development of Manallur Industrial Park – Copy of the  
Environmental Clearance issued by MoEF&CC – Forwarded - Reg.

Ref: EC File No.: 21-59/2015-IA.III dated 10.11.2020.

\*\*\*\*\*

We wish to inform that, SIPCOT has obtained Environmental Clearance (EC) for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed. Further, as per the EC Condition (Part B - Standard Conditions, Section XI: Miscellaneous) we request you to display the same for 30 days from the date of receipt of this letter.

Yours faithfully,

*H. Prabhakaran*  
GENERAL MANAGER (P-II)i/c

Encl.: As above.





# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The President,  
Soorapoondi Village Panchayat,  
Gummidipoondi Taluk,  
Thiruvallur District,  
Tamil Nadu.

Sir,

Sub: SIPCOT – Development of Manallur Industrial Park – Copy of the Environmental Clearance issued by MoEF&CC – Forwarded - Reg.

Ref: EC File No.: 21-59/2015-IA.III dated 10.11.2020.

\*\*\*\*\*

We wish to inform that, SIPCOT has obtained Environmental Clearance for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed.

Yours faithfully,

*J. Prabhavathy*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi.



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The President,  
Soorapoondi Village Panchayat,  
Gummidipoondi Taluk,  
Thiruvallur District,  
Tamil Nadu.

Sir,

Sub: SIPCOT - Development of Manallur Industrial Park - Copy of the Environmental Clearance issued by MoEF&CC - Forwarded - Reg.

Ref: EC File No.: 21-59/2015-1A.III dated 10.11.2020.

\*\*\*\*\*

We wish to inform that, SIPCOT has obtained Environmental Clearance for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed.

Yours faithfully,

*H. Prabhavathi*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi.

- To hand over a copy of the Environmental Clearance to the Soorapoondi Panchayat with due acknowledgement and send a report to the H.O.



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The President,  
Manallur Village Panchayat,  
Gummidipoondi Taluk,  
Thiruvallur District,  
Tamil Nadu.

Sir,

Sub: SIPCOT – Development of Manallur Industrial Park – Copy of the Environmental Clearance issued by MoEF&CC – Forwarded - Reg.

Ref: EC File No.: 21-59/2015-IA.III dated 10.11.2020.

\*\*\*\*\*

We wish to inform that, SIPCOT has obtained Environmental Clearance for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed.

Yours faithfully,

*H. Prathapanthy*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The President,  
Manallur Village Panchayat,  
Gummidipoondi Taluk,  
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Tamil Nadu.

Sir,

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Yours faithfully,

*H. Prathapathy*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi

- To hand over a copy of the Environmental Clearance to the Manallur Panchayat with due acknowledgement and send a report to the H.O.





# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The Block Development Officer,  
Manallur & Soorapoondi Villages,  
Gummidipoondi Taluk,  
Thiruvallur District,  
Tamil Nadu.

Sir,

Sub: SIPCOT – Development of Manallur Industrial Park – Copy of the  
Environmental Clearance issued by MoEF&CC – Forwarded - Reg.

Ref: EC File No.: 21-59/2015-IA.III dated 10.11.2020.

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Yours faithfully,

*H. Prabhavathy*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The Block Development Officer,  
Manallur & Soorapoondi Villages,  
Gummidipoondi Taluk,  
Thiruvallur District,  
Tamil Nadu.

Sir,

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Yours faithfully,

*H. Prathapathy*  
GENERAL MANAGER (P-II)/c

Encl.: as above

Copy to:

The Project Officer,  
SIPCOT Industrial Complex,  
Gummidipoondi

- To hand over a copy of the Environmental Clearance to the BDO with due acknowledgement and send a report to the H.O.



# State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 18.11.2020

The Chairman,  
Tamil Nadu Pollution Control Board,  
No. 76, Mount Road, Guindy,  
Chennai – 600 032.

/RPAD/

Sir,

Sub: SIPCOT – Development of Manallur Industrial Park – Copy of the Environmental Clearance issued by MoEF&CC – Forwarded - Reg.

Ref: EC File No.: 21-59/2015-1A.III dated 10.11.2020.

\*\*\*\*\*

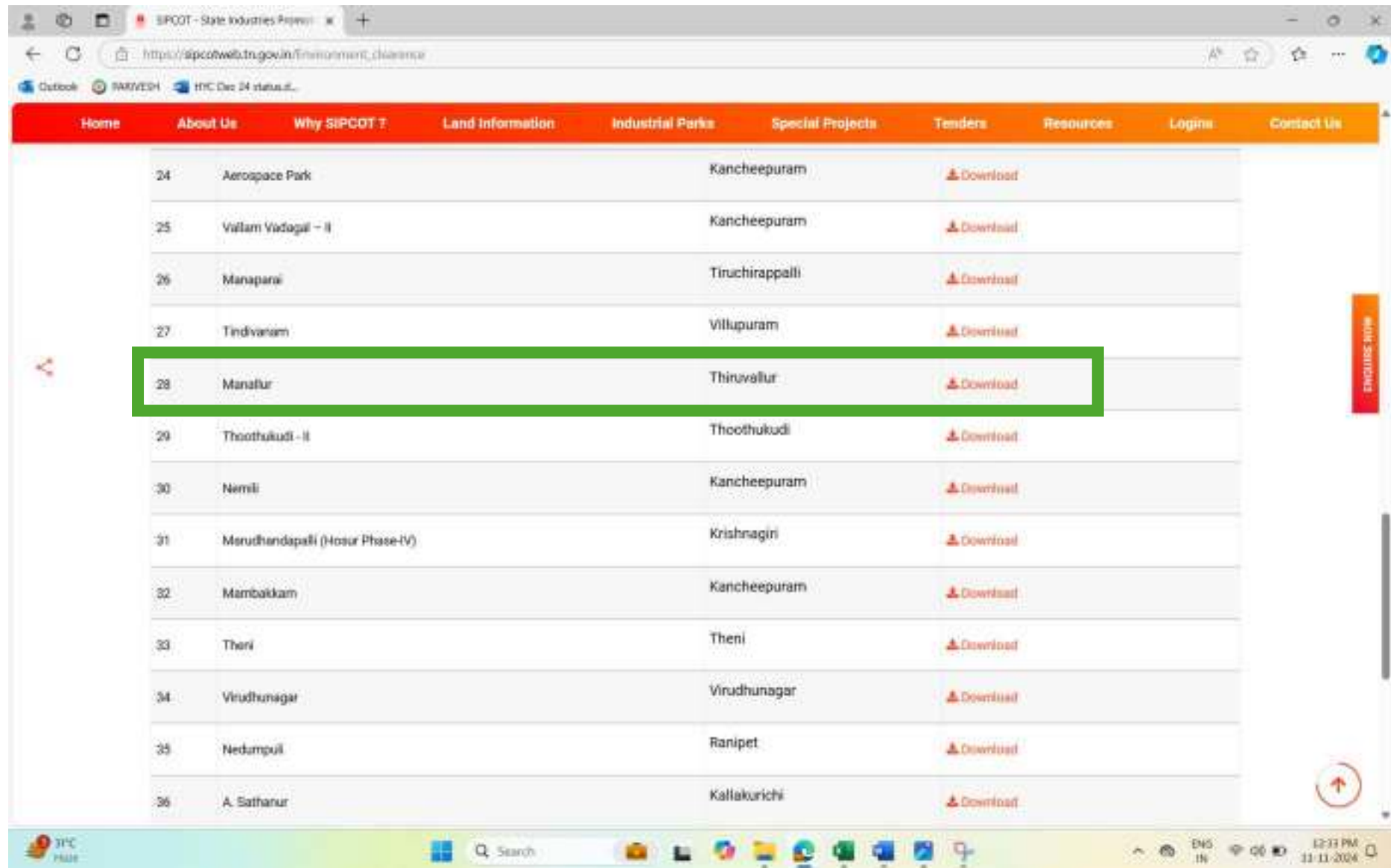
We wish to inform that, SIPCOT has obtained Environmental Clearance for development of New Industrial Park at Manallur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District from the Ministry of Environment Forest and Climate Change (MoEF&CC), Government of India vide reference cited. A copy of the same is enclosed. Further, as per the EC Condition (Part B - Standard Conditions, Section XI: Miscellaneous) we request you to display the same for 30 days from the date of receipt of this letter.

Yours faithfully,

  
GENERAL MANAGER (P-II)/c

Encl.: as above

# Annexure 10



The screenshot shows the SIPCOT website with a list of industrial parks. The row for 'Manalur' is highlighted with a green box. The table has four columns: S.No, Name of the Park, Location, and Download link. The 'Download' link for 'Manalur' is highlighted with a red box.

S.No	Name of the Park	Location	Download
24	Aerospace Park	Kancheepuram	<a href="#">Download</a>
25	Vallam Vadagal - II	Kancheepuram	<a href="#">Download</a>
26	Manapalai	Tiruchirappalli	<a href="#">Download</a>
27	Tindivanam	Villupuram	<a href="#">Download</a>
28	Manalur	Thiruvallur	<a href="#">Download</a>
29	Thoothukudi - II	Thoothukudi	<a href="#">Download</a>
30	Nemli	Kancheepuram	<a href="#">Download</a>
31	Merudhandapalli (Hosur Phase-IV)	Krishnagiri	<a href="#">Download</a>
32	Mambakkam	Kancheepuram	<a href="#">Download</a>
33	Theni	Theni	<a href="#">Download</a>
34	Virudhunagar	Virudhunagar	<a href="#">Download</a>
35	Nedumpall	Ranipet	<a href="#">Download</a>
36	A. Sathanur	Kallakurichi	<a href="#">Download</a>



# Annexure 11

SIPCOT - State Industries Promotion Corporation of Tamil Nadu

https://sipcotweb.tn.gov.in/Compliance\_Report

Home About Us Why SIPCOT ? Land Information Industrial Parks Special Projects Tenders Resources Logins Contact Us

## COMPLIANCE REPORTS

S.NO.	TITLE	DOWNLOAD
1	Compliance Report - Thervoy Kandigai for June 2024	<a href="#">Download</a>
2	Compliance Report - Pillaipakkam for June 2024	<a href="#">Download</a>
3	Compliance Report - Vallam Vadagal II for June 2024	<a href="#">Download</a>
4	Compliance Report - Vaipur Mathur for June 2024	<a href="#">Download</a>
5	Compliance Report - Aerospace Park for June 2024	<a href="#">Download</a>
6	Compliance Report - Cheyyar for June 2024	<a href="#">Download</a>
7	Compliance Report - Mansarai for June 2024	<a href="#">Download</a>
8	Compliance Report - Tindivanam for June 2024	<a href="#">Download</a>
9	Compliance Report - Manallur for June 2024	<a href="#">Download</a>
10	Compliance Report - Vallam Vadagal I for June 2024	<a href="#">Download</a>
11	Compliance Report - Thoothukudi for June 2024	<a href="#">Download</a>
12	Compliance Report - Nemili for June 2024	<a href="#">Download</a>
13	Compliance Report - Mambakkam for June 2024	<a href="#">Download</a>
14	Compliance Report - Manudhindapalli for June 2024	<a href="#">Download</a>
15	Compliance Report - Theni for June 2024	<a href="#">Download</a>
16	Compliance Report - A.Sathanur for June 2024	<a href="#">Download</a>

Encountered Error

12:22 PM 11/11/2024



I/176375/2024

Date: 03-10-2024

To,  
The Member Secretary,  
Tamil Nadu Pollution Control Board,  
No.76, Mount Salai, Guindy,  
Chennai - 600 032.

Sir,

Sub: SIPCOT Industrial Park, Manallur - Environmental Statement for the Financial Year ending 31<sup>st</sup> March 2024 - Submitted - Reg.

Ref: MoEF&CC File No. 21-59/2015-IA.III dated 10.11.2020.

\*\*\*\*\*

With reference to the above, we hereby submit the Environmental Statement in Form-V as prescribed under the Environmental (Protection) Rules, 1986 and its subsequent amendment in respect of SIPCOT Industrial Park at Manallur and Sooraipoondi Villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu for the Financial Year ending 31<sup>st</sup> March 2024.

Yours faithfully,  
Sd/-  
MANAGING DIRECTOR

Encl: As above.

/Forwarded by Order/



GENERAL MANAGER (P-I)

**State Industries Promotion Corporation of Tamil Nadu Limited**  
(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Regd. Office : 19-A, Rukmani Lakshmiipathy Road, Post Box No. 7223, Egmore, Chennai - 600 008.

Phone : 4526 1777, Fax : 4526 1796 Website : www.sipcot.tn.gov.in

[Home](#) [About Us](#) [Why SIPCOT ?](#) [Land Information](#) [Industrial Parks](#) [Special Projects](#) [Tenders](#) [Resources](#) [Logins](#) [Contact Us](#)

12	Compliance Report - Nedumkudam for June 2024	<a href="#">Download</a>
13	Compliance Report - Mambakkam for June 2024	<a href="#">Download</a>
14	Compliance Report - Marudhandapalli for June 2024	<a href="#">Download</a>
15	Compliance Report - Theni for June 2024	<a href="#">Download</a>
16	Compliance Report - A.Sathanur for June 2024	<a href="#">Download</a>
17	Compliance Report - Nedumpuli for June 2024	<a href="#">Download</a>
18	Compliance Report - Virudhunagar for June 2024	<a href="#">Download</a>
19	Environmental Statement for the Financial Year - 2023 - 2024	<a href="#">Download</a>

**SIPCOT**  
Govt. of Tamil Nadu

19-A, RUKMANI LAKSHMIPATHY ROAD  
EGMORE, CHENNAI - 600 008.

044-45261777

[tapals@sipcot.in](mailto:tapals@sipcot.in)



## Newsletter

Subscribe our newsletter to get our latest update and news

## Mandatories

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- Terms and conditions
- Privacy Policy
- Refund Policy
- Hyper Link Policy
- Copy Right Policy

## Map





**SIPCOT – MANALLUR MONITORING PHOTOGRAPHS**

**AMBIENT AIR QUALITY MONITORING PHOTOGRAPHS:**

**PROJECT SITE:**



**SOORAPUNDI:**



**ROSHAN NAGARAM:**





**MADHARPAKKAM:**



**PAPANKUPPAM:**



**GROUND WATER SAMPLING PHOTOGRAPHS**

**NEAR PROJECT AREA**



**MADHARPAKKAM**



## SOORAPOONDI



## NOISE MONITORING PHOTOGRAPHS

### PROJECT SITE:



### SOORAPUNDI:



### ROSHAN NAGARAM:



### MADHARPAKKAM:



**PAPANKUPPAM:**



**SOIL SAMPLING PHOTOGRAPHS**

**PROJECT SITE:**



**SOORAPUNDI:**



**ROSHAN NAGARAM:**



**MADHARPAKKAM:**



**PAPPANKUPPAM:**



**SURFACE WATER SAMPLING PHOTOGRAPHS**

**LAKE NEAR PALAVAKKAM**



**LAKE NEAR THERVOYKANDIGA**

