

EXECUTIVE SUMMARY

for the proposed
**Development of Industrial Park At Adhagapadi Village Of Dharmapuri
Taluk & Adhiyamankottai, Thadangam And Balajangamanahalli Villages
of Nallampalli Taluk, Dharmapuri District, Tamil Nadu over an extent Of
698.205 Ha (1724.566 Acres)**

at

Villages: Adhagapadi, Adhiyamankottai, Thadangam and

Balajangamanahalli

Taluk: Dharmapuri & Nallampalli

District: Dharmapuri

State: Tamil Nadu

Project -7(c) - Category A

By



**M/s. STATE INDUSTRIES PROMOTION CORPORATION
OF TAMILNADU LIMITED
19/A, Rukmani Lakshmi pathy Road,
Egmore, Chennai – 600 008**



CONSULTANT

**M/s. HUBERT ENVIRO CARE SYSTEMS (P) LTD, CHENNAI – Environmental
Consultant**

NABET Certificate No	NABET/EIA/2224/SA 0190 valid upto 27/07/2024
NABL Certificate No	TC-5786 Valid up to 29/04/2024

M/s. ITCOT Limited- Project Consultant

February-2024

1. Project Background

SIPCOT propose to establish an Industrial Park at Adhagapadi Village of Dharmapuri Taluk & Adhiyamankottai, Thadangam and Balajangamanahalli Villages of Nallampalli Taluk, Dharmapuri District and Tamil Nadu over an extent of 698.205 Ha (1724.566 Acres).

Initially, The Industrial Park is planned to accommodate 3(a), 5(e), 5(f) and other Non EC category industries such General Engineering, Automobiles, Electrical & Electronics, etc. (100% of the Industrial plot area). As per the direction of EAC in 330th EAC meeting held on 19.06.2023 and 337th EAC meeting held on 06.09.2023, EC category industries has been reduced from 100% to 27.49% of the Industrial area.

Now, The Industrial Park is planned with 27.49% of industrial plot area for EC category industries falling under categories 3(a), 5(e), and 5(f), specifically focusing on EV products such as battery compounds and other related parts and balance 72.51% Industrial plot area for non EC-category Industries including EV Battery Separator & Cathode, Other E-vehicles parts and Automobile parts etc.. 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).

Accordingly, application for ToR was uploaded vide Proposal No: IA/TN/INFRA1/430053/2023 dated 22.05.2023 and the project was taken in 330th & 337th EAC meeting held on 19.06.2023 and 06.09.2023. ToR was issued for the projects vide File no.: 10/34/2023-IA.II dated: 02.11.2023. Copy of the same is enclosed as **Annexure-1**.

2. Project location

The Industrial Park is proposed to be located at Adhagapadi Village of Dharmapuri Taluk & Adhiyamankottai, Thadangam and Balajangamanahalli Villages of Nallampalli Taluk, Dharmapuri District and Tamil Nadu State. The site is located at **Adhagapadi Village**: SF. No: 389/2, 673, 674/1, 674/2, 675/1, 675/2, 676/1, 676/2, 680, 681, 683/1, 683/2, 685/1A, 685/1B, 685/2, 685/3, 686, 688, 689, 690/1, 690/2, 691/1, 691/2, 694/1, 694/2, 695, 696/1B, 696/2, 696/3, 696/4, 697/1, 697/3, 697/4, 697/5, 697/6, 697/7, 698, 699, 700, 701/1, 701/2, 704/1, 704/2, 705/2, 706, 707, 708/1, 708/2, 709/2, 709/3, 711/2, 712/1, 712/2, 713/1, 713/2, 714/1, 714/3, 714/4, 716/2, 716/3, 717, 718, 719, 720, 721/1, 721/2A, 721/2B, 721/2C, 722, 1036, 1037, 1038, 1039, 1040, 1093, 1095, 1096/1, 1096/3, 1097, 1098/1, 1099/1, 1099/4, 1100/1, 1100/3, 1101/1, 1102/1, 1103/1, 1103/3, 1104, 1105/1, 1105/2, 1105/4,

1106/1, 1106/3, 1107/1, 1107/3, 1108, 1109, 1110/2, 1111/1, 1111/3, 1113/2, 1121/1, 1121/2, 1125/1, 1128/1, 1128/2, 1128/3, 1129/1, 1129/2, 1132/1, 1135, 1136, 1137, 1139, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150/1, 1150/2, 1150/3, 1151/1, 1151/2, 1152, 1153/1, 1153/2, 1153/3, 1153/4, 1154/1, 1154/2, 1154/3, 1155/2, 1156/1, 1156/2, 1158, 1159, 1160, 1161/1, 1162, 1163/1, 1163/2, 1164, 1165, 1166, 1167/1, 1167/2, 1168, 1169, 1170/1, 1171/1, 1172/2, 1171/3, 1171/4, 1172/1, 1173/1, 1173/3, 1174, 1175/1, 1175/3, 1179/1, 1179/2, 1179/3, 1179/5, 1181/1, 1181/2, 1181/3, 1185, 1186, 1187/1, 1187/2, 1187/3, 1187/4, 1190/1, 1190/2, 1190/3, 1191/1, 1191/3, 1192/1, 1192/2, 1193, 1197, 1198, 1201/1, 1201/2, 1201/3, 1202, 1204, 1205/1, 1205/2, 1206, 1208/1, 1208/2, 1209, 1210, 1211, 1213/1, 1213/2, 1213/3, 1213/4, 1214, 1215/1, 1215/2, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1227, 1096/2, 1099/3, 1105/3, 1106/2, 1107/2, 1111/2, 1113/1, 1120, 1170/2, 1171/2, 1173/2, 1175/2, 1126, 1122, 1125/2, 1155/1, 1157, 1177, 1180, 1182, 1183, 1184, 1194, 1195, 1196, 1199, 1200, 1203, 1207, 1212, 1224, 1225, 1226, 713/3, 702, 703, 1098/2, 1099/2, 1100/2, 1101/2, 1102/2, 1103/2, 1110/1, 1112, 1127, 1131, 1132/2, 1141, 1161/2, 1179/4, 1191/2, 1205/3, 709/1, 388, 389/1, 390, 687, 692, 693, 696/1A, 697/2, 701/3, 705/1, 711/1, 714/2, 716/1, **Adhiyamankottai Village:** SF.No: 509/1, 509/2, 509/3, 510/1, 510/10, 510/2, 510/3, 510/4, 510/5, 510/6, 510/7, 510/8, 510/9, 511/1, 511/2, 511/3, 511/4, 511/5, 511/6, 511/7, 867/13A1, 867/19B, 508/1, 508/2, 867/13C, 867/19A, **Thadangam Village:** SF.No: 186/1, 186/2, 239/1, 239/2, 239/3, 254/-, 255/1, 255/2, 256/1, 256/2, 258/-, 260/1, 260/2, 267/-, 297/-, 304/-, 331/1, 331/2, 331/3, 331/4, 332/1, 332/2, 333/1, 333/2A, 333/2B, 333/3, 333/4, 340/1, 340/2, 344/-, 345/1, 345/2, 346/-, 347/1, 347/2, 348/1, 348/2, 349/-, 351/1, 351/2, 359/-, 360/1, 360/2, 368/-, 371/-, 372/1, 372/2, 373/-, 375/1, 379/-, 187, 188, 189, 190, 191, 257, 262, 296, 298, 299, 300, 303, 305, 306, 307, 308, 310, 311, 312, 313, 314, 315, 318, 319, 320, 339, 341, 342, 343, 350, 352, 353, 354, 355, 356, 357, 358, 361, 362, 363, 366, 367, 369, 370, 374, 375/2, 376, 377, 378 & 380, **Balajangamanahalli Village:** SF.No: 299/1, 300/2A, 302/1, 302/2, 302/3, 311, 312, 313/2, 313/3, 314/1, 314/2, 315, 316/1, 316/2, 318/1, 318/2, 319, 331/1, 332/2A, 367, 750/1, 750/2, 750/3, 751/1, 751/2, 752/1, 752/2, 298, 299/2, 313/1, 331/2, 317, 324, 325, 332/1 & 332/2B, Dharmapuri Taluk Nallampalli Taluk, Dharmapuri District and Tamil Nadu State. The proposed site is located approximately 0.25 km (E) from NH-844 (Hosur-Dharmapuri)/SH-17(Malur-Adhiyamankottai) and ~0.67 km (E) from NH-44 (Srinagar-Dharmapuri-Kanyakumari).

2.1 Site Salient features

Table 1 Salient features of the project site and surrounding features

S. No	Particulars	Details
1.	Site Co-ordinates of the project site	Longitude: 12° 6'27.871"N -12°7'30.4423"N, Latitude: 78° 4'32.398"E- 78° 7'32.346"E
2.	Elevation	~ 375m – 455 m MSL
3.	Present land use	1. As per Bhuvan 2015-2016, the proposed site is predominantly classified Barren Scrub Land-72.6%, Agricultural Crop Land -15%, Agriculture fallow-12% and

S. No	Particulars	Details																																	
		<p>Builtup urban-0.4%.</p> <p>2. Government of Tamil Nadu has issued Administrative sanction for acquisition of 222.81.5 Ha of patta dry land & 478.97.0 Ha of Poramboke land for the development of new Industrial Park by SIPCOT in Adhagapadi, Adhiyamankottai, Thadangam and Balajangamanahalli Villages, Dharmapuri District, Tamil Nadu vide G.O. (Ms) No.284 dated 30.12.2015 (Annexure-2). Villagewise survey number and their classification is given in Annexure-3.</p> <p>3. As per the revenue records, the entire land (698.205 Ha) is government Poromboke land and patta land classified as under:</p> <table border="1" data-bbox="659 871 1390 1486"> <thead> <tr> <th data-bbox="659 871 1162 911">Land use</th> <th data-bbox="1162 871 1390 911">Area in Ha</th> </tr> </thead> <tbody> <tr> <td data-bbox="659 911 1162 951">Dry Land</td> <td data-bbox="1162 911 1390 951">219.635</td> </tr> <tr> <td data-bbox="659 951 1162 991">MeichelTharai</td> <td data-bbox="1162 951 1390 991">374.270</td> </tr> <tr> <td data-bbox="659 991 1162 1031">Pathai</td> <td data-bbox="1162 991 1390 1031">8.585</td> </tr> <tr> <td data-bbox="659 1031 1162 1071">Aaru</td> <td data-bbox="1162 1031 1390 1071">26.175</td> </tr> <tr> <td data-bbox="659 1071 1162 1110">Podugal (Kasivu Neer Odai)</td> <td data-bbox="1162 1071 1390 1110">0.650</td> </tr> <tr> <td data-bbox="659 1110 1162 1150">Vaari</td> <td data-bbox="1162 1110 1390 1150">44.175</td> </tr> <tr> <td data-bbox="659 1150 1162 1190">Podugal</td> <td data-bbox="1162 1150 1390 1190">14.770</td> </tr> <tr> <td data-bbox="659 1190 1162 1230">Ubarinilam</td> <td data-bbox="1162 1190 1390 1230">0.230</td> </tr> <tr> <td data-bbox="659 1230 1162 1270">Kasivu Neer Kuttai</td> <td data-bbox="1162 1230 1390 1270">5.240</td> </tr> <tr> <td data-bbox="659 1270 1162 1310">Ooni</td> <td data-bbox="1162 1270 1390 1310">3.795</td> </tr> <tr> <td data-bbox="659 1310 1162 1350">Koil</td> <td data-bbox="1162 1310 1390 1350">0.155</td> </tr> <tr> <td data-bbox="659 1350 1162 1390">Theervaierpadaathatharisu</td> <td data-bbox="1162 1350 1390 1390">0.485</td> </tr> <tr> <td data-bbox="659 1390 1162 1430">Samudhayakinaru</td> <td data-bbox="1162 1390 1390 1430">0.040</td> </tr> <tr> <td data-bbox="659 1430 1162 1486">Total</td> <td data-bbox="1162 1430 1390 1486">698.205</td> </tr> </tbody> </table>				Land use	Area in Ha	Dry Land	219.635	MeichelTharai	374.270	Pathai	8.585	Aaru	26.175	Podugal (Kasivu Neer Odai)	0.650	Vaari	44.175	Podugal	14.770	Ubarinilam	0.230	Kasivu Neer Kuttai	5.240	Ooni	3.795	Koil	0.155	Theervaierpadaathatharisu	0.485	Samudhayakinaru	0.040	Total	698.205
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4.	Nearest Highway	NH-844 (Hosur-Dharmapuri)/SH-17(Malur-Adhiyamankottai)	~0.25km	E																															
		NH-44(Srinagar-Dharmapuri-Kanyakumari)	~0.67km	E																															
5.	Nearest railway Station	Dharmapuri Railway station, ~ 2.98km (E)																																	
6.	Nearest Airport	Salem Airport, ~ 33.98 km (S)																																	
7.	Nearest Port	Cuddalore Port, ~ 185 km (ESE)																																	
8.	Defence Installation	Nil																																	
9.	Nearest Town	Dharmapuri (pop-68619) ~2.0 km, E																																	
10.	Nearest Village/ Habitation	Villages	~Dist.	Dire.																															
		Siva Subramanya Nagar	0.11km	N																															
		Veganampatti	0.31km	E																															
		Vimalapuri	0.40km	E																															
			Population																																
				250																															
				1,000																															
				50																															

S. No	Particulars	Details			
			ChinnaTadangam	0.70km	N
		Tadangam	0.80km	E	8,601
11.	Water bodies	Waterbodies	Dist(km)	Direc	
		PeriyaAr	Passing within the site		
		Pond near Tokkampatti	0.8	E	
		VettalAr	0.85	S	
		Nagavati R/Palar R	1.91	SW	
		Pidamaneri Lake	2.19	E	
		Sogattur Lake	2.57	N	
		Indur Lake	2.61	W	
		VirupakshipuramPallam	2.95	E	
		Adiyamankottai Lake	3.22	SE	
		RamakkalEri	3.77	ENE	
		Nagavathi Dam	4.73	SW	
		SemmandakuppamAr	5.08	NNE	
		KadagatturEri	5.11	NNE	
		PanangalliEri	8.44	N	
		VarattuPallam	10.55	NW	
		SiddampattiPallam	10.79	NW	
		PeriyaPallam	11.46	SW	
		Baisuhalli Lake	11.67	NE	
		KulturevaPallam	12.54	SW	
MurugankinattuPallam	13.18	SW			
ToppaiAr/VeppadiAr	14.69	SSE			
Thoppaiyaru Reservoir	14.63	S			
12.	Reserve forest	Reserve Forest			
		ElagiriRF	~6.06km	SSW	
		ToppurRF	~9.1km	SSE	
		ParigamRF	~11.95km	SSW	
		PikkilimalaiRF	~12.39km	NW	
		MukkanurRF	~12.48km	E	
		MukkanurRF	~14.14km	ESE	
13.	Monuments	Monuments	~Dist	Direc	
		Chennaraya Perumal Temple	2.71km	SSE	
14.	Notified Wildlife Sanctuary/ National Parks	Nil within 15km radius (Note: Cauvery South Wildlife Sanctuary is located at ~16.90 km (NW) from project site boundary)			
15.	Interstate boundary	Nil within 15k radius			

2.2 Magnitude of operation

Total area of Industrial Park is 698.205 Ha (1724.566 Acres). Land area breakup for the Industrial Park is given in **below**.

Table 2 Area break up for the Proposed Industrial Park

Description	During 377 th EAC meeting		Revised for EIA as per the ToR	
	Extent(acres)	%	Extent (acres)	%
Industrial Plot area (including 33% Greenbelt area)	1069.29	71.25%	1009.64	67.27%
Common Amenities (i.e Project office including Medical dispensary, Water supply, EB, Fire station, etc)	30.010	2.00%	30.010	2.00%
Commercial Activities (i.e Bank, ATM, Shops, Canteen, etc)	45.020	3.00%	45.020	3.00%
Solid Waste Management Area	5.000	0.33%	5.000	0.33%
Roads along with Storm Water Drain	128.220	8.54%	121.280	8.08%
Green belt	219.915	14.65%	286.615	19.10%
1.3m Wide Garland Drain (Peripheral of EC category plot)	3.360	0.23%	3.250	0.22%
Developable area	1500.815	100.00%	1500.815	100.00%
Water body	197.785	-	197.785	-
110 KV HT line-22mRoW	25.966	-	25.966	-
Total area	1724.566	-	1724.566	-

*Industries will be mandated to provide 33 % (134.891 Ha) of green belt within their premises. Total green belt proposed for Industrial Park is 41.30 % (250.929 Ha) of Developable area.

2.3 Raw materials

The project proposal is development of Industrial Park. Different types of industries are proposed for the project. Raw materials will be provided by Individual industries upon establishment while obtaining CTE / CTO.

2.4 Water requirement

Construction Phase: During the construction phase, the water requirement for the project is calculated as 60 KLD and same will be sourced from Private water suppliers. Approximate people working will be around 250 Nos. Only infrastructure development like provision of storm water drain, laying of roads, water supply line, providing substation, green belt in common area, common facilities are under the scope of SIPCOT. The construction period for infrastructure facilities is estimated to be 24 months.

Operation Phase:

Total water requirement for the project during operation phase is 13320 KLD. Fresh water will be sourced from Tamil Nadu Water Supply and Drainage Board (TWAD Board). Water allocation given by TWAD for providing 2MLD of water from Hogenakkal Water supply project vide its letter dated 26.05.23 and for the supply of 49MLD of water to SIPCOT's existing and proposed Industrial parks in Krishnagiri and Dharmapuri districts (including water supply for the proposed park) from Hogenakkal

CWSS Phase-II its letter dated 03.05.23 (**Annexure-7**).Water requirement calculations are given in **Table 3**.

Table 3 Water Requirement during operation phase

Usage	Total water (KLD)	Fresh water (KLD)	Recycled water (KLD)
Domestic	458	458	0
Flushing	366	0	366
Utilities & Process	3714	560	3154
Green belt	8782	8393	389
Total	13320	9411	3909

2.5 Power and fuel requirement

Power requirement for the Industrial Park is estimated to be 60 MVA (In ToR: 61 MVA). SIPCOT will earmark requisite land for TANGEDCO for the establishment of exclusive substation for the industrial park. Supply and distribution systems will be installed by TANGEDCO. Individual industries will have their own power back up.SIPCOT will not propose any power back up for other common facilities.

2.6 Manpower requirement

Approximately 250 employees will be required for the construction Period inclusive of Workmen, Supervisors, Engineers, Architects and Managers. During operation phase, the estimated population will be 18300 people (Direct- 16470 & Indirect: 1830).

2.7 Air Pollution Control Measures

In case of power failure, individual industries use their DG sets. DG sets and boilers shall be provided with casings and sufficient stack height for dispersion of gases. Fumes are expected from engineering, fabrication and automobile/auto parts units. Individual industries will be advised to provide suitable air pollution control equipment at different locations, which will be connected to a common layer of suitable height. Individual enterprises are advised to provide proper height chimneys for DG sets, furnaces and boilers as per CPCB/TNPCB guidelines.

Ambient air quality monitoring will be carried out regularly at selected locations to verify predicted concentrations and compare with measured concentrations. Violations of NAAQS data, if any, will be thoroughly verified and adequacy/effectiveness of air pollution control measures will be reviewed. Adequate green area will be provided in industrial park.

2.8 Wastewater generation and Management

Individual industries will have their own Sewage Treatment Plants. Treated sewage will be recycled for flushing and green belt developments as per CPCB/TNPCB guidelines.Individual industries will have their own Effluent Treatment Plants and will be mandated to ensure Zero Liquid Discharge concepts as per CPCB/TNPCB guidelines. Treated effluent will be recycled for their process and utilities purpose.

Individual industries will be instructed to provide all pollution control measures as per CPCB/TNPCB norms. Details of waste water generation & treatment are given in **Table 4**.

Table 4 Wastewater generation and treatment

S.No	wastewater	Quantity (KLD)	Method of Disposal
Construction Phase			
1	Sewage	10	Will be treated in 15 KLD mobile STP and treated sewage will be used for green belt development during construction phase
Operation Phase			
2	Sewage from industries	755	Will be treated by individual industries and treated sewage will be used for green belt development within the IP.
3	Effluent from individual industries	3158	Will be treated by individual industries and reused for process and utilities. ZLD will be maintained by individual industries.

2.9 Municipal Solid Waste generation and Management

Municipal Solid waste generation and management for proposed project are detailed in **Table 5**

Table 5 Municipal Solid Waste generation and Management

S.No	Municipal Solid waste	Construction phase (kg/day)- 250 Nos	Operation phase (kg/day)- 18300 Nos	Disposal Method
1	Organic waste	68	4941	Individual industries will segregate the waste and organic waste will be composted and used as manure.
2	Inorganic waste	45	3294	Sold to TNPCB authorized recyclers by individual industries

Note: As per CPHEEO Norms 0.45 kg/capita/day is the MSW generation, of which 60% is organic & 40% is inorganic.

MSW Management: As a provision to have in house and independent Solid Waste Management facility, 5 Acres (Sheds for recovery and recycling facility including shed for E-Waste Management) has been earmarked for Solid Waste Management Facility.

2.10 Hazardous waste generation and management

Hazardous wastes generated from the allotted industries will be managed by the industries and it will be stored in designated areas within their premises and disposed as per Hazardous waste (Management and Transboundary) Rules 2016.

E-waste Management: E-wastes generated from the individual industries will be managed by them and it will be stored in designated areas within their premises and disposed as per E-waste Management Rules 2022

2.11 Project Cost

Table-6 Estimated project cost

S.No	Components	Total cost (Rs in lakhs)
1	Land alienation cost	18661.97

2	Site Development	698.83
3	Development of Roads (including storm water drains, rainwater harvesting, Solid Waste Management)	10094.27
4	Water Supply scheme	11290.05
5	Common facilities	931.78
6	Street light	543.54
7	Green belt development	776.48
8	Contingency	2221.85
9	Preliminary and Preoperative expenses	917.43
Total cost of project		46136.20
say Rs. in crores		461.36

3. Environmental Baseline Data

Baseline data was generated for the project during March-2023 to May-2023.

3.1 Micrometeorology

The meteorological scenario in and around the project site is an essential requirement during study period for proper interpretation of baseline air quality status. Meteorological data was collected during the study period (**March 2023 to May 2023**) and is presented in **Table 7**.

Table 7 Meteorological Data for the Study Period (March 2023 to May 2023)

S. No	Parameter	Observation
1	Temperature	Max. Temperature: 37°C Min. Temperature: 22°C Avg. Temperature: 33.17°C
2	Average Relative Humidity	42.14%
3	Average Wind Speed	2.26m/s
4	Predominant Wind Direction	South and South East

3.2 Ambient Air Quality

The ambient air quality has been monitored at 8 locations as per NAAQS, 2009 within the study area.

The results obtained are summarized as below:

- The average baseline levels of PM10 vary from 32.5 to 48.92 $\mu\text{g}/\text{m}^3$.
- The average baseline levels of PM2.5 vary from 20.15 to 28.37 $\mu\text{g}/\text{m}^3$.
- The average baseline levels of SO2 vary from 8.32 to 14.26 $\mu\text{g}/\text{m}^3$.
- The average baseline levels of NO2 vary from 16.63 to 28.52 $\mu\text{g}/\text{m}^3$.

The monitored concentrations for SO2, NO2, PM2.5, and PM10 are within the prescribed NAAQS limits

3.3 Ambient noise Quality

It is observed that the day equivalent and night equivalent noise levels at all locations are within prescribed CPCB standards:

- In Industrial area day time noise levels varied from 41.5 dB (A) and night time noise levels varied from 38.5 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels within the limit prescribed by CPCB for Industrial area (75 dB (A) Day time & 70dB(A) Night time).
- In Residential area day time noise levels varied from 41.1 dB (A) to 49.6 dB (A) and night time noise levels varied from 39.5dB(A) to 42.8dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels in Residential area are within the limit prescribed by CPCB for Residential area (55 dB (A) Day time & 45 dB(A) Night time).

3.4 Surface water Quality

Surface water sample results are discussed below:

- The pH values in the collected surface water samples vary between **7.26 to 9.14**. According to Surface Water Standards (IS 2296 Class-A), the acceptable pH limit is **6.5-8.5**. However, samples from Ramakkal Eri (SW4), Adiyamankottai lake (SW6), and Nagavathi dam (SW8) exhibit slightly alkaline pH values, exceeding 8.5.
- The Total Dissolved Solids (TDS) values of the collected surface water samples range from **446 mg/l to 1507 mg/l**. According to Surface Water Standards (IS 2296 Class-A), the acceptable limit is 500 mg/L. However, samples from Ramakkal Eri (SW4), Virupakshipurampallam (SW5), Adiyamankottai lake (SW6), VettalAr (SW7), Nagavathi dam (SW8), and Indur lake (SW9) exceed the acceptable limit as per Surface Water Standards (IS 2296 Class-A). TDS levels are higher maybe due to anthropogenic activities at the water courses.
- The Total Hardness values of the collected surface water samples range from **190 mg/l to 600 mg/l**. According to Surface Water Standards (IS 2296 Class-A), the acceptable limit is 300 mg/L. However, samples from Virupakshipurampallam (SW5), Adiyamankottai lake (SW6), Nagavathi dam (SW8), and Indur lake (SW9) exceed the acceptable limit as per Surface Water Standards (IS 2296 Class-A).
- The BOD (Biochemical Oxygen Demand) values in the surface water samples range from 2 to 4 mg/l. BOD is an important parameter that indicates the amount of organic matter present in water and the level of oxygen required for microorganisms to break down that organic matter. These values suggest a relatively low to moderate level of organic pollution in the surface water.
- The COD (Chemical Oxygen Demand) values in the surface water samples range from 16 to 36 mg/l. These values may indicate the potential intrusion of domestic activities, suggesting the introduction of pollutants into the water from domestic sources.

***SW1-Periya AR- No water was presence in the during monitoring period.**

3.5 Ground water Quality

A summary of analytical results are presented below:

- The pH of the collected groundwater samples ranges from 7.01 to 7.59. According to IS 10500:2012, the acceptable pH limit is 6.5-8.5. All pH values in the samples fall within the acceptable limit as per IS 10500:2012.
- The chloride concentrations in the collected groundwater samples range from 212.79 to 702.73 mg/l. According to IS 10500:2012, the acceptable limit is 250 mg/l. Samples from the Project site (GW1), Chavulahalli (GW2), Adiyamankottai (GW4), Nagarkudal (GW5), and Indur (GW7) fall within the permissible limit of 1000 mg/L as per IS 10500:2012.
- The Total Dissolved Solids (TDS) values in the collected groundwater samples range from 823 mg/l to 2784 mg/l. According to IS 10500:2012, the acceptable limit is 500 mg/l, and the permissible limit is 2000 mg/l. Groundwater samples from the Project site (GW1), Chavulahalli (GW2), Tadangam (GW3), Adiyamankottai (GW4), Errappatti (GW6), and Adagappadi (GW8) are within the permissible limit of 2000 mg/L. However, samples from Nagarkudal (GW5) and Indur (GW7) exceed the permissible limit, recorded values above 2000 mg/L. TDS levels are higher maybe due to anthropogenic activities at the water courses.
- Total hardness of the collected ground water sample ranges from 390 mg/l to 1960 mg/l. The sample locations of Chavulahalli (GW2),Tadangam(GW3), Errappatti (GW6) values are within Permissible limit of 600 mg/L as per IS 10500:2012. The sample Locations ofProject site (GW1), Adiyamankottai (GW4), Nagarkudal (GW5), Indur (GW7), Adagappadi (GW8) are above the Permissible limit of 600 mg/L as per IS 10500:2012.
- The concentrations of Sulphate in the collected groundwater samples range from 53.3 to 417.14 mg/l. According to IS 10500:2012, the acceptable limit is 200 mg/l, and the permissible limit is 400 mg/L. Samples from Chavulahalli (GW2), Tadangam (GW3), Adiyamankottai (GW4), and Adagappadi (GW8) are within the acceptable limit. All other samples (GW1, GW5, GW7) fall within the permissible limit. However, the sample from Indur (GW7) exceeds the permissible limit.

3.6 Soil quality

Summary of analytical results

- The pH of the soil samples ranged from 7.36 to 8.92. The pH normal range is above 6 to 7.5. The pH level at the Nagarkudal(S5) sampling location falls within the normal range. However, at the project site (S1), Tadangam (S3), Adiyamankottai(S4), Errappatti (S6), Indur (S7), and Adagappadi (S8) sampling locations, the pH is slightly alkaline. The Chavulahalli (S2) sampling location exhibits a moderately alkaline pH.
- Conductivity of the soil samples ranged from 48.3 to 766 $\mu\text{S}/\text{cm}$. The non saline range is 1680 $\mu\text{S}/\text{cm}$ according to the soil and land use survey of India.
- Nitrogen (N) content ranged from 90 to 142 mg/kg. The nitrogen levels at the project site (S1), Chavulahalli (S2), Nagarkudal(S5), Errappatti (S6), Indur (S7), and Adagappadi (S8) sampling locations fall within the low range(up to 125 mg/kg), as indicated by the Soil and Land Use Survey of India. In difference, Tadangam (S3) and Adiyamankottai(S4) sampling locations

exhibit medium-range nitrogen levels (250 mg/kg) according to the soil and land use survey of India.

- Phosphorous(P) ranges upto 8.49 mg/kg. The low range is 4.45 mg/kg as per the soil and land use survey of India. The sampling locations are Chavulahalli (S2), Adiyamankottai(S4), Nagarkudal(S5), Errappatti (S6) and Indur (S7) have nitrogen levels within the low range. However, sampling locations Project site (S1), Tadangam (S3), and Adagappadi (S8) fall within the medium range, ranging from 4.45 mg/kg to 11 mg/kg.
- Potassium(K) content ranges from 9.28 to 200.58 mg/kg. The soil and land use survey of India classifies potassium levels into low (up to 53 mg/kg), medium (54 mg/kg to 124 mg/kg), and high (above 124 mg/kg) ranges. The sample location S2 was found to have potassium levels in the high range, while all other samples are within the low range, as per the soil and land use survey of India.

3.7 Ecology

Detailed Bio Diversity study was conducted. Bio Diversity Report prepared by Ramniranjan Jhunjhunwalla college is enclosed as **Annexure-15a** and the conservation plan for Schedule I species is enclosed as **Annexure-15b**.

3.8 Socioeconomic environment

The Socioeconomic profile of the study area shows that majority of people in the study area work in other sector. They have good educational infrastructures and the people in the study area are well connected to the educational infrastructures. The average literacy rate of the study area is 65.66 %. They have sufficient educational infrastructures and the people in the study area are well connected to the educational infrastructures. The people in the study area are well connected to Government primary health centres and Primary health sub-centres.

Table 8 Summary of Socioeconomic indicators within the study area

S.No	Particulars	Study area	Unit
0- 5 Km			
1.	Number of villages in the Study Area	25	Nos.
2.	Total Households	60947	Nos.
3.	Total Population	244456	Nos.
4.	Children Population (<6 Years Old)	26140	Nos.
5.	SC Population	20783	Nos.
6.	ST Population	904	Nos.
7.	Total Working Population	107150	Nos.
8.	Main Workers	91325	Nos.
9.	Marginal Workers	14622	Nos.
10.	Cultivators	16801	Nos.
11.	Agricultural labours	18751	Nos.
12.	Household Industries	3118	Nos.
13.	Other Workers	68480	Nos.
14.	Literates	167489	Nos.
15.	Illiterates	76967	Nos.
5 – 10Km			
1.	Number of villages in the Study Area	37	Nos.

2.	Total Households	46233	Nos.
3.	Total Population	190162	Nos.
4.	Children Population (<6 Years Old)	21644	Nos.
5.	SC Population	17943	Nos.
6.	ST Population	3454	Nos.
7.	Total Working Population	94675	Nos.
8.	Main Workers	79651	Nos.
9.	Marginal Workers	15024	Nos.
10.	Cultivators	26506	Nos.
11.	Agricultural labours	31236	Nos.
12.	Household Industries	1983	Nos.
13.	Other Workers	34950	Nos.
14.	Literates	113686	Nos.
15.	Illiterates	76476	Nos.

4. Impact on Air environment

Air quality modelling was done using AERMOD software to identify the ground level concentration due to operation of proposed industries. The details on the type of fuel proposed, emissions are given in Table 4-2 of the EIA report. Based on the modelling done, the total ground level concentrations from point source and line source (Cumulative) are given in Table 9, 10 & 11 respectively.

Table 9 Total Maximum GLCs from the proposed Stack Emissions

Pollutant	Max. Base line Conc. ($\mu\text{g}/\text{m}^3$)	Estimated Incremental Conc. ($\mu\text{g}/\text{m}^3$)	Total Conc. ($\mu\text{g}/\text{m}^3$)	NAAQ standard ($\mu\text{g}/\text{m}^3$)
PM	58.13	0.76	58.89	100
SO ₂	16.95	0.48	17.43	80
NO _x	33.89	1.85	35.74	80
CO	340	15.27	355.27	4000

Table 10 Total Maximum GLCs from the Transportations Emissions

Pollutant	Max. Base line Conc. ($\mu\text{g}/\text{m}^3$)	Estimated Incremental Conc. ($\mu\text{g}/\text{m}^3$)	Total Conc. ($\mu\text{g}/\text{m}^3$)	NAAQ standard ($\mu\text{g}/\text{m}^3$)
PM	58.13	0.46	58.59	100
NO _x	33.89	2.32	36.21	80
CO	340	10.47	350.47	4000

Table 11 Total concentration from point source and Line source (Cumulative)

Pollutant	Max. Base line Conc. ($\mu\text{g}/\text{m}^3$)	Estimated Incremental Conc. ($\mu\text{g}/\text{m}^3$)	Total Conc. ($\mu\text{g}/\text{m}^3$)	NAAQ standard ($\mu\text{g}/\text{m}^3$)
PM	58.13	0.98	59.11	100
SO ₂	16.95	0.48	17.43	80
NO _x	33.89	2.95	36.84	80
CO	340	20.51	360.51	4000

From the above table, it is evident that from the proposed project, the Total Concentration for PM₁₀, SO₂, CO and NO_x are well within the NAAQ Standards.

Following mitigation measures are proposed:

- Individual industries will provide Air pollution control devices (such as Scrubbers etc) apart from this individual industries will be mandated to provide 33% greenbelt along the periphery.
- Individual industries will be instructed to provide proper stack height for DG sets, furnaces& boilers as per CPCB/ TNPCB guidelines.
- Ambient air quality monitoring will be carried out regularly at selected locations in order to check and compare the predicted concentrations with the measured concentrations. NAAQS exceedance if any may be checked thoroughly and adequacy /Performance of Air Pollution Control measures shall be reviewed.
- Water sprinkling will be carried out on road surfaces in the project area.
- Adequate Green belt area will be provided in the park viz 15m peripheral green belt along the boundary, 50m along the peripheral of river, 33% area by individual industries, 15m along road other water bodies. Overall green belt area of the park will be 250.929 Ha i.e.41.30% of developable area.

5. Alternate site consideration

SIPCOT considered three alternative sites based on the need for promoting an Industrial Park in the proposed project location. Industrial growth, preciously, require good connectivity to the urban areas and other facilities like port, airports etc.

The alternative sites considered as per SOI Topo map were:

- **Site-I:** Nallamapalli Site was considered but due to the presence of limited land space (Approx. 436 hectare) more fertile/productive agricultural land (Landuse pattern as per Bhuvan: Agricultural Crop Land -75% , Builtup Rural-15% and Waterbodies Tanks/Lakes/Ponds-10%) and habitations within the site, the site was not selected for the development of Industrial Park.
- **Site-II:** Settihalli Site was considered but due to limited land space (approx. 431 hectare) and more fertile/productive agricultural (Landuse pattern as per Bhuvan: Agricultural Crop Land - 65% , Agriculture fallow-25% and barren scrub land-10%) land within the site, the site was not selected for the development of Industrial Park.
- **Site-III:** Lands at Adhagapadi, Adhiyamankottai, Thadangam and Balajangamanahalli Villages were considered. Around 69% are poramboke lands and 31% are dry patta lands (Landuse pattern as per Bhuvan: Barren Scrub Land-72.6%, Agricultural Crop Land -15% , Agriculture fallow-12% and Builtup urban-0.4%). As the majority of the land is Government Poramboke, the project will have no impact on agricultural land.

Based on the Result of site matrix, Site III is selected for development of this Industrial Park.

6. Environmental Monitoring Programme

A monitoring schedule with respect to Ambient Air Quality, Water Quality, Soil and Noise as per CPCB/MoEF&CC will be adopted during construction phase and after establishment of the project.

7. Public Hearing

The Draft EIA report is being submitted to TNPCB for conducting Public hearing.

8. Rehabilitation and Resettlement

There is no R & R for the proposed IP.

- Government of Tamil Nadu has issued Administrative sanction for acquisition of 222.81.5 Ha of patta dry land & 478.97.0 Ha of Poramboke land for the development of new Industrial Park by SIPCOT in Adhagapadi, Adhiyamankottai, Thadangam and Balajangamanahalli Villages, Dharmapuri District vide G.O(Ms)No.284 dated 30.12.2015 (**Annexure-1**).

9. Environmental Management Plan

9.1 Air Environment

The major air pollution sources from the industries will be DG set, Boilers Vehicular movements and other emissions. Individual industries will have air Pollution control measures as per CPCB/ TNPCB norms to disperse the pollutants. Adequate green belt will be developed to mitigate the pollution arising due to movement of vehicles.

9.2 Water Environment

During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage/effluent generated. Zero Liquid Discharge system will be proposed by individual industries. Treated sewage will be recycled for green belt development and treated effluent will be recycled for process & utilities within the industry. Rejects from RO will be taken to MEE/ ATFD and the condensate will be again recycled to utilities/process. MEE /ATFD salt will be disposed as hazardous waste by individual industries.

SIPCOT will provide Garland Drain of min.1.3 m wide x 1.0 m depth around the periphery of the EC category Industrial Plots. Only the excess rain water from EC plot area, will be let into the Garland Drain which will be filtered and then let out into the regular storm water drain which would outfall into nearby water bodies. Storm water outlet will be monitored frequently by SIPCOT

9.3 Noise Environment

Individual industries will adhere to the following measures to mitigate negative impact of operation phase of the project on the surrounding noise environment:

- All the noise generating equipments will be designed / operated to ensure that noise level does not exceed 55-45 dB (A) at plant boundary as per the requirement of Central / State Pollution Control Board.
- Noise generating sources will be maintained properly to minimize noise generated

by them.

- Wherever feasible, acoustic enclosures will be provided for compressors, DG sets.
- Compliance with noise control norms will be given due importance at the time of purchase of various equipments and it will be mentioned while placing the purchase orders and guarantee for noise standards will be sought from suppliers.
- Green belt will act as a noise barrier. Overall 41.30% of developable area will be provided for green belt development.
- Training will be imparted to personnel to generate awareness about effects of noise and importance of using PPEs.

9.4 Land Environment

Following measures are proposed to mitigate negative impact during operational phase of the project on the land environment.

- Organic Solid wastes generated during the operation phase will be composted by individual industries and used as manure. Inorganic solid Wastes will be sold to authorized recyclers.
- Individual industries will have their Air Pollution control Measures to control the release of air pollutants to a greater extent. In addition, thick green belt will attenuate air pollutants released into the environment.
- During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated.
- Zero Liquid Discharge system will be proposed by individual industries
- SIPCOT will provide Garland Drain of min.1.3 m wide x 1.0 m depth around the periphery of the EC category Industrial Plots. Only the excess rain water from EC plot area, will be let into the Garland Drain which will be filtered and then let out into the regular storm water drain which would outfall into nearby water bodies. Storm water outlet will be monitored frequently by SIPCOT
- Noise generating sources will be maintained properly to minimize noise generated by them.
- Green belt development will help in abatement of air and noise pollution and will improve the aesthetics of the Industrial Park.

9.5 Budgetary provisions for EMP

Capital cost of INR 25.76 Crores has been allocated for Environmental Management measures. Details are given in Table-12.

Table 12 Budget for Environmental Management Plan

S.No	Project Components	Capital Cost (INR Lakhs)	Recurring Cost (INR.Lakhs)
1	Solid Waste Management Facility	800	64

2	Greenbelt development	776.48	32.5
3	Rain water harvesting	100	8
4	Garland drain along the periphery of the EC category plots	900.00	9
5	Environmental Monitoring during Construction Phase and Operation Phase	0	5
	Total EMP Cost	2576.48	118.50

9.6 Proposed CER activities

SIPCOT will allocate INR 25.76 Crores towards Environment Management Plan (EMP).As per the MoEF&CC Office Memorandum No. 22-65/2017-IA.III, dated 25.02.2021 concerns raised during public consultation will also be included towards EMP instead of allocation of funds under Corporate Environment Responsibility (CER).

10 Project Benefits

- Around 18,300 people will benefit from this industrial park by getting employment.
- Public will benefit under Corporate Environmental Responsibility (CER) Fund.
- Business, public infrastructure, transport and industrial facilities will improved.
- The proposed scheme is to attract additional revenue to the government through taxes.
- Growth in exports.
- Investment Catalysation.
- Positive impact on social conditions – employment, improvement in lifestyle and increase in household income.