Executive Summary

1. Introduction

M/s. Danblock Brakes India Pvt Ltd is located S No. 270 part, 256 part, Pappankuppam Village, Gummidipoondi Taluk and Tiruvallur District. M/s Sanmar Ferrotech Ltd has established in 2008 and currently M/s. Danblock Brakes India Pvt Ltd is being operating from 2021. The unit have Induction Furnace (6T/heat) - 2Nos with 2 Crucibles each with total electrical panel capacity of 4500 KWA and Induction Furnace (1T/heat) - 3 Nos. with 2 Crucibles each with total electrical panel capacity of 2250 KWA (Tritrack) - to manufacture Grey and Ductile Iron castings 25,000 T/Annum

M/s Sanmar Ferrotech Ltd., Environmental Clearance was obtained for Ductile Iron Foundry unit (25,000 TPA) vide EC F.No. J-11011/783/2007-IA II (I), Dated 23.01.2008.

M/s. JKM Ferrotech Limited, was acquired in the year of 2012, the unit name was changed from M/s Sunmar Ferrotech Ltd to M/s.JKM Ferrotech Limited. M/s. Danblock Brakes India Pvt Ltd was acquired in the year of 2021, the unit name was changed from M/s.JKM Ferrotech Limited to M/s. Danblock Brakes India Pvt Ltd.

Now the unit is applying Environmental Clearance for propose 70,000 T/Annum Grey and Ductile Iron castings manufacture. The existing manufacturing capacity of the unit is 25,000 T/Annum; After Expansion the total quantities of products will 95,000 T/Annum. The EC Copy is enclosed as Annexure 3. The CTEs/CTOs copy is enclosed as Annexure 4. The current CTO was valid upto 31.03.2023.

The Existing and proposed Project site is located in the Gummudipondi Industrial area, Project termed under Schedule 3 (a), Metallurgical Industries (Ferrous & Non Ferrous). The project is under Category B, as per EIA notification dated 14th September 2006. The Interstate boundary id located 8km from the project site and pulicat bird sanctuary is located 8.5 Km from the project site. Hence the project is not attracting the general condition. The facility requires obtaining prior Environmental Clearance from TNSEIAA as per the above said notification before commencing the above activities.

2. Location of the Plant

The project area is 15.54 Acres (62,888 Sq.m). The site is Located at S No. 270 part, 256 part, Pappankuppam Village, Gummidipoondi Taluk and Tiruvallur District Tamil Nadu State, the site is located within the Gummudipondi Industrial estate.

The site Latitude: 13°24'53.17"N & Longitude 80°6'6.32"E (Centre Coordinates). The nearest human settlement from the site is Papankuppam and Gummidipoondi (2.70). The nearest railway station is Gummidipoondi railway station 2.30km from the site. Nearest

water body is Karumbukupppam Lake is located 1.80km from the site. The pulicat bird sanctuary is located 8.5 Km from the project site.

A total of 46 villages and towns with a total population of 2,84,764 are existing in the 10 km radius of the site.

2.1 Road Connectivity

The major road access to the site is Chennai – Kolkata Highway, which is at a distance of 1.30 KM on the East. Gummidipoondi – kallur road (250m) is adjacent to the plant site, which connects to Chennai – Kolkata Highway.

3.0 Justification of the Project

Iron and steel are the world's most important engineering and construction material. It is used in almost every aspect of our lives and is an environment friendly material as it can be recycled infinite times without loss of property. It possesses great durability with strength as compared to other materials. Consumption of iron and steel is taken to be an indispensable indicator of economic development of any region. Iron and steel continue to have a stronghold in traditional sectors such as construction, housing, infrastructure, shipping, railways, automobiles, engineering goods, and packaging.

4.0 Project Description

4.1 Production Capacity:

Production Capacity

S.N	Description	Exiting	Proposed	After Expansion
1	Grey and Ductile Iron castings	25,000 T/Annum	70,000 T/Annum	95,000 T/Annum

4.2 Land requirement

The Plant facilities are spread over 15.54 Acres Land which is completely fortified and protected on all sides by boundary walls. The Existing and Proposed Capacity detail given below.

Area Breakup for Proposed Site

S. No	Description	Area in Acres			%
		Existing	Proposed	After expansion	
1	Plot area	4.49	1.74	6.23	40
2	Green Belt Area	5.13.2	-	5.12	33
3	Road	2.20	-	2.20	14
4	Parking	0.1	-	0.1	1

5	Other Utilities	0.2	-	0.2	1
4	Vacant Land	3.43	-1.74	1.69	11
	Total	**15.54**	-	**15.54**	**100**

4.3 Project Cost

The total project cost for the proposed expansion project is about Rs. 60 Cr.

4.4 Raw Material Details

The list of raw materials required for the manufacturing of proposed products is given below.

Raw Materials Details

S.No	Name of the Product	Existing TPA	Proposed TPA	After Expansion TPA	Source	Mode of transport
1	Steel Scrap	15696	35472	51168	Tamil Nadu/ Andhra Pradesh	Road
2	Pig Iron	3768	10888	14656	Tamil Nadu	Road
3	Ferro Alloys	1212	3514	4726	Tamil Nadu	Road
4	CI Boring	-	29280	29280	Tamil Nadu	Road
5	Sand	6000	33600	39600	Tamil Nadu	Road
6	Additives	300	900	1200	Tamil Nadu	Road
7	Resin	58	600	658	Tamil Nadu	Road
8	Returns	19824	31316	51140	Tamil Nadu	Road

4.5 Water Requirement

The water requirement after the proposed expansion will be increased from existing requirement of 426 KLD to 813 KLD. Water requirement for the plant is met through existing SIPCOT. The water requirement details are given below.

Water Requirement

S.No	Description	Existing in KLD			Proposed in KLD			After Expansion in KLD		
		Fresh water	Reuse Water	Total	Fresh water	Reuse Water	Total	Fresh water	Reuse Water	Total
1	Domestic	23	0	23	12	0	12	35	0	35
2	Process	71	0	71	237	0	237	308	0	308
3	Cooling Tower	284	30	314	76	10	86	360	40	400
4	Green Belt	0	18	18	42	10	52	42	28	70
Total		**378**	**48**	**426**	**367**	**20**	**387**	**745**	**68**	**813**

4.6 Power Requirement

The power requirement for the project is being sourced from TNEB. DG sets will act as the standby facilities and will be utilized in case of power failures. The details of power requirement and power backup details (existing and proposed) are given below.

Power and Energy Requirement (Existing and Proposed)

Description	Unit	Existing	Proposed	After Expansion	Source
Power requirement	KVA	10250	12750	23000	TNEB Connection.
DG Set	KVA	1*500	Nil	1*500	
Diesel Requirements	KLD	1.0	Nil	1.0	Local outlets

4.7 Man Power Requirement

The manpower requirement of the existing plant is about 480 Nos which will be increased to 300 Nos after the proposed project. The after expansion employment will provide 780 persons. The additional man power requirement is mostly fulfilled by the region of 5 – 10 km radius.

4.8 Total Waste water generation:

The total domestic waste water after the proposed expansion will be increased from existing requirement of 20.5 KLD to 30 KLD and the cooling tower bleed off water after the proposed expansion will be increased from existing requirement of 30 KLD to 40 KLD. The details of waste water generation and treatment process is given below.

Wastewater Quantity and Disposal Details

S. N	Description	Existing Quantity (KLD)	Proposed Quantity (KLD)	After Expansion (KLD)	Final Disposal Points
1	Sewage	20.5	9.5	30	Sewage is being treated in the STP. Treated Sewage is being used for Green Belt. Sludge will be used as manure for Green Belt.
2	Cooing tower bleed off	30	10	40	Cooling Tower Bleed off is collected from the Collection cum Re - circulation tank and the treated water will be used in cooling tower.

4.8.1 Air Pollution control measures

Air Pollution control measures

S.No.	Sources of emission	Control Measures Proposed	Stack Height from GL(m)	Stack top dimension (in Metres)
Existing				
1	Induction Furnace (6T/H) - 2Nos with 2 Crucibles each	Common fumes extraction system, Cartridge bag filter with stack	30.0	1.0
2	Induction Furnace (1T/H) 3 Nos. with 3 Crucibles each	Common fumes extraction system, wet scrubber with stack	15.0	0.8
3	Sand Shake out plant (1)	Individual Cartridge Bag Filter with stack	30.0	1.2
4	Sand Plant (2)	Individual Cartridge Bag Filter with stack	30.0	1.2
5	Cool Drum	Cartridge Bag Filter with stack	30.0	1.45
6	DISA Shot Blasting	Cartridge Bag Filter with stack	8.0	0.3
7	Online Shot Blast	Cartridge Bag Filter with stack	13.0	0.6
8	Tumb Shot Blast Finishing 1T	Cartridge Bag Filter with stack	7.0	0.2
9	Span Core Shooter	Wet scrubber with stack	4.0	0.45
10	Laempe Core Shooter	Wet scrubber with stack	4.6	0.40
11	Core Shop	Cartridge Bag Filter with stack	9.3	0.40
12	Fettling Shop	Cartridge Bag Filter with stack	7.5	0.40
13	500 KVA DG Set	Acoustic enclosures with stack	9.8	0.23
Proposed				

S.No.	Sources of emission	Control Measures Proposed	Stack Height from GL(m)	Stack top dimension (in Metres)
1	Induction Furnace (10T/H) – 1 Nos with Dual track 2 Crucibles each	Common fumes extraction system, Cartridge bag filter with stack	30.0	1.0
2	Sand plant (1)	Individual Cartridge Bag Filter with stack	30.0	1.2
4	Cool Drum	Cartridge Bag Filter with stack	30.0	1.45
5	Online Shot Blast	Cartridge Bag Filter with stack	13.0	0.6

4.9 Solid waste Details

4.9.1 Municipal Solid Waste

During the operation phase, the approximate solid waste generation existing 216 kg/day, Proposed 45 kg/day and after expansion 261 kg/day. The details are given below.

Solid waste Generation and Management during Operation phase

S. No	Description	Existing quantity (Kg/day)	Proposed Quantity (Kg/day)	After quantity (Kg/day)	Method of Disposal
Operation Phase – Existing 480 Nos & Proposed – 100 Nos					
1	Organic	129.6	27	156.6	Disposed through local Panchayat collection system.
2	Inorganic	86.4	18	104.4	Send to TNPCB authorized vendors
Total		216	45	261	

4.9.2 Solid waste from process (Non-Hazardous)

Solid waste from process (Non-Hazardous)

Description	Unit	Existing	Proposed	After proposal	Disposal methods
Metal Scrap	MT/Year	80	30	110	Reused for Melting
Furnace Slag	MT/Year	810	2209	3019	Sold Out to Sri Balaji Enterprises

Cotton	Kg/Year	100	120	220	Tamil Nadu Waste Management
Wood	Kg/Year	50	55	105	Tamil Nadu Waste Management
Paper	Kg/Year	300	400	700	Tamil Nadu Waste Management

4.9.3 Hazardous waste Generation and Management

The hazardous wastes will be packed in double lined Polypropylene bags and stored in an isolated room, exclusively ear marked for the purpose. Hazardous waste will be stored and disposed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Amendment Rules, 2016. The Hazardous waste generation and management detail is given below.

Hazardous waste Generation and Management

Waste details	Schedule	Unit	Existing Quantity,	Proposed Quantity	After expansion Quantity	Disposal method
Used/spent oil	5.1	T/Annum	0.5	0.5	1.0	Recover and Reuse – TNPCB Authorized recyclers
Discarded containers / barrels / liners contaminated with hazardous wastes/ chemicals	33.3	T/Annum	2.5	2.5	5.0	Recover and Reuse – TNPCB Authorized recyclers

4.2 Product Profile

The Existing and Proposed production capacities are given below

Existing and Proposed production capacity

S.N	Description	Exiting	Proposed	After Expansion
1	Grey and Ductile Iron castings	25,000 T/Annum	70,000 T/Annum	95,000 T/Annum

5.0 Environmental Impact Assessment

The unit obtained Standard terms of reference (TORs) issued by the SEIAA, TN, vide TOR letter No. SEIAA-TN/F.No.9176/SEAC/(3a)/ToR 1252/2022 dated 07.09.2022.

6.0 Description of Environment

6.1 Study Area

An area covering 10 Km radius from the plant boundary has been taken for studying base line terrestrial environmental Survey. A map showing 10 Km radius from project site is given below.

10 Km radius of the Project Site

6.2 Study Period

The baseline Environmental Monitoring is carried out between 15th June 2022 to 15th September 2022.

6.2.1 Terrestrial Environment

- The land use of current site is Industrial and the total land area is 15.54 Acres (62,888 Sq.m).
- As per the project specific meteorological data the predominant wind direction is from East and Western direction.
- The Project location fall under Earth Quake Zone III (Moderate Seismic zone) and it is not coming under flood zone.

Ambient Air Quality

- The 24-hourly average PM10 level varied between 54.1 mg/m3 (Thandalacheri Village) and 61.2 mg/m3 (Papankuppam). The levels of PM10 in all the areas are within the NAAQS standards of 100 g/m3.
- The 24-hourly averagePM2.5 level varied between 26.5 mg/m3 (at Thandalacheri Village) and 35.6 mg/m3 (at Papankuppam). The level of PM 2.5 in all the areas is within the NAAQS standards of 60 mg/m3.
- The mean of 24-hourly average values of SO2 over the study area was varying between 19.7 µg/m3 (at Rajapalayam) to 16.2 µg/m3 (at Peria Soliampakkam). The SO2 levels at all the locations were much below the permissible limit of 80 g/m3 stipulated for residential, rural & other areas.
- The mean of 24-hourly NOx level over the entire study area was varying between 19.3 mg/m3 (at Billakuppam) to 24.7 g/m3 (at Papankuppam). The 24-hourly average values of NOx at all the locations were within the prescribed limit of 80 g/m3 stipulated for residential, rural and other areas.

Noise Environment

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

Industry

- Day equivalent noise levels (Ld) ranged between 59.7 dB(A)
- Night equivalent noise levels (Ln) ranged between 50.6 dB (A).

Commercial

- Day equivalent noise levels (Ld) ranged between 59.2 dB(A)
- Night equivalent noise levels (Ln) ranged between 50.6 dB (A).

Residential

- Day equivalent noise levels (Ld) ranged between 48 dB(A) to 53.4 dB(A)
- Night equivalent noise levels (Ln) ranged between 43.9 dB (A) to 40 dB(A)

  The field observations during the study period indicate that the ambient noise levels were within the prescribed standards by CPCB standards.

Water Environment

Ground water

The ground water results reflect the nature of the area. The details of analysis of results are discussed below

- The pH concentration of the water samples collected from the study area varies from 6.18 to 7.36, and is within acceptable limits.
- The total dissolved solids (TDS) ranges from 200 to 710 mg/l, and is within permissible limits of 2000 mg/l indicating it's suitable for drinking, domestic, and industrial use. Highest is reported at Gummidipoondi.
- Chloride concentrations are within the permissible limits (1000 mg/l) of 25.3 to 222 mg/l. Highest is reported at Rajapalayam village.
- Sulphates concentrations vary from 6.90 to 82.30 mg/l which is within the acceptable limit.
- The hardness of samples collected in the area varies 48.80 to 410 mg/l.

Surface water

- In the surface water the pH varies between 6.0-9.0, which are meeting the IS 10500:2012 for Drinking Water.
- The Total Dissolved Solids range varies between 58 mg/l – 1023 mg/l for the surface water. The TDS value of a few samples exceed the acceptable limit of IS 10500:2012
- The desirable limit of the chloride content is 250mg/l and permissible limit is 1000 mg/l. The chloride content in the surface water for study area is ranges between 3 mg/l – 43 mg/l.

- The desirable limit of the Sulphate content is 200mg/l and permissible limit is 400mg/l. The Sulphate content of the surface water of the study area varies between 2 mg/l – 162 mg/l meeting the desirable limit of the IS 10500: 2012.
- The Total hardness ranges is between 78 mg/l - 678 mg/l, for few samples acceptable limit of IS 10500: 2012 exceeds.
- COD ranges between 27 – 236 mg/l.
- BOD ranges between 3 – 48 mg/l.

Soil Environment

- The pH of soil samples ranges from moderately acidic to strongly alkaline.
- The cation exchange capacity of the soils is Low to Very high.
- The level of nitrogen of the samples very less and the potassium levels are medium to Very high.
- Bulk density of soil of impact varies from 0.51 – 1.46 g/cc. Soil texture is predominantly Sandy loam.

6.3 Socio Economic Condition

- Socio Economic Impact Assessment of the project extends over 10 km radius from the project site comprising 46 villages.
- In the study area, the population is 2,84,764 of which males are 1.43 Lakhs and females are 1.41 Lakhs. The sex ratio of the area is 983 females over 1000 males. Average literacy of population in the study area is 63.90 %.

7. Anticipated Environmental Impacts and Mitigation Measures

Identification of Impacts

These impacts involving various environmental and socio-economic attributes during the different phases of the project are categorized as follows.

1. Impacts during project construction phase
2. Impacts during operation phase

Construction Phase

Mitigation Measures of Land Use

Based on the needs the drainage system on periphery of the property will be developed and, will be connected to the rainwater harvesting structures so that the runoff generated does not cause any flooding or siltation problems. There will be no change in the

topography of the area in the post construction phase and the overall slope of the area will remain the same.

Mitigation Measures of Ambient Air

- Proper maintenance of vehicles and construction equipment will help in controlling the gaseous emissions.
- Water sprinkled on roads and construction sites will prevent fugitive dust.
- The development of green belts alongside the road and inside the plant's boundaries will help to reduce dust.
- Over loading of the trucks will be avoided.
- Ensure all the transportation vehicles are covered with Tarpaulin.
- The construction waste will be dumped in an identified area and will be covered properly to avoid any fugitive dust emissions.

Mitigation Measures of Ambient Noise

- Noise barriers can be provided.
- The contractor will be advised to provide earplugs to workers to reduce the impact of noise and follow guidelines prescribed by CPCB.
- All construction equipment used for an 8-hour shift and it will conform to a standard of less than 90 dB.
- Machinery producing high noise, such as concrete mixers, generators, etc., must be provided with noise shields.
- Heavy machinery and DG sets will be operated during the daytime only.
- The D.G. set will be housed in an acoustic enclosure, which will reduce noise levels by up to 10 dB (A) to 15 dB (A).
- The noise level will be maintained at less than 55 dB (A).

Mitigation Measures of Water Environment

- Adverse impacts on water quality will be minimized by ensuring that erosion control measures.
- Silt traps are put in place in all work areas near watercourse crossings or drainage channels.
- The quality of all drainage channels and ditches will be monitored, and corrective actions will be taken where turbidity is unacceptable.
- Equipment storage areas and maintenance areas will be located at a reasonable distance from watercourses.

Mitigation Measures of Soil Environment

- Spillage of oil and grease from the vehicles shall be collected separately.
- Top soil shall be stored and used for filling low lying area within project site.
- Proper treatment system will be provided for sewage.
- The solid waste will be disposed to TNPCB authorized person.

Biological Environment

Mitigation Measures

- ❖ Awareness will be given to workers about the importance and conservation of terrestrial ecology and biodiversity.
- ❖ Discharge of wastes/wastewater without treatment into the water bodies during the construction phase would not be allowed.

Operation Phase

Mitigation Measures of Air Environment

- Tree plantation would be provided to control and reduce the odour and air pollution.
- Diesel generators will be operated only for emergency power backup. The emission source diesel generators will have adequate stack height will conformance to the set norms of CPCB and regular maintenance of diesel engines has to be ensured. Seasonal monitoring of air quality through an approved (NABL) monitoring agency will be carried out at these locations.
- Management will ensure that all the private and commercial vehicles entering into the site are in proper condition and there is no visual sign of major emissions from the vehicles. Also it is to be ensured that all the vehicles are holding valid Pollution under Control Certificates.
- Ensure that vehicles and Machines are turned off when not in use.
- Ensure proper availability of firefighting system
- Prohibit any kind of smoke or fire on-site

Mitigation Measures of Water Environment

- Existing sewage treatment plants with a capacity of 25 KLD are available. In the future, the unit will have a capacity of 40 KLD STP, and the treated water will be used for Greenbelt development.
- Spent oil will be stored in leak-proof, sealed barrels and disposed of at TNPCB-authorized re-processors.

- The bled-off water from the cooling tower is collected and treated in the collection and recirculation tank.

Mitigation Measures of Solid Waste

- Fence the site border to prevent any flying material to deposit in nature.
- STP sludge will be utilized for Manure.
- Provide proper sorting and labeling of different waste materials according to their nature.

Mitigation Measures of Noise and Vibration

- Green Belt to be developed and maintained to abate the noise pollution created during the operation of machineries.
- Personal Protective Equipment (PPE) such as ear muffs, etc. to the workers exposed to heavy noise for longer duration.
- An acoustic enclosure D.G set will be provided to plant, this D.G set will be reduced the noise level upto 10 dB(A) to 15 dB(A). Noise level will be maintained less than 55 dB(A).
- Noise monitoring will be carried out in plant.
- The machineries to be used will be serviced and maintained to control generation of noise and vibration. Vehicles used for transportation will be serviced regularly and maintained properly to avoid any generation of unwanted noise.
- Employees working in noisy environment will be made mandatory to wear ear muffs/ear plugs to avoid any adverse impact of noise on them. Employees exposed to hand vibration while handling/operating heavy machineries will compulsorily wear anti vibration gloves made up of visco-elastic material.

8. Environmental Monitoring Program

A well laid out environmental monitoring program is designed for post project monitoring, covering air, water, soil, noise and ground water levels both at project site as well as the nearest village, Pappankuppam.

9.0 Additional Studies

9.1 Risk Analysis

Detailed risk analysis study is carried out from proposed activities by considering the hazards identified from operations of induction furnace. Adequate infrastructure to handle emergencies is planned for expansion activities.

9.2 Disaster Management Plan

A well laid out disaster management plan is drawn based on the likely risks associated with the plant and operations. Roles and Responsibilities are defined to handle the emergencies under the control of Plant Manager. Communication protocols are defined in case of any emergencies to government agencies and Hospitals. Plant management will participate in any regional mock drills conducted by the District Authorities.

9.3 Traffic and Transport Management

Peak traffic was found to be 1495 PCU/hr at Gummidipoondi to Kallur Road. The capacity of road for 2 lanes (one way) is taken as 2900 PCU/hr as per IRC Standards. Hence the V/C Ratio for the road is found to be 1495/2900 = 0.5. Hence the level of service for the road is "C" & the performance is "Good". Volume of the Gummidipoondi to Kallur Road is moderate at present & a normal flow condition could be observed throughout the day.

10.0 Project Benefits

- Currently the total employees working in the plant are 480 people. The proposed expansion project is likely to provide employment for an additional 100 people, and the total employment after expansion will be 580 people. The local population will be given preference for employment based on their qualifications, which will increase employment opportunities in the surrounding area.
- The industry generates nearly 12.5 metric tonnes of slag per year after expansion. Slag is crushed in-house, and crushed material can be disposed of for filling low level areas and construction sites, also extensively being used for brick manufacturing, which will generate additional employment.
- Budgets of Rs. 0.32 Crores are proposed as part of the company's Corporate Environmental Responsibility for these activities. The required improvement for social infrastructure in the nearby villages will be addressed through these funds.
- The proposed project will also contribute revenue to the central and state exchequer in the form of GST, corporate taxes, etc.
- Development with a sustainable approach is the goal of the industry to maintain a good environment.
- Rainwater harvesting is done for groundwater recharge that will improve the groundwater table in the area.

- Green belt in the project site area will give it a pleasant look and improve the biodiversity of the area.

10.1 Corporate Environmental Responsibility

As stipulated in the Terms of Reference issued by SEIAA, the proponent has to fulfil its corporate environmental responsibility (CER) by adopting an appropriate strategy to improve the socioeconomic environment in the project impact area in keeping with the felt needs of the villages and people inhabiting them.

Based on the needs expressed during the household and village level, a preliminary CER Management Plan is developed by the project proponents. However, the plan must be finalised in accordance with the specific needs expressed in during the project's public consultation.

The CER Management Plan for the project is conceived as detailed is given below.

Budget for CER Activities

S.No.	Description	Amount in Rs.
1	**Government Girls Higher Sec School, Thervazhi, Gummidipoondi,**	
I	Renovation of restrooms	2,00,000
Ii	Construction of Compound wall	3,50,000
Iii	Compound wall full painting	2,50,000
Iv	Smart board	5,50,000
V	Tree plantation	2,00,000
	Sub Total 1	**15,50,000**
2.	**Government Panjayath Union Middle School New Gummidipoondi**	
I	Laying Foyer Blocks	2,50,000
Ii	School Building Painting with colorful pictures	4,00,000
Iii	Tree plantation	3,00,000
Iv	Smart board	3,50,000
V	Library facility	3,50,000
	Sub Total 2	**16,50,000**
	Total	**32,00,000**

11.0 Environmental Management Plan

After evaluating a variety of pollution mitigation and control technologies, the management plan is developed in collaboration with the project proponents and technical consultants.

The environmental management plan is created to address the temporary impacts identified during construction, as well as the impacts identified during operation stages and remedial measures.

Budget for implementation of EMP

A total of Rs. 155 lakhs will be spent on environment protection, management, pollution control, treatment, and monitoring systems. Appropriate budgetary provisions will be made, and provisions will be made for recurring expenditures for the environment management of the project.

EMP Budget

S.No.	Particulars	Capital Cost in Lakhs	Recurring Cost In Lakhs
1	Air Pollution Control measures	40.0	5.0
2	Sewage treatment Plant	35.0	3.0
3	Solid Waste Management & dust prevention measure	10.0	2.0
4	Solar lighting/grit in unit	30.0	3.0
5	Noise Pollution Control	10.0	3.0
6	Environmental Monitoring & Management	-	5.0
7	Green belt & open area development*	15.0	2.0
8.	Rainwater harvesting pits	15.0	2.0
	Total	**155.0**	**25.0**

12.0 Conclusion

The proposed expansion project will have certain level of marginal impacts on the local environment. However, development of this project has certain beneficial impact / effects in terms of providing the employment opportunities that the same will create during the course of its setting up as well as during operational phase of the project. Thus, it can be concluded that with the judicious and proper implementation of the pollution control and mitigation measures, the proposed expansion project will be beneficial to the society and will help reduce the demand – supply gap of Grey and Ductile Iron and will contribute to the economic development of the region in particular and country in general.