Executive Summary

For

Processing of Cold Rolled Steel Strips - Carbon Steel
10,000 TPM (1,20,000TPA)

3(a) Activity: Metallurgical industries (ferrous & nonferrous)
3(a) Cat. (B)

TI Cycles of India
(Unit of Tube Investments of India Ltd.)
located at Plot no – E8, MIDC area, Village Malegaon,
Taluka Sinnar, Dist. Nashik, Maharashtra 422103.

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EXECUTIVE SUMMARY

1.1 Introduction

The project is a unit by TI Cycles of India, Unit of Tube Investments of India Ltd. (TII) The land is already in possession in MIDC, Malegaon since year 2000 for manufacturing of Bicycle & Components wherein all the infrastructural facilities are available. Project is located at Plot no – E8, MIDC area, Village Malegaon, Taluka Sinnar, Dist. Nasik, Maharashtra 422103, having total plot area 35364 m2. Existing activity is stopped in 2017. In view of the above no alternative site was examined.

To produce and sell Cold Rolled Steel Strips (CRSS) of around 10,000 MT / Month in the plant located in MIDC Sinnar, Nasik for the customers located within Maharashtra, other states in West and North part of India. The Company buy raw material, hot rolled steel coils, from steel mills like JSW, TATA, AMNS and import sources of various widths and thicknesses to produce the finished products named as "Cold rolled steel strips" (CRSS). These CRSS coils are further being used by our customers as input, to make the automotive and non-automotive components at their end.

Presently the WEST and NORTH regional CRSS demands are being fulfilled by the Chennai facility of TII. As auto manufacturing is growing in India, especially in Maharashtra, TII as a Cold Rolled Coil/strips (CRSS) manufacturer sees an opportunity enhance its market share in CRSS sector in this region.

Steel consumption is 2018-20 was ~ 97 MMT and expected to grow at 7 to 8%. Presently ~600 TPM being supplied by TII, Chennai plant against demand of 8000TPM. The proposed plant will meet part of the demand of this region.

As per EIA Notification S. O. 1533 promulgated on 14th September 2006 secondary metallurgical industries are to be appraised for EC as category B projects under schedule 3(a) Metallurgical industries. In case of secondary metallurgical processing industries units, those projects involving operation of furnaces only such as induction and electric arc furnace, submerged are furnace, and cupola with capacity more than 30000 tons per annum (TPA) would require Environmental Clearance.

Vide order dtd. 12/02/2020 Hon'ble National Green Tribunal, in O.A. No. 55/2019 (WZ) in the matter of Gajubha Jesar Jadeja vs Union of India & Ors. directed MoEF&CC to (i) define secondary metallurgical units for the purpose of EIA process, (ii) clarification about the types of furnace under applicability of MoEF&CC notification 2006, (iii) clarifying re-rolling vs. cold rolling in the context of Environmental Clearance. Therefore, for further smoothening the EC process for present unit and proposals in future, the MoEF&CC has directed to obtain environmental clearance for cold rolling mills as well.

According to the above guidelines, now we have applied to SEIAA, Maharashtra, MoEF & CC for the project that requires Environmental Clearance (EC) as category 'B' project under clause 3 (a) Metallurgical industries (ferrous & non ferrous).

The proposed project had received Consent to Establish for Cold Rolled Steel Strips- Carbon Steel production of capacity 5000 TPM vide consent No. Format1.0/CAC/UAN No. 0000144566/CE/2211001334 dated 17.11.2022 which is valid for five years.

The Salient Features of the proposed project are provided in Table 1.

Table 1: Salient Features of Project

S. No.	Particulars	Details
1	**Name & Address of Company**	M/s. TI Cycles of India, Unit of Tube Investments of India Ltd. at Plot no – E8, MIDC area, Village Malegaon, Taluka Sinnar, Dist. Nasik, Maharashtra 422103.
2	**Schedule of project as per EIA Notification, 2006**	**3 (a) Metallurgical industries (ferrous & nonferrous)**
3	**Category of Project**	'B'
4	**Area Details (m^2)**	
A	**Total Plot Area**	35,364.00 m^2
B	**Green Belt**	**11686** m^2
C	**Parking Area /road**	1710 m^2
D	**Total Built Up**	**20563.77** m^2
5	**Production details**	Processing of Cold Rolled Steel Strips (CRSS)- Carbon Steel 10,000 MTPM (1,20,000TPA)
6	**Water Requirement of Project**	**Total Water requirement of the project: 203.5 m^3/d (156.5 m^3/d from MIDC + 47 m^3/d recycled)** • Process (Pickling rinsing Pickling dilution): 30 m^3/d • Rolling Mill Coolant : 15 m^3/d • Cooling Tower : : 96 m3/d • Drinking/Domestic: : 12.5 m^3/d • Green Belt: : 50 m^3/d (19 from recycle + 31 from MIDC)
7	**Effluent generation**	• Effluent to ETP: 31 m^3/d • Sewage to STP **:** 11 m^3/d
8	**Effluent treatment**	Liquid wastes generated from plant shall be collected & will be treated full-fledged effluent treatment plant having capacity 35 m3/d. Domestic sewage shall be treated in STP having capacity 15 m^3/d and shall be used for gardening.
9	**ETP Details**	ETP Capacity –35 m^3/d ETP with MEE+ATFD STP Capacity – 15 m^3/d with MBBR technology Activated sludge technology
10	**Power Requirement**	Electricity available from MIDC/ State Electricity board and DG set in case of power failure. Connected Load: 3500 kVA Maximum Demand: 3500 kVA Transformer: Nos. capacity 33/11 KV Proposed Solar PV 1 % of the demand load

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>11</td><td>D.G. Set capacity</td><td>DG set: 1010 kVA 1 No.</td></tr>
<tr><td>12</td><td>Boiler Details</td><td>Aquatherm Boiler - Push pull Pickling 15 TPH Boiler – 01 No.</td></tr>
<tr><td>13</td><td>Fuel Requirement</td><td>Fuel requirement:
Propane: 3500 TPA
Ammonia: 300 TPA
HSD:30TPA</td></tr>
<tr><td>14</td><td>Stack details</td><td>
<table>
<tr><th>S. No.</th><th>Description</th><th>Material of Construction</th><th>Shape</th><th>Height in Meters Above Ground</th><th>Diameter In meter</th><th>Control Equipment preceding the Stack</th></tr>
<tr><td>1</td><td>Aquatherm Boiler - Push pull Pickling</td><td>MS</td><td>Round</td><td>30 Meters</td><td>0.3</td><td></td></tr>
<tr><td>2</td><td>HCL Acid - Push Pull Pickling</td><td>FRP</td><td>Round</td><td>25 Meters</td><td>0.3</td><td>Fume Exhaust system, Wet Scrubber followed by Stack</td></tr>
<tr><td>3</td><td>Rinse Water - Push pull pickling</td><td>FRP</td><td>Round</td><td>25 Meters</td><td>0.3</td><td>Fume Exhaust system, Wet Scrubber followed by Stack</td></tr>
<tr><td>4</td><td>DG set</td><td>MS</td><td>Round</td><td>30 Meters</td><td>0.3</td><td></td></tr>
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</td></tr>
<tr><td>15</td><td>Pollution control Systems</td><td>Stack, water Scrubbers , dust collectors and acoustic enclosures shall be provided at various locations</td></tr>
<tr><td>16</td><td>Manpower</td><td>250 Nos. of workers/ employees including staff</td></tr>
<tr><td>17</td><td>Project Cost</td><td>Rs. 16237 Lakhs – Phase 1 and Rs 15700 Lakhs – Phase 2</td></tr>
<tr><td>18</td><td>EMP cost</td><td>Capital Cost: approx. Rs.4.50 Cr., O & M Cost: Rs.1.50 Cr.</td></tr>
<tr><td>19</td><td>CER Cost</td><td>Rs. 6.38 Cr. (2% of the project cost)</td></tr>
<tr><td>20</td><td>CSR Cost</td><td>Shall be implemented</td></tr>
</table>

LOCATION OF THE PROJECT

TI Cycles of India, Unit of Tube Investments of India Ltd. located at Plot no – E8, MIDC area, Village Malegaon, Taluka Sinnar, Dist. Nasik, Maharashtra 422103, having total plot area 35364 $m^{2.}$ The geographical location of the project is as mentioned in **Table 2**. The Location Map and the Google Image of the Project Site is as shown in **Figure 1** and **Figure 2** respectively.

Table 2: Geographical Location of the project

Sr. No.	Component	Description
1.	Village/District/State	Malegaon/ Sinnar / Maharashtra
2.	Coordinates	Latitude: 19°53'0.45"N, , Longitude: 73°58'50.34"E
3.	Nearest Highway	Samruddhi Mahamarg Mumbai – Nagpur Highway: 14 km
4.	Nearest Railway Station	Nashik Raod (20 km)
5.	Nearest Airport	Nashik International Airport – Ojhar (40 km)

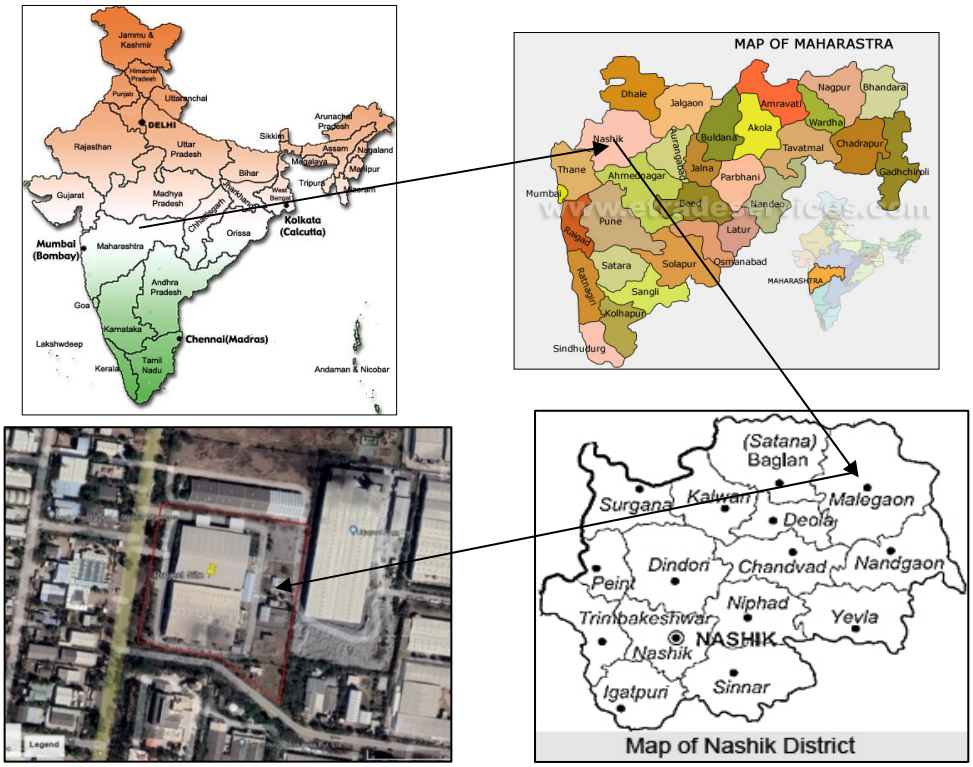

Figure 1: Location map of the project

The area break-up details are as provided in **Table 3** and proposed plant layout is shown in **Figure 3**

Table 3: Area Details

S. No.	Details	Area m²
1	Total Plot area	35364
2	Net Plot area	31828
3	Building area	18786
4	Admin Building + canteen	423
5	Covered Storages area	1413
6	Open storage area	589
7	Internal roads	3941
8	Parking	1710
9	Green belt	11686
10	STP, ETP, DG set transformer area- services area	745.8
11	Other	198
12	Total Built up area	20563.77
13	Utility area	378
14	Roof top area	13147

Figure 2: Google Image of the Project Site

Project Layout :

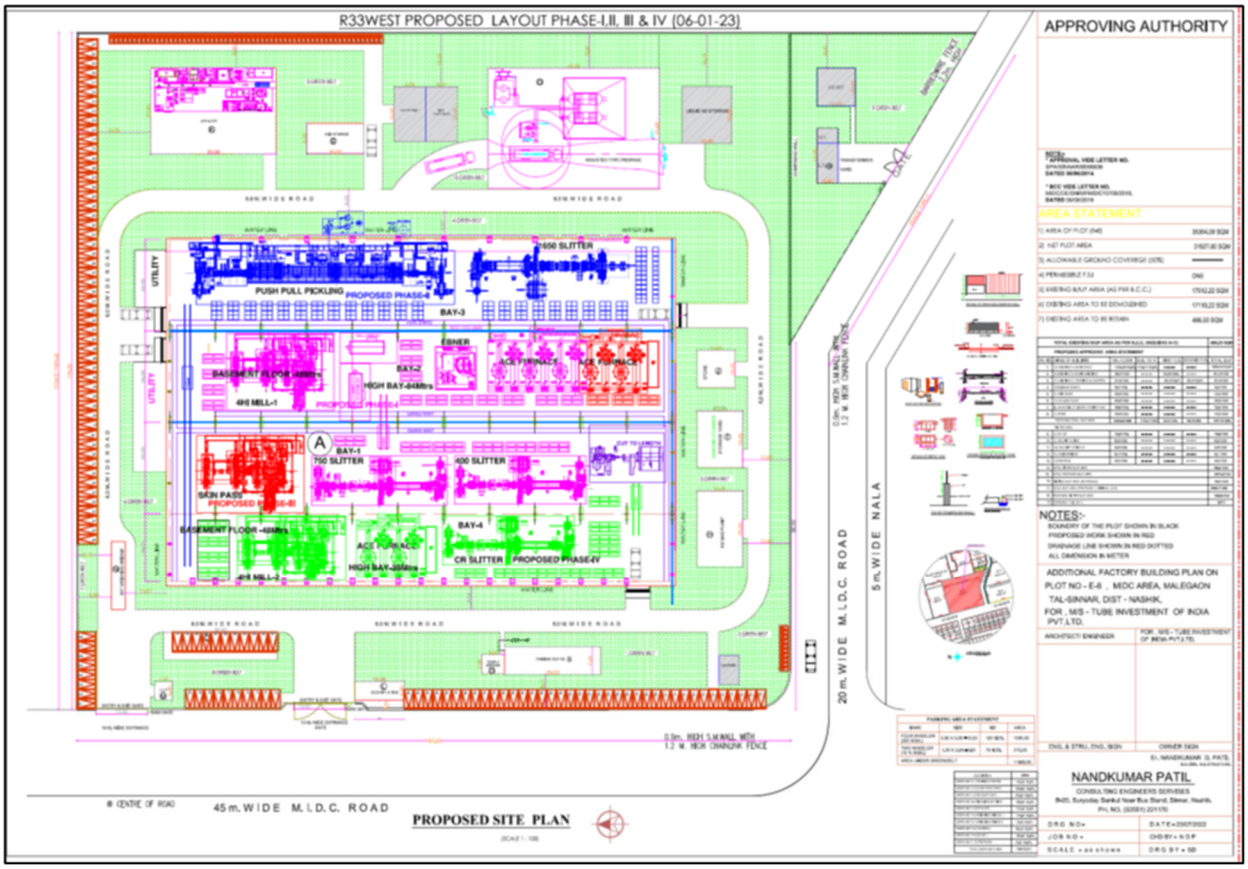

Figure 3: Project Layout

1.2 Process Details:

The production details of the company are mentioned below;

Cold Rolled Steel Strips (CRSS): 10,000 MT / Month

The raw material required for the unit shall be procured from local market and transportation of raw material shall be mainly through road

Process involves following steps;

a. Slitting
b. Pickling
c. Rolling
d. Annealing Plant
e. Skin pass rolling
f. Final slitting
g. Packing and dispatch

1.3 Baseline Monitoring:

We have conducted baseline monitoring for Air, water, soil & noise for various locations within 10 Km.
Air – 8 locations, results within the prescribed limit.
Surface Water: 8 locations, results are found to be satisfactory.
Ground Water: 8 locations, results are found to be satisfactory.
Soil: 8 locations, results are found to be satisfactory.
Noise: 8 locations, results within the prescribed limit.
Ecology: Survey of local Flora and Fauna
Socio-economy: Study area

1.3.1 Biological Environment:

During construction phase, the ground flora including grasses will be cleared, it will impact directly on different avifaunal groups for their nesting and food material.

During construction phase, anthropogenic activity and noise generated by different machinery may lead to temporary shifting of sensitive species of reptiles, small mammals, and birds to the surrounding similar habitat.

The selection of plant species should be based on following criteria -

- Locally available species (Native to the area)
- Good canopy
- Larger leaf area
- Shorter duration of leaf fall
- Adequate height of crown

Proper green belt should be developed to attract different faunal groups and maintain the biodiversity

To support local bird diversity some nest boxes, bird feeder and nesting material boxes can be installed on trees to attract different bird species.

1.3.1.1 Mitigation Measures

During construction activity proper fencing should be done with sheet to avoid dust spread.

During construction and operation phase proper green belt (Based on APTI Index) should be developed to minimize impact of air pollution (Dust, gaseous and VOC pollution) and vehicular pollution

1.3.2 Socio Economic:

Baseline information was collected in order to delineate the socio-economic profile of the study area. The process related database thus generated includes:

- Demographic structure
- Employment pattern
- Infrastructure base in the area
- Survey observation and recent available facilities in the surveyed area
- Quality of life of the people within study area
- Public awareness and their concern about the project

Dwelling unit explains the geographical composition of the area. The table depicts the number of villages within the 10 km radius of the plant. It demonstrates that the proposed site for the plant is abutted within the jurisdiction of village Malegaon of Sinnar Tahasil of the Nashik District. The 10 km radius area is covering 29 villages and 1 Towns. Zone wise segregation shows that the first zone (0-3 KM) consists of 4 villages. The second zone (3-7Km) is constituted of 11 villages. The last zone (7-10 km) constituted 15 villages.

2011 census: With 25489 households comprise 121970 individuals in the study area. Population increased by 38775 in 10 years period. Out of the total population, 10112 (8.29%) were belonging to scheduled caste (SC) whereas 14684 (12.03%) scheduled Tribe. This indicates that the vulnerable section of the society encompasses 24796 (20.32%) individuals. Moreover, the data of children below six years of age group indicated 16291 children in the study area. Out of total population male were 64489 (52.87%) and female were 57481 (47.12%). It indicated equal population growth in both male and female categories.

1.3.3 Infrastructure:

Educational facilities, medical facilities, drinking water, road and rail connectivity are good.

1.3.3.1 Impact & mitigation measures:

Already developed infrastructure is available. The duration of the construction activity and the size of the construction workforce for the project will mean substantial opportunity for economic development in the industrial area as demand for goods and services increases with development. Key areas identified to benefit most from this influx of construction / industrial unskilled workers include the hospitality industry, retail, recreation and small businesses willing to meet the needs of this demographic.

1.4 Air Environment:

The air pollution caused by this industry is mainly from dust as SPM and fumes. The dust is due to the composition and handling of raw material and fumes are from boiler as well as from ladle and roof level.

Pollution Control measures -- Air:

The air pollution is caused mainly by particulate matter and fumes during process operation, Stack, alkali scrubber will be provided to minimize the air pollution.

Fugitive:

Fugitive emission will be controlled by:

- Regular water sprinkling
- Rubber tired trolleys for material handling
- Adopting layout to minimize manual material movement
- Tree plantation

Ground level concentrations (GLCs) have been predicted using AERMOD Cloud software. The application incorporates popular U.S. EPA air dispersion models AERMOD and ISCST3 into one integrated graphical interface. The model follows rural dispersion and regulatory defaults options as per guidelines on air quality models (PROBES/70/1997-1998).

Ambient air quality in study area w.r.t. PM, SO_2 and NOx is within NAAQS 2009 as seen. Hence, any significant impact is not envisaged within study area.

1.5 Water Environment:

The water requirement is about 203 m^3/d for domestic, greenery, process, boiler feed and cooling. Water is supplied by MIDC. Water supply from MIDC.

Pollution Control -- Water and Wastewater

Water Quality:

Total effluent generation is 31 m^3/d. 35m^3 capacity ETP will be provided for treatment of waste water. Out of which 90% (47 m^3/d) shall be recycled. For domestic waste proposed sewage treatment plant having capacity 15 m^3/d.

1.6 Solid Waste

The hazardous and nonhazardous solid waste is generated during production process the details are given below table;

Non Hazardous Solid Waste:

Table 4: Non Haz. Solid Waste Details

Sr. No.	Waste	Quantity(TPA)	Disposal
1.	Dry Garbage	25	Hand over to authorized recyclers
2.	Wet Garbage	16	Vermi Composting
3.	Process Metal/Steel Scrap	14800	Sale to Authorized Vendor
4.	Paper/ wood	20	Hand over to authorized recyclers
5.	E-waste (PLC board, electrical items etc)	5	To authorized e waste recycler
6.	UPS and other vehicle batteries	1	To authorized recycler
7.	Plastic waste	10	Disposal to authorized recycler
8.	STP Sludge	36	Used as Manure for gardening

Table 5: Haz. Solid Waste Details

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of transport
Used/ Spent Oil	Process	120	To authorized recycler	Tanker
Waste residues containing oil	Process	90	Co processing in Cement plant	Truck
Acid Residues	Push Pull Pickling	2500	Disposal to authorised recycler	Tanker
Chemical Sludge from waste water treatment	Push Pull Pickling	1000	Common land fill TSDF	Tanker
Empty barrels/containers contaminated with chemical waste	Process	12	Disposal to authorized recycler	Truck

1.7 QRA DMP Risk Hazop

The approach for proposed study is given in following 6 steps. The steps undertaken to carry out risk assessment for the proposed project are described in subsequent sections.

Step 1- Initial Screening for Hazard Identification:
Step 2- Consequence Analysis:
Step 3- Risk Evaluation:
Step 4- Regulatory Compliance:
Step 5- Risk reduction measures:
Step 6- Disaster Management plan:

1.7.1 Identification of Hazards

The various hazards present in the industry fall under three main categories: Physical Hazard, Chemical Hazard and Mechanical Hazard.

1.7.2 Disaster Management Plan

A facility which adopts the well-designed safety programs and disaster management plan can minimise the impacts of disasters. In general, the key causes for chemical accidents are lack of safety management systems, human errors or negligence and natural calamities or sabotage.

Under the provision of Factories Act, 1948 and its amendments of 1987, the occupier of the factory is required to prepare On-Site emergency plan along with detailed control measures for the factory. It is required to inform the plan to workers and general public in the immediate neighbourhood. Also, these people should be aware about safety measures required to be taken by them in case of an emergency.

On-site Disaster Management Plan

If an accident/incident takes place in a factory, its effects are confined to the factory premises, involving only the persons working in the factory and the property inside the factory it is called as On-site Emergency.

Off-site Disaster Management Plan

The objective of the off-site disaster management plan is to facilitate effective incident management by improving preparedness of the locality for off-site releases. The plan is collaborative activity of the facility, local emergency response agencies, and external supporting facilities.

Emergency Scenarios

• Fire & Explosion

Pool fire, Flash fire, Explosion, Jet fire

- Confined explosions,
- Unconfined vapour cloud explosion,
- Rupture of a vessel containing a pressurized liquid - BLEVE

Release of toxic gas / Chemical spill leading to chemical and heat burns, overpressure shocks to human and livestock and damage to private and public property

- Leaking valve/ fracture of pipe
- Massive release due to uncontrolled chemical reaction or failure of large storage
- Loss of containment for a plant threatened by a fire

Natural hazards:

- Drought
- Earthquake
- Small floods

1.7.3 Emergency Preparedness and Response Plan

The proposed facility will establish an Emergency Control Centre (ECC) in the plant to direct and handle the emergency operations. The ECC will have following components:

- The necessary documents and material:
  - The ECC should have required facilities to conduct Internal and external communication.
  - It should have computer and other essential records
  - Daily attendance of workmen employed in factory.
  - Storage of hazardous material records and manufacturing records.
  - Pollution records.
  - Walky-talky
- Plant Layout showing the following:
  - Reference location of the ECC with respect to plant layout showing "YOU ARE HERE"
  - Hazardous areas in the plant as per zoning (if any)
  - Storage area of hazardous materials.
  - Storage of safety equipments.
  - Fire fighting system and additional source of water.
  - Site entrance, roadway and emergency exist.
  - Assembly points.
  - Parking area.
  - Surrounding location.
  - Access roads
  - Distances to nearest hospital, police station and fire station
  - List of Key Personnel with addresses, telephone number

Assembly Point and Escape Routes

A dedicated safe area away from the main plant and storage and all hazardous areas plant should be pre-determined as assembly point where in case of emergency personnel evacuated from the affected areas are to be assembled. The plant workers, contract workers and visitors should assemble in assembly point in case of emergency and the time office clerk should take their attendance so as to assess the missing persons during emergency. Image showing assembly point and escape routes on layout is shown

The general recommendations for selection of Assembly point are given below:

1. Size: should be large enough to accommodate total number of people expected to be evacuated (regular staff, visitors and any other personnel present in the plant premises);
2. Options: it is recommended to have at least 2 options while selecting assembly point considering different weather conditions
3. Accessibility: consider all type of people to be evacuated including disabled
4. Sign and Visibility: the assembly point should be placed with the sign board clearly visible from distance and from various places of the plant area. Also, the sign boards to be installed place to place to guide people movement from their respective locations to the assembly point in case of emergency situations.
5. Escape Routes: The clearly marked escape routes with shortest distance possible to reach the assembly point or other open areas should be designed. Such route should be clearly marked on the layout map and placed at all important locations of the plant.

1.8 Traffic Study:

Traffic Surveys are necessary to capture the existing pattern and volume of traffic as a baseline data. This data can be utilized to determine the residual capacity of the surrounding roads. This project is an Industrial development project.

Observations and recommendations:

- The site is located in the MIDC area. Therefore, a mixed type of traffic is observed in this area.
- Commercial vehicles in this MIDC area have access to the external roads throughout the day, unlike other MIDC areas in the urban areas where the movement of commercial vehicles is restricted in peak hours.
- The traffic that will be generated from the proposed project will be mainly loaded on Malegaon Road then it will be distributed on surrounding roads.
- Traffic analysis shows that the traffic impact on the surrounding roads due to this upcoming project is meager.
- Major roads in the surrounding areas are not constructed with full width as per the sanctioned R.O.W.
- As per the traffic study, the V/C ratio on the roads surrounding the project site will not change drastically even after the impact due to the proposed development. The change in LOS on surrounding roads will be mainly due to the normal traffic growth.

1.9 Post project monitoring plan

Table 6: Post project monitoring plan

S. No.	Area of monitoring	Sampling locations	Parameters to be Analyzed	Frequency of Sampling
1	Stack Emission	Flue gas Stack	PM2.5, PM10, SO2, NOx, VOC, HCl	Twice in Month through third party.
2	Ambient Air Quality	Two location within plant premises	PM2.5, PM10, SO2, NOx, VOC, HCl	Once in Month through third party.
3	Liquid effluent	Inlet and outlet of Effluent Treatment Plant.	As per consent of MPCB	Daily basis and Once in a month through third party.
4	Ground and Surface water	Two sampling locations in 10 Km radius.	As per IS Standards	Once in a year through third party
5	Soil	Two sampling locations in Impact Area	As per consent of MPCB	Once in year through third party
6	Noise	Noise generating units	Sound Pressure Levels (Leq)	Weekly and once in a month through third party
7	Occupational Health Monitoring	Periodical Check up	Spirometry, Urin, RBS, LFT, complete blood count, dental X ray, Anemia, etc.	<30 yrs. Once in five years 31-40 yrs. Once in four years 41-50 yrs. Once in two years Above >50 yrs.once every year
8	Greenbelt	Green belt area	Number of plantation (Units), Number of Survived plants/ trees, Number of poor plants/ Trees	Ongoing round the year
9	Socio Economic	core zone and Study area	Workers, employment pattern, CSR activities, Budget, expenses etc	Yearly

1.10 Conclusion

The proposed project is green field project. The land is already in possession in MIDC, Malegaon since year 2000 for manufacturing of Bicycle & Components wherein all the infrastructural facilities are available. Project is located at Plot no – E8, MIDC area, Village Malegaon, Taluka Sinnar, Dist. Nashik, Maharashtra 422103, having total plot area 35364 m^2.

- Provide employment opportunity to local skilled man power
- Will improve socio-economic condition of the area
- Minimal air pollution and water pollution
- Green belt development