PROJECT PRE-FEASIBILITY REPORT

FOR

AMENDMENT

IN

EXISTING EC

AT

Survey No. 278/P2/P1/P1,

Sarigam GIDC Bypass Road,

Village: Sarigam – 396155,

Dist.: Valsad, Gujarat

Project Proponent:

MIT MADURA INDUSTRIAL TEXTILES

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

Chapter-1
INTRODUCTION

1.1 THE PROJECT

MADURA INDUSTRIAL TEXTILES LTD. (MITL), formally a division of Madura coats Ltd., with 100 years of innovation & expertise in Industrial fabrics, was taken by **KALRA GROUP** in the year of 2004. The company has a unit engaged in manufacturing of tyre cords and conveyor belts, located in the industrial zone of Dadra (Silvassa), Union Territory of Dadra & Nagar Haveli&Sarigam.

The Sarigam plant is locatedat Survey no. 278/P2/P1/P1,Sarigam GIDC Bypass Road, Village: Sarigam, Dist. Valsad, Gujaratengaged in manufacturing of Nylone-6 Yarn by backward integration.

MITL had obtained Environmental Clearance from Ministry of Environment and Forest, **F. No. J-11011/565/2011- IA II (I) dated 30th Dec 2013** for proposed expansion cum backward integration project in 2 phases.The copy of EC letter is attached as ***Annexure-1***.

The project is in operational phase and obtained the Consent to Operate (CTO) for the same. The copy of CC&A is attached as ***Annexure-2.***

MITL now proposes for obtaining an amendment in following conditions –

1. To include Nylon 6 Chips in the list of products with a total rated capacity of 1950 MT/M
2. To include Dry VP Lumps in product list at rated capacity of 30 MT/ Annum.
3. Addition of coal as an alternative fuel to Natural Gas/ HSD.
4. It also proposes installation of one Steam Boiler (Capacity: 8 TPH) running on Coal as an option of the existing NG/ HSD fired Boiler (Cap: 5 TPH).
1. Discharge of treated effluent in CETP instead of zero discharge.

1.2LIST OF PRODUCTS

The list of products for which EC has been obtained is given in Table 1.1.

Table 1.1 (a): List of Products as per EC

S. No.	Name of the Product	Phase – 1* (TPM)	After Phase - 2 (TPM)
1.	N – 6 Dipped Fabrics*	**1666**	**1950**
2.	Grey Fabrics*		
3.	N – 6 Yarn	**NIL**	
* **For Phase-1, EC is not applicable and GPCB Consent to Establish (NOC) No. GPCB/ID-35546/2279/23Aug2011, has been obtained.**			

Table 1.1 (b): List of Products for Proposed Amendment in EC

S. No.	Name of the Product	Capacity (TPM)	
		Existing	After Proposed Amendment
1.	N – 6 Dipped Fabrics	**1950**	**1950**
2.	Grey Fabrics		
3.	N – 6 Yarn		
4.	Nylon 6 Chips	**-**	
5.	Dry VP Lump	**-**	**2.5**
Total		**1950**	**1952.5**

(Source: Madura Industrial Textiles Ltd)

1.3PROJECT JUSTIFICATION

To improve the base line it is important to have reduction in the manufacturing cost of finished product. The fuel cost is one of the major inputs in the manufacturing of finished goods.

MITL proposes to include Coal as an alternative fuel to the existing fuel viz. Natural Gas/ HSD in boiler and establishing coal fired steam boiler to meet steam requirement. The 'Change of Fuel' is proposed due to the following reasons:

- No continuous availability of natural gas.
- Coal will be Techno-commercial viable vis-à-vis HSD.

MITL is also proposing to add ancillary product Nylon 6 chips& Dry VP Lumps as:

- Nylon 6 Chips is the intermediate productof existing product Nylon – 6 Yarn.
- No additional equipment is required for production of Nylon-6 chips.
- Nylon 6 Chips would be sold directly in the domestic market for other end applications.
- Dry VP lumps are generated from the residue of latex formaldehyde resorcinol mixwhich is used in treating of nylon tyre cord.
- Dry VP Lumpswill be will be sold to recycled rubber manufacturing units where it used to enhancethe quality of reclaimed rubber.

Besides this, discharge of effluent in CETP will done to

- Achieving of economy of scale in waste water treatment thereby reducing cost of pollution abatement &
- For organizing the disposal of treatedeffluent & Sludge.

1.4 PROJECT PROPONENT

The list of directors for Madura Industrial Textiles is given below –

Table 1.2: List of Directors

S. No.	Name of Directors	Residential Address
1.	Mr. VipanRamnathKalra	21 A/ 21B, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053
2.	Mr. Anil RadheshyamKalra	12 A/ 12B, Royal Accord III, LokhandwalaComplex, Andheri (W), Mumbai – 400 053
3.	Mr. SanilRadheshyamKalra	11 A/ 11B, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053
4.	Mrs. Promilla Raman Kalra	51, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053
5.	Mr. GautamKalra	21 A/ 21B, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053
6.	Mr. Rishi Kalra	51, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053
7.	Mr. VarunKalra	12 A/ 12B, Royal Accord III, Lokhandwala Complex, Andheri (W), Mumbai – 400 053

(Source: Madura Industrial Textiles Ltd)

1.5 PROJECT COST

The existing project cost is Rs. 15110 Lakhs. The additional cost for proposed amendment project Rs. 288 Lakhs.

Table 1.3: Capital Cost Projection

S. No.	Particulars (Equipments)	Total Cost (Lakhs)
1.	Land	**0.00**
2.	Building	**30**
3.	Coal fired Steam Boiler (8 TPH) -1 No.	148
4.	Coal feeding system	40
5.	Ash handling system	15
6.	Air Pollution Control Device	25
7.	Electrical and instruments cables	15
8.	Fees for Common Disposal Facilities (CETP)	10
9.	Environment Monitoring Expenses	05
	Total	**288**

(Source: Madura Industrial Textiles Ltd)

Chapter-2
PROJECT SITE

2.1 PROJECT LOCATION

The existing project is located at Survey No. 278/P2/P1/P1, SarigamGIDC by-pass road, Village: Sarigam,Taluka: Umbergaon, Dist.:Valsad, Gujarat. The proposed amendment will be done on existing operational site.The nearest town to the project site is Bhilad.

Bhilad is a town located in TalukaUmbergaon, Dist. Valsad, Gujarat, India. It is on the border of Gujarat and Maharashtra. Not only does it shareit's border with Maharashtra, but also with the union territory of Dadra and Nagar Haveli(D&NH).It is named after a small hill nearby called Bhilkhai hill. Bhilad has many rich resources. All kinds of people dwell with great prosperity in Bhilad. People of Bhilad are peace loving people.Bhilad is a combination of techniques and rurality. Bhilad station is just offNational Highway No. 8. The population here has increased notably after the dawn of this century. Bhilad is well known for its production of mangoes (Alphonso and Kesar species),Chikooa, Sitafal,Amrood and also for its Sarigam - GIDC.

The site is approximately 10-15kms from Vapi- a well-known industrial town. It is situated on the banks of River Damanganga in southern Gujarat, India. Vapi falls under the taluka administration of Pardi. The industrial township of Vapi holds its place of importance on the "industrial" map and it is the largest industrial area in Asia in terms of small-scale industries, dominated by chemical manufacturing units.

Plot area of the project siteis given in the figure 2.1.

Table 2.1: Salient Features of Project Site

S. No.	Particulars	Details
1	Village	Sarigam
2	Taluka/ Tehsil	Umbergaon
3	District	Valsad
4	Nearest Town	Bhilad ≈ 2.70 km (SW)
5	Approx. Geographical positioning	20°16'59.79"N; 72°51'21.76"E
6	Nearest Water body	DamangangaCanal ≈ 0.58 km. (E) River Darotha ≈ 4.08 km. (E)
7	Nearest Highway	N.H. 8 ≈ 3.50 km (W) NargolBhilad Highway ≈ 0.96 km (NNE)
8	Nearest Railway line/ Railway station	Bhilad ≈ 2.70 km (SW)
9	Nearest Airport/ Airbase	Daman ≈ 16.77 km (NNE)
10	Reserved Forests	Patches of RF within 5 km radial periphery of project site.
11	Protected Areas/ Sanctuaries	No
12	State/ International boundary	DN&H ≈ 7.20 km (W)
13	Defense installations	No
14	CRZ applicability	No
15	Seismicity	Seismic Zone-III (Moderate)
Note: All the above mentioned distances are the aerial distance from the project site		

Fig. 2.1: Key Plan & Project Site

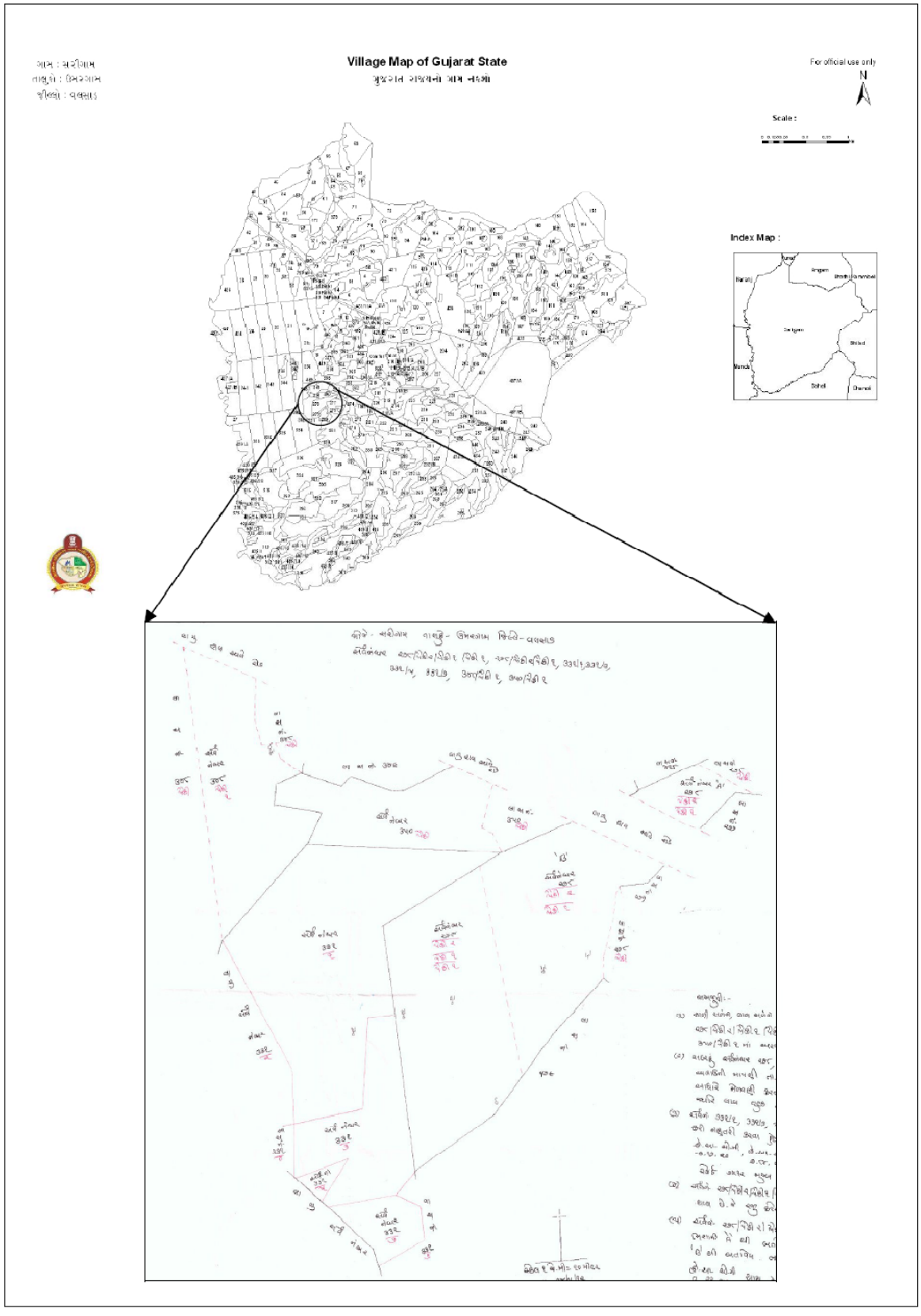
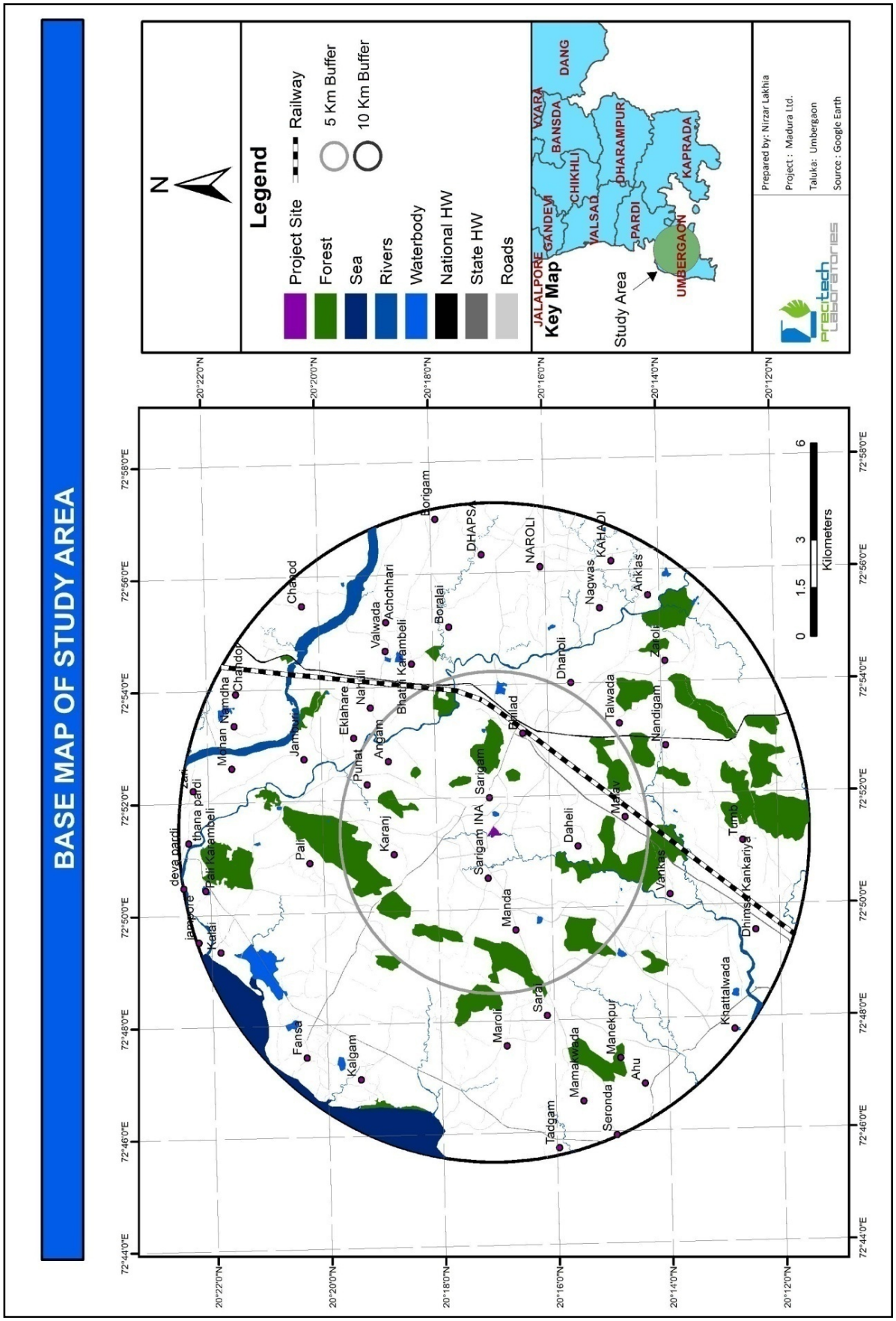


Fig. 2.2: Base map of study area



2.2SITE LAYOUT MAP

Total 63106 m^2 of a land in form of a plot has been bought from private land owners. Proposed boiler will be installed at existing open of 5641.93 m^2 area of land, within the existing premises.

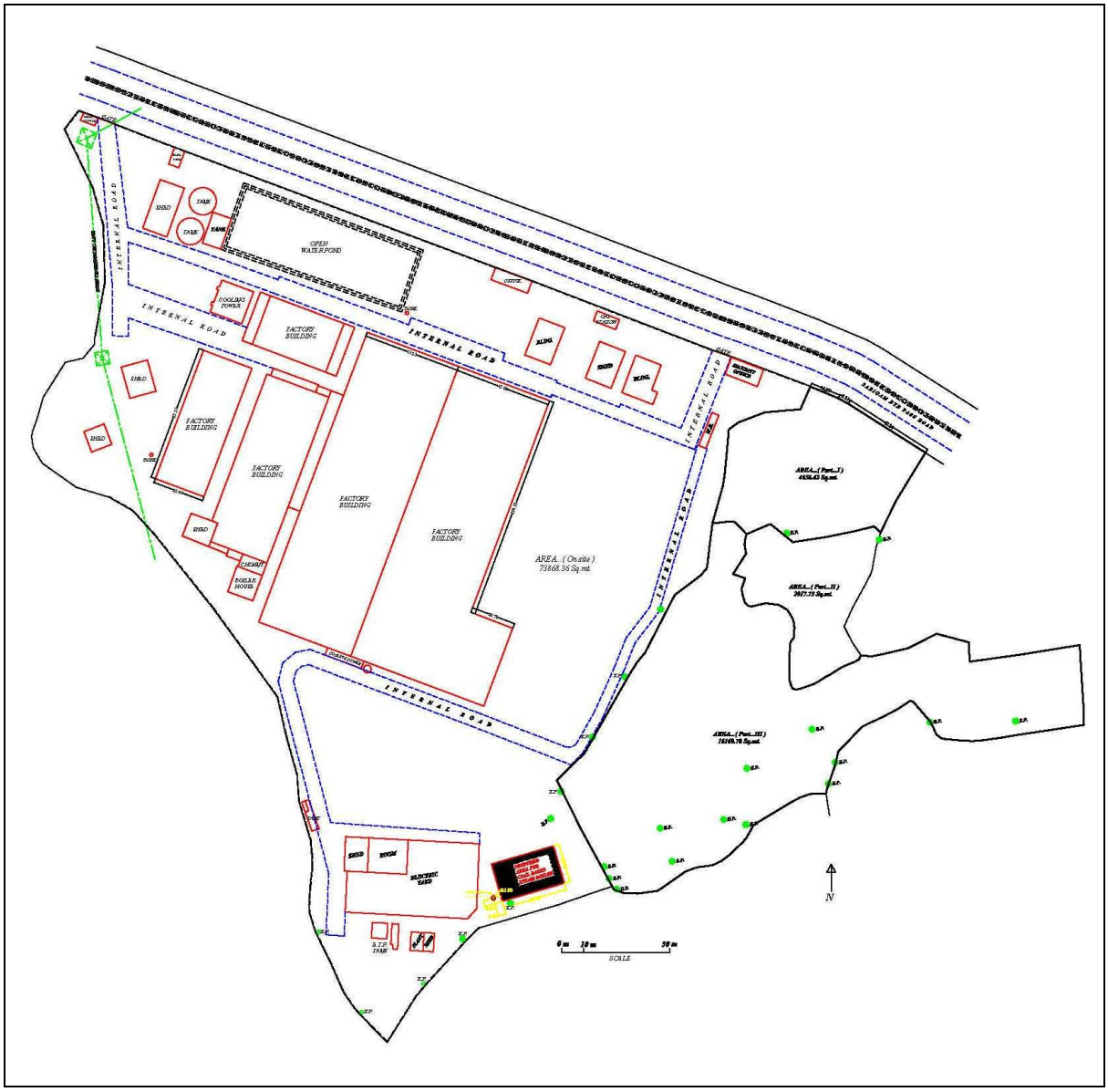
Site layout planshowing proposed installation is shown in Fig 2.3.

Table 2.2: Area Statement Chart

Particulars	**Unit**	**Area Utilization**	
		Existing	**After Proposed Amendment**
Plant Area	M^2	23072.87	23072.87
Utility Area	M^2	1592.48	2132.48
Hazardous/ Chemical Storage Area	M^2	41.80	41.80
Hazardous Waste Storage Area	M^2	268.49	268.49
ETP Area	M^2	576.00	576.00
Green Belt Area	M^2	21074.08	21074.08
Road Area	M^2	10838.35	10838.35
Open Land Area	M^2	5641.93	5101.93
Total Area	M^2	**63106.0**	**63106.0**

(Source: Madura Industrial Textiles Ltd)

Fig.2.3: Site Layout plan



Chapter-3
PROCESS TECHNOLOGY

3.1 NYLON – 6 CHIPS

3.1.1 Chemical Reaction

1. Ring opening

$NH\text{-}(CH_2)_5\text{-}CO + H_2O \rightarrow NH_2\text{-}(CH_2)_5\text{-}COOH$

2. Addition

$NH_2\text{-}(CH_2)_5\text{-}COOH + NH\text{-}(CH_2)_5\text{-}CO \rightarrow NH_2\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}COOH$

3.Condensation

$NH_2\text{-}[(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5]_m\text{-}COOH + NH_2\text{-}[(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5]_n\text{-}COOH \longrightarrow NH_2\text{-}[(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5\text{-}CONH\text{-}(CH_2)_5]_{m+n}\text{-}COOH + H_2O$

3.1.2PROCESS DESCTRIPTION

Nylon - 6 chips divided into mainly four steps as given below :

Polymerization: -

1. **Raw material & melting/mixing system:**

The solid caprolactam is charged into melter manually & melted with hot water jacket system in melter system & circulated through steam heat exchange to get melting process fast. Molten lactam is mixed with concentrated lactam solution from evaporationsystem in mixing tank. The mixture is transferred to polymerization section through lactam intermediate tank after proper filtration. All the piping up to preheater & vessel arejacketed with hot water circulation to keep lactam in molten state. Molten lactam is keptunder nitrogen blanketing with seal pot system.

2. Polymerization:

The molten caprolactam is transferred to pre-heater through feeding pump & heated byliquid HTM from VK Tube inbuilt heat exchanger up to certain temp & transferred to Prepolymeriser.The primary ring opening reaction occurs in upper part of pre-polymeriserwith elevated temp & pressure. The required heat supplied by HTM vapor from HTMevaporator. The addition reaction occurs in lower part of pre-polymeriser with elevatedtemp& pressure. The required heat is supplied by liquid HTM from HTM heating system.On the top of the pre-polymeriser Pack column is there which separate the lactam fromvapors& return back to pre-polymeriser. The vapors coming out from pack column iscondensed by condenser & condensate is collected. Part of the condensate is refluxed topre-polymeriser& rest of the condensate is transferred to evaporation (Monomerrecovery section) system. The polymer from pre-polymeriser is fed to VK Tube (Finalpolymerization) where most of the water is removed with vacuum controlling system. Thevaporized material from the top of the VK tube is partially condensed in partial condenser.The vapor coming out from the partial condenser is condensed & transferred toevaporation section through immersion vessel for monomer recovery. The upper part ofthe reactor is heated by HTM vapor& middle & lower part by HTM liquid heating system.

3. Granulation & Extraction System:

The polymer melt from polymer section is transferred to die plate through polymer gearpump to form strands .The strands are cooled by cooling water continuously & passedthrough under water granulator to solidified & cut into chips as per required specification.The chips are transferred to vibrating sieves to separate water & chips .The chips are collected in water chips mixing tank (pre-extractor) & separated water collected in towater tank & again re-circulated to granulator after cooling. The chips are pre-extracted inwater mixing tank & transferred to extraction tube through rotary lock feeder by chipsslurry pump. Chips are extracted in extraction tube (final) by contacting counter currenthot demineralized water from bottom of extractor & chips from top of the extractor. Inextractor extractable (i.e.-monomer lactam) is extracted & it is transferred to bottom ofpre-extractor. The extracted monomer water solution is transferred to evaporation sectionfor further processing from top of pre extractor. Extracted chips from bottom of extractor(final) are pumped by chips water slurry

pump through chips rotary lock feeder tocentrifuge machine, where water & chips are separated.

4. Chips Drying System:

Extracted chips are sprayed to top of the drying tube from centrifuge machine for dryingwith hot nitrogen circulation. There are two hot nitrogen circulation systems. One iscirculating hot nitrogen in middle part of the drying tube to remove surface water&another into bottom part of the tube which remove moisture from inside chips & increasesviscosity. The nitrogen from the top part of the dryer is circulated through top nitrogencirculating blower & distributed into two streams. One is going to dryer through steamheat exchanger to middle of the dryer. Another stream is circulated through cooler cumeconomizer by bottom nitrogen circulating blower to bottom part of the dryer after heatingnitrogen through steam heat exchanger.

5. **Chips Conveying & Storage System:**

The dried chips from the dryer are cooled down by cooling silo nitrogen blower throughcooler& collected in cooling silo. From cooling silo chips are conveyed pneumatically(nitrogen conveying system) to intermediate silo to spinning section.

6. Monomer recovery section:

The monomer water from extraction section contains about 10% extractable, which iscollected in to monomer water storage tank along with all other monomer sources. Themonomer water is concentrated to a certain concentration with 3-stageevaporationsystem& again recycled to polymerization section which caters required water for ringopening reaction. The condensate collected from evaporation section is circulated toextraction section.The above said whole process is continuous process which is controlled with DCS with allsafety interlocks & alarming system. There are many flow control, level control, temperature control, pressure control, close loops wherever require. Also there are many local temperature pressure, flow, level indicators & safety valves as per requirement.

3.2Dry VP Lump

Dry VP lumps are generated from the residue of latex formaldehyde resorcinol mix which is used in treating of nylon tyre cord. Residue from solution is collected and passed through filter press & VP dry lumps are generated. The dry VP lumps contains 90 parts of VP latex, 5 parts of resorcinol, 2.5 parts of formaldehyde, and 2.5 parts as moisture. The whole dry VP latex lumps are collected as predominated by VP latex only. This product is used in recycled rubber manufacturing to enhance the quality of reclaimed rubber. Filtrate form filter press is recycled back to the process.

3.3STEAM BOILER – COAL FIRED

It is proposed to install of one no. of Steam Boilers (Capacity: 8 TPH) operating on Coal in option to the existing 5 TPH Boiler operating on Natural gas/ HSD. Technical Specification of Boiler is attached as **Annexure – 3.**

Cyclone Separator & Bag filter will be used as pollution control equipment insteam boiler.

3.4 AUXILARY SYSTEMS

Auxiliary system contains of coal handling system and Ash handling system.

3.4.1 Fuel (Coal) Handling System

The design criteria for receipt of coal are by trucks. For fuel (coal) handling moving floor cum fuel storage system which pushes the fuel in the storage to a conveyor with its hydraulic power unit will be provided. Two nos. of hydraulically driven moving floors will be provided. The storage capacity of moving floor system will be 44.69 m^3

Whereas, for transportation of fuel (coal) screw conveyer & bucket elevator system will be provided. The fuel carrying capacity of both will be 1800 kg/hr.

It is planned for sprinkler system to be provided over dust generation points, with the help of water sprinklers to control fugitive particulate matter. The treated effluent will be used in water sprinklers.

GPCB guidelines for Coal handling units will be followed.

3.4.2 Ash Handling System

The Submerged Ash Conveyor will beemployedto carry the dust from all collection points.

The Submerged Scrapper Conveyor placed below bottom ash hopper quenches the hot bottom ash coming from boiler furnace. The water trough of the submerged conveyor provides required water sealing to the boiler. The scrapper bar fixed on the high quality scrapper chain continuously moves at slow speed and the slat portion of the conveyor drains the water from the ash. From the Scrapper conveyor the moist ash is feed into a belt conveyor for onward disposal to a storage bin for final loading into trucks/wagons for final disposal or discharged into sluice trench for transferring to the slurry sump. The biggest advantage of Submerged Scrapper Conveyor is minimal water wastage and avoids water related pollution/problem.Submerged ash handling system has no leaching effect since its continuous discharge.

Chapter-4
RESOURCE REQUIREMENT

4.1 RESOURCES FOR THE PROJECT

The major resources for the existing project as well as proposed expansion project are land, building, raw-materials, power, fuel, water, man-power, etc.

4.2 LAND

Total 63106m^2 of a land in form of a plot has been bought from private land owners. Proposed amendment will be done at existing open of 5641.93 m^2 area of land, within the existing premises.

4.3 POWER AND FUEL

Details of power & fuel is below -

Table 4.1: Details of Power& Fuel

Sr. No.	Particulars	Requirement			Source
		Existing	For Amendment	Total	
1.	Power	12500 KW	50 KW	12550	DGVCL
2.	Coal	Nil	22 TPD	22 TPD	Imported & Indigenous Sources
3.	Natural gas	NG - 20.09 TPD (28800 SCMD)	No additional requirement	NG - 20.09 TPD (28800 SCMD)	GSPC
4.	HSD	10 KLD	No additional requirement	10 KLD	IOCL/ HPCL

(Source: Madura Industrial Textiles Ltd)

Table 4.2 (a): Characteristics of Fuel

S. No.	Parameter	Units	HSD	Coal
1.	Calorific Value (NCV)	kcal/kg	10700	5600
2.	Carbon	%	87.00	62.19
3.	Hydrogen	%	12.40	3.23
4.	Nitrogen	%	0.00	1.01
5.	Sulphur	%	0.25	0.21
6.	Oxygen	%	0.60	11.86
7.	Ash Content	%	0.01	11.48
8.	H_2O	%	0.05	10

(Source: Madura Industrial Textiles Ltd)

Table 4.2 (b): Characteristics of Natural gas

Sr. No.	Parameter	Units	Result
1.	Nitrogen	Mole %	0.640
2.	CO_2	Mole %	0.190
3.	Methane	Mole %	98.420
4.	Ethane	Mole %	0.440
5.	Propane	Mole %	0.190
6.	i-butane	Mole %	0.050
7.	n-Butane	Mole %	0.040
8.	i-Pentane	Mole %	0.020
9.	n-Pentane	Mole %	0.000
10.	n-Hexane	Mole %	0.000
11.	n-Heptane	Mole %	0.000
12.	H_2O	Mole %	0.010

(Source: Madura Industrial Textiles Ltd)

4.4 WATER

The total fresh water requirement is around 438 KLD and 30 KLD will be met by Damanganga Canal Distributory. Since, the 8 TPH boiler will be operated at almost 50% load, there will be no change in the fresh water consumption due to proposed amendment.

Chapter-5
POLLUTION LOAD & MITIGATION MEASURES

5.1WASTEWATER MANAGEMENT

In the existing operations, the total Domestic wastewater generated will be @30 KL/D, which will be diverted to the septic tank/ soak pit system. Wastewater generated from industrial activities will be @100 KLDfrom which 70 KLD is generated as cooling tower blow down & 28 KLD from ETP, both diverted to treated water tank. 30 KLD treated water from treated water tank is used for domestic usage & remaining 68 KLDwill be treated in RO. Filtrate of RO @ 54KLD will be recycled back to the plant with fresh water. The reject @14KLD will be diverted to evaporator.

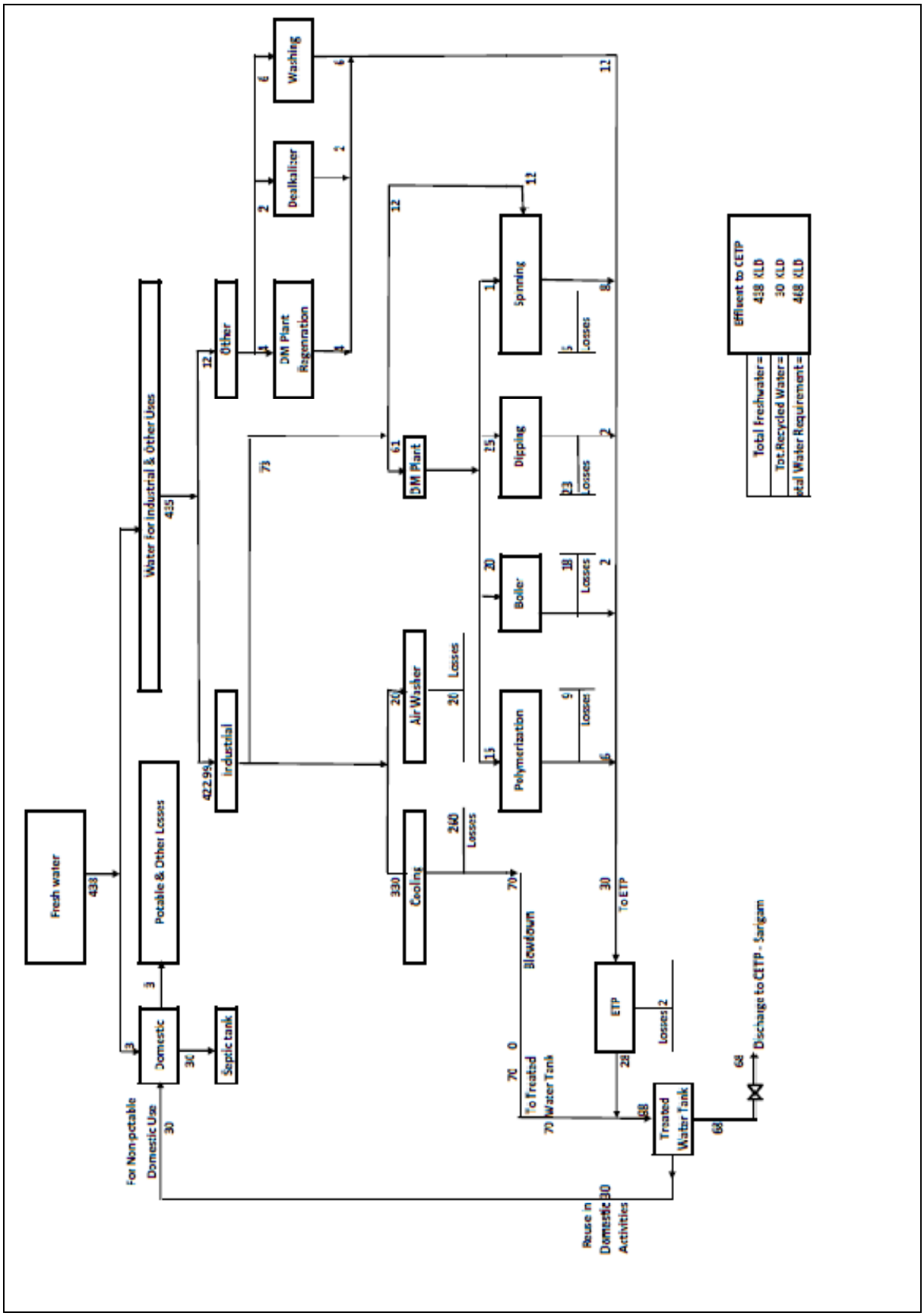
After proposed amendment, the entire 68 KLD wastewater after treatment will be diverted to CETP, Sarigam for final discharge.After proposed amendment some amount of the treated effluent will be used for sprinkling to control the fugitive dust of coal in coal storage yard& ash handling system.The category wise bifurcation of the wastewater generation is given in the Water Balance Chart shown in Table 5.1.

Table 5.1: Category-wise Wastewater Generation

Particulars	**Wastewater Generation (in KLD)**		
	Existing	**After Proposed Amendment**	**Total**
Domestic	**30**	**--**	**30**
Industrial			
Process	18	--	18
Cooling tower blow down	70	--	70
Washing	06	--	06
Others	06	--	06
Sub – Total: Industrial	**100**	**--**	**100**
Grand Total	**130**	**--**	**130**

(Source: Madura Industrial Textiles Ltd)

Figure 5.1:Water Balance Diagram



5.2 AIR EMISSIONS & CONTROL

5.2.1 Process Emissions

There will be no process gas emission from proposed amendment activities.

5.2.2 UTILITY EMISSIONS

The company has installed2Nos of Thermic fluid heaters - each having a capacity of 1 Million K.Cal/Hr. (1 working + 1 standby), 2 Nos. of Boilers of 5 TPH capacities (1 working + 1 standby)&4 Nos. of D.G. set of 750 kVA. Natural gas is used as fuel in boiler & TFH. HSD is used as fuel in D.G. set.

Now, one No. of Coal fired boiler of 8 TPH capacity will be installed. Coal will be used as a fuel in boiler. Cyclomax& Bag filter will be used as APCD in proposed boiler. After proposed amendment existing boiler of 5TPH will work as standby.

Table 5.2: Utility Emissions & Control Measures

Utilities	Operation Time	Fuel	Stack details (m)	Pollutants	Air Pollution Control Device
Existing Installations					
Boiler – 2 Nos. Capacity: 5 TPH (Standby - 1)	18 hrs	NG = 460 SCM/hr **OR** HSD = 354 LPH	Common Stack H: 42 D: 0.45	PM, SO_2, NO_x	--
Thermic Fluid Heater – 2 Nos. Capacity: 1.0 MKcal/hr (Standby - 1)	24 hrs	NG = 140 SCM/hr **OR** HSD = 108 LPH	Common Stack H: 42 D: 0.45	PM, SO_2, NO_x	--
D. G. Set – 4 Nos. Capacity: 750 kVA	Standby	HSD = 750 LPH	4 stacks H: 11 D: 0.2 (each)	PM, SO_2, NO_x	--
Proposed Additional Installation for Amendment					
Boiler – 1 No. Capacity: 8 TPH Woks on 50% operating load	18 hrs	Coal = 457.5 kg/hr	One Stack H: 30.5 D: 0.9	PM, SO_2, NO_x	Cyclomax& Bag Filter

(Source: Madura Industrial Textiles Ltd)

5.3 HAZARDOUS/ NON-HAZARDOUS WASTE MANAGEMENT

Hazardous wastes are generated in the form of ETP waste from Effluent Treatment Plant, and used oil from equipment maintenance. Company has provided adequate storage area for proper storage of wastes. The detail of the hazardous waste and its management is given below in table 5.5.

Table 5.5: Details of Hazardous/ Non - Hazardous Waste Generation & Disposal

Type of Waste	Schedule Category	Source	Existing Operations	After Proposed Amendment Project	Disposal Method
Hazardous Waste					
ETP waste	34.3	ETP	36 MT/Yr.	36 MT/Yr.	Collection, Storage, Transportation & Disposal to TSDF site.
Used Oil	5.1	Plant & Machinery	7.8 KL/Yr.	7.8 KL/Yr.	Collection, Storage, Transportation & recycle to GPCB authorized recycler
Used Containers/ Bags/ Carboys	33.3	Process	Bags – 24485 MT/Yr	Bags – 78909 Nos./M, Drums – 998 Nos./M, Carton – 780 Nos./M	Collection, Decontamination, Storage & recycle to reuse
Non- Hazardous Waste					
Yarn waste	-	Process	398.52 MT/Yr.	398.52 MT/Yr.	Collection, Storage, Transportation & recycle to GPCB authorized recycler
Fabric waste	-	Process	241.44 MT/Yr.	241.44 MT/Yr.	Collection, Storage, Transportation & recycle to GPCB authorized recycler
Fly Ash	-	Boiler	Nil	345 MT/Yr.	Sell to brick manufacturers

(Source: Madura Industrial Textiles Ltd)

5.4 NOISE CONTROL

Noise generation in the process area is mainly from operation of motors, blowers, compressorsetc.

In sections, where the noise levels are high, PPE's will be provided to the personnel. Monthly monitoring of noise levels at all areas will be carried out. Regular maintenance of equipment's will be carried out to minimize the noise generated by the equipment.