1.0 EXECUTIVE SUMMARY:

U.P. Asbestos Limited (UPAL) was established in the year 1973 under the Industry Department of Government of U.P. for manufacturing asbestos sheets and moulded goods. It is in operation since 1974. It has a total plant area of 46.68 acres of land in Mohanlalganj, District- Lucknow. The raw materials consumed for the manufacture of A.C. sheets are Cement, Chrysotile Asbestos Fiber, Fly Ash and cotton Rag Pulp. The manufacturing of asbestos cement corrugated sheets is done by wet process also known as Hatschek process.

Project Proponent now wishes to increase the production capacity of Asbestos Corrugated Sheets to 1,95,000 MT per year from the existing 1,44,000 metric tonne per year, by not increasing the consumption of Chrysotile Asbestos Fibre which would be replaced by Cotton Rag Pulp & synthetic fibre (recron) and also to put up pre-coloured, galvanized MS profile sheet plant (non-asbestos) of 25000 TPA capacity. Environmental clearance for existing 1,44,000 metric tonne per year asbestos sheet production was accorded by MoEF&CC, Govt. of India vide letter dated 12.06.2015 **(enclosed as Annexure-I)**.

The proposed increase in production will be achieved by keeping Chrysotile Asbestos Fibre 11100 MT per annum as existing but increasing cotton Rag Pulp from 2220 MT per annum to 5000 MT per annum along with addition of 600 MT synthetic fibre (recron) per annum. Hence this expansion will not attract any hazardous material like Asbestos fibre. The purpose of using cotton rag pulp in larger quantity along with synthetic fibre (recron) is to economize the cost and to control pollution caused by Asbestos fibre. There will be no increase in area, machineries (except rag pulp plant & profile sheet plant) or change in technology of production as the plant has inbuilt capacity to produce the required sheets. However there will be an increase in raw materials and water consumption in

sheets but overall water consumption will reduce to 317 KLD from existing 342 KLD. However following changes shall be done in the sheeting machines:

- Some of the machine sections would be automized as per the requirement.
- Conventional drop bar corrugators would be replaced by more sophisticated and faster atmospheric corrugators capable of handling more sheets and delicately.
- Some major changes to be done in raw material section (increase in capacity of prevat, beater tank, agitator and pulp feeding).
- Conveyor system to be revamped to make them worthy of handling increased production.
- Transfer trackies to be automized to make those compactable with high speed machines.

It is proposed to install a Captive Plant of 2000 TPA capacity to process cotton rag pulp. The location of the cotton rag pulp plant would be such that the processed pulp in slurry form could be fed into raw material mixer along with other raw material to form a homogeneous material before being sent to different VATs of the machine from where it is being picked up by sieve cylinders and finally transported to sheet forming drum in the form of very thin layers with the aid of felt.

The project proponent also wishes to install a pre-coloured profile sheet plant (non asbestos) of 25000 TPA capacity as there is a great demand as a fancy item among urban customers.

The location of the profile sheet plant is adjoining to plant-III. It consists of Coil Charging Station, Film Guard Roller, Roll Farming Station and Cutting & Stacking Station.

At present a total of 380 (230 direct & 150 indirect) workers including staff are employed by. U.P. Asbestos Limited. This will increase to a total of 410 (230 direct & 180 indirect). In addition there will be an increase of 5 skilled and 10 unskilled manpower for profile sheet plant making the total manpower to 425.

There will be a marginal increase in pollution load, with negligible effect on environment due to this increase in production.

2.0 INTRODUCTION OF THE PROJECT / BACKGROUND INFORMATION:

2.1 Identification of Project and Project Proponent:

Name of the Project : U.P. Asbestos Ltd. (UPAL), Mohanlalganj, Lucknow. Manufactures of asbestos corrugated sheets (AC sheets) and accessories. They have similar unit at Dadri.

Location : Mau village, Tehsil - Mohanlalganj, District - Lucknow, Uttar Pradesh

Production : Existing production 1,44,000 MT/ year of AC sheets Accessories, Proposed production will be 195000 MT/year of AC sheets and accessories

Area : 46.68 acres

Name and Address of the Project Proponent:

U.P.Asbestos Ltd., Mahmoodabad Estate Building, Hazratganj, Lucknow-226 001

2.2 Brief Description of the Nature of the Project:

UPAL at Mohanlalganj was established in 1973 and is in operation since 1974. It is engaged in manufacturing of AC sheets and accessories and the present production capacity is 144000 MT/year.

2.3 Need for the project and its importance to the country and or region:

The asbestos cement roofing sheets have been in the Indian Market for nearly seven decades, since its introduction in the early thirtys, because of its versatile properties like superior strength and durability. It has virtually become the preferred mode of roofing in any topography or environment. It has a great demand both in urban and rural sectors. The products of UPAL have a great demand in U.P., Uttarakhand and Nepal. Pre-coloured Profile sheets have caught the fancy of urban and rural customers as well and are in great demand. These sheets would be sold on PAN India basis.

2.4 Demand Supply Gap:

There has been steady increase in demand of both the above products thereby creating a gap between demand and supply.

2.5 Imports vs. Indigenous Production:

No import of the product is done.

2.6 Export possibility:

Both asbestos sheets and profile sheets have export potential in the neighboring countries like Nepal and Bangladesh.

2.7 Domestic / Export Markets:

Mostly export is done to Nepal & Bangaldesh and Domestic markets are West Bengal, Uttar Pradesh, Bihar, Uttarakhand, Jharkhand, Chhattisgarh, Madhya Pradesh, Haryana, Rajasthan and Maharashtra.

2.8 Employment Generation (Direct and Indirect) Due to the Project:

At present, total employment is 380, in which 230 are direct and rest 150 are indirect. Total employment after expansion will be 425, in which 245 will be direct and rest 180 indirect.

3.0 PROJECT DESCRIPTION:

3.1 Type of project (including interlinked and interdependent project) if any:

There is no interlink or inter dependent project. It is an existing project.

3.2 Location (map showing general location, specific location and project boundary & project site specific layout) with coordinates

The Plant is situated in Mau village, Mohanlalganj Tehsil, Lucknow District of Uttar Pradesh. The Factory area falls within survey of India Topo sheet No: 63 B/14. The details of the coordinates are:

Latitude : 26°41'29"-26°41'43"N

Longitude : 80°58'44"-80^{0}58'59'E

Khasra No : 8 Series 9/2 and 6/2

Area : 46.68 acres

Type of Land : Non Forest Private Land

Location map is enclosed as **Exhibit No.1** and layout plan as **Exhibit No.2.**

3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

Not applicable as it is an existing project

3.4 Size or Magnitude of operation.

The maximum rated capacity of the project is 144000 MT /annum of A C sheets and accessories .The proposed production will be 195000 MT/annum of AC sheets & accessories and 25000 TPA pre-coloured profile sheets.

3.5 Project Description with Process details (a schematic diagram/ Flow chart showing the project layout, components of the project etc. should be given.

The Manufacturing of asbestos cement corrugated sheets is done by wet process known as Hatschek process as detailed below:

I. i. Raw material feeding and mixing:

Crude fibre (Asbestos) is milled in the wet mode by passing through an Edge runner mill along with about 30% water. Wet milled asbestos and wet pulp from hydropulper are transferred to wet fibre opener tank and made into a thick slurry by adding fly ash slurry and are thoroughly mixed. The mixed slurry is fed to the agitator/ beater where cement is fed through an elevator and is thoroughly mixed. The slurry in homogenized form then passed through a sieve cylinder.

ii. Sheet Forming:

As the cylinder rotates, the slurry flows through the screen, leaving a thin even film of stock deposited on its surface. The filtrate from sieve cylinder is dropped in the recycling pits and recycled into cone tanks where after sedimentation it is taken into circulation for re-use. The thickness of the film depends on the slurry level in the vat, its' consistency and speed of rotation of the cylinder. The film is transferred on to an endless felt which is in contact with the top cover of the sieve cylinder. Each of the five cylinders add to the film thickness at the moving felt. Surplus water from the felt film is removed by the vacuum boxes placed under the felt as it travels towards the sheet forming drum (SFD) in continuous operations, until the sheet is built up to the desired thickness.

The sheet is then knifed along groove provided in the sheet forming drum and peeled from it on to a moving rubber conveyer belt which transports the sheet to second conveyer where its sized are dressed up with a aid of circular knifes. During this operation the machine continues to run and another sheet begins to form on the Sheet Forming Drum.

iii. Sheet Corrugation:

The sheet is then cut to size and then corrugated. Sheet cuttings are recycled into the process by pulping and then mixing with the main slurry. Once the sheet is corrugated, it is transferred to the heating chamber where hardening of the sheets takes place for about 15 to 16 hours. The hardened sheets are then cured (matured) for 21 day's by shrink wrapping process. The cured sheets are ready for dispatch.

II Pulp Processing Unit:

The pulp processing unit consists of two major components i.e. Breaker Beater and Rag Chopper.

Beater Breaker is made up of frame, rotor, chest, bed plate, hood and is driven by electric motor with the aid of pulley in a circular motion. The job of Beater Breaker is to beat the rag in a circular motion in such a manner that the dust particles stuck to the rag are separated to make the rag dust free. The lesser the dust particles in the rag the better would be the quality of processed pulp.

Rag Chopper cuts the pieces of rag into small pieces up to the sizes ½" x 1" and is capable of cutting between 50 to 75 kgs per hour. It has rotor, knieves, M.S. roll pulley and Fly wheel inside it's body and is driven by electric motor and gears. The chopped pieces of rag along with water are rotated in the machine till the individual filaments of rag separates from each other and are ready to be used.

III Profile Sheet Plant:

The location of the profile sheet plant is adjoining to plant-III area. This will consists of Coil Charging Station, Film Guard Roller, Roll Farming Station and Cutting & Stacking Station. Capacity of the machine is 25000 TPA.

The components of Profile Sheet Plant and the functions those of are mentioned below:

1. Coil Charging Station: It is equipped with de-coiler. The pre coloured sheet coil is mounted on it. It's function is to slowly unwrap the sheet and feed into roll forming machine at a consistent speed. The speed can be adjusted with the aid of control panel.

2. Film guard roller: It is between de coiler and roll forming station. Top of the sheet is pasted with film guard before it is fed into roll forming machine. The purpose of covering the sheet with film guard is to protect it from scratches or dust. It also preserves the finish of the sheet.

3. Roll forming station: At roll forming station the sheet passes through a set of lower and upper roller dies and takes a definite shape. The sheets can be profiled into different shapes by changing dies.

4. Cutting & stacking station: Here the profiled sheets are cut into desired lengths and stacked.

The machine is driven with the aid of electrical motor. All the operations of the machine are controlled with the help of control panel. It is equipped with On Off push buttons. The variable frequency drive in it controls the speed of the machine.

3.6 Raw material required along with estimated quantity, likely source, marketing area of final products, mode of transportation of raw and finished products

I. For asbestos sheets:

Sl. No.	Raw Material	Source	Quantity T.P.A.		Mode of Transportation
			Existing	Proposed	
1	O.P.C. Cement	A.C.C. & J.P. Associates, J. K. Laxmi, Ultra Tech. Cement	58830	79657.5	Train/Road
2	Chrysotile Asbestos Fibre	Asbestos fibre is imported and received at Mumbai Calcutta port	11100	11100	Sea and Road
3	Fly Ash	NTPC's Thermal Plant Sat Unchahar, Shaktinagar & Rihand	38850	52455	Road
4	Cotton Rag Pulp	Unnao/from our own captive plant at our premises	2220	5000	Road
5	Reliance Synthetic Fibre	Reliance Industries Ltd., Deva Road, Barabanki	--	600	Road

	(Recron)				

II. For Profile Sheet Plant:

Sl. No.	Raw material	Source	Quantity Proposed in TPA	Mode of transportation
1	Pre painted, galvanises M.S. coil of different thickness and colours	1. Pre painted M.S coils are Imported from China and received at Mumbai Port. 2. Local purchase from market as per requirement a. Essar Steel, Pune b. Asian Coils, Mumbai c. Bhushan Steel, Mumbai	25,000	1. Sea / Road 2. Road

3.7 Resource optimization recycling and reuse envisaged in the project, if any, should be briefly outlined.

The in built capacity of the plant will be fully utilized. No process effluent is generated. Further the green waste as well as solid waste including bags etc are shredded and recycled back into the process. There will be no change in the process except the curing which is now being done by shrink wrapping in place of wet curing. This method saves water consumption to a great extent. Since there will be no turbine and colony, the water consumption will reduce to great extent.

3.8 Water Requirement and power sources

Water is required for process (makeup), domestic use and drinking. Consumption of the makeup water at present is 342 KLD. The water consumption will be reduced (317 KLD) as the water used for turbine, colony and maturing will be used in process and rag pulp plant to achieve the proposed increase in production. The ground water is pumped through 2 nos. of tube wells for process

water and 1 nos. of tube well are standby. All tube wells are located inside the factory.

The main source of power has been changed which is now obtained from Lucknow Electricity Supply Administration (LESA) for 1350 KVA instead of Steam Turbine of 1.25 MW capacity (rice husk based). At present DG sets of 1250 KVA, 625 KVA and 200 KVA are available as standby arrangement. A solar power plant of 1.1 MW is proposed to be installed within factory. Power requirement for pulp processing plant would be 111.86 KW and for profile sheet plant would be 22.4 KW.

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their management / disposal.

As described earlier, there will be no process waste water or solid waste generation as all the waste water and solid are being recycled into the process. Domestic waste water is collected in septic tank and soak pit. Sludge, very little in quantity, which can not be used in the process (12-15 tones per month), is handed over to authorized T.S.D.F. Negligible waste (approx. 45 kg per month) would be generated in profile sheet plant which will be sold off.

3.10 Schematic representations of the feasibility drawing which give information of EIA purpose

Proposed project is for increase in production without any increase in area. The layout plan of the plant is enclosed as **Exhibit No.2.**

4.0 SITE ANALYSIS:

4.1 Connectivity

Road Connectivity	The factory is situated along Lucknow-Raibareli road (State highway -29), in village Mau, near Mohanlalganj
Nearest Railway Station	Mohanlalganj -1.5 km
Nearest Airport	Lucknow-18 km
Nearest River	Gomti river-14 km

4.2 Land Form, Land use and Land Ownership

Land Form:

The land belongs to UPAL is a non forest area. The Govt. of U.P. has converted the land to Industrial area.

4.3 Topography along with maps

The 10 km radius area including the factory area is a part of Central Gangetic Plain. It is in Gomti Sub- Basin of Ganga basin and represents flat topography except few water bodies as a natural depression.

Topographical Map is enclosed as **Exhibit no. 3.**

4.4 Existing Land use pattern(agriculture, non- agriculture, forest, water bodies(including area under CRZ), shortest distance from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco sensitive areas, water bodies(distance from HFL of the river), CRZ . In case if notifies industrial area, a copy of the Gazette notification should be given.

No additional land is required.

Forest and Water Bodies:

Name of forest	Distance	Direction
Gaura (R.F.)	4.2 km	S
Water Bodies		
Sarda Canal	0.75 km	N
Loni Nala	6.4 km	E
Bhujniya Nala	8.5 km	N

4.5 Existing infrastructure

This is an existing project and in operation since 1974. It has a canteen and other infrastructure like Dispensary within the factory area. The small colony earlier established proposed to be demolished as all of the staff are local and residing in nearby area.

4.6 Soil classification.

The area is a part of Central Gangetic Plain which is verified through the presence of Alluvial pediments. It consist of clays, vocational kankar and sand of various grades in different proportions. Texture of the soil is; sand 9 %, silt 20 % & and clay 71 percent .

4.7 Climatic data from Secondary Sources

Lucknow has a warm humid subtropical climate with cool, dry winters from December to February and dry, hot summer from April to June. The rainy season is from mid –June to mid September .The average annual rainfall around 900 mm mostly from the south – west monsoon winds. In winters the temperature varies from 2^0 to 29^0C. Fog is quite common from late December to late January. Summers are very hot with temperature rising to 40^0C to 46^0C.

4.8 Social infrastructure available

Road Connectivity	The factory situated at Lucknow -Raibareli road (State highway -29) in the village Mau, near Mohanlalganj
Nearest Railway Station	Mohanlalganj -1 km
Nearest Airport	Lucknow-18km
Nearest River	Gomti river-13.2 km

Police Station: Mohanlalganj

The company has provided the following within the factory area

- Canteen
- Medical facilities
- Two Emergency vehicles

5.0 PLANNING BRIEF:

5.1 Planning Concept (type of industries/facilities/transportation etc). Town and Country planning/Development authority Classification

The proposed production aims for grant of EC for increase in production from 144000 mt/year to 195000 MT/year. The mode of transportation of Cement, Chrysotile Asbestos fibre, Fly ash and C R pulp from sources to the processing plant will remain same. The product (AC sheet) will be dispatched to the customer by road transport. The plant & its location was approved by the Govt. of U.P. in the year 1973.

5.2 Population Projection

The most of the factory workers are from nearby villages. The total manpower at present is 380. After expansion total manpower will be 425 (245 direct & 180 indirect). The total population of Lucknow district is 2,817,105.

5.3 Land use planning (Break up along with green belt, etc.)

i. Existing Land Use

Sl. No.	**Category**	**Area (acres)**
1.	Plant	5.3367
2.	Office building	0.308
3.	Handling of raw material	1.308
4.	Open space/parking	0.118
5.	Roads	3.894
6.	Greenbelt/plantation/stock yard	25.0637
7.	Colony/canteen	10.617
8.	Canteen	0.042
	Total	**46.6874**

ii. Proposed Land Use

Sl. No.	**Category**	**Area (acres)**	**Remark**
1.	Plant and office area (including profile sheet plant of area 83m x14m)	5.3080	Turbine area excluded since shifted
2.	Handling of raw material	1.3080	
3.	Open space/parking	0.1180	
4.	Roads	3.000	Unused reduced
5.	Greenbelt/plantation (removing open stock yard)	22.0000	Open stock yard put under covered godowns
6.	Covered Godowns	14.9534	
	Total	**46.6874**	

5.4 Assessment of Infrastructure Demand

There is no need of further infrastructure. The existing infrastructure is adequate to handle the envisage increase in production.

5.5 Amenities/Facilities

First Aid

A first aid facility is provided at plant office.

Latrines and Urinals

At the plant site Urinal and Bath is provided for staff and labor.

No additional amenities/facilities need to be provided.

6.0 PROPOSED INFRASTRUCTURE:

6.1 Industrial Area (Processing area)

Processing area, office and store room already exist inside the factory area. Specified first Aid is maintained at the working area. The area of plant is 46.68 acres.

6.2 Residential area (Non Processing area)

There is no residential area (non processing area) within the plant.

6.3 Green Belt

There are several types of plant species, planted inside and around the factory. The plants include Neem, Gulmohor, Mango, Kachnar, Subabool, Babool, Karanj, Shisam. Guava, Aonla, Amaltas, Jamun, Kadamb, Eucalyptus, Gurhal, Kaner Peepal, Teak, Mahua and Bougainvillea etc. The greenbelt cover is also provided along the boundary of the plant. The total area of the green cover is 25.0037 acres.

6.4 Social facilites :

- Road facility
- Employment opportunity
- Medical camps
- Donations to schools
- Secondary employment opportunities

6.5 Connectivity

The area is well connected to Lucknow and Raibarely road and also with HQ situated in Hazratganj, Lucknow.

6.6 Drinking Water Management (Source and supply of Water)

Drinking water is being supplied from the bore well.

6.7 Sewerage System

Septic Tank Soak pit system is adopted inside the premises.

6.8 Industrial Waste Management

The sludge and solid waste generated are recycled back into process. Only a small part of sludge that cannot be reused is disposed through the authorized T.S.D.F. i.e. U.P. waste management project situated at Kanpur Dehat U.P.

6.9 Solid Waste Management

Solids waste generated is pulverized and reused in the process. Negligible waste (approx. 45 kg per month) would be generated in profile sheet plant which will be sold off.

6.10 Power requirement & Supply/Source.

The power is being obtained from LESA & captive solar plant of 1.1 MW. At present DG sets of 1250 KVA, 625 KVA and 200 KVA are available as standby arrangement. Power requirement for pulp processing plant would be 111.86 KW and for profile sheet plant would be 22.4 KW.

7.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN:

7.1 Policy to be adopted (Central /State) in respect of the project affected persons including home oustees, land oustees and landless labores (a brief outline to be given)

Not applicable

8.0 PROJECT SCHEDULE AND COST ESTIMATES:

8.1 Likely date of start of construction and likely date of completion

The increase in production will be achieved by better utilization of existing facilities and control measures, undertaken for routine improvements in the operations. Likely completion of the project will be in between two to three years in phases.

8.2 Estimated project cost along with analysis in terms of economic viability of the project

Estimated project cost is 5.29 crores. Out of which 1.25 crores for Pulp Plant, 2.25 for corrugated sheets, 0.50 crore for raw material revamp and 0.50 crore for stockyard & misc. Estimated cost of profile sheet plant is 79 lacs.

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

9.1 Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area

The factory provides job opportunity to many people and also to the local people by way of direct and secondary employment opportunities. The factory management spent reasonable amount in the nearby villages by providing aid to school, conducting medical and social awareness camps. Thus, the plant shall further improve the socio-economic conditions of the nearby villages.

It is a profit making company & the innovative measures implemented will further improve the profits.

PROJECT LOCATION MAP OF U.P. ASBESTOS LIMITED, MOHANLALGANJ

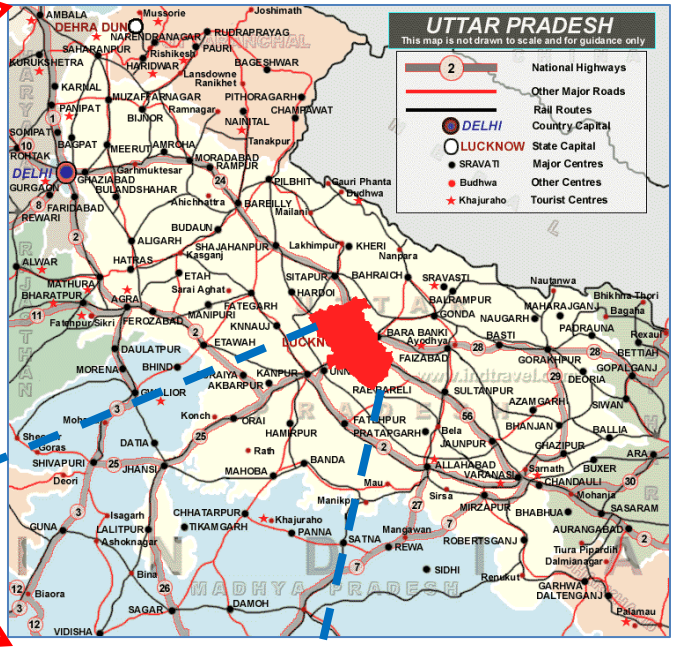
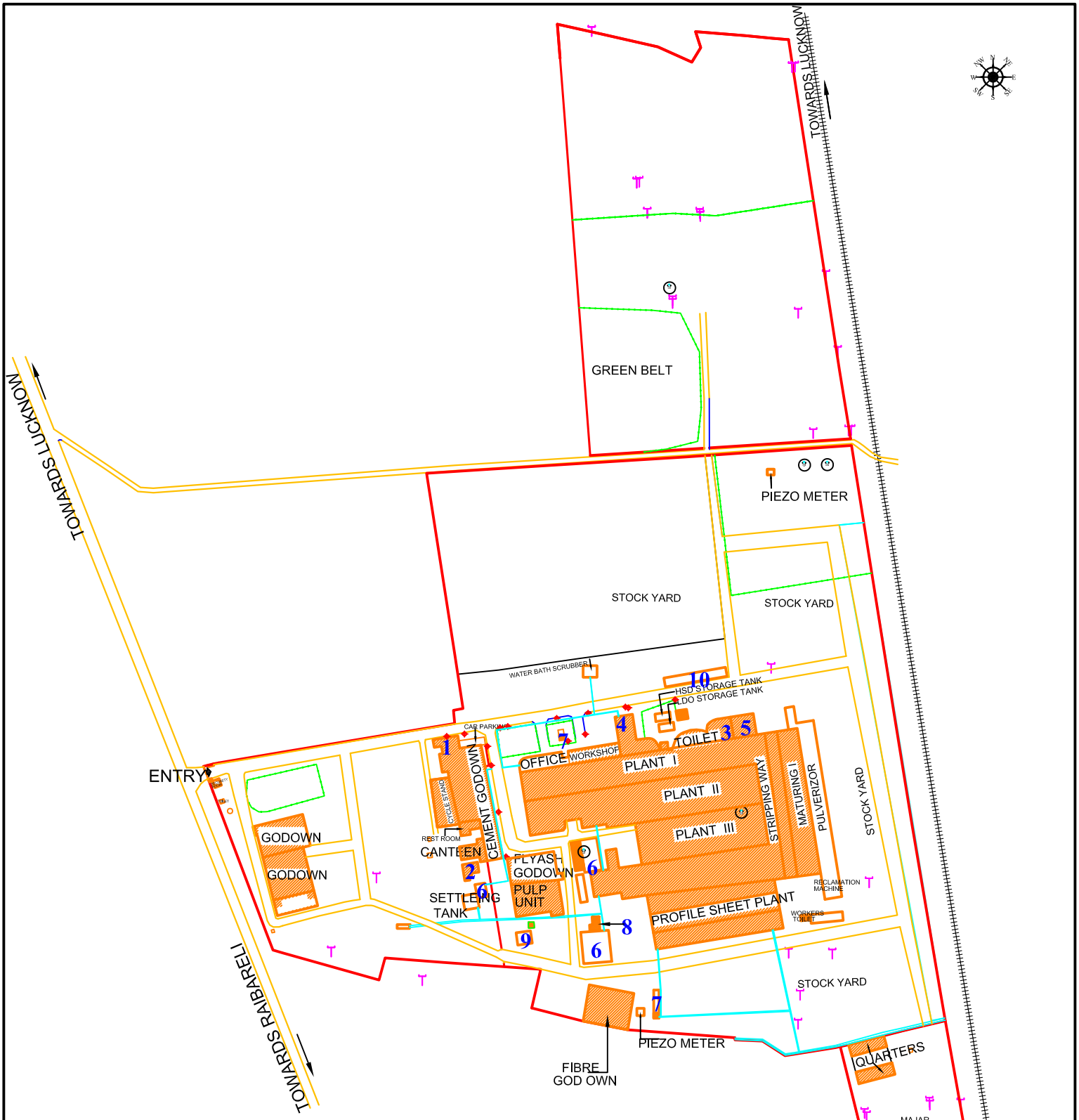


EXHIBIT NO.-1



LEGEND

1	PROJECT SITE	
2	ROAD	
3	DRAIN	
4	RAILWAY LINE	
5	ELECTRIC POLE	

S.NO.	DESCRIPTION
1	ADMIN. BLOCK
2	TRANSPORT OFFICE
3	ENVIRONMENTAL LAB.
4	D.G. ROOM
5	MOULDING ROOM
6	SETTLING TANK
7	RAIN WATER HARVESTING
8	PUMP HOUSE
9	SLUDGE DISPOSAL PIT
10	R.O. PLANT

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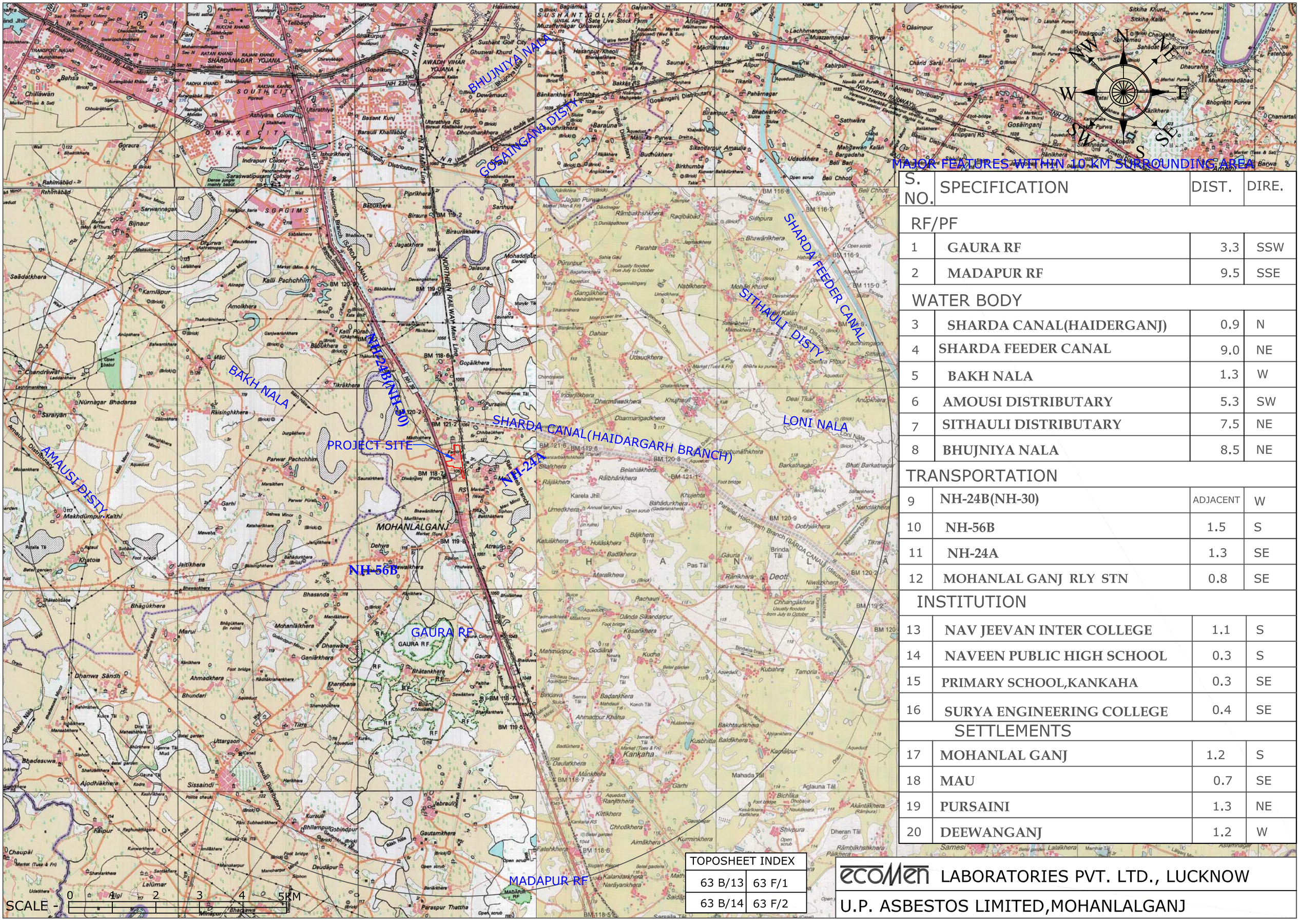
U.P. ASBESTOS LIMITED,MOHANLALGANJ

LAYOUT PLAN

SCALE -3500

EXHIBIT NO. :-2



S. NO.	SPECIFICATION	DIST.	DIRE.
RF/PF			
1	GAURA RF	3.3	SSW
2	MADAPUR RF	9.5	SSE
WATER BODY			
3	SHARDA CANAL(HAIDERGANJ)	0.9	N
4	SHARDA FEEDER CANAL	9.0	NE
5	BAKH NALA	1.3	W
6	AMOUSI DISTRIBUTARY	5.3	SW
7	SITHAULI DISTRIBUTARY	7.5	NE
8	BHUJNIYA NALA	8.5	NE
TRANSPORTATION			
9	NH-24B(NH-30)	ADJACENT	W
10	NH-56B	1.5	S
11	NH-24A	1.3	SE
12	MOHANLAL GANJ RLY STN	0.8	SE
INSTITUTION			
13	NAV JEEVAN INTER COLLEGE	1.1	S
14	NAVEEN PUBLIC HIGH SCHOOL	0.3	S
15	PRIMARY SCHOOL,KANKAHA	0.3	SE
16	SURYA ENGINEERING COLLEGE	0.4	SE
SETTLEMENTS			
17	MOHANLAL GANJ	1.2	S
18	MAU	0.7	SE
19	PURSAINI	1.3	NE
20	DEEWANGANJ	1.2	W

TOPOSHEET INDEX	
63 B/13	63 F/1
63 B/14	63 F/2

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