EXECUTIVE SUMMARY

OF

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FOR

PUBLIC HEARING

OF

Expansion of Existing 140 TPD Writing & Printing Paper by Installation of 300 TPD Hard Wood Fibre Line & 400 TPD Duplex Board Machine, 16 MW co-generation Power Plant and 700 TDS/day Conventional Chemical Recovery Plant along with 12 MW Power Generation

At

7th K.M. Stone, Moradabad Road, Kashipur, Tehsil Jaspur, District Udham Singh Nagar, Uttarakhand

APPLICANT

NAINI PAPERS LTD.

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EXECUTIVE SUMMARY

(i) Project name and location (Village, District, State, Industrial Estate (if applicable)

Expansion of existing 140 TPD writing & printing paper by installation of 300 TPD hard wood fiber line & 400 TPD duplex board machine, 16 MW co-generation power plant and 700 TDS/day conventional chemical recovery plant along with 12 MW power generation at 7th K.M. Stone, Moradabad Road, Kashipur, Tehsil Jaspur, District Udham Singh Nagar, Uttarakhand.

(ii) Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.

Units	Existing capacity	Proposed additional capacity	Total capacity after expansion
Writing and printing grade of paper	140 TPD	-	140 TPD
Hard Wood Fibre line	Nil	300 TPD	300 TPD
Duplex Board Machine	Nil	400 TPD	400 TPD
Co-generation Plant	Nil	16 MW	16 MW
Conventional chemical recovery plant with lime kiln	Nil	700 Total dry solids/day with 12 MW power generation	700 Ton Total Solids/day with 12 MW power generation

The company has obtained EC from MoEFCC, New Delhi and CTO from UEPPCB.Details regarding existing clearances are given below:

Existing clearances

S. No.	Particular	140 TPD writing and printing grades of paper
1.	Environmental Clearance obtained from the Ministry of Environment, Forest & Climate Change (MoEFCC), New Delhi	J-11011/360/2008-IA-II (I) dated 22nd April, 2016.
2.	Consolidated Consent To Operate and Authorization (Renewal) under Section 25 of the "Water (Prevention & Control of Pollution) Act, 1974" and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981" and Authorization under "Rule-6(2) " of the Hazardous and other waste (Management and Transboundary Movement) Rules,2016"	UEPPCB/HO/Con/N-6/2018/494 dated 19.06.2018 and valid up to 31.03.2023
Certified compliance is submitted regularly. Certified copy of EC compliance report by RO, MoEFCC, Dehradun has been obtained and date of site visit was 11.7.2018.		

(iii) Requirement of land, raw material, water, power, fuel with source of supply (Quantitative)

a) Land requirement

Total existing plant area is 9.7 hectares (24 Acres). Proposed installation will be done in additional land of area 6.5 Ha (16 Acres) which is already acquired by the company. Thus, total land possessed by the company will be 16.19 Ha (40 Acres).

b) Raw material requirement

S. No.	Particulars	Requirement (TPD)			Source	Mode of Transport	Distance	Storage Facility	Storage capacity
		Existing	Additional	Total after Expansion					
1	Bagasse/Wheat Straw (OD depithed/dusted)	253.7	-	253.7	Local Farmers/ Suppliers	By Trucks	100 km	Open yard	5 acres
2	Imp. Soft wood pulp	4.7	-	4.7	Imported from USA, Netherlands, Australia	By trucks from ports	From Mumbai	Covered sheds	2000 ton
3	Soap stone powder	22.4	-	22.4	Rajasthan	By trucks	600 km	Covered shed	100 ton
4	Wood /woodchips (Yield 45%)	-	710 BDMT	710 BDMT	Local Suppliers	By trucks	Within 200 kms	Yard	0.5 Hectare
5	BCTMP (bleached chemi-thermomechanical pulp) (Yield 90%)	-	111 ADMT	111 MT	Import	By sea & Trucks	From Mumbai	Shed	6000 MT
4	Caustic Lye Sodium Sulphate	37 MT -	10 MT 16 MT	47 MT 16 MT	Vendor	By trucks	200 km	Tanks	450 MT
5	ClO2 (Chlorine di-oxide)	-	5.4 MT	5.4 MT	Self-generation	-	-	Vessel	10 tonne
6	Oxygen gas	3 MT	6 MT	9 MT	Self-generation/ Liquid O2 from market	By Trucks	-	Vessel	10 tonne
7	Hydrogen Peroxide	1 MT	1.5 MT	2.5 MT	Vendor	By Trucks	200 km	Tank	28 MT

Fuel requirement

Fuel	Fuel Requirement (TPD)			Source	Distance	Storage facility
	Existing	Additional	After Expansion			
Rice husk (70%) & pith (30%)	317	740	1057	Local Suppliers	100 km	Covered Shed
or						
Coal (Indian) (100%)	-	650	650	Suppliers	500-600 km	Covered Shed
or						
Coal (Imported) (100%)	--	335	335	Import	-	Covered Shed

c) Other basic requirements

S. No.	Particulars	Requirement			
		Existing	Additional		Total
			Hard wood fibre Line (inc. CLO2)	Duplex board machine	
1.	Fresh Water (KLPD)	6500	8900	2800	18,200

Source: Groundwater					
2.	Power (MW)	6.82	14.69	8.38	29.89
Source: 16 MW Co-generation plant, 12 MW Turbine to be installed at New Conventional Recovery Plant (8 MW Power will be used for proposed installation and 4 MW to be supplied to existing Naini Papers Limited), Existing 1.4 MW Co-generation Power Plant and 0.49 MW from Grid.					
3.	Man Power	350	350		700
Source: Skilled/semi-skilled/Unskilled- Local and outside areas					
4.	Steam Requirement	35 TPH	20 TPH	34 TPH	62 TPH
Source: Existing boiler (22 TPH and 25 TPH) of 47 TPH and proposed boiler of 110 TPH and 90 TPH from chemical recovery boiler.					

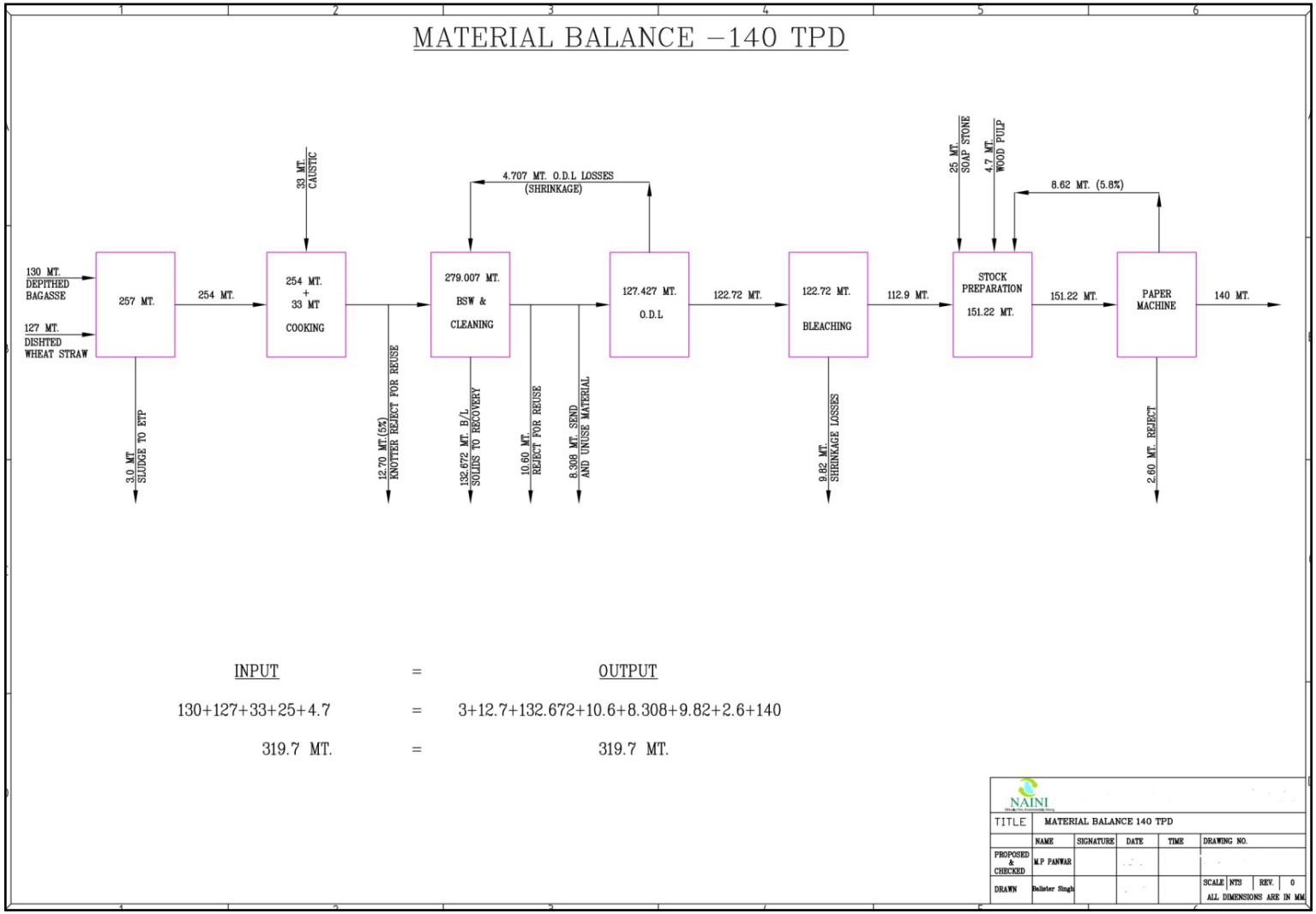
(iv) Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Material balance shall be represented.

Existing process of writing and printing papers	**Proposed hard wood fibre line process**	**Proposed duplex board machine process**
• Raw material handling & processing • Continuous Digester • Un-bleaching Pulp washing, Refining, screening & cleaning • Bleaching, washing & cleaning • Adding Soap Stone • Stock Preparation • Paper Making • Converting, Finishing & Packaging.	• Wood chipping • Digesting • Screening • Washing with twin press • De-knotting and screening • Bleaching (ODL, DO, EOP & D1) • Washing and cleaning • Adding BCTMP • Mixing, winding and finishing	• Mixing of Hard wood pulp and BCTMP. • Screening and centri-cleaning • Pressing and drying • Coating with 4 nos. dryers • Converting. Finishing and packaging

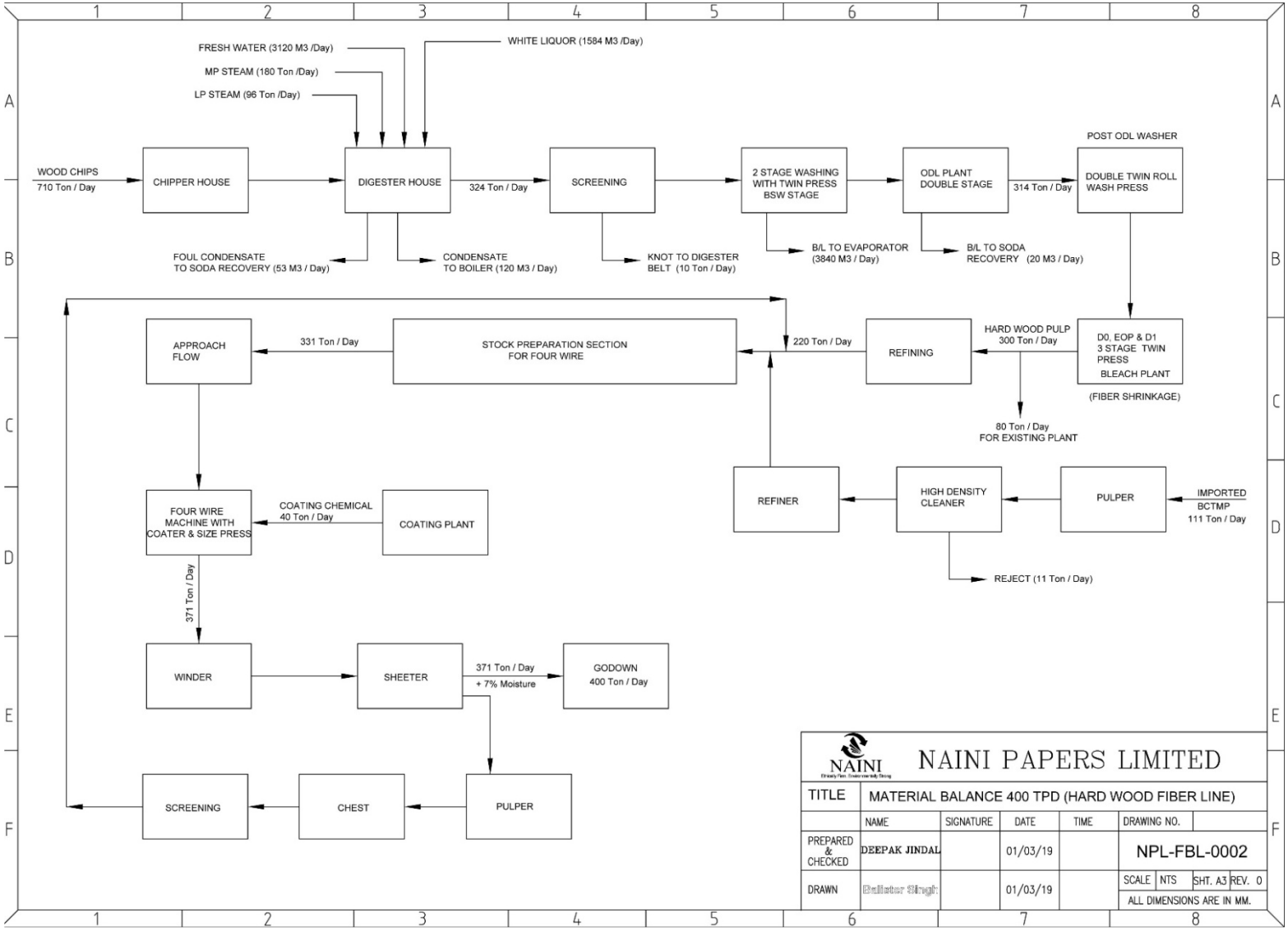
a) **Gaseous emission, liquid effluent and solid and hazardous wastes from process**

Particular	**Type**	**Source**	**Management**
Emission	PM, SOx, NO_2	Boiler	• Electrostatic precipitator with existing and proposed boilers • Stack of adequate height as per norms
Effluent	Waste water	Plant process	• Waste water is being/will be treated in ETP comprising of anaerobic & activated sludge process followed by tertiary treatment.
	Black liquor	Pulping	• Existing- Non conventional CRP where BL is burnt and converted into soda ash to be sold to glass manufacturers. • Proposed- Conventional CRP where BL will be incinerated and used for recovery of white liquor i.e. Caustic soda
Solid waste	ETP sludge, boiler ash, lime sludge	ETP, boiler and process	• ETP sludge is being/will be used in board manufacturing. • Boiler ash will be used as manure. • Lime sludge will be burnt in lime kiln to recover calcium oxide.
Hazardous waste	Used oil	Equipment/machineries	• Used oil is being/will be sold to authorized recyclers.

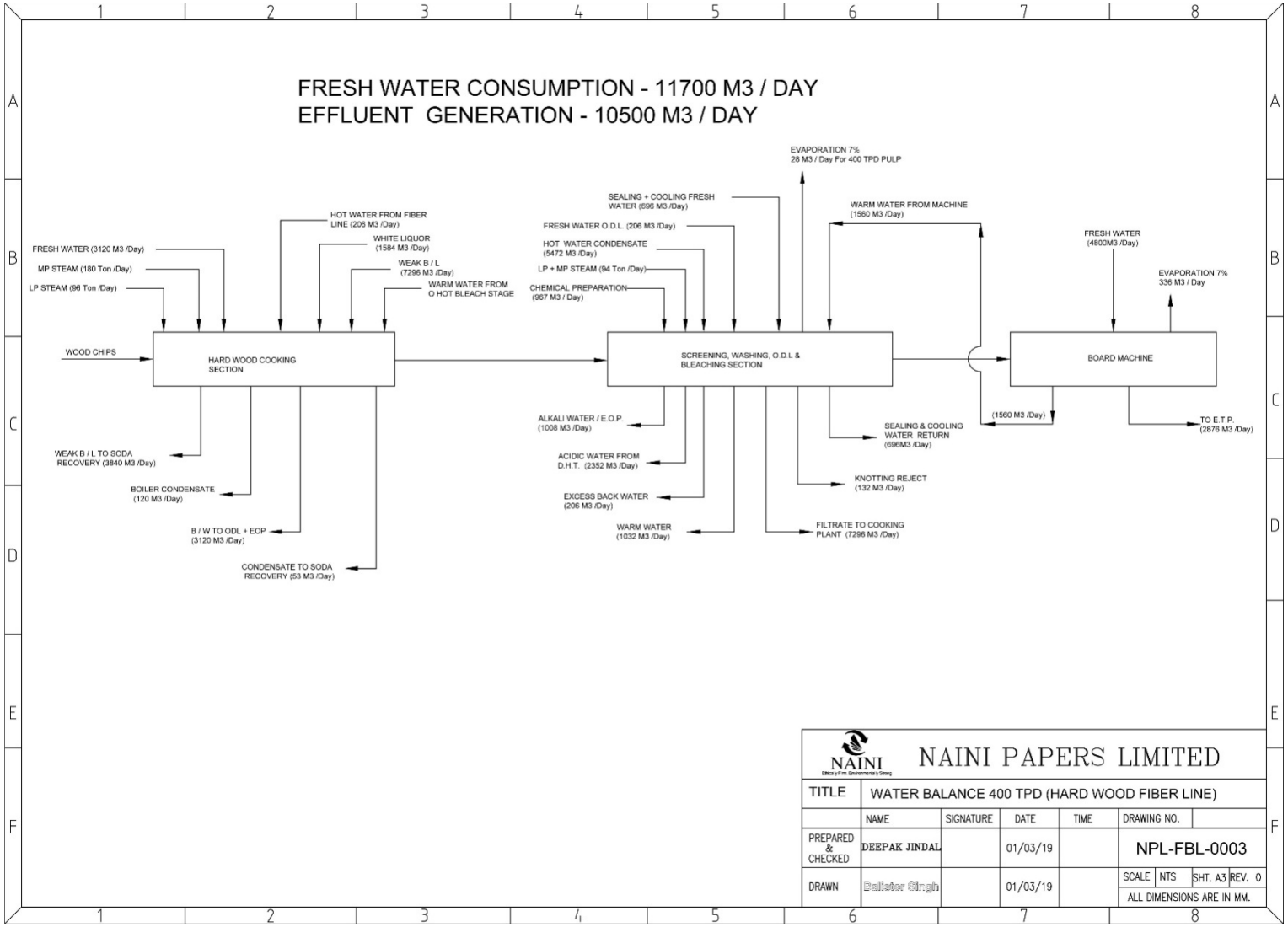
b) Material balance for existing and proposed capacity and water balance for proposed capacity



Material balance of existing 140 TPD writing and printing grades of paper



Material balance for proposed 300 TPD hard wood fiber line



Water Balance of proposed 300 TPD hard wood fibre line and 400 TPD duplex board machine

(v) Measures for mitigating the impact on the environment and mode of discharge or disposal.

Particulars	Details
Air Quality Management	℘ ESP is installed with the existing boilers (22 TPH and 25 TPH) with adequate stack height as per CPCB guidelines. ℘ Proposed co-generation power plant (Boiler 110 TPH) and chemical recovery boiler will be provided with ESP along with adequate stack height. ℘ Online monitoring system with the boiler stack has been/will be installed. ℘ CPCB guidelines for fugitive dust emission control are being / will be followed. ℘ All the roads are/will be concreted to control the fugitive dust emissions. ℘ Covered conveyor belts are/will be used for transferring raw material or fuel. ℘ Water sprinkling is being/will be carried out at areas prone to dust dispersion. ℘ 33 % of existing plant area i.e. 8 acres has already been developed under greenbelt and for proposed area 33 % of total additional area i.e. 5.5 acres will be developed. ℘ Ambient air quality and stack emissions are regularly monitored and effective controls exercised, so as to keep the emission within the statutory limits and same will be continued.
Water Management	℘ The existing ETP of capacity 10 MLD has been upgraded/ augmented up to tertiary level to comply CPCB Charter and the proposed ETP of 12 MLD will be installed as per the CPCB Charter to meet the discharge Norms stipulated by State and Central Pollution Control Board. ℘ Mill has already installed Bio-methanation Plant for treatment of raw material washings to recover the biogas with the additional advantage of pollution reduction to subsequent ETP. Biogas is being used as fuel in the boilers. ℘ All the effluent will be treated in the ETP and a part of the treated effluent is being/ will be utilized in sprinkling on bagasse stacks and raw material washing, greenbelt development, dust suppression and remaining will be discharged into drain. ℘ After expansion, all the waste water generated from hard wood fibre machine and duplex board machine will be treated by RO and MVR system and recycled within plant premises. Thus, no discharge will be done outside plant remises. ℘ Continuous online monitoring system for treated water has already been installed and connected with CPCB servers by the company and it will also be installed with the proposed effluent treatment plant. ℘ Black liquor generated from pulp section of the plant is being processed and incinerated in CRP for the recovery of soda ash which is being sold to Soap & Glass Manufacturers. ℘ After expansion black liquor will be processed in conventional Chemical Recovery Plant for the recovery of Caustic Soda (White Liquor) which will be reused in the pulping process. ℘ Domestic waste water will be treated in Sewage Treatment Plant.
Noise Management	℘ Proper maintenance, oiling and greasing of machines at regular intervals is being/will be done to reduce generation of noise. ℘ Personal Protective Equipment like earplugs and earmuffs are being/will be provided to the workers exposed to high noise level. ℘ D.G sets are provided with acoustic to control the noise level within the prescribed limit. ℘ Noise generating equipment like pump, motors, compressors, blower, turbine/engines, power generator sets/ engines etc. are being/will be mounted on sturdy concrete foundations with proper & suitable rubber padding to reduce vibrations & thereby noise generation. ℘ Pumps, fans, compressor, etc. are statically and dynamically balanced. ℘ Regular monitoring of noise level is being/will be carried out.
Solid & Hazardous Waste Management	℘ ETP sludge is being/will be used in board manufacturing. ℘ Fly ash from boiler is being/will be given to farmers to be utilized in soil amelioration. ℘ Lime Sludge from Chemical Recovery Plant will be burnt in the Lime Kiln to recover calcium oxide for further reuse. ℘ Used oil is being/ will be sent to CPCB authorised recyclers.

Greenbelt Development / Plantation	ꕥ Greenbelt is being/will be developed as per Central Pollution Control Board (CPCB) guidelines which will help to attenuate the pollution level of air and noise. ꕥ 33 % of existing plant area i.e. 8 acres has already been developed under greenbelt and for proposed area 33 % of total additional area i.e. 5.5 acres will be developed. ꕥ Plantation of selected tree species, which are suitable to area condition has been/will be done. ꕥ Greenbelt has been planted and above 8750 saplings have been planted till date. Some of the existing species are Ficus (*Ficus benjamina*), Neem (*Azadirachta indica*), Ashoka (*Saraca asoca*), Shisham (*Dalbergia sissoo*), Sagon (*Tectona grandis*), Pipal (*Ficus religiosa*) , Sal (*Shorea robusta*), China berry (*Melia azedarach*), Silver Oak (*Grevillea robusta*) etc.

(vi) Capital cost of the project, estimated time of completion.

Total cost for the expansion project	Rs.785 Crores	
	Board machine	350 Crores
	Hard wood fibre line	225 Crores
	Co-generation power plant	75 Crores
	Conventional soda recovery plant	125 Crores
	ETP (12 MLD)	10 Crores
Cost for Environmental Protection Measures	Capital Cost – Rs. 180 Crores	
	Recurring Cost- Rs 15Crores/annum	
Estimated time of completion	After obtaining necessary statutory approvals, time of completion forexpansion will be within 3-5 years.	

(vii) Site selected for the project-Nature of land- agricultural (single/double crop), barren, Govt./private land, status of its acquisition, nearby (in 2-3 km) water body, population, within 10 km other industries, forest, eco-sensitive zones, accessibility (Note- in case of industrial estate this information may not be necessary).

a) Nature of land

The land is already industrial as Naini Papers Limited has its own existing plant of 140 TPD writing and printing grades of papers along with Naini tissues Limited having capacity 170 TPD writing and printing papers. The land acquired is adjacent to existing companies of Naini group. It is already an industrial land.

b) Status of its acquisition

Total existing plant area is 9.7 hectares (24 Acres). Proposed installation will be done in additional land of area 6.5 Ha (16 Acres) which is already acquired by the company. Thus, total land possessed by the company will be 16.19 Ha (40 Acres).

c) Nearby (in 2-3 km) water body, forest, eco-sensitive zones, accessibility

Environmental settings of the area

S. No.	Particulars	Details (*All the distances & directions measured are aerial distances)*
1.	Nearest Town / City	Kashipur Town (5.0 km in East direction)
2.	Nearest National Highway	• NH-74 (~4.0 km in NNE direction) • NH-121 (~6.5 km in ENE direction)
3.	Nearest Railway station	Kashipur Railway Station (~6.0 Km in East direction)
4.	Nearest Airport	Pant Nagar Airport (~59 Km in ESE direction)
5.	Interstate Boundary	Interstate Boundary (Uttarakhand- UP) is passing near the Plant site.

6.	National Parks, Wild Life Sanctuaries, Biosphere Reserves, Tiger / Elephant Reserves, Wildlife Corridors, etc. within 10 km radius	There is no National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve, Wildlife Corridor etc. within 10 km radius.
7.	Reserve Forest (RF)/ Protected Forest (PF)	• Hariawala Kudiyawala Lalpur RF (~1.5 km in NE) • Lalpur RF (~2.0 km in ENE) • Tumaria Ravines RF (~4.0 km in North) • Sheorajpur RF (7.0 km in North) • Manrur Firozpur (Haluda) RF (~8.0 km in ENE) • Jaspur RF (~9.0 km in North)
8.	River / Water Body (within 10 km radius)	• Dhandi Nalla (0.2 km in WSW direction) • Pachhana Nala (~ 1.5 km in ESE direction) • Tumaria Nadi (~1.5 km in NW direction) • Dhela Nadi (~2.5 km in SSE direction) • Kurka Nala (~ 4.0 km in WSW) • Karanpur Distributary (~ 4.0 km in NNE) • Tumaria Canal (5.5 km in NW) • Kamlapuri Distributary (~ 5.5 km in WNW) • Moradabad Distributary (~6.0 km in SSE) • Lapkana Nala(~6.5 km in WSW) • Mahadev Canal (~6.7 km in ESE) • Jabdl Nala (~8.5 km in WNW) • Piji Nala (~8.5 km in NW) • Peli Nala (~8.5 km in WNW) • Lankana Nala (~ 8.5 km in WNW) • BahalL Nadi (~ 8.5 km in East)
9.	Seismic Zone	Zone - IV as per IS: 1893 (Part-I) : 2002

d) List of industries within 10 km radius study area

S. No.	Name of the indsutry	Product (Type of industry)	Distance & direction from the plant site
1.	Kumar Oxygen Ltd.	O2 Plant	400 m in E
2.	Sidheshwari Paper Udyog	Writing & Printing Paper	550 m in SW
3.	Diamond Electronics Ltd.	Electronic items	500 m in E
4.	Surya Roshni Limited	Bulbs, Tubes & CFL	400 m in W
5.	Swaraj Rubber Industries	Rubber Retreading	500 m in W
6.	Sidharth papers Limited	Kraft Paper	800 m in E
7.	Shribalaji Industrial Gases (p) Ltd	Oxygen and Nitrogen gas	1 Km in ENE
8.	ShriShyam Paper & Boards	Writing &PrintingPaper	1.5 Km in E
9.	Techno Electronics (I) Pvt. Ltd.	Electronic FMCG items	1.5 Km in E
10.	Prakash Pipe Ltd.	PVC Pipe	1.9 Km in NE
11.	Kumar Oxygen Ltd.	Industrial Oxygen gas	1.9 Km in NNE
12.	PashupatiAcrylon Ltd.	Acrylic Threads	2.0 Km in W
13.	Pashupati Plastic Ltd.	HDPE recycling	2.2 Km in NNE
14.	Shriram straw and boards	Kraft Paper	2.5 Km in NNE
15.	Universal rubber industry	Rubber Industry	3.0 Km in NE
16.	Shergil Oxygen Ltd.	Oxygen Plant	3.1 Km in N
17.	Vishwanath paper	Kraft paper	0.69 km in ESE
18.	Katyani Paper Ltd.	Kraft & Paper	4.0 Km in NNE

19.	Munna paper Ltd.	Kraft paper	4.0 Km in NNW
20.	Fiber Marx. Paper Ltd.	WPP, Waste paper based	4.5 Km in NNW
21.	Danwantarih Pharmaceuticals	Ayurvedic medicine powder	4.9 Km in ENE
22.	Shergill Oxygen	Industrial gas Nitrogen	6.0 Km in N
23.	Guru ram Dash Rice mill	Rice mill	7.9 Km in E
24.	TrithakarAdinath paper	Paper	8.4 Km in E
25.	Shri Krishna Rice Mill	Rice mill	8.4 Km in NNW
26.	ShivangiToffu& Milk products	Soya product & Soya milk	8.4 Km in E
27.	Kasha Vishwanath steel Ltd.	M.S. Industry	8.5 Km in E
28.	Chima paper	Kraft paper	8.5 Km in E
29.	Golden Papiar (P) Ltd.	Papiar based products	8.6 Km in E
30.	Shreya Packaging	Corrugated Box, Sheet	8.6 Km in E
31.	Multiwal Pulp & Board Mill Ltd.	M.G Kraft paper	8.7 Km in E
32.	Banwari Papers Ltd.	Writing & Printing Paper	9.0 Km in NNE
33.	Banwari Papers Ltd.	Kraft Paper	9.2 Km in ENE
34.	Vishwakarma Papers Ltd.	Kraft paper	9.3 Km in NNE
35.	NainiTissues Ltd.	Writing & Printing papers	Adjacent to the project Boundary in East

(viii) Baseline environmental data- air quality, surface and ground water quality, soil characteristic, flora and fauna, socio economic condition of the nearby population.

a) Presentation of Results (Air, Noise, Water & Soil)

Baseline study of the 10 km radius study area was conducted for Post Monsoon Season i.e. October to December, 2018. Ambient Air Quality Monitoring reveals that the concentrations of PM_{10} and $PM_{2.5}$ for all the 8 AAQM stations were found between 54.8 to 87.4µg/m^3 and 32.2 to 56.1µg/m^3 respectively. The concentrations of SO_2 and NO_2 were found to be in range of 5.2 to 19.5µg/m^3 and 11.4 to 32.6µg/m^3 respectively. During the baseline study it was seen that in day time noise levels vary from 53.6 to 67.6 Leq dB(A) during day time and 43.5 to 60.2 Leq dB(A) during night time.

Surface water quality is within norms with all the parameters within prescribed limits. pH is in range 7.27 to 7.67. TDS is 200.2 mg/l to 717.8 mg/l.

Ground water quality parameters like TDS (vary from 452 to 598 mg/l), pH (varies from 7.73 to 8.3), Total Hardness (varies from 148 to 210 mg/l) etc. is found within the permissible limit.

Soil samples collected from identified locations indicate pH value ranging from 7.14 to 7.98, organic matter ranges 0.58 to 1.11 % in the soil samples. Nitrogen ranges from 175.4 to 234.6 kg/ha and Phosphorous ranges from 51.4 to 72.7 kg/ha, whereas the SAR value is found ranging from 0.24 to 0.42.

b) Biological Environment

Flora: Most common species found in the area are *Azadirachta indica* (Neem), *Mangifera indica* (Mango), *Emblica officinalis* (Amla), *Tamarindus indica* (Imli), *Eucalyptus hybrid* (Eucalyptus), *Ficus bengalensis* (Bargad) etc.

Fauna: Commonly found species in the study area are *Macaca mulatta* (Rhesus macaque), *Columba livia* (Blue rock pigeon), *Rattus rattus* (Indian field mouse), *Cuculus canorus* (Cuckoo), etc.

c) Socio-economic environment

The population as per 2011 Census records is 524101 (for 10 km radius buffer zone). Sex ratio is 911. Scheduled Caste fraction of the population of the study area (10 km) is 88016 (16.8%) and Scheduled Tribe

1402 (0.26%). Percentage of literacy is 62.6% and that of workers those actually engaged in occupation is 32.0 % and 68.0% of the total population, are considered as non-workers.

(ix) Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.

Preliminary hazard analysis for process and storage areas

Equipment	Process	Potential Hazard	Provision
Power Transformer	--	Fire & Explosion	Allelectricalfittingsand cablesare provided asper thespecifiedstandards.
SwitchYard ControlRoom	-	Fire incable trenchesand switches	Allelectricalfittings and cablesare provided asper thespecifiedstandards.
RawMaterial Yard	Storage of Raw Material	Fire	Theyardisencircled withpressurized pipeline fire hydrantsystemtodealwithemergencies.
Caustic	Used in chemical pulping	Leakage	Standby storage tank provided toemptyupthe leaking tank.

(x) Likely impact of the project on air, water, land, flora-fauna and nearby population.

S.No.	Plant activity	Aspect	Impact	Mitigation
1.	Transportation of raw material	Dust generation	1. Respiratory problems in nearby villagers and labours involved. 2. Irritation in the eyes 3. Impact on surrounding flora and fauna	• Paved road • Provision of speed limits within plant premises • Water sprinkling • Regular sweeping of roads • Vehicles should be PUC certified • Greenbelt & plantation on both sides of the internal roads and plant boundary
		Noise generation	Irritation	Regular maintenance, oiling & greasing of transportation vehicles
		Increase in traffic load	Congestion on existing road	• Proper movement of vehicles to be maintained • Parking area should be maintained
2.	Storage & handling of raw material	Dispersion of particles of rice husk, bagasse in the air environment	• Respiratory problems like asthma, bronchitis, allergies. • Irritation in eyes	• Covered conveyor belts at all transfer points • Water sprinkling if dispersion occurs • Storage in covered containers and sheds
3.	Depithing, dedusting, chipping & wet washing	Discarded pith, wood chips accumulation	Small air borne particles can interfere with the respiratory tracts.	Mixed with fuel and burnt in boiler for steam generation.
		Waste water collected after washing	Waste water if released untreated can affect aquatic biota to a great extent.	Waste water treated in ETP and reused in the process.
4.	Pulping	Generation of black liquor	Contamination of surface and ground water	Existing-Treated in chemical recovery plant to produce soda ash. Proposed- incinerated in conventional chemical recovery plant and caustic soda is recovered.
		Gaseous discharge	Harmful gases are released that	Heat is discharged in to the

S.No.	Plant activity	Aspect	Impact	Mitigation
		and heat	can cause physical hazards	atmosphere from cold blow tank through stack
		Generation of Odour	Nuisance Irritation in nasal senses.	The odour is prevented by carrying out the activity in controlled conditions
5.	Pulp washing	Waste water as effluent generated due to washing of pulp	• Contamination of surface and ground water in form of increased BOD, COD and decrease in levels of DO. • Habitat modification of aquatic biota	The waste water is treated in ETP and recycled in process.
6.	Paper making	Effluent generation	Contamination of surface and ground water	Treated in ETP and recycled
7.	Boiler operation	Particulate matter & gaseous emissions	• Hindrances related to normal breathing and entrance of air borne particles into respiratory tract. • Surrounding biota affected due to settlement of ash on surfaces.	Installation of ESP with adequate stack height. Storage of fuel in covered areas.
		Boiler ash (solid waste)	Water and soil contamination	Handling and transportation of ash in covered facilities. Adequate greenbelt in and around plant premises. Fly ash will be used as manure.
8.	ETP	ETP sludge generated	Contamination of soil and leaching can result in ground water contamination	ETP sludge will be used in board manufacturing
		Treated water accumulation	Formation of unused water reservoir and longer storages can result in water borne diseases.	Treated water is recycled in the process for wet washing and brown stock washing.
		Discharge of treated effluent in to the local drain	Contamination of surface water and change in physical and chemical properties of water.	Existing plant-Parameters are within prescribed norms before discharging into the local drain. Proposed plant- "Zero Effluent Discharge" proposed.
9.	Plant operations	Occupational health issues	Physical hazards Occupational diseases	Use of PPEs Awareness programs Periodic medical check up

(xi) Emergency preparedness plan in case of natural or in plant emergencies.

In case of emergency, the company has certain designated hierarchy of persons with specific responsibilities and duties allotted. The emergency communication system is provided and emergency sirens are used for informing. The emergency power supply and fire-fighting facilities are provided to deal with disasters related to fire. The medical facilities are provided for casualties or injured people, if any. There are certain emergency contact numbers displayed on main gate to be used during emergencies.

(xii) Issues raised during public hearing (if applicable) and response given.

Public hearing is yet to be conducted.

(xiii) CSRplan with proposed expenditure.

The proposed CER/ESC Cost is Rs. 5.425 Crores (maximum percentage of total capital cost i.e.785 Crores) for Brownfield project as per the latest circular released by MoEFCC on CER dated 1st May, 2018. Year-wise action plan for next 5 years for CER/ESC activities to be undertaken by the company is given in Table below.

Table8.1

Proposed 5 year budget for ESC/CER

S. No.	Major activities	1st Year (Lakhs)	2nd Year (Lakhs)	3rd Year (Lakhs)	4th Year (Lakhs)	5th Year (Lakhs)	Total Amount (Lakhs)
1.	Infrastructure creation for drinking water supply	28.5	28.5	28.5	28.5	28.5	142.5
2.	Promotion of education	20	20	20	20	20	100
3.	Electrification including solar power promotion	20	20	20	20	20	100
4.	Scientific support and awareness to farmers to increase the yield of crops	10	10	10	10	10	50
5.	Plantation in community areas	10	10	10	10	10	50
6.	Skill development programs for women and youths	20	20	20	20	20	100
Total		**108.5**	**108.5**	**108.5**	**108.5**	**108.5**	**542.5**

(xiv) Occupational health measures

Dust	• Water sprinkling in the places where dust dispersion can occur. • Regular sweeping of roads within plant premises • Providing dust masks to employees working in handling and storage yards.
Noise	• Proper maintenance of machineries • Regular monitoring of noise level • Display of noise level with permission level • Display instruction to use of PPEs at high noise level area • Periodic health checkup for audiometry for the person working in high noise area
Heat stress	• Monitor workers who are at risk of heat stress • Provide rest periods with water breaks • Use of personal protective equipment
Electrical Hazards	• Proper earthing is being/will be done as per IS 3043 • Low voltage supply will be ensured • Isolating transformers • Over load protection • Protection against leakages (G.F.C.I.)

Fire and Explosion	• Suitable fire extinguisher, fire hydrant system and fire buckets. • Oil and flammable gases storage area fenced and declared as fire hazardous area-No Smoking Area" • Permit and safety instruction to use welding / gas cutting in the area of oil, gas • Adequate height of brick walls for separation of all transformers, soak pits for storage of oil leakages from transformers

(xv) Post project monitoring plan

Post project monitoring

S. No.	Description	Frequency of Monitoring	Locations of monitoring
1.	Ambient Air Quality	As per EC condition	4 locations (1 within plant site and 3 outside plant site)
2.	Stack Monitoring	Continuous	Plant site (boiler)
3.	Noise Level Monitoring	Half yearly (Six monthly compliance report)	Plant boundary & nearby areas
4.	Ground water Quality	Twice a year (Pre and Post Monsoon)	In plant site and adjacent areas
5.	Surface water quality	Monthly	DhandiNala (stream)
6.	Treated effluent quality	Daily & continuous	ETP outlet
7.	Soil quality	Yearly	Nearby areas
8.	Medical checkup of employees	Yearly	Nearby hospitals/on-site