SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

ON

EXPANSION OF SUGAR FACTORY FROM 7,500 TCD TO 13,500 TCD & DISTILLERY UNIT FROM 150 KLPD TO 220 KLPD BY USING C/B HEAVY MOLASSES/ CANE JUICE/ CANE SYRUP ALONG WITH POWER GENERATION FROM 1.9 MW TO 3 MW

BY

JAYWANT SUGARS LIMITED

A/P: DHAWARWADI, TALUKA: KARAD,

DISTRICT: SATARA, STATE: MAHARASHTRA

PREPARED BY

EQUINOX ENVIRONMENTS (I) PVT. LTD.,

Environmental; Civil & Chemical Engineers, Consultants & Analysts, Kolhapur (MS)

QCI-NABET & ISO 9001:2015 Accredited Organization

(Accreditation No.: NABET/EIA/24-27/RA 0379; Valid up to: 11.10.2027)

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NOVEMBER 2025

DATE: 20/11/2025

To,
The Member Secretary
Maharashtra Pollution Control Board (MPCB);
3rd& 4th Floor, Kalpataru Point,
Sion Circle, Sion (E),
Mumbai - 400 022

Sub.: Application for grant of Environmental Clearance (EC) in respect of Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW by – **Jaywant Sugars Ltd. (JSL);** Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra.

Ref.: 'Terms of Reference' (ToR) granted vide letter no. J-11011/111/2016-IA-II(I) dated 26.05.2025. Copy is enclosed at **Enclosure – I**.

Dear Sir,

We – **Jaywant Sugars Ltd. (JSL)** has decided to Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW located at Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State.

Accordingly, an application in Form - 1 format was submitted to the 'Ministry of Environment, Forests and Climate Change (MoEFCC); New Delhi' for grant of ToR's on 16.05.2025. Subsequently, standard ToR's were granted on 26.05.2025. Refer **Enclosure – I** for copy of ToR letter. In the ToR letter, directions were given to conduct Public Hearing w.r.t. our proposed project. Now, in order to conduct Public Hearing, we hereby are submitting all the relevant documents and information to your office.

Along with the Public Hearing application, a draft EIA Report as per the generic structure stipulated in MoEF Notification No. S.O.1533 (E) dated 14.09.2006 and amendments thereto; and Executive Summary Report in two languages (English and Marathi) are enclosed separately. The same provide details of Pollution Control Facilities, Production Processes and Raw Materials as well as Finished Products and Environmental Management Plan (EMP) etc. regarding the unit.

'Twenty Sets' of various documents, as mentioned above and equivalent number of soft copies of same have been submitted for your information and necessary further action.

Also, a Demand Draft of Rs. 1,00,000/- (Rs. One Lakh only) bearing no. drawn on dated towards the Public Hearing charges, as decided by the govt., has been presented herewith.

Please do the needful and oblige.

Thanking you.

Yours faithfully,

Jaywant Sugars Ltd. CIN U 15421 PN 2006 PLC 021789 6 JAN 2006 Malkapur, Tal. Karad, Dist. Satara

Mr. Charudatta Deshpande
(President)

Encl.: 1. Executive Summary of project
2. A Draft EIA Report
3. A D.D. bearing No. dated drawn on

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ENGLISH SUMMARY

Summary of Draft EIA Report for Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW by Jaywant Sugars Ltd. (JSL)

Located at Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State

1. THE PROJECT

Jaywant Sugars Ltd. (JSL) located at Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State. Proposed project by JSL is an Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW.

The above mentioned proposed project attracts the condition of prior Environmental Clearance procurement as per the EIA Notification No. S. O. 1533 (E) dated 14.09.2006 and amendments thereto issued by Ministry of Environment, Forest and Climate Change (MoEFCC); New Delhi. Accordingly, the proposed project comes under Category 'A', Item No.: 5(g), 5(j) & 1(d) respectively. Further, the application in Form I format was submitted to MoEFCC; New Delhi & granted standard ToRs.

Proposed expansion project will be formulated in such a fashion and manner so that the utmost care of Safety Norms and Environment Protection shall be taken. Details of capital investment are given in Table 1.

Table 1. Project Investment Details

No.	Industrial unit	Capital Investment (Rs. Crores)		
		Existing	Proposed	Total
1.	Sugar Factory & Co-gen	248.98	250	498.98
2.	Distillery Unit	157.19	150	307.19
	Total	**406.17**	**400**	**806.17**

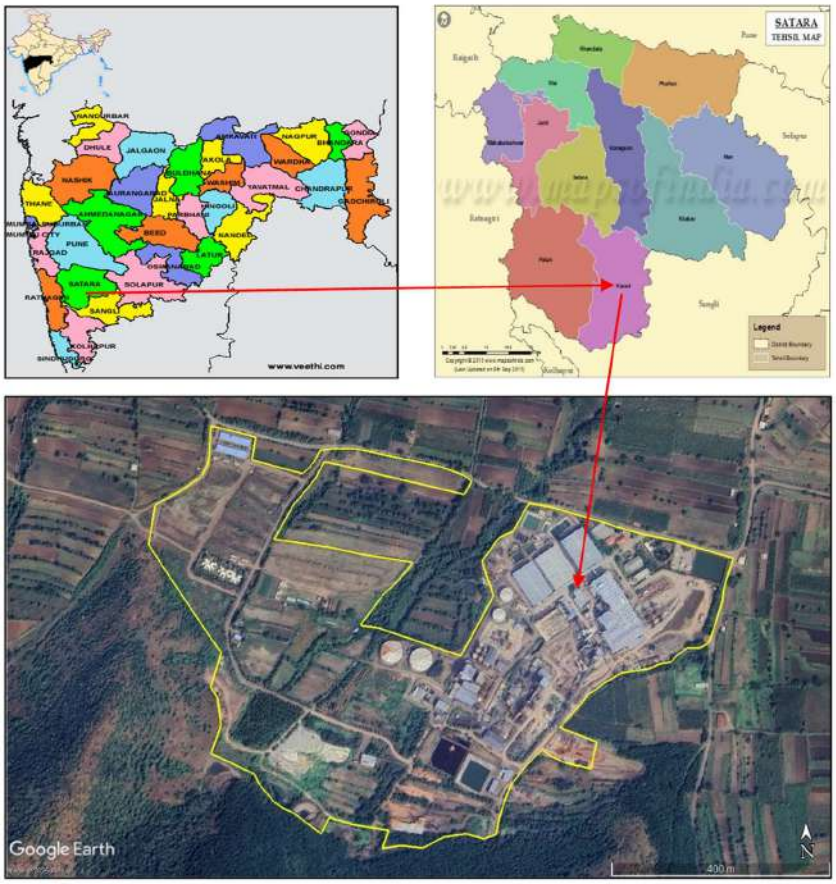
2. PROJECT LOCATION

Proposed expansion of Sugar Factory & Distillery unit shall be carried out in existing premises of Sugar Factory, Cogen Plant & Distillery by JSL. Total land utilized for industrial activities by JSL is 37.50 Ha. Refer **Annexure - I** for Plot Layout Plan. Detailed area break-up is presented at Table 2.

Table 2. Area Break up

No.	Description	Area (Sq. M)		
		Existing	Proposed	Total
1	**Total Plot Area**	**3,75,042**	**--**	**3,75,042**
2	Total Built-up Area	91,016	21,139	1,12,155
3	Area under Road	17,410	--	17,410
4	Parking Area (20% of TPA)	75,008	--	75,008
5	Green Belt Area (33% of TPA)	1,12,515	11,249	1,23,764
6	Total Open Area	79,093	--	46,705

Figure 1. Location of the Project Site



Note: The Maps are purely graphical and not to scale, 17°26'54.84"N Latitude & 74°1'21.75"E Longitude

3. THE PURPOSE

Sugarcane potential, agro-climatic conditions, cost of conversion & overheads etc are the major deciding factors for fixing the crushing capacity of sugar factory. Today, sugar factories cannot survive in healthy condition on a single product i.e. sugar. Thus, it is essential to develop sugar factory into an affiliated complex so as to utilize the valuable by-products more profitably. Bagasse based cogeneration of steam and electricity has been practiced since long time in sugar mills. Molasses is also another important by-product of the sugar industry. Alcohol has assumed very important place in the Country's economy. It is a vital raw material for a number of chemicals and a renewable source of energy. It has been a source of a large amount of revenue by way of excise duty levied by the Govt. on alcoholic liquors. It has a potential as fuel in the form of power alcohol for blending with petrol. Also, the fermentation alcohol has great demand in countries like Japan, U.S.A., Canada, Sri Lanka etc., as the synthetic alcohol produced by these countries, from naphtha of petroleum crude, is not useful for beverages. Considering the above facts as well as availability of raw material, management of JSL decided to go for expansion.

4. SITE HISTORY

The industry is located in Survey Nos. 83, 84, 85, 86, 87, 88/1, 88/3, 90, 90/1, 92, 93, 94, 95, 96, 97, 99-108, 108/1, 108/2, 109-127, 202, 203, 205, 206, 208, 209, 210, 212, 213, 214, 217, 218, 219, 221, 222, 223, Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State. JSL was registered vide Registration No.: U15421PN2006PLC021789 dated 05.01.2006. The copy of Certificate of Incorporation are enclosed at **Annexure - II**.

The land use of existing land under possession of JSL wherein presently the sugar factory is established was a fallow land. This land was procured by JSL for establishment of sugar & co-gen plant in year 2006. Sugar factory erection work was started in year 2008-2009 and co-gen in year 2014. First Crushing of Sugar factory was done in year 2010-11. Co-gen commissioning and trial taken in year 2014-2015 & plant was started in 2015-16. JSL had granted Environmental Clearance (EC) in year 2017 for an Establishment of 45 KLPD Distillery from MoEFCC; New Delhi. In the year of 2021-22, JSL was done 1st expansion of sugar factory up to 4800 TCD. Further JSL had planned to go for an Expansion of Molasses based Distillery from 45 to 150 KLPD by using C / B Heavy Molasses / Cane Syrup for Ethanol Production with 1.9 MW Electricity Generation & Expansion of Cane Crushing Capacity from 4800 to 7500 TCD and Cogeneration Plant from 14 to 24 MW. For the same, GoI, MoEFCC; New Delhi granted Environmental Clearance (EC) vide EC Identification No. EC22A022MH160592 dated 17.10.2022. Refer Appendix-B for EC Letters & Consent Copies in Draft EIA Report.

Now the management of JSL have planned to go for an Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW in the existing premises of Sugar Factory, Co-generation Plant & Distillery Unit.

5. THE PROMOTERS

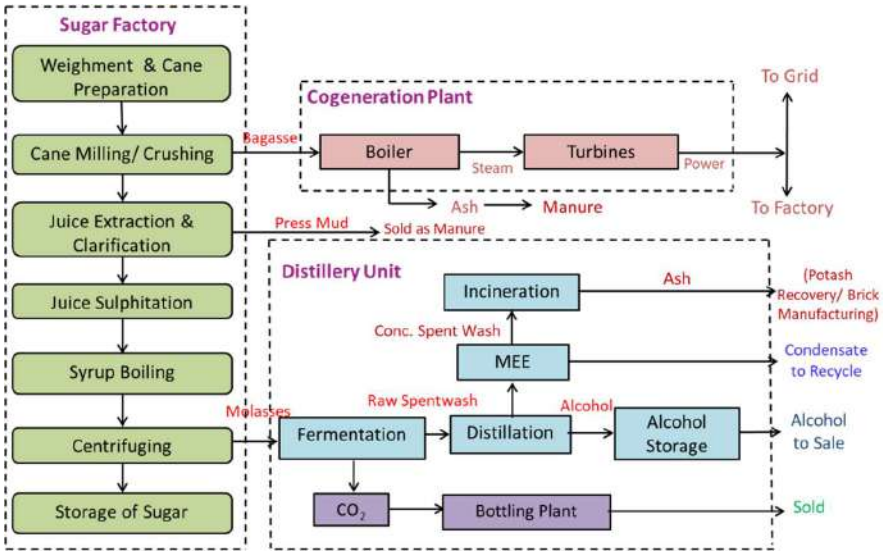
The promoters of JSL are well experienced in the field of Sugar Factory and have made a thorough study of entire project planning as well as implementation schedule. The names and designations of the promoters are as under-

Table 3. List of Promoters

No.	Name	Designation
1	Dr. Suresh Jaywantrao Bhosale	Promoter
2	Dr. Atul Suresh Bhosale	Promoter
3	Mr. Vinayak Suresh Bhosale	Promoter

6. PROCESS DESCRIPTION

Figure 2. Integrated Manufacturing Process Operations



6.1 The Products

The details of products that are being manufactured under the existing Sugar Factory, Co-gen Plant & Distillery as well as those to be manufactured under expansion activities are represented in the following table.

Table 4. Product & By-product for integrated Complex of Sugar, Co-gen & Distillery

Industrial Unit	Product & By-products	Quantity (MT/D)		
		Existing	Proposed	Total
Sugar Factory (7,500 TCD to 13,500 TCD)	Sugar (13%)	624 (4800 TCD Crushing)	780 (6000 TCD Crushing)	1,404 (10,800 TCD Crushing)
	Sugarcane Crushing for Ethanol (Approved under B2 Cat.)	2700 TCD	--	2700 TCD
	Molasses (4%)	192	240	432
	Bagasse (30%)	2,250	1,800	4,050
	Pressmud (4%)	300	240	540
Co-gen (24 MW)	Electricity	24	--	24
Distillery (150 KLPD to 220 KLPD)	RS / ENA (C/B Heavy Molasses/ Cane Juice/ Syrup)	45	70	115
	Ethanol (C/B Heavy Molasses/ Cane Juice/ Syrup)	150	70	220
	CO_2 Gas	113	52	165
	Fusel Oil	8	4	12
	Electricity from Incineration Boiler	1.9	1.1	3

7. ENVIRONMENTAL ASPECTS

JSL has planned an effective 'Environmental Management Plan' under the expansion project. Various aspects of the same are as follows: -

A. Water Use, Effluent Generation and its Treatment

a. Water Use

Requirement for fresh water on site will be met from Tarali River. Water lifting permission has been taken from Irrigation Department; Govt. of Maharashtra. Same is attached at Appendix-C in Draft EIA for reference. Details of water consumption for existing & after expansion of Sugar Factory Distillery are presented in following tables.

Table 5. Water Consumption for Sugar Factory & Co-gen unit

No.	Description	Quantity (M^3/Day)	
		Existing (7,500 TCD & 24 MW)	**After Expansion (13,500 TCD & 24 MW)**
1	**Domestic**	#13	#21
2	**Industrial**		
a)	Process	*2215	*4320
b)	Cooling Makeup	*735	1100 (*380 + @720)
c)	Boiler Makeup	*245	*680
d)	DM Plant	*49	*102
e)	Lab & Washing	*8	*20
f)	Ash quenching	*2	*5
	Industrial Total	***3254 (100% Recycle)**	**6227 (*5507 + @720) (100% Recycle)**
3	**Green Belt**	54 ($14 + *40)	150 ($22 + *128)
	Grand Total	**3321 (#13+*3294+$14)**	**6398 (#21+*5635+@720+$22)**
	Water 100 lit./ MT of cane	0	0

Note: # - Fresh water, * - Excess Cane Condensate, $- STP treated effluent, @ - ETP treated effluent

Table 6. Water Consumption for Molasses based Distillery (M^3/Day)

No.	Description	Existing (150 KLPD)		After Expansion (220 KLPD)	
		Crushing	**Non-Crushing**	**Crushing**	**Non-Crushing**
1	Domestic	#5	#5	#7	#7
2	Industrial				
	Process	♣1191	♣1191	♣1746	♣1746
	Cooling Makeup	450 (♣21+*429)	450 (♣21 + #429)	775 (♣54+*721)	775 (♣54+#721)
	Boiler Makeup	50 (*27+#23)	#50	*155	155 (#100+*55)
	DM Plant	#10	#10	*32	#32
	Lab & Washing	#8	#8	*15	#15
	Ash Quenching	#1	#1	*2	#2
	Industrial Use	**1710 (♣1212+*456+#42) (98% Rec.)**	**1710 (♣1212 + #498) (71% Rec.)**	**2725 (♣1800+*925) (100% Rec.)**	**2725 (♣1800+#870+*55) (68% Rec.)**
	Grand Total	**1715 (♣1212+*456+#47)**	**1715 (♣1212 + #503)**	**2732 (♣1800+#7+*925)**	**2732 (♣1800+#877+*55)**
	Water 10 KL/KL	0.3 KL/KL	3.3 KL/KL	0 KL/ KL	3.9 KL/ KL

Note: # - Fresh Water, *- Excess Sugar Cane Condensate, ♣- Distillery CPU Treated Effluent

Table 7. Water Consumption for Cane Juice/ Syrup based Distillery (M^3/Day)

No	Description	Existing	After Expansion
1	Domestic	#5	#7
2	**Industrial**		
a)	Process	--	--
b)	Cooling Makeup	♣450	♣775
c)	Boiler Makeup	♣50	♣155
d)	DM Backwash	♣10	♣32
e)	Lab & Washing	♣8	♣15
f)	Ash Quenching	♣1	♣2
	Industrial Use	**♣519 (100% Rec.)**	**♣979 (100% Rec.)**
	Grand Total (1+2)	**524 (♣519+ #5)**	**986 (♣979+#7)**
	Norm: 10 KL/KL of Alcohol	**0 KL/KL**	**0 KL/KL**

Note: # - Fresh Water, ♣- Distillery CPU Treated Effluent

➢ **Sugar Factory & Cogen Plant:**

Under existing sugar factory & cogen, total 2317 CMD water is consumed. After Expansion of Sugar factory 6398 CMD water will be consumed. Out of this 21 CMD is fresh water taken from River, 5635 CMD is excess cane condensate, 720 CMD is treated water from ETP & 22 CMD is treated water from STP.

➢ **Distillery:**

Total water requirement after expansion of distillery will be –

During Molasses based Operations: 2732 CMD. Out of this, 877 CMD will be Fresh water taken from River, 1800 CMD will be treated effluent from Distillery CPU, 55 CMD will be excess cane condensate. Total 100% recycle water will be used in distillery.

During Sugarcane Juice Operations: 986 CMD. Out of this, 979 CMD will be treated effluent from Distillery CPU, 7 CMD will be Fresh water taken from River.

b. Effluent Treatment & Disposal

i. Domestic Effluent Treatment & Disposal

Total domestic effluent generated after expansion project would be 23 CMD and same will be treated in existing Sewage Treatment Plant (STP).

ii. Industrial Effluent Treatment & Disposal

Sugar Factory & Cogen:

Total trade effluent generated after expansion of Sugar Factory will be 760 CMD. Same to be treated in Effluent Treatment Plant (ETP) comprising of primary, secondary & tertiary unit operations. Treated effluent from ETP will be reused in process & thereby, achieving Zero Liquid Discharge (ZLD) under expansion.

Distillery:

Presently, raw spentwash from existing molasses based distillery @ 1200 CMD concentration in MEE. Conc. Spentwash @ 240 CMD is incinerated in incineration boiler. Same treatment shall be implemented for Cane Juice based distillery.

The treatment will be followed after expansion of distillery is presented below-

Molasses based Distillery Operations: Total raw spentwash to be generated @ 1760 M^3/D, would be concentrate in MEE and the conc. spentwash @ 352 M^3/D (1.6 KL/KL of alcohol) will be blended with bagasse/ coal & burnt in incineration boiler.
OR
Sugarcane Juice/ Sugarcane Syrup based Distillery Operations: Total raw spentwash to be generated @ 880 M^3/D, would be concentrate in Multiple effect evaporator (MEE) and the conc. spentwash @ 175 M^3/D (0.8 KL/KL of alcohol) will be blended with bagasse/ coal and burnt in incineration boiler.

Other Effluents viz. condensate, spent lees, cooling b/d, boiler b/d, lab & washing shall be forwarded to Distillery CPU. Treated effluent shall be fully recycled to achieve Zero Liquid Discharge (ZLD). Details of wastewater generation under existing and expansion operations of Sugar Factory, Cogen & Distillery Unit are as follows-

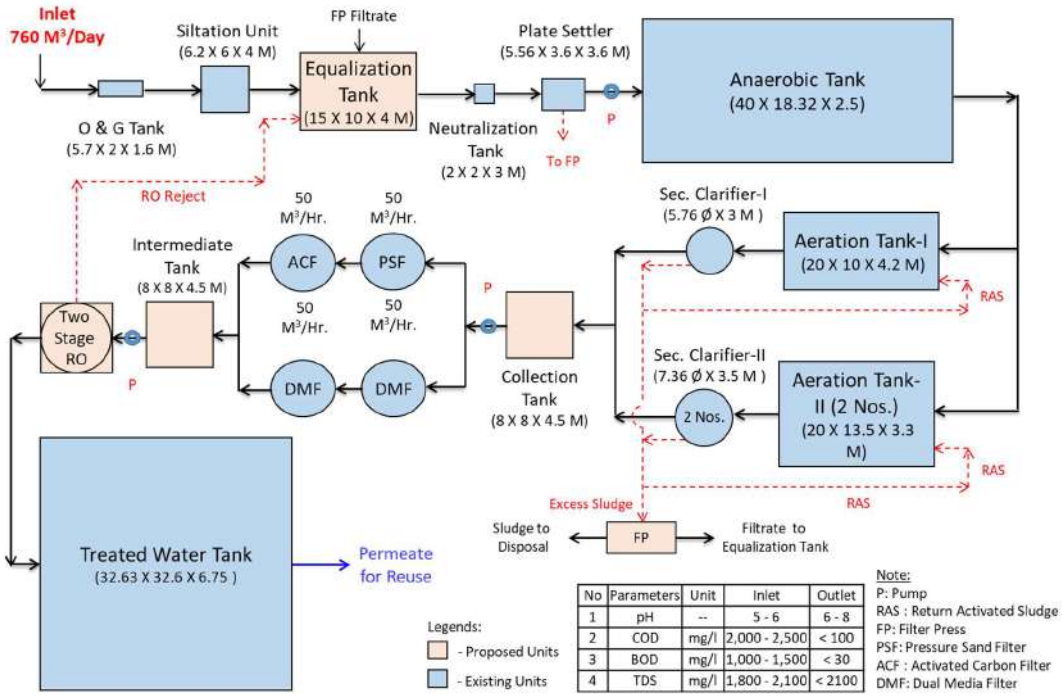
Table No. 8 Effluent Generation for Sugar Factory & Co-gen (M^3/Day)

No	Description	Existing	After Exp.	Treatment
1	**Domestic**	10	17	Treated in STP
2	**Industrial**			Treated in ETP having primary, secondary & tertiary treatment units & Recycle in Process to achieve **ZLD**.
	a. Process	266	432	
	b. Cooling Makeup	73	110	
	c. Boiler Makeup	49	102	
	d. DM Plant	49	102	
	e. Lab & Washing	8	14	
	Industrial Use	**445**	**760**	
		59	56	Eff. Norm: 200 Lit. / MT Cane crushed

Table No. 9 Effluent Generation from Proposed Distillery (M^3/Day)

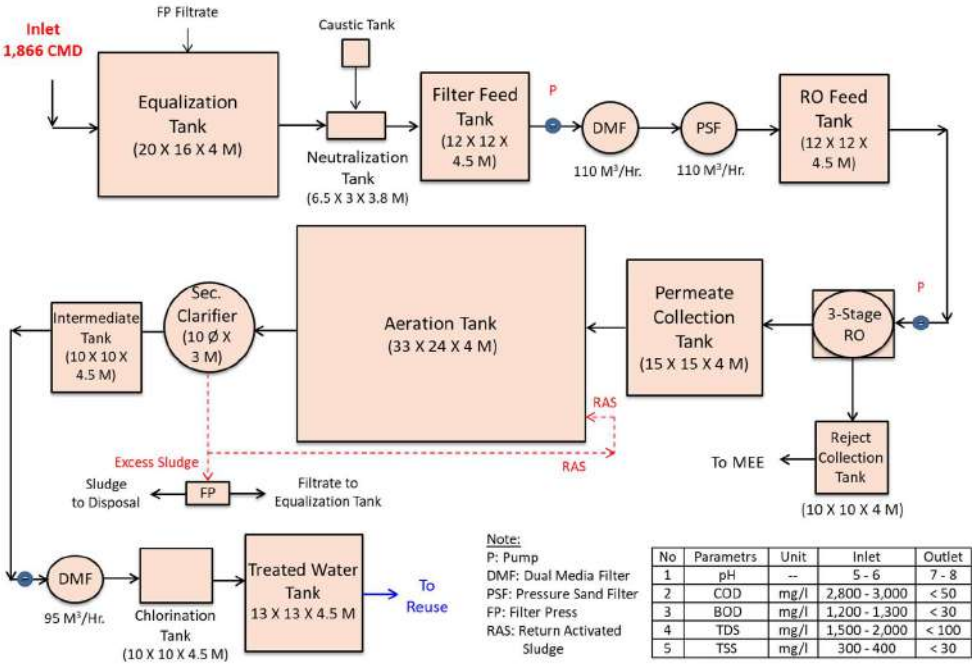
No	Description	Existing		After Expansion		Treatment
		Molasses	**Cane Juice**	**Molasses**	**Cane Juice**	
1	Domestic	**4**	**4**	**6**	**6**	Treated in STP
2	Process (Fermentation & Dilution)	Raw Sp.Wash : 1200 Conc. Sp.wash: 240	Raw Sp.wash: 600; Conc. Sp.wash:120	Raw Sp.wash: 1760 Conc. Sp.wash: 352	Raw Sp.wash: 880; Conc. Sp.wash: 175	Raw Spentwash-conc. in MEE - burnt into incineration boiler.
		MEE Condensate:960 Spent Lees: 206	MEE Condensate: 480; Spent Lees: 132	MEE Condensate: 1408 Spent Lees: 301	MEE Condensate: 705; Spent Lees: 195	Other Effluents viz. Condensate, lees, cooling b/d, boiler b/d, lab& washing effluent will be treated in CPU. Treated effluent from CPU shall be recycled in process to achieve ZLD.
	Cooling B/D	45	45	78	78	
	Boiler B/D	10	10	32	32	
	DM backwash	10	10	32	32	
	Lab & Wash	8	8	15	15	
	8 KL / KL of Alcohol	**Conc. Sp wash: 240 Other Eff.: 1239**	**Conc. Sp wash: 120 Other Effluent: 685**	**Conc. Sp wash: 352 Other Eff.: 1866**	**Conc. Sp wash: 175 Other Effluent: 1057**	

Figure 3. Flow Chart of Upgradation in Existing Sugar Factory ETP



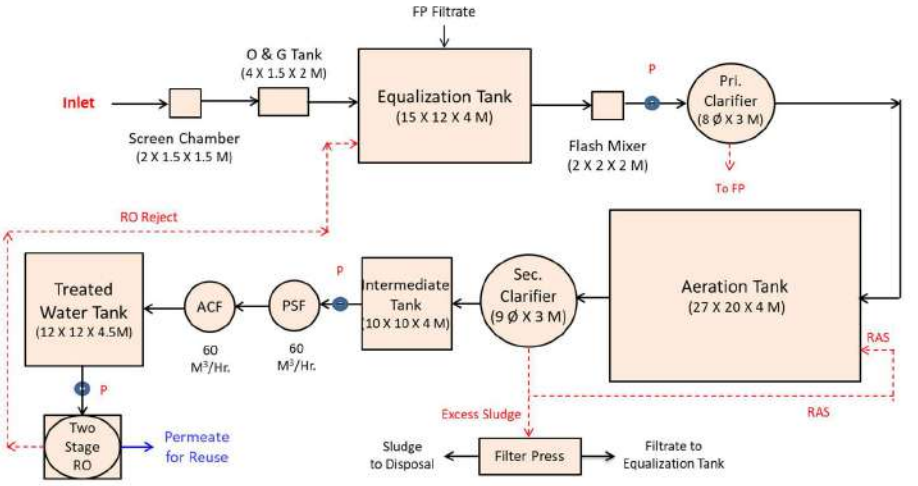
No	Parameters	Unit	Inlet	Outlet
1	pH	--	5 - 6	6 - 8
2	COD	mg/l	2,000 - 2,500	< 100
3	BOD	mg/l	1,000 - 1,500	< 30
4	TDS	mg/l	1,800 - 2,100	< 2100

Figure 4. Flow Chart of Upgradation in Existing Distillery CPU



No	Parametrs	Unit	Inlet	Outlet
1	pH	--	5 - 6	7 - 8
2	COD	mg/l	2,800 - 3,000	< 50
3	BOD	mg/l	1,200 - 1,300	< 30
4	TDS	mg/l	1,500 - 2,000	< 100
5	TSS	mg/l	300 - 400	< 30

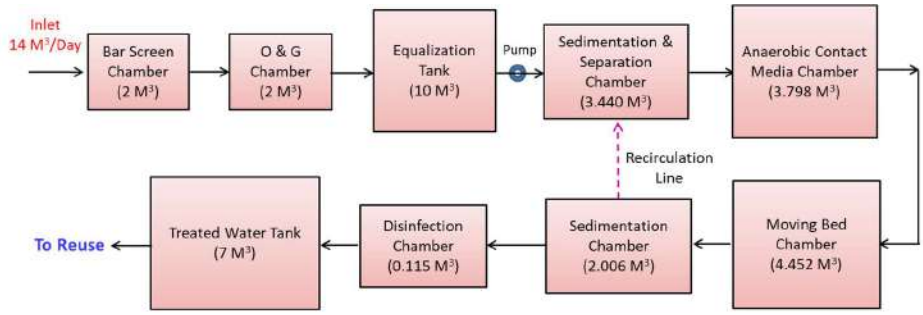
Figure 5. Flow Chart of Proposed Sugar Factory CPU



No	Parameters	Unit	Inlet	Outlet
1	pH	--	5.5 - 6.5	7 - 8
2	COD	mg/l	1000-1600	< 50
3	BOD	mg/l	500-800	< 30
4	TSS	mg/l	250-300	< 30

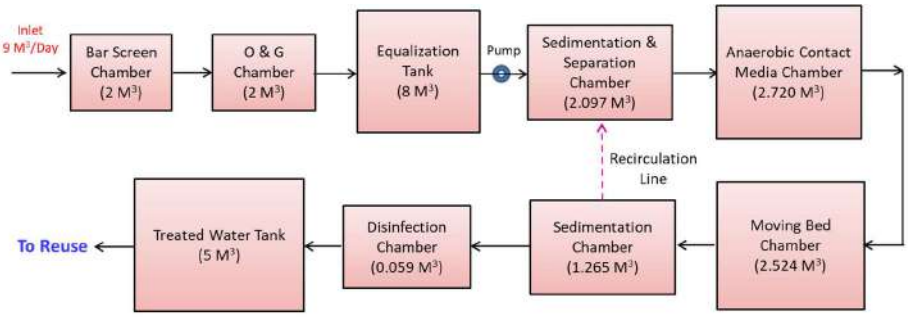
Note:
RAS: Return Activated Sludge
PSF: Pressure Sand Filter
ACF: Activated Carbon Filter
P: Pump

Figure 6. Flow Chart of Existing STP (15 KLD)



No.	Parameter	Unit	Inlet	Outlet
1	pH	---	6.0 – 8.5	6.0 – 8.5
2	COD	mg/lit	400 – 500	< 50
3	BOD	mg/lit	250 – 300	< 20
4	TSS	mg/lit	150 - 250	< 30
5	O & G	mg/lit	20 - 30	< 10

Figure 7. Flow Chart of Proposed STP (10 KLD)



No.	Parameter	Unit	Inlet	Outlet
1	pH	---	6.0 – 8.5	6.0 – 8.5
2	COD	mg/lit	400 – 500	< 50
3	BOD	mg/lit	250 – 300	< 20
4	TSS	mg/lit	150 - 250	< 30
5	O & G	mg/lit	20 - 30	< 10

B. Air Emissions

Air Pollution can be defined as the presence in the outdoor atmosphere, of one or more air contaminants (i.e. dust, fumes, gas, mist, odour, smoke/ vapour) in sufficient quantities, of such characteristics and of such duration so as to threaten or to be injurious to human, plant or animal life or to property, or which reasonably interferes with the comfortable enjoyment of life or property. Details of sources of air pollution & control equipment's are presented in Table 10.

Existing sugar factory have a 70 TPH boiler with stack height of 70 M & Wet Scrubber as APC equipment. Under distillery, 21 TPH incineration boiler is installed having 70 M stack height & ESP as APC equipment. Presently, 40 TPH boiler is under implementation on project site instead of 70 TPH as approved under Cat. B2 project.

Under expansion, new 75 TPH boiler will be installed under Sugar Factory & Co-gen unit having stack height of 75 M & ESP as APC equipment. Further, under distillery, new 30 TPH incineration boiler will be installed. The Stack height of this boiler will be 80 M & ESP will be installed as APC equipment.

D.G. Sets of 320 KVA, 250 KVA, 1010 KVA & 1250 KVA capacity is installed under existing activity. Diesel is used as fuel.

Table 10. Details of Boiler and Stack in JSL

No	Description	Sugar & Co-gen			Distillery	
		Existing		Proposed	Existing	Proposed
1	Capacity	70 TPH	*40 TPH	75 TPH	21 TPH	30 TPH
2	Fuel Type	Bagasse	Bagasse	Bagasse	Spentwash + Bagasse/ Coal	Spentwash + Bagasse/ Coal
3	Fuel Qty. T/D	840	480	900	200 + 151/ 86	275+208/118
4	MOC	RCC	RCC	RCC	RCC	RCC
5	Shape	Round	Round	Round	Round	Round
6	Height, AGL (M)	70 M		75 M	70 M	80 M
7	Diameter (M)	4		4	3	3
8	APC Equipment	Wet Scrubber with Ash dredging system	Wet Scrubber with Ash dredging system	ESP	ESP	ESP

Note:

i. *Under Sugar & Cogen setup, 2 nos. of 70 TPH boilers are approved in the EC's. Out of this, one 70 TPH boiler is installed on site & 40 TPH boiler is under implementation on project site instead of approved 70 TPH boiler.*

ii. *Under distillery setup, 2 nos. of 21 TPH incineration boilers are approved in the EC's. Out of this, one 21 TPH boiler is installed on site. While, the other 21 TPH boiler as approved under B2 Cat.is not installed. However, under expansion, a 30 TPH new incineration boiler will be installed instead of 21 TPH boiler as approved under B2 Cat.*

C. Noise Pollution Aspect

1. Sources of Noise

- In the sugar factory and co-gen Plant; noise generating sources are the boiler house, turbine rooms, cane crushing section and mill house, etc.
- In the distillery, very high noise generating sources would not exist. Expected noise levels in the section would be about 70 dB (A) or so. Adequate noise abatement measures like silencer & maintenance of pumps, motors, and compressors would be carried out and

enclosures would be provided to abate noise levels at source. Moreover, enclosures to the machinery would be provided wherever possible.

- Fermentation section & distillation section would be the other minor noise generating sources. The expected noise levels in these sections would be in range of 70 to 80 dB(A).
- Adequate green would be developed in phase wise manner in and around the industry. So that it would further attenuate the noise levels.

2. Control Measures

Isolation, separation and insulation techniques to be followed, PPEs in the form of earmuffs, earplugs etc. would be provided to workers. D.G. Sets are enclosed in a separate canopy to reduce the noise levels.

D. Hazardous Wastes

Different types of hazardous wastes that are being generated from the existing & expansion project and their disposal is presented in the following table.

Table 11. Details of Hazardous Waste

No.	Category	Quantity (KL/A)		Disposal
		Existing	After Exp.	
1	5.1- Used or Spent Oil	0.5	1.0	Sale to authorized recycler

E. Solid Wastes

Table 12. Solid Waste Generation & Disposal

No.	Unit	Type	Quantity (MT/M)		Disposal
			Existing	After Exp.	
1	Sugar Factory & Co-gen	ETP Sludge	13	23	Used as Manure
		Boiler Ash (Bagasse)	750	2,010	Used for brick making in existing premises & Used as Manure
2	Distillery	Boiler Ash (Spentwash + Coal)	2,070	3,030	
		Yeast Sludge	960	1410	Used as Manure
		CPU Sludge	37	56	

F. Odor Pollution

There are number of odour sources in existing sugar factory and distillery, which include molasses handling and storage, fermentation and distillation, secondary effluent treatment, and storage of effluents, stale cane, bad mill sanitation, bacterial growth in interconnecting pipes & unattended drains. Measures adopted under existing unit for controlling same are proper housekeeping, sludge management in biological ETP units, steaming of major pipe lines, regular use of bleaching powder in the drains, efficient handling, prompt & proper disposal of press mud. Under proposed project of distillery, spent wash shall be carried through closed pipeline for spent wash storage and handling activity shall be entirely eliminated.

G. Compliance with the Norms

All the relevant acts, rules and guidelines with respect to effluent treatment and disposal, solid & hazardous wastes handling and disposal as well as in respect of emission handling and disposal, wherever applicable, as specified by the Maharashtra Pollution Control Board (MPCB) or any other concerned authority are strictly followed in the existing set up. Same practice shall be continued after proposed expansion.

H. Environmental Management Cell (EMC)

JSL is already having an EMC functioning under its sugar factory. Members of the EMC are well qualified and experienced in their concerned fields. This cell shall be further augmented suitably under proposed expansion of distillery.

I. Budgetary Allocation by Industry towards Environment Protection

Details of capital as well as O & M costs towards environmental aspects under the existing as well as proposed establishment setup are as follows –

Table 13. Capital as well as O & M Cost (Existing & Proposed)

No.	Description	Costs (Rs. Lakhs)	
		Capital	O & M
A	**Expansion Project**		
1	Air Pollution: APC Equipment's [ESP for boiler – 2 Nos., Stack of 75 M & 80 M, OCMS, Ash handling system	1300	50
2	Water Pollution: Upgradation of ETP & Distillery CPU, Sugar CPU, STP, Spent wash storage Tank, Installation of MEE	1450	100
3	Noise Pollution Control: PPE (Ear plugs, Ear Muff, Insulations, Barriers)	50	5
4	Occupational Health & Safety: Annual Health checkup, Upgradation of OHC, PPEs & Fire Fighting System	150	250
5	Environmental Monitoring & Management	100	20
6	Green Belt Development & Rainwater Harvesting	125	20
	Total	**Rs. 3,175**	**Rs. 445**
B	**Existing**		
1	Air Pollution: APC Equipment's [Wet Scrubber for boiler – 2 Nos., Common Stack of 70 M, ESP for Incineration boiler & 70 M, OCMS, CO_2 bottling Plant, Ash handling system	1550	25
2	Water Pollution Control: ETP, Distillery CPU, STP, Spent wash storage Tank, Installation of MEE & OCMS	850	20
3	Noise Pollution Control: PPE (Ear plugs, Ear Muff, Insulations, Barriers)	50	5
4	Environmental Monitoring & Management	50	5
5	Occupational Health & Safety: Health checkup, Occupational health center	100	10
6	Green Belt Development & Rainwater Harvesting	150	25
	Total	**Rs. 2,750**	**Rs. 90**

J. Rainwater Harvesting Aspect

- Average annual rainfall in the area = 782 mm

Table 14. Area Taken for RWH

No	Description	Area (Sq.M.)	Runoff Factors	Annual Rain Fall (M)	RWH Qty. (M^3)
1	**Roof Top Harvesting**				
i	Rooftop Area	44,860	0.8	0.78	27,993
				Total Rooftop Harvesting	**27,993**
2	**Surface Water Harvesting**				
i	Green Belt Area	1,23,764	0.3	0.78	28,960
ii	Area under Roads	17,410	0.5	0.78	6,790
Iii	Parking	75,008	0.5	0.78	29,253
Iv	Open Space	46,705	0.3	0.78	10,928
				Total Surface Water Harvesting	**75,931**

Hence, the total water becoming available after rooftop and land harvesting would be

Rooftop Harvesting	+	Surface Harvesting	=	Total RWH
27,993	+	**75,931**	=	1,03,924 M^3
			=	104 ML

Thus, about 1,03,924 M^3 of rainwater could become available during every season from the RWH operations. It will be used for watering of Greenbelt which will be achieved from the ZLD plan.

K. Green Belt Development

Table 15. Area Details

No.	Description	Area (Sq. M)
1	Total Plot Area	3,75,042
2	Built up area (Sugar factory, distillery & other)	1,12,155
3	Total Open Area	46,705
4	Total Green belt Area (33% of total Plot area)	1,23,764

Criteria for Green Belt Development Plan

Emission of SPM, SO_2 is the main criteria for consideration of green belt development. Plantation under green belt is provided to abate effects of the above emissions. Moreover, there would also be control on noise from the industry to surrounding localities as considerable attenuation would occur due to the barrier of trees provided in the green belt.

A comprehensive 'Green Belt Development' programme would be implemented in a phase wise manner under proposed activities, salient features of which are as follows –

1. Tree plantation at different tiers to suit existing topography.
2. Avenue plantation along the roads and shelterbelt plantation along the peripheral fence of the plots.
3. Mass Plantation in certain pockets in the JSL campus.
4. Plantation of peculiar tree species serving typical purposes such as noise attenuation and dust suppression at selected premises.
5. Lawns and landscaped gardens in the campus.
6. To arrest dust and to attenuate noise, plantation of certain species like *Mangiferaindica* (Mango), *Sesbania grandiflora* (Shewarie) *Derris indica (*Karanj*)*, *Terminalia catappa* (Indian Almond Tree), *Polyalthialongi folia (*Ashok*)* etc. shall be done.

8. ENVIRONMENTAL MONITORING PROGRAMME

Reconnaissance of the study area was undertaken in the Post monsoon period. Field monitoring for measuring meteorological conditions, ambient air quality, water quality, and soil quality and noise levels was initiated. EIA Report incorporates the data monitored during the period from **December 2024 – January 2025 - February 2025** and secondary data collected from various sources which include Government Departments related to ground water, soil, agriculture, forest etc. The highlight of primary & secondary baseline data & its impacts are represented as follows-

a) Land Use

Land use study requires data regarding topography, zoning, settlement, industry, forest, roads and traffic etc. Collection of this data was done from various secondary sources viz., Census books, Revenue records, State and Central Government Offices, Survey of India topo sheets as well as high resolution satellite image and through primary field surveys.

b) Land Use/ Land Cover Categories of Study Area

Table 16. Land Use/ Land Cover

No.	Classes	Area in Ha.	Percentage
1	Built Up Area	1425	4.54
2	Crop Land	10735	34.17
3	Fallow Land	6188	19.70
	River/Water Bodies	450	1.43
	Scrub Land	5520	17.57
4	Barren Land	3556	11.32
5	Forest Area	3541	11.27
	Total	**31415**	**100.00**

c) Meteorology

Methodology adopted for monitoring surface observations is as per the norms laid down by Bureau of Indian Standards (BIS) and the India Meteorology Department (IMD). On-site monitoring was undertaken for various meteorological variables in order to generate the data. Further, certain secondary meteorological data like temperatures, relative humidity, rainfall intensity etc. have been taken from IMD, Satara.

Meteorological parameters were monitored during the period **December 2024 - January 2025 - February 2025**. Details of parameters monitored, equipment's used and the frequency of monitoring have been given in Chapter 3 of the EIA report. Hereunder, details of predominant wind directions and wind categories are given.

d) Air Quality

This section describes the selection of sampling locations, includes the methodology of sampling and analytical techniques with frequency of sampling. Presentation of results for **December 2024 - January 2025 - February 2025** survey is followed by observations. All the requisite monitoring assignments, sampling and analysis was conducted through the laboratory of Green Enviro safe Engineers & Consultant Pvt. Ltd., Pune which is NABL accredited and MOEFCC; New Delhi approved organization. Ambient air monitoring was conducted in the study area to assess the quality of air for PM_{10}, $PM_{2.5}$, SO_2, NO_x and CO. various monitoring stations selected are shown in table.

Table 17. Ambient Air Quality Monitoring (AAQM) Locations

Location	Location Name	Type (Industrial-Rural)	Location Details	Type of Zone (Core-Buffer)	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1	Industrial Site	Industrial	-	Core	-	-	17°26'57.24"N	74° 1'34.84"E
2	Chorajwadi	Rural	U/w	Core	3.3	W	17°26'56.05"N	73°59'41.17"E
3	Virewadi	Rural		Buffer	7.5	W	17°26'54.57"N	73°57'18.96"E
4	Vadgaon Umbraj	Rural	D/w	Core	3.1	E	17°26'59.49"N	74° 3'21.96"E
5	Wazewadi	Rural		Buffer	5.5	E	17°27'1.16"N	74° 4'42.76"E
6	Pali	Rural	C/w	Core	4.4	N	17°29'19.25"N	74° 1'33.30"E
7	Chaphal	Rural		Buffer	6.3	S	17°23'30.59"N	74° 1'37.05"E
8	Chore	Rural	NH	Core	1.1	E	17°26'58.07"N	74° 2'13.90"E
9	Jadhavwadi	Rural	C/w	Core	3.5	S	17°25'5.90"N	74° 2'7.01"E

Table 18. Summary of the AAQ Monitoring Results for Season
[December 2024 - January 2025 - February 2025]

		Location								
		Industrial Site	Chorajwadi	Virewadi	Vadgaon Umbraj	Wazewadi	Pali	Chaphal	Chincholikati	Jadhavwadi
PM_{10} µg/m³	Max	65.9	59.9	53.0	63.5	63.3	63.3	62.5	64.3	51.0
	Min	57.4	50.0	45.8	56.7	54.1	52.0	52.2	54.8	43.6
	Average	63.5	52.8	49.7	59.8	57.5	56.4	54.9	60.4	47.6
	98% Percentile	65.9	57.8	53.0	63.0	62.7	62.3	61.8	64.2	51.0
$PM_{2.5}$ µg/m³	Max	31.1	20.9	19.5	27.3	27.3	24.2	24.0	29.0	17.2
	Min	23.6	15.0	13.4	22.0	20.0	18.6	16.7	22.4	10.7
	Average	27.6	18.2	16.6	24.6	23.4	21.4	20.2	25.3	14.1
	98% Percentile	30.6	20.7	19.4	27.1	26.6	24.0	23.6	28.5	17.1
SO_2 µg/m³	Max	14.2	10.2	9.8	14.0	12.4	10.9	10.4	13.7	7.8
	Min	9.1	5.6	5.1	6.7	7.5	7.1	5.3	8.1	5.0
	Average	12.5	7.6	6.9	10.5	9.9	8.9	7.9	11.5	5.8
	98% Percentile	14.2	10.0	9.2	13.7	12.3	10.7	10.3	13.5	7.5
NOx µg/m³	Max	26.1	15.4	14.7	22.2	19.6	19.1	19.0	22.8	11.7
	Min	21.0	11.8	8.0	16.5	15.0	14.5	11.6	18.7	7.5
	Average	23.9	13.7	11.2	19.1	17.5	16.5	14.8	20.4	10.1
	98% Percentile	26.0	15.4	14.3	21.7	19.5	18.7	18.4	22.6	11.7
CO mg/m³	Max	0.13	0.07	0.06	0.11	0.11	0.09	0.08	0.12	0.05
	Min	0.05	0.03	0.01	0.06	0.04	0.02	0.03	0.06	0.0
	Average	0.10	0.05	0.03	0.08	0.07	0.06	0.05	0.09	0.02
	98% Percentile	0.13	0.07	0.06	0.11	0.11	0.09	0.08	0.12	0.05
O_3 µg/m³	Max	19.6	8.8	7.5	12.9	13.3	11.8	9.2	15.3	7.4
	Min	12.2	5.0	5.0	8.4	7.1	5.5	6.2	7.2	5.0
	Average	15.3	6.6	6.2	10.5	9.8	8.7	7.8	11.1	5.8
	98% Percentile	19.6	8.7	7.5	12.9	12.7	11.6	9.1	15.2	7.1

Table 19. National Ambient Air Quality Standards (NAAQS) by CPCB
(Notification No. S.O.B-29016/20/90/PCI-L by MOEFCC; New Delhi dated 18.11.2009)

Parameters		Zone Station	
		Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area
PM_{10} ($\mu g/m^3$)	24 Hr	100	100
	A.A.	60	60
$PM_{2.5}$ ($\mu g/m^3$)	24 Hr	60	60
	A.A.	40	40
SO_2 ($\mu g/m^3$)	24 Hr	80	80
	A.A.	50	20
NOx ($\mu g/m^3$)	24 Hr	80	80
	A.A.	40	30
CO (mg/m^3)	8 Hr	2	2
	1 Hr.	4	4
O_3 ($\mu g/m^3$)	8 Hr	100	100
	1 Hr.	180	180

Note: A.A. represents Annual Average

e) Water Quality

Sampling & analysis of water samples for physical, chemical and heavy metals were also undertaken through the laboratory of Green Enviro Safe Engineers & Consultant Pvt. Ltd., Pune. Eight locations for surface water & ground water were selected. Same are listed below-

Table 20. Monitoring Locations for Surface Water

Sr. No	Location Name	Sample Code	Type of Water Source	Type of Zone (Core-Buffer)	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1	Vadgaon umbraj	SW 1	Nala	Core	3.50	NE	17°27'58.09"N	74° 3'21.10"E
2	Shirgaon	SW 2	River	Core	4.21	NE	17°28'21.20"N	74° 3'29.21"E
3	Shirgaon	SW 3	River	Core	4.26	ENE	17°27'58.80"N	74° 3'44.23"E
4	Indoli	SW 4	River	Buffer	6.09	ESE	17°26'20.36"N	74° 4'54.88"E
5	Parale	SW 6	River	Buffer	8.29	ENE	17°28'2.17"N	74° 6'10.66"E
6	Chafal	SW 5	Uttarmand Dam	Core	4.79	SSW	17°24'33.41"N	74° 0'56.89"E

Table 21. Monitoring Locations for Ground Water

No.	Sample Code	Location Name	Type (Dug Well-Bore Well)	Type of Zone (Core-Buffer)	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1	GW-1	Dhavarwadi	Dug Well	Core	0.10	NNW	17°27'8.42"N	74° 1'31.52"E
2	GW-2	Marali	Bore Well	Core	0.41	WNW	17°27'9.87"N	74° 1'19.33"E
3	GW-3	Marali	Dug Well	Core	0.66	WNW	17°27'12.43"N	74° 1'11.19"E
4	GW-4	Dhavarwadi	Dug Well	Core	0.47	NNE	17°27'9.79"N	74° 1'44.41"E
5	GW-5	Chore	Dug Well	Core	0.82	SE	17°26'44.95"N	74° 1'56.55"E
6	GW-6	Chore	Dug Well	Core	1.44	E	17°26'49.52"N	74° 2'20.43"E
7	GW-7	Chore	Dug Well	Core	1.29	NE	17°27'12.50"N	74° 2'14.84"E
8	GW-8	Dhavarwadi	Bore Well	Core	1.13	NNE	17°27'32.55"N	74° 1'48.99"E

Results observed after monitoring ground water and surface water are mentioned in chapter 3 of EIA report.

f) Soil Quality

Sampling and analysis of soil samples for physical & chemical properties were also undertaken through the laboratory of Green Enviro Safe Engineers & Consultant Pvt. Ltd Pune. Nine locations for surface water and eight locations for ground water were selected. Same are listed below-

Table 22. Soil Sampling Locations

No.	Location Name	Sample Code	Type (Industrial-Rural)	Type of Zone (Core-Buffer)	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1.	Project Site	S1	Industrial	Core	--	--	17°26'55.50"N	74° 1'21.74"E
2.	Marali	S2	Rural	Core	1.64	WNW	17°27'21.92"N	74° 0'42.96"E
3.	Chorajwadi	S3	Rural	Core	3.21	WNW	17°27'21.32"N	73°59'48.22"E
4.	Chore	S4	Rural	Core	1.28	E	17°26'56.68"N	74° 2'17.05"E
5.	Vadgaon umbraj	S5	Rural	Core	3.10	E	17°26'52.70"N	74° 3'18.35"E
6.	Vadgaon umbraj	S6	Rural	Core	4.01	NE	17°28'8.28"N	74° 3'28.41"E
7.	Pal	S7	Rural	Core	3.21	N	17°28'53.07"N	74° 1'47.39"E
8.	Koriwale	S8	Rural	Core	3.52	SE	17°25'32.40"N	74° 2'51.34"E

Results observed after monitoring ground water and surface water are mentioned in chapter 3 of EIA report.

g) Noise Level Survey

Study area of 10 Km radius with reference to the proposed project site has been covered for noise environment. Four zones viz. Residential, Commercial, Industrial and Silence Zones have been considered for noise monitoring. Some of the major material roads were covered to assess the noise due to traffic. Noise monitoring was undertaken for 24 hours at each location. Details of noise monitoring stations are given in following table-

Table 23. Noise Sampling Locations

Location	Location Name	Type (Industrial/Rural)	Type of Zone (Core/Buffer)	Distance from site (Km)	Direction w.r.t site	Latitude	Longitude
1	Site	Industrial	Core	-	-	17°26'57.71"N	74° 1'34.88"E
2	Dhavarwadi	Rural	Buffer	1.2	NNE	17°27'35.57"N	74° 1'45.70"E
3	Chore	Rural	Buffer	1	E	17°26'58.01"N	74° 2'10.37"E
4	Kotivle	Rural	Buffer	3.3	SE	17°25'33.44"N	74° 2'47.61"E
5	Jalgewadi	Rural	Buffer	3.5	SW	17°25'21.27"N	74° 0'28.77"E
6	Chorjwadi	Rural	Buffer	2.8	WNW	17°27'14.77"N	73°59'58.17"E
7	Marli	Rural	Buffer	1.6	NNW	17°27'45.25"N	74° 1'9.56"E
8	Pal	Rural	Buffer	4.4	N	17°29'22.36"N	74° 1'35.78"E

Table 24. Ambient Noise Levels

Sr. No.	Location	Average Noise Level in dB(A)					
		L_{10}	L_{50}	L_{90}	$L_{eq(day)}$	$L_{eq(night)}$	L_{dn}
1	N1	56.2	57.9	59.9	60.8	55.4	63.2
2	N2	44.2	47.4	49.3	53.5	42.4	53.1
3	N3	44.4	47.3	49.2	52.6	42.9	52.7
4	N4	43.5	47.6	48.5	53.3	42.9	53.1
5	N5	43.8	47.9	49.5	54.1	43.0	53.7
6	N6	43.8	47.2	48.7	52.7	42.7	52.7
7	N7	43.7	47.7	49.0	53.7	42.8	53.4
8	N8	43.8	47.4	48.6	52.5	43.1	52.7

h) Socio-Economic Profile

Socio-economic status of the population is an indicator for the development of the region. Any developmental project of any magnitude will have a bearing on the living conditions and on the economic base of population in particular and the region as a whole. Chapter 3 may be referred for details of this aspects.

i) Ecology

Ecological survey for expansion project by JSL was carried by questionnaire study in 10 representative village from 10 KM radius. Villages covered within the 10 km radius study area. Schedule-I species are found in the study area. Chapter 3 can be referred for details of this aspects.

9. ADDITIONAL STUDIES & INFORMATION

Risks Assessment

Risk to human health is inherent. It is safe only when the installation is dismantled at the end of its useful life. The following principles should be used as guidelines for the selection of risk criteria -

1. Increase in risk, caused by the presence of the plant to local community (i.e. neighboring public) should be negligible in comparison to the risk they already have in their daily life.
2. Work force on the plant should be expected to accept a potentially greater risk than members of the local community since the work force have been trained to protect themselves from the possible hazards and thus reducing the actual risk to themselves.

Risk criteria considered by Green A.G. (1982) are given as below:

1. Risk to Plant: This risk is to be given priority only when it is proved beyond doubt that the risk to life is so low that reducing this risk may not be justified. Under this consideration, the risk to economic damage may be considered.
2. Risk to Public and Employees: The scale used for risk to employee and public is Fatal Accident Rate (F.A.R.) or more commonly Fatal Accident Frequency Rate. (F.A.F.R.). The F.A.R. and F.A.F.R. is defined as number of deaths from industrial injury expected in a group of 1000 men during their working period. For more details w.r.t. this aspect, Chapter 7 of EIA may be referred.

10. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Impact on Topography

No major topographical changes are envisaged in the acquired area as it is expansion of Sugar Factory & Distillery project. In acquired area, the changes would be due to the manmade structures, like distillery structure and ancillary units. Industrial activity would invite positive benefits in the form of land leveling and tree plantation in the plant vicinity and other premises.

B. Impact on Climate

Impact on the climate conditions due to the expansion activity is not envisaged, as emissions to the atmosphere, of flue gases with very high temperatures are not expected.

C. Impact on Air Quality

A study area of 10 km radius is considered for determination of impacts.

i. Baseline Ambient Air Concentrations

24 hourly average concentrations of PM_{10}, $PM_{2.5}$, SO_2 and NOx in Ambient Air, recorded during the field study conducted for the season **December 2024 - January 2025 - February 2025** are considered as baseline values. They represent impact due to operations of existing nearby industries on this region. Existing baseline concentrations are summarized and the GLC of the same is included in 4th chapter of EIA report.

ii. Air Polluting Sources

Major sources of air pollution are boiler as well as vehicles used for transportation. Under Sugar Factory expansion, one new boilers with capacity 75 TPH will be installed. To control pollution level, ESP (Electrostatic Precipitators) will be used as APC equipment for 75 TPH boiler with stack of 70 M. Further, incineration boiler of 30 TPH under will be installed under distillery expansion. Adequate Stack height and ESP as an APC equipment will be installed for new boiler. Steam required after expansion of sugar factory will be taken from the existing 70 TPH, 40 TPH & Proposed 75 TPH boilers.

Existing DG sets of 320 KVA, 250 KVA, 1010 KVA & 1250 KVA capacity is installed on project site used to fulfill the power requirement during power failure.

D. Impact on Water Resources

i. Impact on Surface Water Resources& Quality

Surface water along with recycled water will be used to meet water requirment of JSL project complex. Effluent from distillery; Raw Spentwash shall be primarily concentrated in Multi Effect Evaporator (MEE). Concentrated spent wash will be incinerated in incineration boiler. Other effluents viz. spent lees, boiler blow down, cooling tower, lab & washing, DM backwash will be forwarded to CPU. Treated effluent shall be used in process to achieve ZLD.

Total domestic effluent would be treated in proposed STP. Hence there will not be any impact on surface water resource. More details about water budget are presented at Chapter 2.

ii. Impact on Ground Water Resources & Quality

Water required for the industry would be obtained from Tarali River. Permissions have been obtained for lifting required amount of water from the Tarali River. Ground water will not be

a source of raw water for the proposed project. Moreover, there will not be any discharge of untreated effluent so there will not be any impact on ground water level and quality.

E. Impact on Soil

Impact on the soil characteristics is usually attributed to air emissions, wastewater discharges and solid waste disposal. Under existing sugar factory as mentioned above, there will not be discharge of any untreated effluent on land. ESP are installed to existing boilers. Boiler ash from existing boiler is utilized for used as manure. Hence, there will not be any major increase in chemical constituents of soil through deposition of air pollutants/ discharge of waste water. Moreover, there will not be any process emissions worth mentioning the impact on the soil characteristics will be nil.

F. Impact on Noise Levels

Workers could get annoyance and can lose concentration during operation. It can cause disturbance during working. People working near the source need risk criteria for hearing damage while the people who stay near the industry need annoyance and psychological damage as the criteria for noise level impact analysis. JSL is not major noise producing industry. There shall be no any prominent effect due to vibration at the project site.

G. Impact on Land Use

Present use of the project land is Industrial wherein the Sugar Factory, Co-Gen Plant & Distillery Unit have already been established. Proposed expansion project would be implemented in existing premises JSL. Hence no change in the land use pattern is expected. Therefore the impact on land use is non-significant.

H. Impact on Flora And Fauna

Discharge of untreated wastewater from the industry in surrounding area can also cause significant environmental impact on the aquatic habitats and affect dependent biodiversity. In case of air pollution, industry is going to contribute in SPM pollution load in nearby area. This may have negative impact particularly on avifauna, surrounding crop yields & local population. Details in respect of impacts on ecology and biodiversity are described in Chapter 3.

I. Impact on Historical Places

No historical places in study area. No major impact was observed during site visit.

11. SALIENT FEATURES OF EMP

Following routine monitoring program as detailed in Table 25 shall be implemented at site. Besides to this monitoring, the compliances to all Environmental Clearance conditions and regular permissions from CPCB /MoEFCC shall be monitored and reported periodically.

Table 25. Plan for Monitoring of Environmental Attributes in and around JSL

No.	Description	Location	Parameters	Frequency	Conducted by
1	Ambient Air Quality	Upwind-1, Downwind-2 (Near Cane Yard, Near Main ETP, Near Colony.)	PM_{10}, $PM_{2.5}$, SO_2, NOx, CO (8 Hrs.)	Monthly	**MoEFCC & NABL Approved External Lab**
		Study area - (Villages namely – Chorajwadi, Virewadi, Vadgaon Umbraj, Wazewadi, Pali, Chaphal, Chore, Jadhavwadi)	PM_{10}, $PM_{2.5}$, SO_2, NOx, CO (24 Hrs.)	Quarterly	
2	Work Zone Air Quality	4 Locations (Mill Section, Sugar Bagging Section, Distillation Section, Fermentation Section)	TPM, SO_2, NOx, CO	Monthly	
3	Stack Emissions	Boilers – (Sugar Factory: Existing Boiler, Proposed Boiler; Distillery Unit: Existing & Proposed Incineration Boiler); Existing D.G Sets.	TPM, SO_2, NOx	Monthly	
4	Fugitive Emissions	Ethanol storage area & Distillation column	VOC	Monthly	
5	Ambient Noise	5 Locations (Near Main Gate, Near ETP, Near Sugar Godown, Distillery Area, Near Parking Area)	Spot Noise Level recording; Leq(n), Leq(d), Leq(dn)	Monthly	
	Work zone Noise	Premises – 5 Nos (Mill Section, Boiler, DG Set, Turbine Section, Distillation Section)		Monthly	
6	Effluent	Treated, Untreated	pH, SS, TDS, COD, BOD, Chlorides, Sulphates, Oil & Grease.	Monthly	
7	Drinking water	Factory Canteen / Residential Colony	Parameters as per drinking water Std IS:10500	Monthly	
8	Soil	Locations within 10 Km (Villages – Project Site, Marali, Chorajwadi, Chore, Vadgaon Umbraj, Vadgaon Umbraj, Pal, Koriwale)	pH, Salinity, Organic Carbon, N, P, K	Quarterly	
9	Water Quality (Ground Water & Surface Water)	Locations in study area – (Ground Water 8 locations & 6 Surface Water Locations)	Parameters as per CPCB guideline for water quality monitoring – MINARS/27/2007-08	Quarterly	
10	Waste management	Implement waste management plan that Identifies and characterizes every waste associated with proposed activities and which identifies the procedures for collection, handling & disposal of each waste arising.	Records of Solid Waste Generation, Treatment and Disposal shall be maintained	Twice in a year	**By JSL**

No.	Description	Location	Parameters	Frequency	Conducted by
11	Emergency Preparedness such as fire fighting	Fire protection and safety measures to take care of fire and explosion hazards, to be assessed and steps taken for their prevention.	On site Emergency Plan, Evacuation Plan, firefighting mock drills	Twice a year	
12	Health Check up	Employees and migrant labour health check ups	All relevant health checkup parameters as per factories act.	Once in a Year	
13	Green Belt	Within Industry premises as well as nearby villages	Survival rate of planted sapling	In consultation with DFO.	
14	CER	As per activities	--	---	

MARATHI SUMMARY

जयवंत शुगर्स लिमिटेड (ज.शु.लि)
धावरवाडी व मरळी, ता.कराड, जि. सातारा, महाराष्ट्र
यांच्या
सध्याच्या साखर कारखान्याची गाळप क्षमता ७,५०० टन प्रतिदिन पासून १३,५०० टन प्रतिदिन पर्यंत आणि आसवनी प्रकल्पाचे १५० किलो लि.प्रतिदिन पासून २२० किलो लि.प्रतिदिन मोलॅसिस (बी व सी)/ केन ज्युस/ सिरप वर आधारित विस्तारिकरण तसेच वीजनिर्मिती प्रकल्पाचे १.९ मे.वॅट पासून ३ मे.वॅट पर्यंत हे सध्याच्या प्रकल्पाच्या प्लांटच्या आवारात उभारणी करणे,
या इन्व्हायरमेंट इंपॅक्ट असेसमेंट अहवालाचा सारांश

१. <u>प्रकल्पा विषयी थोडक्यात व प्रकल्पाचे उद्दिष्ट</u>

जयवंत शुगर्स लिमिटेड (ज.शु.लि) हा प्रकल्प धावरवाडी व मरळी, ता.कराड, जि. सातारा, महाराष्ट्र येथे उभारणेत आलेला आहे. हा प्रकल्प कराडपासुन सूमारे २५ कि.मी. अंतरावर वायव्य दिशेला आहे आणि मुंबई पासुन २०९ कि.मी.अंतरावर आग्नेय दिशेला आहे. विस्तारीकरणांतर्गत साखर कारखान्याची ऊस गाळप क्षमता ७,५०० टन प्रतिदिन पासून १३,५०० टन प्रतिदिन पर्यंत आणि आसवनी प्रकल्पाचे १५० किलो लि.प्रतिदिन पासून २२० किलो लि.प्रतिदिन मोलॅसिस (बी व सी)/ केन ज्युस/ सिरप वर आधारित विस्तारिकरण तसेच वीजनिर्मिती प्रकल्पाचे १.९ मे.वॅट पासून ३ मे.वॅट पर्यंत करणेचे नियोजन केले आहे. सदर विस्तारीकरण प्रकल्प हा सध्याच्या साखर कारखाना, आसवनी प्रकल्प व सहवीज प्रकल्पाच्या आवारात उभारण्यात येणार आहे.

हा प्रकल्प अहवाल पने, पर्यावरण व हवामान बदल मंत्रालय, नवी दिल्ली यांच्या दि.१४.०९.२००६ रोजीच्या इन्व्हायरमेंटल इंपॅक्ट असेसमेंट (EIA) नोटीफिकेशन नं.S.O.1533 (E) व त्यानंतरील बदल यानुशार तयार केला आहे. ज.शु.लि. यांचे सदर प्रकल्प ५(j), ५(g) व १(d) या व श्रेणी 'अ' मध्ये येतो. यानुशार, पने, पर्यावरण व हवामान बदल मंत्रालय, नवी दिल्ली यांच्याकडे फॉर्म १ अॅप्लिकेशन जमा केला आहे व स्टॅंडर्ड ToR's मंजुर झाले आहेत.

प्रस्तावित प्रकल्प राबविताना सुरक्षिततेचे नियम व पर्यावरणाचे संरक्षण करण्याच्या सर्व गोष्टींची खबरदारी घेतली जाईल. प्रस्तावित प्रकल्प राबविताना सुरक्षिततेचे नियम व पर्यावरणाचे संरक्षण करण्याच्या सर्व गोष्टींची खबरदारी घेतली जाईल.

खालील तक्त्यामध्ये गुंतवणुकीचे तपशील दिलेले आहेत.

तक्ता १. गुंतवणुक

क्र	विभाग	भांडवली गुंतवणुक (रू.कशेडमध्ये)		
		सध्याची	प्रस्तावित	एकुण
१	साखर कारखाना व सहवीज प्रकल्प	२४८.९८	२५०	४९८.९८
३	आसवनी प्रकल्प	१५७.१९	१५०	३०७.१९
	एकुण	**४०६.१७**	**४००**	**८०६.१७**

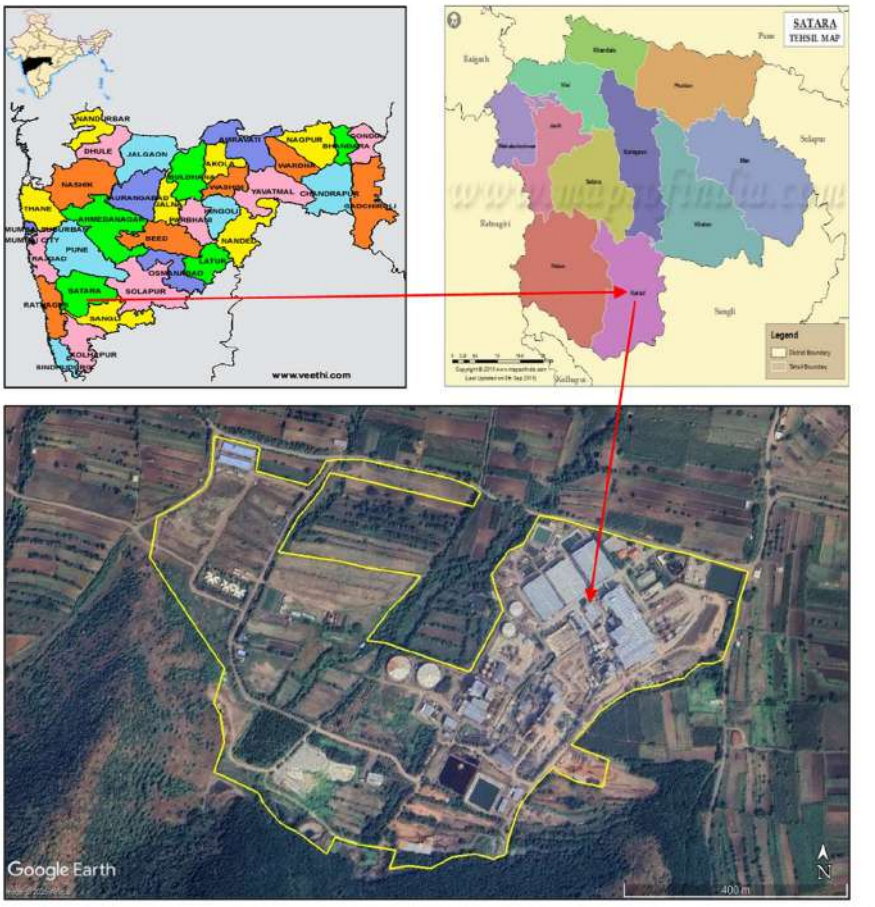
२. <u>प्रकल्पाची जागा</u>

ज.शु.लि., धावरवाडी व मरळी, ता.कराड, जि. सातारा, महाराष्ट्र येथे ३७.५० हेक्टर एवढी जागा संपादित केली आहे. सध्याच्या जागेमध्येच प्रस्तावित प्रकल्पाचे विस्तारीकरण होणार आहे. जागेचा ले-आऊट प्लॅन **Annexure – I** येथे जोडला आहे. जागेसंदर्भातील माहिती खालीलप्रमाणे आहे.

तक्ता २. विविध विभागांच्या क्षेत्राचा तपशील (चर्ग.मी)

क्र.	तपशील	क्षेत्र (चर्ग.मी)		
		अध्याची	प्रस्तावित	एकूण
	एकुण क्षेत्र	**३,७५,0४२**	---	**३,७५,0४२**
१	एकुण बांधकाम क्षेत्र	९१,0१६	२१,१३९	१,१२,१५५
२	रस्ता अंतर्गत क्षेत्र	१७,४१0	---	१७,४१0
३	वाहनतळ क्षेत्र (२0%)	७५,00८	---	७५,00८
५	हरित पट्टा (३३%)	१,१२,५१५	११,२४९	१,२३,७६४
६	एकुण खुले क्षेत्र	७९,0९३	---	४६,७0५

आकृती १. प्रकल्पाची जागा



Note: The Maps are purely graphical and not to scale, 17°26'54.84"N Latitude & 74°1'21.75"E Longitude

३. प्रकल्पाचे उद्दिष्ट

साखर उद्योग हा देशातील दुसरा सर्वात मोठा शेती आधारित उद्योग आहे. साखर उद्योग हा रोजगार निर्मिती, उत्पन्न निर्मिती आणि कार्यक्षेत्रामध्ये पायाभुत घटक तयार करण्यासाठी महत्वपूर्ण आहे. साखर उद्योगातील मोलॅसिस हे आणखी एक महत्त्वाचे उप-उत्पादन आहे. देशाच्या अर्थव्यवस्थेत अल्कोहोलला खूप महत्त्वाचे स्थान आहे. अनेक रसायनांसाठी हा एक महत्त्वाचा कच्चा माल आहे. अल्कोहोलिक मद्यांवर सरकारने आकारलेल्या उत्पादन शुल्काद्वारे ते मोठ्या प्रमाणात महसूल मिळवण्याचे स्रोत आहे. पेट्रोलमध्ये मिसळण्यासाठी पॉवर अल्कोहोलच्या स्वरूपात इंधन म्हणून त्याची क्षमता आहे. तसेच, जपान, अमेरिका, कॅनडा, श्रीलंका इत्यादी देशांमध्ये क्रुड अल्कोहोलची मोठी मागणी आहे, कारण पेट्रोलियम क्रूडच्या

नाफ्थापासून या देशांनी तयार केलेले कृत्रिम अल्कोहोल पेयांसाठी उपयुक्त नाही. वरील तथ्ये तसेच कच्च्या मालाची उपलब्धता लक्षात घेऊन, JSL च्या व्यवस्थापनाने विस्तारीकरण करण्याचा निर्णय घेतला.

४. प्रकल्पाविषयी थोडक्यात माहिती

जयवंत शुगर्स लिमिटेड (ज.शु.लि) हा प्रकल्प धावरवाडी व मरळी, ता.कराड, जि. सातारा, महाराष्ट्र येथे उभारणेत आलेला आहे. सदर कारखान्याची नोंदणी सन २००६ मध्ये सर्टिफिकेट नं. U15421PN2006PLC021789 यानुसार करण्यात आली आहे. प्रथम गळीत हंगाम हा सन २०१०-११ मध्ये घेणेत आला होता. सन २०१७ मध्ये ४५ किलो लि.प्रतिदिन क्षमतेचा आसवनी प्रकल्पसाठी मान्यता मिळाली. सन २०२१-२२ मध्ये ४८०० टन प्रतिदिन क्षमतेचे साखर कारखाना विस्तारीकरण करण्यात आले. सन २०२२ मध्ये साखर कारखान्याची ऊस गाळप क्षमता ४,८०० टन प्रतिदिन पासून ७,५०० टन प्रतिदिन पर्यंत आणि आसवनी प्रकल्पाचे ४५ किलो लि.प्रतिदिन पासून १५० किलो लि.प्रतिदिन मोलॅसिस (थी व सी)/ केन ज्युस/ सिरप वर आधारित विस्तारिकरण तसेच वीजनिर्मिती। प्रकल्पाचे १४ मे.वॅट पासून २४ मे.वॅट असे प्रकल्पाचे विस्तारीकरण करण्यात आले.त्यासाठी EC हा Ministry of Environment, Forest & Climate Change, दिल्ली कडून लेटर नं. EC22A022MH160592 दि १७.१०.२०२२ देण्यात आला.

आता जयवंत शुगर्स लिमिटेड यांच्या व्यवस्थापनाने विस्तारीकरणांतर्गत साखर कारखान्याची ऊस गाळप क्षमता ७,५०० टन प्रतिदिन पासून १३,५०० टन प्रतिदिन पर्यंत आणि आसवनी प्रकल्पाचे १५० किलो लि.प्रतिदिन पासून २२० किलो लि.प्रतिदिन मोलॅसिस (थी व सी)/ केन ज्युस/ सिरप वर आधारित विस्तारिकरण तसेच वीजनिर्मिती। प्रकल्पाचे १.९ मे.वॅट पासून ३ मे.वॅट पर्यंत करणेचे नियोजन केले आहे.

५. प्रकल्प प्रवर्तकांची ओळख

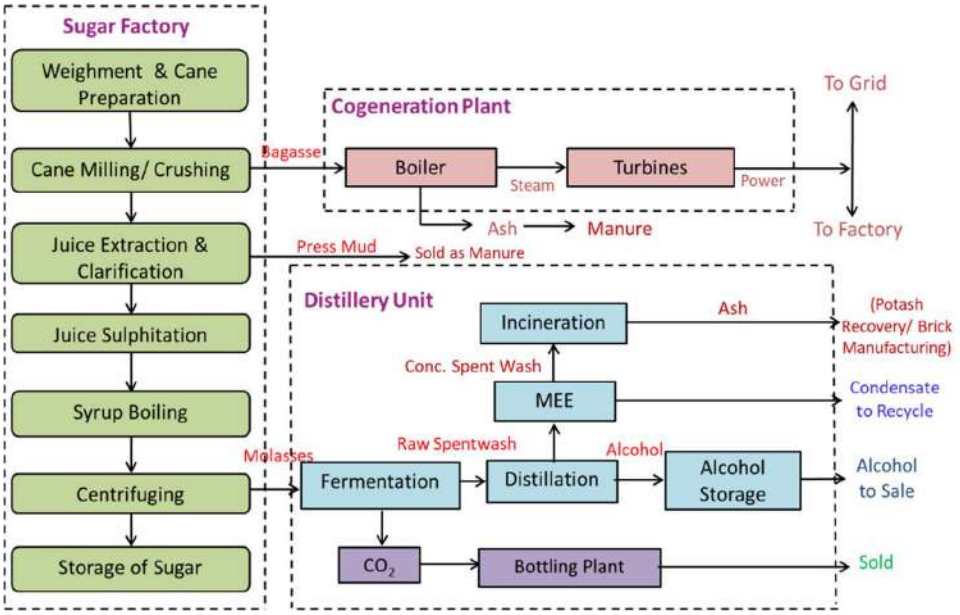
ज.शु.लि. च्या प्रवर्तकांना साखर कारखाना, आसवनी प्रकल्प व सहवीज प्रकल्प क्षेत्रामधील चांगला अनुभव आहे. प्रवर्तकांनी प्रकल्प नियोजन तसेच अंमलबजावणी योजनेचा सखोल अभ्यास केला आहे. प्रकल्प प्रवर्तकांचे नाव आणि हुद्दा खालीलप्रमाणे -

तक्ता ३. प्रकल्प प्रवर्तकांचे नाव व हुद्दा

क्र.	प्रवर्तकाचे नाव	हुद्दा
१.	श्री.सुरेश जयवंतराव भोसले	प्रवर्तक
२.	श्री.अतुल सुरेश भोसले	प्रवर्तक
३.	श्री.विनायक सुरेश भोसले	प्रवर्तक

६. उत्पादन प्रक्रिया

आकृती २. उत्पादन प्रक्रिया



७. उत्पादनांविषयी माहिती

सध्याच्या आणि विस्तारिकरण प्रकल्पामधून तयार होणारी उत्पादने व त्यांचे परिमाण खालीलप्रमाणे आहे.

तक्ता ४. साखर कारखाना आणि सहवीज प्रकल्पांची उत्पादने

प्रकल्प	उत्पादने व उपउत्पादनांची नावे	एकक	क्षमता		
			सध्याची	प्रस्तावित	एकूण
साखर कारखाना (७५०० ते १३५०० टन /दिन)	**उत्पादने**				
	साखर (१३%)*	मे.टन/दिवस	६२४ (४८०० TCD गाळप)	७८० (६००० TCD गाळप)	१४०४ (१०८०० TCD गाळप)
	इथेनॉलसाठी ऊस गाळप (B2 श्रेणी अंतर्गत मंजूर)	मे.टन/दिवस	२७००	--	२७००
	उपउत्पादने				
	बगॅस (३०%)*	मे.टन/दिवस	२२५०	१८००	४०५०
	प्रेसमड (४%)*	मे.टन/दिवस	३००	२४०	५४०
	मोलॅसिस (४%)*	मे.टन/दिवस	१९२	२४०	४३२
सहवीज प्रकल्प (२४ मे.वॅट)	वीज निर्मिती	मे.वॅट	२४	--	२४
आसवनी (१५० ते २२० के.एल.पी.डी.)	**रेक्टीफाइड स्पिरिट / एक्स्ट्रान्युट्रल अल्कोहोल** (सी मोलॅसिस/ बी हेवी मोलॅसिस/ऊसाच्या रसापासून)	किलो लि.प्रतिदिन	४५	७०	११५
	इथेनॉल (सी मोलॅसिस/ बी हेवी मोलॅसिस/ऊसाच्या रसापासून)	किलो लि.प्रतिदिन	१५०	७०	२२०

	कार्बन डायऑक्साईड	मे.टन/ दिवस	११३	५२	१६५
	फ्युजेल ऑईल	मे.टन/ दिवस	८	४	१२
	इनक्षिनरेशन ऑयलरमधून बीज निर्मिती	मे.वॅट	१.९	१.१	३

टिप : *ऊस गाळपाच्या टक्केवारीत

साखर कारखाना, आसवनी प्रकल्प व सहवीज प्रकल्प संदर्भातील उत्पादन प्रक्रिया आणि फ्लोचार्ट ई.आय.ए.रिपोर्ट मध्ये प्रकरण -२ येथे जोडलेला आहे.

८. <u>पर्यावरणविषयक दृष्टिकोन</u>

ज.शु.लि. यांनी अत्यंत प्रभावी व परिणामकारक अशी पर्यावरण व्यवस्थापन योजना (EMP) राबविणेचे नियोजन केले आहे.त्यातील विविध घटक खालीलप्रमाणे आहेत.

➢ पाण्याचा वापर, सांडपाण्याची निर्मिती व त्याची प्रक्रिया

• पाण्याचा वापर

ज.शु.लि. यांच्या सध्याच्या व प्रस्तावित प्रकल्पामध्ये होणा-या पाण्याच्या वापराविषयी सविस्तर तपशील खालीलप्रमाणे -

सध्याच्या साखर कारखान्यासाठी एकूण ३३२१ घन मी.प्रतिदिन इतके पाणी लागते. प्रस्तावित विस्तारीकरणांतर्गत एकूण ६३९८ घन मी.प्रतिदिन इतके पाणी लागेल. यापैकी २१ घन मी. प्रतिदिन इतके पाणी नदीतुन घेतले जाईल, ५६३५ घन मी. प्रतिदिन हे ऊसामधून निघणारे कंन्डेंसेट, ७४२ घन मी. प्रतिदिन हे इ.टी.पी., एस्.टी.पी. व रेन वॉटर हार्वोस्टिंग मधिल पाणी असेल.

सध्याच्या आसवनी प्रकल्पाला एकूण १७१५ घन मी.प्रतिदिन इतके पाणी लागते. प्रस्तावित आसवनी प्रकल्पाला एकूण २७३२ घनमी.प्रतिदिन इतके पाणी लागेल. यापैकी ८७७ घन मी. प्रतिदिन इतके पाणी नदीतुन घेतले जाईल, १८00 घन मी. प्रतिदिन हे आसवनी प्रकल्पाच्या झी.पी.यु. मध्ये प्रक्रिया केले जाईल व ५५ घन मी. प्रतिदिन हे ऊसामधून निघणारे कंन्डेंसेट असेल.

प्रस्तावित केन सिरपवर आधारित आसवनी प्रकल्पाला एकूण ९८६ घनमीटरदिन इतके पाणी लागेल. यापैकी ७ घन मी. प्रतिदिन इतके पाणी नदितुन घेतले जाईल व ९७९ घन मी. प्रतिदिन हे आसवनी प्रकल्पाच्या झी.पी.यु. मध्ये प्रक्रिया केलेले पाणी. यानुसार एकूण १00 % पाणी हे पुर्नवापर केलेले पाणी असेल.

तक्ता ५. साखर कारखाना व सहवीज प्रकल्पासाठी पाण्याचा वापर (घनमीटर/दिन)

क्र.	तपशील	साखर कारखाना (७५00 टीसीडी व २४ मे.वॅ.)	साखर कारखाना विस्तारीकरणानंतर (१३,५00 टीसीडी व २४ मे.वॅ.)
अ	**घरगुती**	#१३	#२१
ब	**औद्योगिक**		
	प्रक्रिया	*२२१५	*४३२0
	कुलिंग मेकअप	*७३५	११00 (*३८0 +@७२0)
	बॉयलर मेकअप	*२४५	*६८0
	डि. एम.बॅकवॉश	*४९	*१0२
	लॅब;वॉशिंग	*८	*२0
	ॲश क्विनचिंग	*२	*५
	औद्योगिक एकुण	***३२५४; १00% पुनर्वापर**	**५४८७ (*५५0७ +@७२0); १00% पुनर्वापर**
क	हरितपट्टा	५४ ($१४ + *४0)	१५0 ($२२ + *१२८)
	एकुण	**३३२१ (#१३ + *३२९४ + $१४)**	**६३९८ (#२१ + *५६३५ +$२२+ @७२0)**

टीप :# - नदीमधुन घेतलेले पाणी, * - ऊसामधून मिळणारे कंन्डेंसेट, $- एस्. टी.पी. प्रक्रिया प्रकल्पातून प्रक्रिया केलेले पाणी, @ - ई. टी.पी. प्रक्रिया प्रकल्पातून प्रक्रिया केलेले पाणी

तक्ता ६. मोलॅसिस आस्रवनी प्रकल्पासाठी पाण्याचा वापर (घनमी.प्रतिदिन)

क्र.	तपशील	सध्याची १५० के.एल.पी.डी		एकूण विस्तारीकरणानंतर २२० के.एल.पी.डी	
		ऊस गळित हंगाम दरम्यान	विना ऊस गळित हंगाम	ऊस गळित हंगाम दरम्यान	विना ऊस गळित हंगाम
१.	**घरगुती**	#५	#५	#७	#१५
२.	**औद्योगिक**				
	१. प्रोसेस	♣१११९१	♣१११९१	♣१७४६	♣१७४६
	२. कुलिंग मेकअप	४५० (♣२१ + *४२९)	४५० (♣२१ + #४२९)	७७५ (♣५४ + *७२१)	७७५ (♣५४ + #७२१)
	३. बॉयलर मेकअप	५० (#२३ + *२७)	#५०	*१५५	१५५ (*५५ + #१००)
	४. डी.एम.बॅकवॉश	#१०	#१०	*३२	#३२
	५. लॅब व वॉशिंग	#८	#८	*१५	#१५
	६. ब्रॅश क्वेंचिंग	#१	#१	*२	#२
	एकूण औद्योगिक वापर	१७१० (#४२ + *४५६ + ♣१२१२)	१७१० (#४९८ + ♣१२१२)	२७२५ (*९२५ + ♣१८००)	२७२५ (*५५ + #८७० + ♣१८००)
	एकूण	१७१५ (#४७ + *४५६ + ♣१२१२)	१७१५ (#५०३ + ♣१२१२)	२७३२ (*९२५ + ♣१८०० + #७)	२७३२ (*५५ + #८७७ + ♣१८००)
	पुनर्वापर (%)	९८%	७१%	१००%	६८%
	ताज्या पाण्याचा वापर (प्रमाण १० कि. लि./ कि. लि. अल्कोहोल)	३.३	३.३	३.०	३.९

टीप ः # - नदीमधुन घेतलेले पाणी, ♣ – आस्रवनी सी.पी.यु. मधील पुर्नप्रकियित केलेले पाणी, * -ऊसामधून मिळणारे कंन्डेन्सेट

तक्ता ७. केन सिरप आस्रवनी प्रकल्पासाठी पाण्याचा वापर (घनमी.प्रतिदिन)

क्र.	तपशील	सध्याची १५० के.एल.पी.डी	एकूण विस्तारीकरणानंतर २२० के.एल.पी.डी
१.	**घरगुती**	#५	#७
२.	**औद्योगिक**		
	१. प्रोसेस	--	--
	२. कुलिंग मेकअप	♣४५०	♣७७५
	३. बॉयलर मेकअप	♣५०	♣१५५
	४. डी.एम.बॅकवॉश	♣१०	♣३२
	५. लॅब व वॉशिंग	♣८	♣१५
	६. ब्रॅश क्वेंचिंग	♣१	♣२
	एकूण औद्योगिक वापर	♣५१९	♣९७९
	एकूण	५२४ (#५ + ♣५१९)	९८६ (#७ + ♣९७९)
	पुनर्वापर (%)	१००%	१००%
	ताज्या पाण्याचा वापर (प्रमाण १० कि. लि./ कि. लि. अल्कोहोल)	०	०

टीप ः # - नदीमधुन घेतलेले पाणी, ♣ – आस्रवनी सी.पी.यु. मधील पुर्नप्रकियित केलेले पाणी

➢ सांडपाणी निर्मिती व प्रक्रिया

१. घरगुती सांडपाणी

प्रस्तावित आस्रवनी व साखर कारखाना विस्तारीकरण प्रकल्पाच्या उभारणी नंतर एकूण २३ घनमीटर प्रतिदिन इतके सांडपाणी तयार होईल. प्रस्तावित प्रकल्पामध्ये घरगुती सांडपाण्यावर

प्रक्रिया (एस.टी.पी.) केली जाईल. प्रक्रिया केलेले सांडपाणी हे हरितपट्टा विकसित करण्यासाठी वापरले जाईल. घरगुती सांडपाणी प्रक्रिया प्रकल्प आकृती ४ येथे दाखवला आहे.

२. औद्योगिक सांडपाणी

सध्याच्या साखर कारखाना आणि सहवीज प्रकल्पामधुन ४४५ घनमीटर प्रतिदिन सांडपाणी तयार होते. हे सांडपाणी साखर कारखान्याच्या सध्याच्या औद्योगिक सांडपाणी प्रक्रिया प्रकल्पामध्ये (ई.टी.पी.) मध्ये पाठवले जाते. सदर विस्तारिकरणांतर्गत साखर कारखाना प्रकल्पातून ७६0 घनमीटर प्रतिदिन इतके सांडपाणी तयार होइल. प्रक्रिया प्रकल्प हा प्राथमिक, द्वितीय व तृतीय स्तरीय प्रक्रिया असलेला आहे. प्रक्रिया केलेले सांडपाण्याचा पुर्नवापर केला जाईल.

सध्याच्या आसवनी प्रकल्पांतर्गत १२00 घनमीटर प्रतिदिन रॉ स्पेंटवॉश तयार होतो. कॉन्सन्टेटेड स्पेंटवॉश २४0 घन मीटर प्रतिदिन तयार होतो. हे स्पेंटवॉश बायोकंपोस्टिंग साठी पाठवले जाते. बाकीचे सांडपाणी स्पेंट लिज, एम. ई. ई. कंडेन्सेट, व इतर सांडपाणी हे साखर कारखान्याच्या सांडपाणी प्रक्रिया प्रकल्पामध्ये (ई.टी.पी.) मध्ये पाठवले जाते.

प्रस्तावित आसवनी प्रकल्पामधून स्पेंटवॉश, स्पेंटलीज, एम.ई.ई.मधील कंडेनसेट व इतर सांडपाणी तयार होईल. प्रस्तावित आसवनी प्रकल्पामधून १७६0 घनमीटर प्रतिदिन (८ कि.लि/कि.लि अल्कोहोल) रॉ स्पेंटवॉश तयार होईल. रॉ स्पेंटवॉश हे एम.ई.ई. मध्ये इव्हॅपोरेट व कॉन्सनट्रेट केला जाईल आणि कॉंसनट्रेट स्पेंटवॉश ३५२ घन. मी. प्रतिदिन (१.६ कि.लि/कि.लि अल्कोहोल) इन्सिनरेशन बॉयलर मध्ये पाठवले जाईल. स्पेंटलीज, एम.ई.ई. मधील कंडेनसेट, इतर सांडपाणी हे आसवनी प्रकल्पाच्या कंडेनसेट पॉलिशिंग युनिट (सि.पी.यु) मध्ये प्रक्रियित करून त्याचा पुर्नवापर केला जाईल. सि.पी.यु प्रकल्प आकृती २ येथे दाखवला आहे.

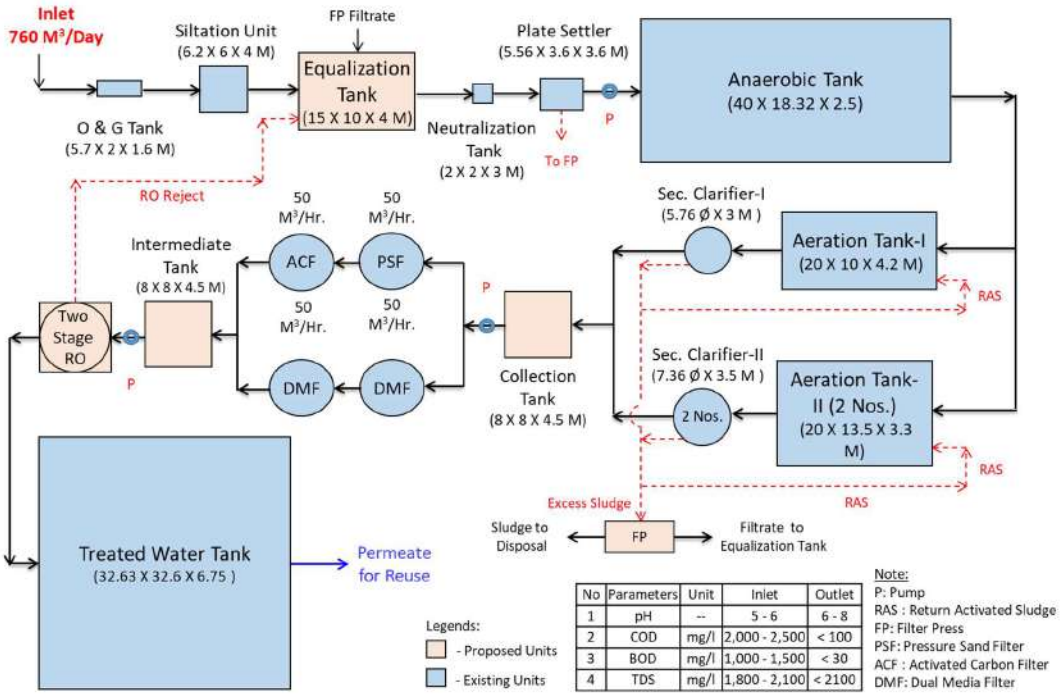
तक्ता ८. साखर कारखाना व सहवीज प्रकल्पामधुन तयार होणारे सांडपाणी

तपशील	सध्याचा प्रकल्प	एकूण प्रस्तावित विस्तारीकरणानंतर	प्रक्रिया
घरगुती	**१0**	**१७**	घरगुती सांडपाणी प्रकीया प्रकल्पात प्रक्रिया केले जाईल.
औद्योगिक			
प्रोसेस	२६६	४३२	साखर कारखान्याच्या सध्याच्या सांडपाणी प्रकीया प्रकल्पात प्रक्रिया केली जाईल.
कुलिंग	७३	११0	
बॉयलर	४९	१0२	
डी.एम.बॅकवॉश	४९	१0२	
लॅब ; वॉश	८	१४	
एकूण	**४४५**	**७६0**	
सांडपाणी निर्मिती प्रमाण	**५९**	**५६**	**मानक : २00 लि./मे.टन गाळप**

तक्ता ९. आस्थापनी प्रकल्पामधुन तयार होणारे सांडपाणी (घनमीटर प्रतिदिन)

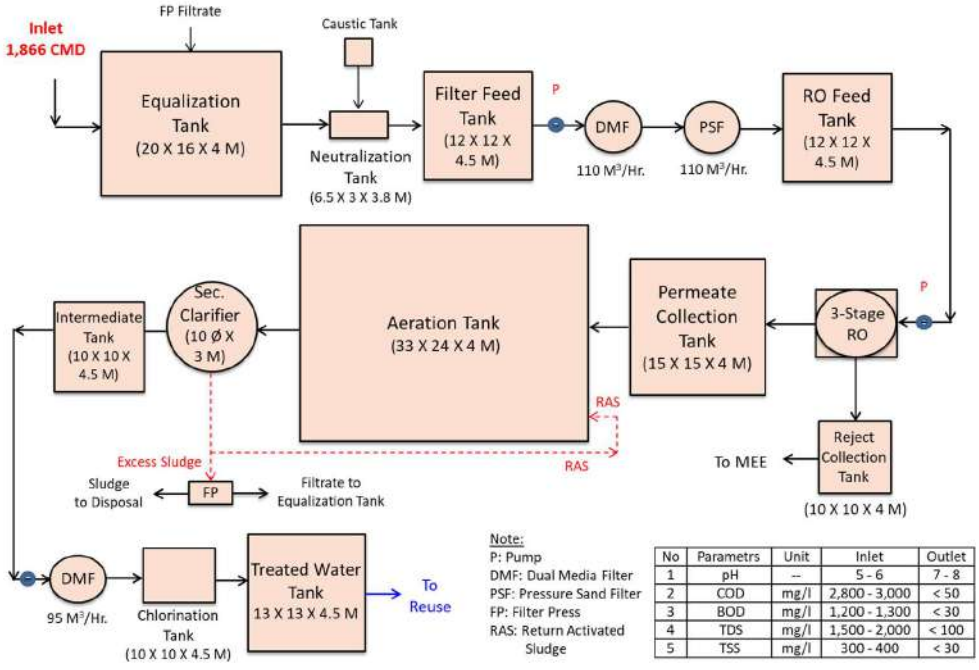
क्र.	तपशील	सध्याचे सांडपाणी		एकूण विस्तारीकरणानंतरचे सांडपाणी		प्रक्रिया
		मोलॅसिस वर आधारित	केन ज्युस वर आधारित	मोलॅसिस वर आधारित	केन ज्युस वर आधारित	
१.	घरगुती	४	४	६	६	घरगुती सांडपाणी प्रकीया प्रकल्पात प्रक्रिया केले जाईल.
२.	औद्योगिक					
	प्रोसेस	यॉ स्पेंटवॉश- १२०० कॉन्सनट्रेट स्पेंटवॉश - २४०	यॉ स्पेंटवॉश- ६०० कॉन्सनट्रेट स्पेंटवॉश - १२०	यॉ स्पेंटवॉश - १७६० कॉन्सनट्रेट स्पेंटवॉश - ३५२	यॉ स्पेंटवॉश - ८८० कॉन्सनट्रेट स्पेंटवॉश - १७५	यॉ स्पेंटवॉश हे एम.ई.ई मध्ये कॉसनट्रेट केले जाईल आणि कॉसनट्रेट स्पेंटवॉश इन्सिनरेशन बॉयलर मध्ये पाठवले जाईल.
		एम. ई. ई. कंडेनसेट - ९६० स्पेंट लीक्स - २०६	एम. ई. ई . कंडेनसेट - ४८० स्पेंट लीक्स - १३२	एम. ई. ई कंडेनसेट - १४०८ स्पेंट लीक्स - ३०१	एम. ई. ई कंडेनसेट - ७०५ स्पेंट लीक्स - १९५	इतर सांडपाणी - स्पेंट लीक्स, कुलिंग ब्लो डाऊन, बॉयलर ब्लो डाऊन, एम.ई.ई कंडेनसेट, लॅब व वॉशिंग हे आस्थापनी प्रकल्पाच्या CPU ला पाठवले जाईल व ZLD ची प्रक्रिया केली जाईल.
	कुलिंग ब्लोडाऊन	४५	४५	७८	७८	
	बॉयलर ब्लोडाऊन	१०	१०	३२	३२	
	डि.एम.प्लॅकवॉश	१०	१०	३२	३२	
	लॅब वॉशिंग	८	८	१५	१५	
	एकुण	कॉन्स. स्पेंटवॉश - २४० इतर सांडपाणी - १२३९	कॉन्स. स्पेंटवॉश - १२० इतर सांडपाणी - ६८५	कॉन्स. स्पेंटवॉश - ३५२ इतर सांडपाणी - १८६६	कॉन्स. स्पेंटवॉश - १७५ इतर सांडपाणी - १०५७	

आकृती ३. साखर कारखान्यातील सध्याचा ई.टी.पी. मधील बदलचा फ्लो चार्ट



No	Parameters	Unit	Inlet	Outlet
1	pH	--	5 - 6	6 - 8
2	COD	mg/l	2,000 - 2,500	< 100
3	BOD	mg/l	1,000 - 1,500	< 30
4	TDS	mg/l	1,800 - 2,100	< 2100

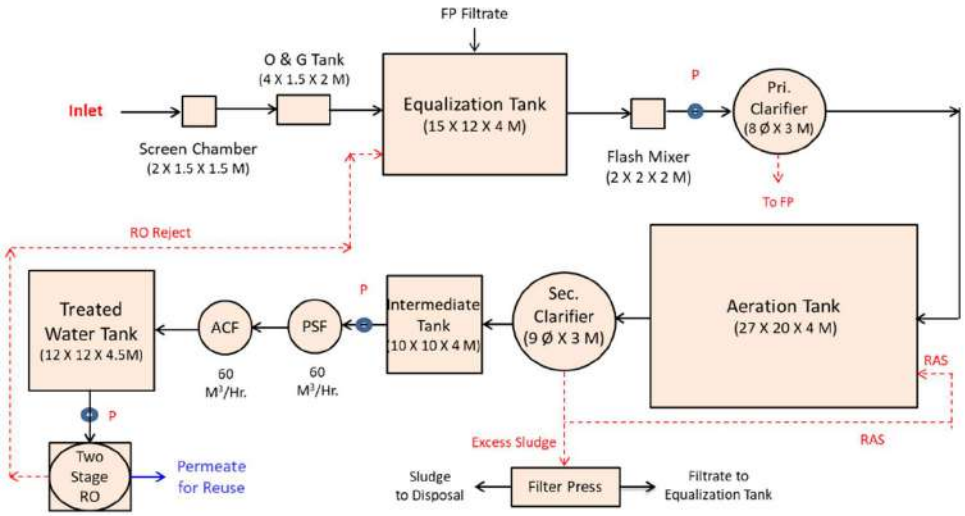
आकृती ४. आक्षपनीतील सध्याचा सी.पी.यु. मधील बदलचा फ्लो चार्ट



No	Parametrs	Unit	Inlet	Outlet
1	pH	--	5 - 6	7 - 8
2	COD	mg/l	2,800 - 3,000	< 50
3	BOD	mg/l	1,200 - 1,300	< 30
4	TDS	mg/l	1,500 - 2,000	< 100
5	TSS	mg/l	300 - 400	< 30

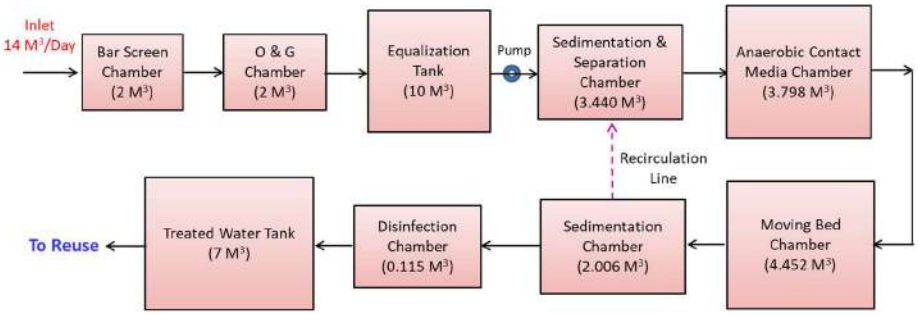
2

आकृती ५. साखर कारखान्यातील प्रस्तावित सी. पी.यु. चा फ्लो चार्ट



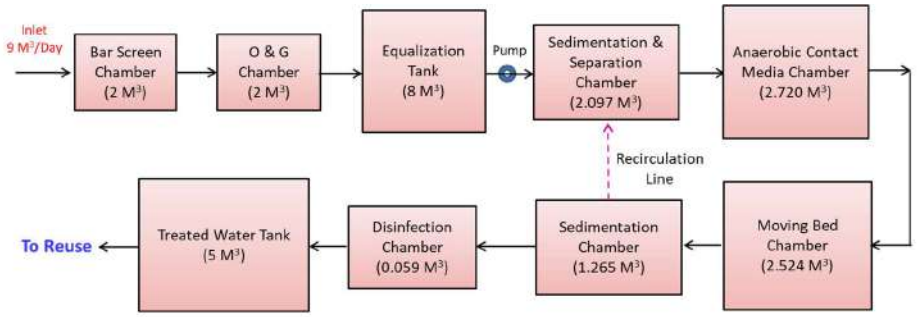
No	Parameters	Unit	Inlet	Outlet
1	pH	--	5.5 - 6.5	7 - 8
2	COD	mg/l	1000-1600	< 50
3	BOD	mg/l	500-800	< 30
4	TSS	mg/l	250-300	< 30

आकृती ६. अध्याचा एस्.टी.पी. चा फ्लो चार्ट



No.	Parameter	Unit	Inlet	Outlet
1	pH	---	6.0 – 8.5	6.0 – 8.5
2	COD	mg/lit	400 – 500	< 50
3	BOD	mg/lit	250 – 300	< 20
4	TSS	mg/lit	150 - 250	< 30
5	O & G	mg/lit	20 - 30	< 10

आकृती ६. प्रस्तावित एस्.टी.पी. चा फ्लो चार्ट



No.	Parameter	Unit	Inlet	Outlet
1	pH	---	6.0 – 8.5	6.0 – 8.5
2	COD	mg/lit	400 – 500	< 50
3	BOD	mg/lit	250 – 300	< 20
4	TSS	mg/lit	150 - 250	< 30
5	O & G	mg/lit	20 - 30	< 10

- **वायु उत्सर्जने**

अध्याच्या प्रकल्पामध्ये ७० टन प्रति ताश व ४० टन प्रति ताश क्षमतेचे अशे बॉयलर कार्यरत आहेत ज्याशाठी अगॅश इंधन म्हणून वापरले जाते. या बॉयलरना पेट स्कशर हे प्रदूषण नियंत्रक उपकरण अशवले आहे. प्रदूषण नियंत्रण करण्याशाठी बॉयलरना ७० मी. उंचीची शामन्य चिमणी अशवली आहे. अदर शाखर कारखाना विस्तारिकरणांतर्गत ७५ टन प्रति ताश क्षमतेचा बॉयलर उभारणेत येणार आहे. ज्याशाठी अगॅश इंधन म्हणून वापरले जाईल. या बॉयलरला ई.एश.पी. हे प्रदूषण नियंत्रक उपकरण व ७५ मी. उंचीची चिमणी अशवली जाईल.

प्रस्तावित आशवनी प्रकल्पामध्ये २१ टन प्रति ताश क्षमतेचा इन्शिनरेशन बॉयलर कार्यरत आहे. प्रस्तावित आशवनी प्रकल्पामध्ये ३० टन प्रति ताश क्षमतेचा इन्शिनरेशन बॉयलर उभारणेत येणार आहे. ज्याशाठी अगॅश/कोळशा व कॉ. स्पेंटवॉश इंधन म्हणून वापरले जाईल. या बॉयलरला ई .एश.पी. हे प्रदूषण नियंत्रक उपकरण व ८० मी. उंचीची चिमणी अशवली जाईल.

अध्या कारखान्यामध्ये ३२०, २५०, १०१० व १२५० के.एल.ए. क्षमतेचा डी.जी. शेट कार्यरत आहेत. हवा प्रदुषण व त्याशंबंधीच्या इतर बाबींची माहीती खालील तक्त्यात दिली आहे.

तक्ता १०. बॉयलरचा व चिमणीचा तपशील

क्र.	तपशील	साखर कारखाना आणि सहवीज प्रकल्प			आसवनी प्रकल्प	
		सध्याचे		प्रस्तावित	सध्याचे	प्रस्तावित
१	जोडले आहे-	**बॉयलर १**	**बॉयलर २**	**बॉयलर ३**	**बॉयलर १**	**बॉयलर २**
२	क्षमता	७० टन/तास	४० टन/तास	७५ टन/तास	२१ टन/तास	३० टन/तास
३	इंधनाचा प्रकार	बगॅस	बगॅस	बगॅस	स्पेंटवॉश + बगॅस/कोळसा	स्पेंटवॉश + बगॅस/कोळसा
४	इंधन (मे.टन/दिन)	८४०	४८०	९००	२००+१५१/ ८६	२७५+२०८/ ११८
५	बांधणीसाठी वापरलेले मटेरीयल	आर.सी.सी	आर.सी.सी	आर.सी.सी	आर.सी.सी	आर.सी.सी
६	आकार (गोल/चौरस)	गोल	गोल	गोल	गोल	गोल
७	उंची, मी (जमीनीच्या वर)	७० मी		७५ मी	७० मी	८० मी
८	चिमणीला असलेले प्रदूषण नियंत्रणाचे उपकरण	पेट स्क्रबर	पेट स्क्रबर	ई. एस. पी.	ई. एस. पी.	ई. एस. पी.

१. ध्वनी निर्माण करणारे स्त्रोत

- साखर कारखाना प्रकल्पामध्ये बॉयलर हाऊस, टर्बाईन रूम्स, केन कशिंग सेक्शन, मील हाऊस, डी.जी.सेट हे आवाजनिर्माण करणारे स्त्रोत आहेत. आसवनी प्रकल्पामध्ये बॉयलर, फरमेंटेशन सेक्शन, डिस्टीलेशन असेम्बली हे आवाज निर्माण करणारे स्त्रोत असतील. डी.जी.सेट हा ध्वनी प्रदुषणाचा एकस्त्रोत ठरू शकतो पण सदर डी.जी.सेटस फक्त नेहमीचा वीज पुरवठा खंडित असताना कार्यरत राहतील. डी. जी. सेट असणा-या विभागातील ध्वनी चीपातळी ७० ते ८० डी बी (ए) इतकी अपेक्षित आहे.
- पंप्स, कॉप्रेसर्स, बॉयलर हाऊस, ट्रक वाहतूक इत्यादीमुळे आवाजाचे प्रदुषण होईल.

नियंत्रण उपाय

- ध्वनी नियंत्रणासाठी आयसोलेशन, सेपरेशन आणि इन्स्युलेशन तंत्रे वापरली जातील. इअरमफ्स, ई. स्वरूपात कामगारांना वैयक्तीक सुरक्षा साधने (PPE) पुरविण्यात येतील.
- तसेच ध्वनीची पातळी कमी करण्यासाठी डी. जी. सेट स्वतंत्र कॅनॉपी मध्ये बंदीस्त करण्यात आले आहेत.
- कारखान्या सभोवती टप्प्याटप्याने हरित पट्टा विकसित केला जाईल जेणेकरून ध्वनी प्रदुषण नियंत्रणास मदत होईल

➢ **घातक स्वरूपाचा कचरा**

तक्ता ११. घातक स्वरूपाचा कचरा तपशील

क्र.	कच-याचा प्रकार	परिमाण (मे.टन / वर्ष)		विल्हेवाट पद्धत
		सध्याचा	विस्तारीकरणानंतर	
१.	५.१ स्पेंट ऑईल	०.५	१.०	आधिकृत पुनर्विक्रेता

➢ **घन स्वरूपाचा कचरा**

तक्ता १२. घन स्वरूपाच्या कच-याचा तपशील

क्र.	प्रकल्प	कच-याचा प्रकार	परिमाण (मे.टन /दिन)		विल्हेवाट पद्धत
			अध्याचा	विस्तारीकरणानंतर	
१.	साखर कारखाना	ई.टी.पी. स्लज	१३	२३	खत म्हणून वापर
		बॉयलरची राख (अगॅस)	७५0	२0१0	वीट निर्मितीसाठी व खत म्हणून वापर
३.	आसवनी प्रकल्प	बॉयलरची राख (अगॅस)	२0७0	३0३0	
		यीस्ट स्लज	९६0	१४१0	खत म्हणून वापर
		सी.पी.यु. स्लज	३७	५६	

➢ **वाफेचा उपद्रव**

अध्याच्या प्रकल्पांतर्गत पाईप लाईन्स, सांडपाणी साठवणूक, खराब मील सॅनिटेशन आणि दुर्लक्षित ड्रेन्स इ. वाफेच्या उपद्रवाचे स्त्रोत असतील. सदर प्रकल्पांतर्गत मोलॅसिस हाताळणी व साठवणुक, फर्मन्टेशन व डिस्टीलेशन, सांडपाणी प्रक्रिया यंत्रणा, खराब मील सॅनिटेशन आणि दुर्लक्षित ड्रेन्स इ. वाफेच्या उपद्रवाचे स्त्रोत असतील. अध्या वाफेच्या नियंत्रणासाठी नीटनेटके हाऊस किपींग ई .टी.पी. युनिट मधील मैला व्यवस्थापन, ड्रेन्ससाठी ब्लिचींग पावडरचा वापर इ. बाबी व्यवस्थित हाताळल्या जातात व प्रस्तावित आसवनी प्रकल्पांतर्गत देखिल केल्या जातील. प्रस्तावित आसवनी प्रकल्पांतर्गत स्पेंटवॉश बंद नलिकेतुन हाताळणी, साठवणुकीसाठी व विल्हेवाटीसाठी नेले जाईल यामुळे होणारा वाफेचा उपद्रव कमी होईल.

➢ **नियम व अटींचे पालन**

अध्याच्या प्रकल्पाअंतर्गत महाराष्ट्र प्रदुषण नियंत्रण मंडळ (MPCB) किंवा तत्सम संस्थेमार्फत सांडपाणी प्रक्रिया व विल्हेवाट, घातक स्वरूपाचा कचरा व घन कचरा हाताळणी व विल्हेवाट तसेच वायु ऊत्सर्जने इ. संबंधित घालुन देण्यात आलेल्या सर्व कायदयांचे व नियमांचे काटेकोरपणे पालन केले जाते. सदर कार्यपद्धती प्रस्तावित विस्तारीकरण प्रकल्पांतर्गतही पाळली जाईल.

➢ **पर्यावरण व्यवस्थापन विभाग**

ज.शु.लि. मध्ये पर्यावरण व्यवस्थापन विभाग कार्यरत आहे. या विभागातील सर्व सदस्य उच्च शिक्षित आणि संबंधीत क्षेत्रातील योग्य तो अनुभव असलेले आहेत.

९. अध्याच्या व विस्तारीकरण प्रकल्पांमधील पर्यावरण घटकांसाठी व त्यांच्या देखभालीसाठी लागणा-या खर्चाचा तपशील

तक्ता १३. देखभाली साठीच्या खर्चाचा तपशील

क्र.	तपशील	खर्च (रू. लाख मध्ये)	
		भांडवली गूंतवणूक	वार्षिक देखभाल व दुरूस्ती
अ	**विस्तारीकरण प्रकल्पासाठी**		
१.	हवा प्रदुषण नियंत्रणासाठी लागणारा खर्च : बॉयलरसाठी २ ई.एस.पी., ७५ मी. व ८0 मी. उंचीची चिमणी, OCMS, ॲश हॅडलिंग सिस्टिम	१३00	५0
२.	जल प्रदुषण नियंत्रण: साखर कारखाना ई.टी.पी. बदल व सी.पी.यु., डिस्टिलरी सि. पी. यु., MEE, स्पेन्टवॉश स्टोरेज टँक व OCMS, एस.टी.पी.	१४५0	१00
३.	ध्वनी प्रदुषण नियंत्रण	५0	५
४.	व्यवसायविषयक आरोग्य व सुरक्षीतता	१५0	२५0
५.	एन्व्हायरमेंटल मॉनिटरींग व मॅनेजमेंट	१00	२0
६.	हरित पट्टा विकास व बेनवॉटर हार्वेस्टिंग	१२५	२0
	एकुण	**३१७५**	**४४५**

क्र.	तपशील	खर्च (रू. लाख मध्ये)	
		भांडवली गुंतवणूक	वार्षिक देखभाल व दुरूस्ती
अ	**अध्याच्या प्रकल्पासाठी**		
१.	हवा प्रदुषण नियंत्रणासाठी लागणारा खर्च ः 2 सेट स्क्रबर व ७० मी. उंचीची सामान्य चिमणी, ई.एस.पी. व ७० मी. उंचीची चिमणी, CO_2 वॉटलिंग प्लांट, OCMS, ॲश हॅडलिंग सिस्टिम	१५५०	२५
२.	जल प्रदुषण नियंत्रणासाठी लागणारा खर्च ः साखर कारखाना ई.टी.पी., MEE, स्पेन्टवॉश स्टोरेज टँक, एस.टी.पी., डिस्टिलरी सि. पी. यु. व OCMS	८५०	२०
३.	ध्वनी प्रदुषण नियंत्रण	५०	५
५.	एन्व्हायरमेंटल मॉनिटरींग व मॅनेजमेंट	५०	५
६.	व्यवसायविषयक आरोग्य व सुरक्षीतता	१००	१०
७.	हरित पट्टा विकास व रेनवॉटर हार्वेस्टिंग	१५०	२५
	एकुण	**२७५०**	**९०**
	एकुण (अ + ब)	**५९२५**	**५३५**

१०. रेनवॉटर हार्वेस्टिंग संकल्पना

- प्रकल्पाचे एकुण क्षेत्र - ३,७५,०४२ चर्ग मी.
- सरासरी वार्षिक पाऊस - ७८२ मिमी.

➢ रुफटॉप हार्वेस्टिंग
- रुपटॉप हार्वेस्टिंग क्षेत्र - ४४,८६० चर्ग मी.
- रुपटॉप हार्वेस्टिंग मधून मिळणारे पाणी - २७,९९३ घन मी.

➢ सरफेस हार्वेस्टिंग
- सरफेस हार्वेस्टिंग क्षेत्र - २,६२,८८७ चर्ग मी.
- सरफेस हार्वेस्टिंग मधून मिळणारे पाणी - ७५,९३१ घन मी.

रुपटॉप हार्वेस्टिंग आणी सरफेस हार्वेस्टिंग मधून उपलब्ध होणारे पाणी -

२७,९९३ + ७५,९३१ = १,०३,९२४ घन मी.

म्हणजेच १०३ दशलक्ष लिटर्स (ML) पाणी हे कारखान्याकडे वापरण्यासाठी व हरित पट्टासाठी उपलब्ध असेल.

११. हरित पट्टा माहिती

तक्ता १४. क्षेत्रफळाची माहिती

क्र.	तपशील	क्षेत्र (चर्ग.मी)
१	**एकुण क्षेत्र**	**३,७५,०४२**
२	एकुण बांधकाम क्षेत्र	१,१२,१५५
३	एकुण खुले क्षेत्र	४६,७०५
४	हरित पट्टा (३३%)	१,२३,७६४

हरित पट्टा विकसित करण्यासाठी SPM, SO_2 चे उत्सर्जन या बाबी प्रामुख्याने विचारात घेतल्या जातील. SPM, SO_2 यांच्या उत्सर्जनांमुळे होणारे परिणाम कमी करण्यास उपयुक्त असा हरित पट्टा विकास कार्यक्रम राबविला जाईल. तसेच नियोजित हरित पट्टयातील झाडांमुळे इंडस्ट्रीमध्ये तयार होणा-या ध्वनीची तीव्रता कमी होऊन परिसरात होणारे ध्वनी प्रदुषण कमी होणेस मदत होईल. यानुसार SO_2 आणि ध्वनी प्रदुषण नियंत्रण इ. बाबी लक्षात घेऊन प्रस्तावित हरित पट्टा विकास कार्यक्रमाअंतर्गत विविध जातीच्या झाडांची लागवड केली जाईल.

१२. पर्यावरण विषयक तपासणी कार्यक्रम

अभ्यासासाठी निवडलेल्या भागाची पूर्वपाहणी करण्यात आली होती. प्रस्तावित प्रकल्पाच्या सभोवतालच्या हवामान परिस्थीतीच्या माहितीसाठी हवा, पाणी व माती स्वरूप इ. गोष्टींचा अभ्यास डिसेंबर २०२४ ते फेब्रुवारी २०२५ मध्ये केला गेला होता. या प्रस्तावामध्ये डिसेंबर २०२४ ते फेब्रुवारी २०२५ या दरम्यानच्या कालावधीमध्ये गोळा केलेली माहीती नमूद केली आहे. या संबंधीची द्वितीय स्तरावरील माहिती ही सरकारी विभागांकडून घेण्यात आली आहे ज्यामध्ये भुर्गभीय पाणी, माती, शेती आणि वने इ. समावेश आहे.

अ. जमीनीचा वापर

जमीन वापराच्या अभ्यासामध्ये भागाची रचना, कारखाने, जंगल, रस्ते आणि रहदारी इ. गोष्टींचा विचार केला जातो. संबंधीत माहिती ही विविध द्वितीय स्तरांवरून जसे की जनगणनापुस्तिका, सरकारी कार्यालये, सर्वे ऑफ इंडिया टोपोशिटस्, याच बरोबर सॅटेलाईट इमेजीस् व जागेवरील प्राथमिक सर्वे इ. मधुन घेण्यात आली आहे.

ब. अभ्यासासाठी निवडलेल्या जमीनीचा वापर / व्यापलेलीजमीन

तक्ता १५. जमीनीचा वापर / व्यापलेलीजमीन

क्र.	जमीनीचा वापर/व्यापलेलीजमीन	क्षेत्र (हेक्टर)	टक्केवारी (%)
१.	सांद्रकामाखालील जमीन	१४२५	४.५४
२.	लागवडीखालील जमीन	१०७३५	३४.१७
३.	शेतीपड जमीन	६१८८	१९.७०
४.	नापीक जमीन	४५०	१.४३
५.	नदी/जलस्त्रोत	५५२०	१७.५७
६.	रस्ता जमीन	३५५६	११.३२
७.	जंगल	३५४१	११.२७
	एकुण	**३१४१५**	**१००.००**

क. हवामान माहिती

सदर पाहणीसाठी ब्यूरो ऑफ इंडियन स्टॅन्डर्ड (BIS) आणि इंडियन मेट्रोलॉजी डिपार्टमेंट (IMD) यांनी नमूद केलेली मानके वापरली आहेत. हवामान परिस्थितीच्या माहितीसाठी वेगवेगळया हवामान घटकांचा अभ्यास प्रत्यक्ष जागेवरती केला गेला आहे. यासंबंधीची द्वितीय स्तरावरील अधिक माहिती ही हवामान विभाग, सातारा येथून घेण्यात आली आहे. त्यामध्ये तापमान, आर्द्रता, पर्जन्यमान इ. बाबींचा समावेश आहे.

वेगवेगळया हवामान घटकांचा अभ्यास हा डिसेंबर २०२४ ते फेब्रुवारी २०२५ यादरम्यान केला गेला होता. या अभ्यासातील परिमाणे, उपकरणे व वारंवारता यांचा तपशील ई.आय.ए. रिपोर्टच्या प्रकरण क्र. ३ मध्ये देणेत आला आहे.

ड. हवेचा दर्जा

या विभागामधून नमुने घेतलेल्या ठिकाणांची निवड, नमुना घेण्याची पद्धत, पृथःकरणाची तंत्रे आणि नमुना घेण्याची वारंवारता इ. गोष्टींची माहिती दिली आहे. डिसेंबर २०२४ ते फेब्रुवारी २०२५ या कालावधी मधील निरीक्षणानंतरचे निकाल सादर केले आहेत. सर्व मॉनिटरींग असाइनमेंटस्, नमुने घेणे व त्यांचे पृथःकरण NABL व MoEFCC, New Delhi मान्यता प्राप्त तसेच ISO 9001 -2015 va OHSAS १८००१ – २००७ मानांकित मे. ग्रीन एन्व्हायरोसेफ इंजिनीअर्स अँड कन्सल्टंटस् प्रा. लि., पुणे या प्रयोग शाळेमार्फत केले आहे. अभ्यास क्षेत्रातील हवेच्या गुणवत्तेचे मूल्यमापन करण्यासाठी PM_{10}, $PM_{2.5}$, SO_2, NO_X व CO. या घटकांचे वेगवेगळया स्थानाकांवर मॉनिटरींग केले गेले.मॉनिटरींगची वेगवेगळी स्थानके खाली दिलेल्या तक्त्यामध्ये दाखवली आहेत.

तक्ता १५. सभोवतालची हवागुणवत्ता परिक्षणाची (AAQM) स्थानके

AAQM केंद्र आणि संकेतांक	स्थानकाचे नाव	को-ऑर्डिनेटस अक्षांश व रेखांश	साईट पासूनचे अंतर (कि.मी.)	साईटला अनुसरुन दिशा
A1	साईट	१७°२६'५७.२४"N ७४°१'३४.८४"E	-	-
A2	चोराजवाडी	१७°२६'५६.०५"N ७३°५९'४१.१७"E	३.३	पश्चिम
A3	विरेवाडी	१७°२६'५४.५७"N ७३°५७'१८.९६"E	७.५	पश्चिम
A4	वडगाव डंभरज	१७°२६'५९.४९"N ७४°३'२१.९६"E	३.१	पूर्व
A5	वझेवाडी	१७°२७'१.१६"N ७४°४'४२.७६"E	५.५	पूर्व
A6	पाली	१७°२९'१९.२५"N ७४°१'३३.३०"E	४.४	उत्तर
A7	चाफळ	१७°२३'३०.५९"N ७४°१'३७.०५"E	६.३	दक्षिण
A8	चोरे	१७°२६'५८.०७"N ७४°२'१३.९०"E	१.१	पूर्व
A9	जाधववाडी	१७°२५'५.९०"N ७४°२'७.०१"E	३.५	दक्षिण

तक्त १६. सभोवतालची हवा गुणवत्ता परिक्षणाची (AAQM) स्थानकांचा सारांश

[डिसेंबर २०२४ - जानेवारी २०२५ - फेब्रुवारी २०२५]

		Location								
		साईट	चोराजवाडी	विरेवाडी	वडगाव डंभरज	वझेवाडी	पाली	चाफळ	चोरे	जाधववाडी
PM_{10} µg/m³	Max	६५.९	५९.९	५३.०	६३.५	६३.३	६३.३	६२.५	६४.३	५१.०
	Min	५७.४	५०.०	४५.८	५६.७	५४.१	५२.०	५२.२	५४.८	४३.६
	Average	६३.५	५२.८	४९.७	५९.८	५७.५	५६.४	५४.९	६०.४	४७.६
	98% Percentile	६५.९	५७.८	५३.०	६३.०	६२.७	६२.३	६१.८	६४.२	५१.०
$PM_{2.5}$ µg/m³	Max	३१.१	२०.९	१९.५	२७.३	२७.३	२४.२	२४.०	२९.०	१७.२
	Min	२३.६	१५.०	१३.४	२२.०	२०.०	१८.६	१६.७	२२.४	१०.७
	Average	२७.६	१८.२	१६.६	२४.६	२३.४	२१.४	२०.२	२५.३	१४.१
	98% Percentile	३०.६	२०.७	१९.४	२७.१	२६.६	२४.०	२३.६	२८.५	१७.१
SO_2 µg/m³	Max	१४.२	१०.२	९.८	१४.०	१२.४	१०.९	१०.४	१३.७	७.८
	Min	९.१	५.६	५.१	६.७	७.५	७.१	५.३	८.१	५.०
	Average	१२.५	७.६	६.९	१०.५	९.९	८.९	७.९	११.५	५.८
	98% Percentile	१४.२	१०.०	९.२	१३.७	१२.३	१०.७	१०.३	१३.५	७.५
NOx µg/m³	Max	२६.१	१५.४	१४.७	२२.२	१९.६	१९.१	१९.०	२२.८	११.७
	Min	२१.०	११.८	८.०	१६.५	१५.०	१४.५	११.६	१८.७	७.५
	Average	२३.९	१३.७	११.२	१९.१	१७.५	१६.५	१४.८	२०.४	१०.१
	98% Percentile	२६.०	१५.४	१४.३	२१.७	१९.५	१८.७	१८.४	२२.६	११.७
CO mg/m³	Max	०.१३	०.०७	०.०६	०.११	०.११	०.०९	०.०८	०.१२	०.०५
	Min	०.०५	०.०३	०.०१	०.०६	०.०४	०.०२	०.०३	०.०६	०.०
	Average	०.१०	०.०५	०.०३	०.०८	०.०७	०.०६	०.०५	०.०९	०.०२
	98% Percentile	०.१३	०.०७	०.०६	०.११	०.११	०.०९	०.०८	०.१२	०.०५
O_3 µg/m³	Max	१९.६	८.८	७.५	१२.९	१३.३	११.८	९.२	१५.३	७.४
	Min	१२.२	५.०	५.०	८.४	७.१	५.५	६.२	७.२	५.०
	Average	१५.३	६.६	६.२	१०.५	९.८	८.७	७.८	११.१	५.८
	98% Percentile	१९.६	८.७	७.५	१२.९	१२.७	११.६	९.१	१५.२	७.१

Notes: PM_{10}, $PM_{2.5}$, SO_2 and NO_x are computed based on 24 hourly values, CO is computed on hourly values

तक्ता १७. National Ambient Air Quality Standards (NAAQS) by CPCB

(Notification No. S.O.B-29016/20/90/PCI-L by MOEFCC; New Delhi dated 18.11.2009)

Parameters		Zone Station	
		Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area
PM_{10} ($\mu g/m^3$)	24 Hr	100	100
	A.A.	60	60
$PM_{2.5}$ ($\mu g/m^3$)	24 Hr	60	60
	A.A.	40	40
SO_2 ($\mu g/m^3$)	24 Hr	80	80
	A.A.	50	20
NOx ($\mu g/m^3$)	24 Hr	80	80
	A.A.	40	30
CO (mg/m^3)	8 Hr	2	2
	1 Hr.	4	4
O_3 ($\mu g/m^3$)	8 Hr	100	100
	1 Hr.	180	180

Note: A.A. represents Annual Average

इ. पाण्याची गुणवत्ता

पाण्याच्या भौतिक, रासायनिक गुणधर्मांची आणि त्यातील जड धातूंची तपासणी करण्यासाठी MoEFCC, New Delhi मानांकित मे.ग्रीन एन्व्हायरोसेफ इंजिनीअर्स अँड कन्सल्टंटस प्रा. लि., पुणे यांच्यामार्फत नमुने घेऊन त्यांचे पृथःकरण केले. भूगर्भातील पाण्याच्या नमुना चाचणीसाठी ९ ठिकाणे व भूपृष्ठीय पाण्याच्या नमुना चाचणीसाठी १० ठिकाणे घेतली होती.

तक्ता १८. पृष्ठभागावरील पाण्यासाठी निवडलेली ठिकाणे

स्थानक संकेतांक	स्थानकाचे नाव	को-ऑर्डिनेटस		साईट पासूनचे अंतर (कि.मी.)	साईट पासूनची दिशा	स्पष्टीकरण
		अक्षांश	रेखांश			
SW1	खडगाव डंबरज	17°27'58.09"N	74° 3'21.10"E	३.५०	ईशान्य	नाला
SW2	शिरगाव	17°28'21.20"N	74° 3'29.21"E	४.२१	ईशान्य	नदी
SW3	शिरगाव	17°27'58.80"N	74° 3'44.23"E	४.२६	ईशान्य	नदी
SW4	इंदोली	17°26'20.36"N	74° 4'54.88"E	६.०९	आग्नेय	नदी
SW5	पारळे	17°28'2.17"N	74° 6'10.66"E	८.२९	ईशान्य	नदी
SW6	चाफळ	17°24'33.41"N	74° 0'56.89"E	४.७९	नैऋत्य	धरण

तक्ता १९. भूगर्भातील पाण्यासाठी निवडलेली ठिकाणे

स्थानक संकेतांक	स्थानकाचे नाव	को-ऑर्डिनेटस		साईट पासूनचे अंतर (कि.मी.)	साईट पासूनची दिशा
		अक्षांश	रेखांश		
GW 1	धावरवाडी	17°27'8.42"N	74° 1'31.52"E	०.१०	वायव्य
GW 2	मरळी	17°27'9.87"N	74° 1'19.33"E	०.४१	वायव्य
GW 3	मरळी	17°27'12.43"N	74° 1'11.19"E	०.६६	वायव्य
GW 4	धावरवाडी	17°27'9.79"N	74° 1'44.41"E	०.४७	ईशान्य
GW 5	चोरे	17°26'44.95"N	74° 1'56.55"E	०.८२	आग्नेय
GW 6	चोरे	17°26'49.52"N	74° 2'20.43"E	१.४४	पूर्व
GW 7	चोरे	17°27'12.50"N	74° 2'14.84"E	१.२९	ईशान्य
GW 8	धावरवाडी	17°27'32.55"N	74° 1'48.99"E	१.१३	ईशान्य

फ. ध्वनी पातळीचे सर्वेक्षण

ध्वनी पातळीचे सर्वेक्षणसाठी कारखाना परिसरास केंद्र मानून त्यापासून १० कि.मी. अंतराच्या परिघामध्ये येणारा भाग हा अभ्यास क्षेत्र म्हणून विचारात घेण्यात आला होता. ध्वनी पातळीचे मॉनिटरींग साठी रहिवासी, व्यावसायिक, औद्योगिक, शांतता विभाग असे चार विभाग विचारात घेण्यात आले होते. अभ्यासामध्ये काही महत्वाच्या रस्त्यांवर वाहतुकीमुळे होणारा आवाज सुद्धा समाविष्ट केला होता. प्रत्येक ठिकाणी २४ तासासाठी ध्वनी पातळीचे मॉनिटरींग करण्यात आले. ध्वनी पातळीचे मॉनिटरींगची वेगवेगळी स्थानके खाली दिलेल्या तक्त्यामध्ये दाखवली आहेत.

तक्ता २१. ध्वनी नमुना ठिकाणे

स्थानक सांकेतांक	स्थानकाचे नाव	को-ऑर्डिनेटस		साईट पासुनचे अंतर (कि.मी.)	साईट पासुनची दिशा
		अक्षांश	रेखांश		
N1	साईट	17°26'57.71"N	74° 1'34.88"E	-	-
N2	धावरवाडी	17°27'35.57"N	74° 1'45.70"E	१.२	ईशान्य
N3	चोरे	17°26'58.01"N	74° 2'10.37"E	१	पूर्व
N4	कोतिवले	17°25'33.44"N	74° 2'47.61"E	३.३	आग्नेय
N5	जलगेवाडी	17°25'21.27"N	74° 0'28.77"E	३.५	नैऋत्य
N6	चोराजवाडी	17°27'14.77"N	73°59'58.17"E	२.८	वायव्य
N7	मरळी	17°27'45.25"N	74° 1'9.56"E	१.६	वायव्य
N8	पाल	17°29'22.36"N	74° 1'35.78"E	४.४	उत्तर

तक्ता २०. ध्वनी पातळी

स्थानक	ध्वनी पातळी					
	L10	L50	L90	Leq(day)	Leq(night)	Ldn
N1	56.2	57.9	59.9	60.8	55.4	63.2
N2	44.2	47.4	49.3	53.5	42.4	53.1
N3	44.4	47.3	49.2	52.6	42.9	52.7
N4	43.5	47.6	48.5	53.3	42.9	53.1
N5	43.8	47.9	49.5	54.1	43.0	53.7
N6	43.8	47.2	48.7	52.7	42.7	52.7
N7	43.7	47.7	49.0	53.7	42.8	53.4
N8	43.8	47.4	48.6	52.5	43.1	52.7

ग. सामाजिक - आर्थिक रचना

सामाजिक व आर्थिक स्तरावरून त्याभागातील प्रगती दर्शनास येते. कोणत्याही प्रकारच्या विकास प्रकल्पामुळे कार्यक्षेत्रात राहणा-या लोकांच्या राहणीमाना वर, सामाजिक व आर्थिक स्तरावर प्रभाव पडतो. याबद्दलची सविस्तर माहिती ई.आय. ए. रिपोर्ट मधीलप्रकरण ३ मध्ये आहे.

घ. पर्यावरण

Random Sampling व Oppurtunistic Method या पध्दतीचा वापर करून त्या भागातील जैवविविधतेचा अभ्यास करणेत आला. दृच्छिक नमुना पद्धतीने वनस्पतींसाठी आणि संधीयुक्त ठिकाण पाहणी पद्धती व मानक ठिकाण गणती पद्धतीप्रमाणे प्राण्यांसाठी कार्यक्षेत्र सर्वेक्षण करण्यात आले. साथोटाच्या गुणात्मक अभ्यासासाठी ढोबळ निरीक्षण पाहणी आणि अंदाज पद्धतीचा अवलंब करण्यात आला. स्थानिक पर्यावरण बदलाचे माझे व पक्षी हे चांगले निदर्शक असल्यामुळे त्यांचा अभ्यास करणेत आला. वनस्पती मुख्यतः मोठया वर्गातील झाडांची ओळख व त्यांचे प्रमाण यांच्याकडे अभ्यास केंद्रित होता.

<u>इतर अभ्यास</u>

आपत्ती व्यवस्थापन

आपत्ती व्यवस्थापन करताना, खालील बाबींचा विचार केला जातो

१. प्रकल्पाच्या शेजारी राहणा-या लोकांना प्रकल्पामुळे कमीतकमी धोका असावा.

२. प्रकल्पामध्ये काम करणा-या कामगारांना शेजारी राहणा-या लोकांपेक्षा जास्त धोका आपेक्षित आहे, यामुळे प्रकल्पामध्ये काम करणा-या कामगाराना संभाव्य धोक्यापासून रक्षणाचे ट्रेनिंग दिले गेले पाहिजे जेणेकरून संभाव्य धोके कमी होतील.

ग्रीन ए. जी. (१९८२) यांनी आपत्ती व्यवस्थापन करताना विचारात घेतलेल्या बाबी -

१. प्रकल्पास धोकाः जेव्हा जिवीतास कमीतकमी धोका असतो व तो धोका पुढे कमी करणे शक्य होत नाही यावेळी ह्या धोक्यास प्राथमिकता दिली गेली पाहिजे. या अंर्तगत संभावित वित्तीय नुकसानी च्या धोक्याचा विचार केला जातो.
२. कामगार व जनतेस धोकाः फेटल ॲक्सिडेंट रेट (एफ. ऐ. आर) किंवा फेटलॲक्सिडेंट फिक्वेंन्सी रेट (एफ.ऐ.एफ.आर) याचा वापर कामगार व जनतेस धोके यांचा अभ्यास करताना वापर केला जातो. एफ.ऐ.आर व एफ.ऐ.एफ.आर म्हणजेच औद्योगिक अपघातांमध्ये १000 लोकांमागे होणा-या अपेक्षित मृतांची संख्या होय.

या संबंधीची अधिक माहिती ई.आय.ए. रिपोर्ट मधीलप्रकरण ७ येथे जोडली आहे.

१३. <u>पर्यावरणावर होणारे परिणाम आणि त्यासाठीच्या उपाययोजना</u>

अ. भौगोलिक रचनेवर परिणाम

सध्याच्या प्रकल्पामध्ये विस्तारीकरण होणार असलेने संपादित जागेच्या भौगोलिक रचनेवर परिणाम अपेक्षित नाही. सदर औद्येगिक प्रकल्पामुळे काही सकारात्मक फायदे जसे की जमिन विकसिकरण, व झाडे लावणे अपेक्षित आहे.

ब. वातावरणावरील परिणाम

प्रस्तावित प्रकल्पामुळे हवामानावर परिणाम अपेक्षित नाही कारण जास्त तापमान असणा-या वायुंचे उत्सर्जन अपेक्षित नाही.

क. हवेच्या दर्जावरील परिणाम

प्रकल्पामुळे होणा-या परिणामांची छाननी करण्यासाठी कारखाना परिसरास केंद्र मानून त्यापासून १0 कि.मी. अंतराच्या परिघामध्ये येणारा भाग विचारात घेतला गेला आहे.

१. मुलभूत ॲम्बिएंट वायू प्रमाणके

डिसेंबर २0२४ ते फेब्रुवारी २0२५ मध्ये करण्यात आलेल्या कार्यक्षेत्र सर्वेक्षणा दरम्यान नोंद करण्यात आलेली २४ तासामधील ९८ पर्सेंटाईल प्रमाणके आणि PM_{10}, $PM_{2.5}$, SO_2 व NO_X यांची सभोवतालच्या हवेमधील सरासरी यानुसार मिळालेल्या प्रमाणांना मुलभूत प्रमाणके मानण्यात आली आहेत. सदर प्रमाणके परिसरामध्ये होणारे परिणाम दर्शवतात.सध्याचीमुलभूत प्रमाणके ई.आय.ए. रिपोर्ट मधीलप्रकरण ४ तसेच पुढील तक्त्यामध्ये मांडण्यात आली आहेत.

२. हवा प्रदुषणस्त्रोत

सध्याच्या प्रकल्पामध्ये ७0 टन प्रति तास व ४0 टन प्रति तास क्षमतेचे असे बॉयलर कार्यरत आहेत ज्यासाठी बगॅस इंधन म्हणून वापरले जाते. या बॉयलरना वेट स्क्रबर हे प्रदूषण नियंत्रक उपकरण असवले आहे. प्रदूषण नियंत्रण करण्यासाठी बॉयलरना ७0 मी. उंचीची सामन्य चिमणी असवली आहे. सदर साखर कारखाना विस्तारिकरणांतर्गत ७५ टन प्रति तास क्षमतेचा बॉयलर उभारणेत येणार आहे. ज्यासाठी बगॅस इंधन म्हणून वापरले जाईल. या बॉयलरला ई.एस.पी. हे प्रदूषण नियंत्रक उपकरण व ७५ मी. उंचीची चिमणी असवली जाईल.

प्रस्तावित आसवनी प्रकल्पामध्ये २१ टन प्रति तास क्षमतेचा इन्सिनरेशन बॉयलर कार्यरत आहे. प्रस्तावित आसवनी प्रकल्पामध्ये ३0 टन प्रति तास क्षमतेचा इन्सिनरेशन बॉयलर उभारणेत येणार आहे. ज्यासाठी बगॅस/कोळसा व कॉ. स्पेंटवॉश इंधन म्हणून वापरले जाईल. या बॉयलरला ई .एस.पी. हे प्रदूषण नियंत्रक उपकरण व ८0 मी. उंचीची चिमणी असवली जाईल.

सध्या कारखान्यामध्ये ३२0, २५0, १0१0 व १२५0 के.एल्ही.ए. क्षमतेचा डी.जी. सेट कार्यरत आहेत. हवा प्रदुषण व त्यासंबंधीच्या इतर बाबींची माहीती खालील तक्त्यात दिली आहे.

ड. जलस्त्रोतावरील परिणाम

१. भुपृष्ठीय जलस्त्रोतावरील परिणाम

प्रस्तावित आस्पवनी प्रकल्पामधून स्पेंटयॉश, स्पेंटलीज, एम.ई.ई.मधील कंडेनस्पेट व इतर सांडपाणी तयार होईल. प्रस्तावित आस्पवनी प्रकल्पामधून यॉ स्पेंटयॉश तयार होईल. यॉ स्पेंटयॉश हे एम.ई.ई. मध्ये इव्हॅपोरेट व कॉन्सनट्रेट केला जाईल आणि कॉन्सनट्रेट स्पेंटयॉश इन्सिनरेशन ऑयलर मध्ये पाठवले जाईल. स्पेंटलीज, एम.ई.ई. मधील कंडेनस्पेट, इतर सांडपाणी हे आस्पवनी प्रकल्पाच्या कंडेनस्पेट पॉलिशिंग युनिट (सि.पी.यु) मध्ये प्रकियित करून त्याचा पुर्नवापर केला जाईल. सि.पी.यु प्रकल्प आकृती २ येथे दाखवला आहे.

सदर विस्तारिकरणांतर्गत साखर कारखाना प्रकल्पातून निघणारे सांडपाणी हे प्राथमिक, द्वितीय व तृतीय स्तरीय प्रकिया प्रकल्पामध्ये प्रकिया केले जाइले. प्रकिया केलेले सांडपाण्याचा पुर्नवापर केला जाईल. अधिक माहिती ई.आय.ए. रिपोर्ट मधील प्रकरण क. २ मध्ये देण्यात आली आहे.

२. भूगर्भिय पाण्याच्या गुणवत्तेवर होणारा परिणाम

प्रकल्पांसाठी लागणारे जरूरी पाणी हे तारळी नदीतुन घेण्यात येईल. तारळी नदीची NOC घेण्यात आली आहे. प्रस्तावित विस्ताशीकरणा अंतर्गत भूजलाचा वापर होणार नाही. या अधिक, कारखान्यामधुन कोणत्याही प्रकारचे अप्रकियीत सांडपाणी विसर्जीत होणार नाही त्यामुळे भूजल पाणी पातळीवर व गुणवत्तेवर कोणताही परिणाम होणार नाही.

इ. माती वर होणारे परिणाम

मातीच्या गुणधर्मावर होणारे परिणाम हे साधारणपणे वायू उत्सर्जन, सांडपाण्याचे आणि घनकचरा विनियोगयांमुळे होत असतात.सध्याच्या साखर कारखाना व सहवीज प्रकल्पातून वर उल्लेख केलेले घटक विसर्जीत होणार नाहीत.ऑयलर्सना ई.एस.पी. व वेट स्कबर बसविले आहेत. ऑयलरची राख व ई.टी.पी. स्लजरूपात घनकचरा निर्माण होईल. ऑयलरची राख वीट निर्मितीसाठी दिली जाईल व ई.टी.पी. स्लज वृक्षारोपनासाठी खत म्हणून वापरली जाईल.घरगुती सांडपाण्यावर प्रस्तावित सांडपाणी प्रकिया केंद्रात प्रकिया केली जाईल. त्यामुळे वायु प्रदुषके अथवा सांडपाण्यामुळे जमिनीच्या शासायनिक घटकांमध्ये कोणताही मोठा बदल होणार नाही.

फ. ध्वनी मर्यादेवर होणारा परिणाम

अतिध्वनी निर्माण करणा-या यंत्रावर काम करीत असणा-या कामगारांचे संतुलन बिघडुन कामावर परिणाम होण्याची शक्यता असते. ध्वनी निर्माण होणाऱ्या स्त्रोताजवळ असणाऱ्या लोकांची ऐकण्याची क्षमता कमी होऊ शकते. सदर प्रकल्पामध्ये मुख्यत: साखर कारखान्यातील मील, कॉम्प्रेसर, ऑयलर, टर्बाइन व डि.जी. सेट हे ध्वनी प्रदूषणाचे मुख्य स्त्रोत ठरतील.सदर प्रकल्प हा ध्वनी प्रदुषण करणारा नाही.

ग. जमीन वापरावर होणारा परिणाम

साखर कारखाना व आस्पवनी प्रकल्पाचे विस्तारीकरण हे सध्याच्या साखर कारखाना, आस्पवनी प्रकल्प व सहवीज प्रकल्पामध्ये करण्यात येणार आहे. सदर जागेचा औद्योगिक कारणांसाठी वापर करण्यात येत आहे यामुळे जमीन वापरामध्ये बदल अपेक्षित नाही.

घ. झाडांवर व प्राण्यांवर होणारा परिणाम

प्रकिया न केलेले सांडपाणी कारखान्याच्या सभोवताली विसर्जित केल्यास पाणी संस्था व त्यावर अवलंबून असलेली जैवविविधतेवर परिणाम संभोवतो.वायु प्रदुषणा संदर्भात कारखाना SPM च्या स्वरूपात प्रदुषण योगदान देऊ शकतो. याचा विपरीत परिणाम अंशतः पक्षी, सभोवतालची पीके आणि स्थानिक लोकांवर होऊ शकतो.झाडांवर व प्राण्यांवर होणारा परिणामांची माहिती ई.आय. ए. रिपोर्ट मधीलप्रकरणा३ मध्ये देण्यात आलेली आहे.

<u>९)पर्यावरणीय व्यवस्थापन आराखडयाची ठळक वैशिष्टये</u>

पर्यावरणीय व्यवस्थापन आराखडयाची ठळक वैशिष्टये खालील तक्त्यामध्ये दिलेली आहेत -

तक्ता २१. पर्यावरणीय व्यवस्थापन आराखडा

क्र.	तपशील	ठिकाण	परिमाणे	वारंवारता	तपासणी
१.	हवेची गुणवत्ता	आपविंड - १, डाऊनविंड - २, (Near Cane Yard, Near Main ETP, Near Colony.)	PM_{10}, $PM_{2.5}$, SO_2, NOx, CO	मासिक	MoEFCC & NABL approved Laboratory मधुन
		अभ्यासक्षेत्र (चोराजवाडी, पिरेवाडी, पडगाव उंबरज, वाझेवाडी, पाली, चाफळ, चोरे, जाधववाडी)			
२.	चिमणीतुन होणारे उत्सर्जन	ऑयलरच्या चिमणी, डी.जी. सेटची चिमण्या	SO_2, TPM, NOx	मासिक	
३.	ध्वनिगुणवत्ता	मेनगेट जवळ, किण्वन विभाग, साखर गोदाम, ऑयलर, डी. जी. सेट, टर्बाइन विभाग, ॲसेटिक ॲसिड विभाग	Spot Noise Level, recording; Leq(n),Leq(d), Leq(dn)	मासिक	
४.	पिण्याचे पाणी	कारखान्याचे उपहारगृह / वसाहत	Parameters as drinking water standards IS10500	मासिक	
५.	जमीन	अभ्यास क्षेत्रामधील ८ ठिकाणे	PH, Salinity, Organic Carbon, N.P.K.	मासिक	
६.	पाण्याचीगुणवत्ता	अभ्यास क्षेत्रामधील ठिकाणे (भुगर्भीय पाणी - ८ ठिकाणे) (पृष्ठभागावरील पाणी- ६ ठिकाणे)	Parameters as per CPCB guideline for water quality monitoring – MINARS/27/2007-08	द्वैमासिक	
७.	सांडपाणी	प्रक्रिया न केलेले, प्रक्रिया केलेले	pH, SS, TDS, COD, BOD, Chlorides, Sulphates, Oil & Grease.	मासिक	
८.	कचरा व्यवस्थापन	प्रस्थापित कृतीतून तयार होणा-या कच-याचे वैशिष्टे आणि रूपानुसार व्यवस्थापन केले जाईल	कच-याचे निर्मिती, प्रकिया आणि विल्हेवाट यांची नोंद	वर्षातून दोनदा	ज.शु.लि. यांचेकडून
९.	आपातकालीन तयारी जसे की आग व्यवस्थापन	प्रतिबंधात्मक उपाय म्हणून आगीच्या व स्फोट होणाऱ्या ठिकाणी आगीपासून संरक्षण आणि सुरक्षिततेची काळजी घेतली जाईल.	ऑनसाईट ई मरजन्सी व संकटकालीन बाहेर पडण्याचा आराखडा	वर्षातून दोनदा	ज.शु.लि. यांचेकडून
१०.	आरोग्य	कारखाण्याचे कामगार आणी स्थलांतरीत कामगारांसाठी आरोग्य शीबीराचे आयोजन	सर्व आरोग्यविषयक चाचण्या	वर्षातून दोनदा	
११.	हरीतपट्टा	कारखान्याच्या परीसरामध्ये आणी शेजारील गावांमधला	झाडे जगण्याचा दर	तज्ञांनुसार	
१२.	सी.ई.आर.	निर्देशाप्रमाणे	--	सहा महिन्यातुन	

ENCLOSURE - I

TOR LETTER

File No.: J-11011/111/2016-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Dated **26/05/2025**

To,

Sh. Charudatta Deshpande
M/s JAYWANT SUGARS LIMITED
At Post: Dhawarwadi, Taluka:Karad, District: Satara, Maharashtra , Satara, 415109
jsldistillery@gmail.com

Subject: **Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW by Jaywant Sugars Ltd.; Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State - Grant of Standard Terms of Reference (ToR) to the proposed Project under the EIA Notification 2006-and as amended thereof-regarding.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/MH/IND2/537458/2025 dated 16/05/2025 for grant of Terms of Reference (ToR) to the project under the provision of the EIA Notification 2006-and as amended thereof.

2. The particulars of the proposal are as below :

(i) ToR Identification No.	TO25A2504MH5552305N
(ii) File No.	J-11011/111/2016-IA-II(I)
(iii) Clearance Type	Fresh ToR
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(g) Distilleries,5(j) Sugar Industry,1(d) Thermal Power Plants
(vi) Sector	Industrial Projects - 2
(vii) Name of Project	Expansion of Sugar Factory from 7,500 TCD to 13,500 TCD & Distillery Unit from 150 KLPD to 220 KLPD by using C/B heavy Molasses/ Cane Juice/ Cane Syrup along with Power Generation from 1.9 MW to 3 MW by Jaywant Sugars Ltd.; Village: Dhawarwadi & Marali, Tal.: Karad, Dist.: Satara, Maharashtra State
(viii) Name of Company/Organization	JAYWANT SUGARS LIMITED

(ix) Location of Project (District, State)	SATARA, MAHARASHTRA
(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	NO

3. The **MoEF&CC** has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after detailed examination hereby decided to grant Standard Terms of Reference to the instant proposal of **M/s.JAYWANT SUGARS LIMITED** under the provisions of the aforementioned Notification.

4. Standard Terms of Reference are annexed to this letter as Annexure (1). The brief about products and by-products as submitted by the Project proponent in Form-1 (Part A, B) are annexed to this letter as Annexure (2).

5. As per SO S.O. 751(E) dated 17th February, 2020 the validity of ToR shall be four years. The Ministry reserves the right to stipulate additional TORs, if found necessary.

6. The Standard Terms of Reference (ToR) to the aforementioned project is under provisions of EIA Notification, 2006 and as amended thereof. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

7. The granted letter, all the documents submitted as a part of application viz. Form-1 Part A and Part B are available on PARIVESH portal which can be accessed by scanning the QR Code above.

Copy To

1. The Secretary, Department of Environment, Government of Maharashtra, Mumbai 400 032.
2. The Regional Officer, Ministry of Environment, Forest and Climate Change, Regional Office, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur- 440001, Maharashtra.
3. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32.
4. The Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. Cine Planet, Sion Circle, Mumbai – 22: **For necessary action as per SOP mentioned in Ministry's OM Q-15012/2/2022-CPW-Part (1)/e240741 dated 14th January, 2025.**
5. Compliance and Monitoring Division, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi.
6. The District Collector, District Satara, Maharashtra.
7. Guard File/Monitoring File/Parivesh portal/Record File.

Annexure 1

Standard Terms of Reference for conducting Environment Impact Assessment Study for Distilleries and information to be included in EIA/EMP report

1. Executive Summary

Sr. No.	Terms of Reference
1.1	Executive Summary

2. Introduction

Sr. No.	Terms of Reference
2.1	Details of the EIA Consultant including NABET accreditation
2.2	Information about the project proponent

3. Project Description

Sr. No.	Terms of Reference
3.1	Cost of project and time of completion.
3.2	Products with capacities for the proposed project.If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
3.3	List of raw materials required and their source along with mode of transportation.
3.4	Other chemicals and materials required with quantities and storage capacities
3.5	Details of Emission, effluents, hazardous waste generation and their management. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
3.6	Process description along with major equipments and machineries, process flow sheet (quantitative) from raw material to products to be provided.
3.7	Hazard identification and details of proposed safety systems.
3.8	Expansion/modernization proposals: a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 08th June, 2022 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report. b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4. Site Details

Sr. No.	Terms of Reference
4.1	Location of the project site covering village, Taluka/Tehsil, District and State, Justification forselecting the site, whether other sites were considered.
4.2	A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A3/A2

Sr. No.	Terms of Reference
	sheet. (including all eco-sensitive areas and environmentally sensitive places)
4.3	Co-ordinates (lat-long) of all four corners of the site. Google map-Earth downloaded of the project site. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
4.4	Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
4.5	Land use break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).
4.6	A list of major industries with name and type within study area (10km radius) shall be incorporated.
4.7	Details of Drainage of the project up to 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
4.8	Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
4.9	R&R details in respect of land in line with state Government policy.

5. Forest and wildlife related issues (if applicable):

Sr. No.	Terms of Reference
5.1	Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
5.2	Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha).
5.3	Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
5.4	The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
5.5	Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
5.6	Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6. Environmental Status

Sr. No.	Terms of Reference
6.1	Determination of atmospheric inversion level at the project site and site-specific micrometeorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
6.2	AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
6.3	Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
6.4	Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
6.5	Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
6.6	Ground water monitoring at minimum at 8 locations shall be included.
6.7	Noise levels monitoring at 8 locations within the study area.
6.8	Soil Characteristic as per CPCB guidelines.
6.9	Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
6.10	Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
6.11	Socio-economic status of the study area.

7. Impact and Environment Management Plan

Sr. No.	Terms of Reference
7.1	Assessment of ground level concentration of pollutants from the stack emission based on site specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modeling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modeling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
7.2	Water Quality modeling - in case of discharge in water body

Sr. No.	Terms of Reference
7.3	Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor cum- rail transport shall be examined.
7.4	A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
7.5	Details of stack emission and action plan for control of emissions to meet standards.
7.6	Measures for fugitive emission control
7.7	Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
7.8	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
7.9	Action plan for the green belt development plan in 33 % area i.e. land with not less than1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
7.10	Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

8. Occupational health

Sr. No.	Terms of Reference
8.1	Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
8.2	Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
8.3	Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
8.4	Annual report of heath status of workers with special reference to Occupational Health and Safety.

9. Corporate Environment Policy

Sr. No.	Terms of Reference
9.1	Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
9.2	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
9.3	Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

Sr. No.	Terms of Reference
10.1	

11. Enterprise Social Committment (ESC)

Sr. No.	Terms of Reference
11.1	Adequate funds (at least 2.5 % of the project cost) shall be ear marked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.
11.2	Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details there of and compliance/ATR to the notice(s) and present status of the case.
11.3	A tabular chart with index for point wise compliance of above TOR.

12. Specific Conditions

Sr. No.	Terms of Reference
12.1	List of existing distillery units in the study area along with their capacity and sourcing of raw material.
12.2	Number of working days of the distillery unit.
12.3	Details of raw materials such as molasses/grains, their source with availability.
12.4	Details of the use of steam from the boiler.
12.5	Surface and Ground water quality around proposed spent wash storage lagoon, and compost yard.
12.6	Plan to reduce spent wash generation within 6-8 KL/KL of alcohol produced.
12.7	Proposed Effluent treatment system for molasses/grain based distillery (spent wash, spent lees, condensate

Sr. No.	Terms of Reference
	and utilities) as well as domestic sewage and scheme for achieving zero water conservation.
12.8	Proposed action to restrict fresh water consumption within 10 KL/KL of alcohol production.
12.9	Details about capacity of spent wash holding tank, material used, design consideration. No. of peizometers to be proposed around spent wash holding tank.
12.10	Details of solid waste management including management of boiler ash, yeast, etc. Details of incinerated spent wash ash generation and its disposal.
12.11	Details of bio-composting yard (if applicable).
12.12	Action plan to control odour pollution.
12.13	Arrangements for installation of continuous online monitoring system (24x7 monitoringdevice)
12.14	If Sugar and distillery will have integrated effluent treatment facilities. Details regarding the same.

Standard Terms of Reference for conducting Environment Impact Assessment Study for Sugar Industry and information to be included in EIA/EMP report

1. Environmental Status

Sr. No.	Terms of Reference
1.1	iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

2. Specific Conditions

Sr. No.	Terms of Reference
2.1	Complete process flow diagram describing each unit, its processes and operations in production of sugar, along with material and energy inputs and outputs (material and energy balance).
2.2	Details on water balance including quantity of effluent generated, recycled & reused. Efforts to minimize effluent discharge and to maintain quality of receiving water body.
2.3	Details of effluent treatment plant, inlet and treated water quality with specific efficiency of each treatment unit in reduction in respect to fall concerned / regulated environmental parameters.

Sr. No.	Terms of Reference
2.4	Number of working days of the sugar production unit.
2.5	Details of proposed source-specific pollution control schemes and equipments to meet the national standards.
2.6	Collection, storage, handling and transportation of molasses.
2.7	Collection, storage and handling of bagasse and press mud.
2.8	Fly ash management plan for coal based and bagasse and action plan
2.9	Details on water quality parameters such as Temperature, Colour, pH, BOD, COD, Total Kjeldhal Nitrogen, Phosphates, Oil & Grease, Total Suspended Solids, Total Coli form bacteria etc.
2.10	Details on existing ambient air quality and expected, stack and fugitive emissions for PM10, PM2.5, SO2*, NOx*, etc.,and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (*-As applicable)

Standard Terms of Reference for conducting Environment Impact Assessment Study for Thermal Power Plants and information to be included in EIA/EMP report

1. Statutory compliance

Sr. No.	Terms of Reference
1.1	The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
1.2	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
1.3	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.

2. Details of the Project and Site

Sr. No.	Terms of Reference
2.1	The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.

Sr. No.	Terms of Reference
2.2	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
2.3	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
2.4	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
2.5	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
2.6	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
2.7	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
2.8	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
2.9	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
2.10	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
2.11	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.

3. Ecology biodiversity and Environment

Sr. No.	Terms of Reference
3.1	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
3.2	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.3	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
3.4	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.
3.5	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
3.6	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
3.7	Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted
3.8	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
3.9	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.

Sr. No.	Terms of Reference
3.10	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
3.11	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
3.12	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
3.13	Plan for recirculation of ash pond water and its implementation shall be submitted.
3.14	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
3.15	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence

4. Environmental Baseline study and mitigation measures

Sr. No.	Terms of Reference
4.1	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysisand the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
4.2	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
4.3	A list of industries existing and proposed in the study area shall be furnished.
4.4	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The

Sr. No.	Terms of Reference
	air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
4.5	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
4.6	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
4.7	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
4.8	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
4.9	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
4.10	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.

5. Environmental Management Plan

Sr. No.	Terms of Reference
5.1	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
5.2	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.

Sr. No.	Terms of Reference
5.3	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
5.4	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.

6. Green belt development

Sr. No.	Terms of Reference
6.1	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85%shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO2 and other gaseous pollutants and hence a stratified green belt should be developed.
6.2	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months

7. Socio-economic activities

Sr. No.	Terms of Reference
7.1	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
7.2	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
7.3	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
7.4	A detailed CER plan along with activities wise break up of financial commitment shall be

Sr. No.	Terms of Reference
	prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020.CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.
7.5	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CERdetails done in the past should be clearly spelt out in case of expansion projects.
7.6	R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
7.7	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
7.8	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.

8. Corporate Environment Policy

Sr. No.	Terms of Reference
8.1	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
8.2	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
8.3	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance

Sr. No.	Terms of Reference
	conditions. Details of this system may be given.
8.4	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

9. Miscellaneous

Sr. No.	Terms of Reference
9.1	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
9.2	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.
9.3	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.

10. Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)

Sr. No.	Terms of Reference
10.1	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
10.2	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
10.3	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
10.4	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
10.5	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.

Sr. No.	Terms of Reference
10.6	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
10.7	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
10.8	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
10.9	Impact on fisheries at various socio economic level shall be assessed.
10.10	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
10.11	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
10.12	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

Additional Terms of Reference

1. Risk assessment study shall be carried out of hazardous chemical storage. Location of alcohol bulk storage tanks shall be placed in such a way that in the event of any fire, accident, explosion or any unforeseen conditions the impact of such event should not go beyond the boundary of the plant i.e., the risk should be tolerable (acceptable) at the boundary.

2. Industry shall determine the distance of fire hydrant while finalizing its location from ethanol storage tanks or any other hazardous storage substance shall be based on dispersion of Thermal Radiation so that during any unforeseen situation fire hydrant is always available to operate manually.

3. Total Fresh water requirement during off season shall not exceed 4 kL per kL of alcohol produced which will be met from ground water for non crushing season. During the Sugar crushing season, entire treated water from the Sugar unit shall be utilized in the Distillery, reducing the fresh water demand to zero. No

ground water recharge shall be permitted within the premises.

4. Air cooled condensers shall be provided with sugar unit. PP shall provide the details of source for feed stock i.e., sugarcane juice/ molasses and also provide availability of sufficient feed stock for operating the proposed plant.

5. EIA/EMP report shall include details such as (i) Details of advertisements for Public Hearing (ii) Copy of forwarding letter of SPCB to MoEF&CC (iii) Legible copy of public hearing proceedings duly signed by the presiding officer (iv) Attendance sheets (v) Action plan to address the issues raised during public along with budget allocation and time line. (vi) Copy of written grievances/submissions if any. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided from SPCB.

Annexure 2

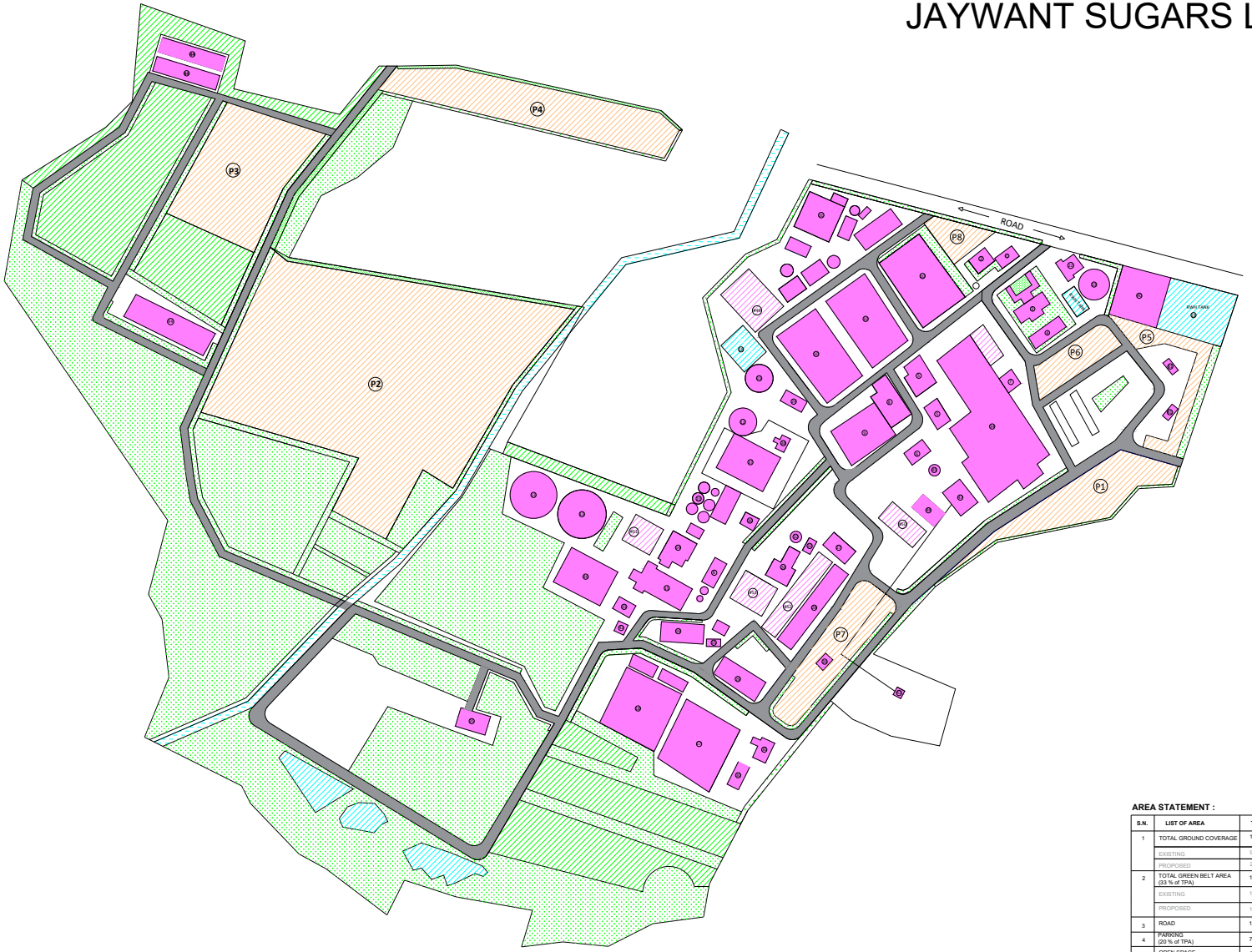
Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Sugar	Product	624	780	1404	MT/D	Road	Sugar Production is considered from 4800 TCD to 10,800 TCD
Sugarcane Crushing for Ethanol (Approved under B2 Cat.)	Product	2700	0	2700	Tons Crushed per Day (TCD)	Road	2700 TCD Sugarcane Crushing for production of Ethanol (Approved under B2 Cat.)
Molasses	By-Product	192	240	432	MT/D	Road	NA
Pressmud	By-Product	300	240	540	MT/D	Road	NA
Bagasse	By-Product	2250	1800	4050	MT/D	Road	NA
Electricity	Product	24	0	24	Mega Watt (MW)	Transmission Lines	NA
RS / ENA (C/B Heavy Molasses/ Cane Juice/ Syrup)	Product	45	70	115	Kilo Litre per Day (KLD)	Road	NA
Ethanol (C/B Heavy Molasses/ Cane Juice/ Syrup)	Product	150	70	220	Kilo Litre per Day (KLD)	Road	NA
CO2	By-Product	113	52	165	MT/D	Bottling	NA

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission	Remarks (eg. CAS number)
Fusel Oil	By-Product	8	4	12	MT/D	Road	NA
Electricity from Incineration Boiler	Product	1.9	1.1	3	Mega Watt (MW)	Transmission Lines	NA

ANNEXURES

PLOT LAYOUT OF JAYWANT SUGARS LTD.



GROUND COVERAGE AREA :

TAG NO	DESCRIPTION
B1	SECURITY
B2	CANTEEN
B3	ADMINISTRATIVE BUILDING
B4	LABORATORY
B5	STORE
B6	ASH PIT
B7	BIOSYRUP PLANT
B8	COOLING TOWER
B9	SPRAY POND
B10	GODOWN
B11	MOLASSES STORAGE TANK 1
B12	MOLASSES STORAGE TANK 2
B13	MOLASSES STORAGE TANK 3
B14	DISTILLATION & MSDH SECTION & EVAPORATION SECTION
B15	FERMENTATION SECTION
B16	SWITCH YARD
B17	LOGOON TANK WITH SETTLING TANKS
B18	LOGOON TANK
B19	RWH TANK
B20	ETP
B21	STORAGE SECTION
B22	WTP SUGAR
B23	GSR
B24	DISTILLERY OFFICE
B25	FIRE & RAW WATER PUMP HOUSE
B26	WTP DISTILLERY
B27	COGEN ROOM
B28	BOILER & ESP
B29	COAL STORAGE YARD
B30	BRICK MANUFACTURING UNIT
B31	PROCESS CONDENSET TREATMENT PLANT
B32	DM WATER STORAGE
B33	COOLING TOWER
B34	SUGAR MANUFACTURING FACOTRY
B35	CO2 PLANT
B36	SANITIZER PLANT
B37	PESO & STORAGE SECTION
B38	LOADING SECTION
B39	TEMPORARY SHED
B40	PETROL PUMP
B41	WAY BRIDGE
B42	DM PLANT
B43	BAGASSE YARD
B44	COLONY
B45	CHIMNEY
B46	CPU
B47	SUGAR BOILER
B48	SUGAR BOILER ON GOING
#B49	PROPOSED CPU
#B50	PROPOSED SUGAR BOILER
#B51	PROPOSED ETP, CPU
#B52	PROPOSED DISTILLERY BOILER
#B53	PROPOSED DISTILLERY SETUP

AREA STATEMENT :

S.N.	LIST OF AREA	TOTAL AREA
1	TOTAL GROUND COVERAGE	112155.00 Sq.M.
	EXISTING	91016.00 Sq.M.
	PROPOSED	21139.00 Sq.M.
2	TOTAL GREEN BELT AREA (33 % of TPA)	123764.00 Sq.M.
	EXISTING	112515.00 Sq.M.
	PROPOSED	11249.00 Sq.M.
3	ROAD	17410.00 Sq.M.
4	PARKING (20 % of TPA)	75008.00 Sq.M.
5	OPEN SPACE	46705.00 Sq.M.
6	TOTAL LAND	375042.00 Sq.M.

LEGENDS	DESCRIPTION
	EXISTING BUILDING
	PROPOSED BUILDING
	EXISTING GREEN BELT
	PROPOSED GREEN BELT
	INTERNAL ROAD
	PARKING
	TANK

कारभार प्रारंभ करने के लिए प्रमाण-पत्र
Certificate For Commencement of Business
कम्पनी अधिनियम, 1956 कि धारा 149(3) के अनुसारण
Pursuant of Section 149(3) of the Companies Act, 1956

CIN U 15421 PN 2006 PLC 021789

मै एतद्द्वारा प्रमाणित करता हुँ कि _____ जो कम्पनी अधिनियम 1956 के अनि तारीख _____ को नियमित की गयी थी और जिसने आज विहित प्ररूप में सम्यक रूप से सत्यापित घोषणा फाइल कर दि है कि उक्त अधिनियम की धारा 149(1) (क) से लेकर (घ) तक / 149(2) (क) से लेकर (ग) तक की शर्तो का अनुपालन किया गया है, कारभार प्रारम्भ करने को हकदार है ।

I hereby Certify that the *JAYWANT SUGARS LIMITED* which was incorporated under the Companies Act, 1956 on the *5* day of *JANUARY*, *2006* and which has this day filed duly verified declaration in this prescribed form that the conditions of Section 149(1)(c) to (d)/149(2) (a) to (c) of the said Act, have been complied with is entitled to commence business.

मेरे हस्ताक्षर से यह तारीख _____ को पुणे में दिया गया ।

Given under my hand at *PUNE* this *EIGHTEENTH* day of *JANUARY* TWO THOUSAND SIX.

(S.M. SAINDANE)
कम्पनीयों का सहायक रजिस्ट्रार महाराष्ट्र, पुणे.
ASST. REGISTRAR OF COMAPANIES,
MAHARASHTRA, PUNE

2006 1 2494 21789

राष्ट्रीय सूचना विज्ञान केन्द्र,
National Informatics Centre (NIC)

सत्यमेव जयते

प्रारूप आई. आर.
Form I.R.
निगमन का प्रमाण - पत्र
CERTIFICATE OF INCORPORATION

CIN U 1 5 4 2 1 P N 2 0 0 6 P L C 0 2 1 7 8 9

मैं एतद्द्वारा प्रमाणित करता हूँ की आज JAYWANT SUGARS LIMITED (कम्पनी अधिनियम 1956 का सं 1) के अधिन निगमित की गई है और वह कम्पनी परिसिमीत है ।

I hereby certify that JAYWANT SUGARS LIMITED is this day incorporated under the Companies Act, 1956 (no. 1 of 1956) and that the company is limited.

मेरे हस्ताक्षर से आज ता. _____ को दिया गया ।

Given under my hand at PUNE this FIFTH day of JANUARY TWO THOUSAND SIX.

R V Dani

(R.V.DANI)

कम्पनीयों का रजिस्ट्रार, महाराष्ट्र, पुणे.

REGISTRAR OF COMPANIES,

MAHARASHTRA, PUNE.

2006 1 2494 21789

राष्ट्रीय सूचना विज्ञान केन्द्र,
National Informatics Centre (NISD)

भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL® OF INDIA
QCI Creating an Ecosystem for Quality

NABET

National Accreditation Board for Education and Training

Certificate of Accreditation

Equinox Environments (India) Private Limited, Kohlapur

F-11, Namdev Nest, 1160- B, "E" Ward, Skyes Extension, Opp. Kamala College, Kolhapur- 416001

The organization is accredited as ***Category-A*** *under the QCI-NABET* ***Scheme for Accreditation of EIA Consultant Organization, Version 3****: for preparing EIA/EMP reports in the following Sectors-*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals including opencast and underground	1	1 (a) (i)	A
2.	Offshore and onshore oil and gas exploration, development & production	2	1 (b)	A
3.	Thermal power plants	4	1 (d)	A
4.	Metallurgical industries (ferrous & non-ferrous)	8	3 (a)	A
5.	Asbestos milling and asbestos based products	12	4 (c)	A
6.	Pesticides industry and pesticide specific intermediates	17	5 (b)	A
7.	Petro-chemical complexes	18	5 (c)	A
8.	Petrochemical based processing	20	5 (e)	A
9.	Synthetic organic chemicals industry	21	5 (f)	A
10.	Distilleries	22	5 (g)	A
11.	Sugar Industry	25	5 (j)	B
12.	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	32	7 (d)	A
13.	Bio-medical waste treatment facilities	32A	7(d a)	B
14.	Common Municipal Solid Waste Management Facility	37	7(i)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Feb 25, 2025 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/25/3544 dated March 10, 2025. The accreditation needs to be renewed before the expiry date by Equinox Environments (India) Private Limited, Kohlapur following due process of assessment.

Valid up to
October 11, 2027

Issue Date
March 10, 2025

Certificate No.
NABET/EIA/24-27/RA 0379

Varinder Kanwar

Prof (Dr) Varinder S Kanwar
(CEO NABET)

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.