PRE FEASIBILITY REPORT

FOR

PROPOSED EXPANSION OF PESTICIDE & PESTICIDE INTERMEDIATES MANUFACTURING (3175 MT/ ANNUM TO 17625 MT/ANNUM) IN EXISTING UNIT

of

M/s. CRYSTAL CROP PROTECTION PVT. LTD.

Plot No. D2/CH-14, Dahej - II, GIDC Industrial Estate,Tal: Vagra,

Dist: Bharuch, Gujarat

Prepared By:

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(NABET Accredited EIA Consultant by QCI): NABET/EIA/2023/IA0062
(MoEF Accredited Testing Laboratory): 15018/24/2019-CPW
(NABL Accredited Testing Laboratory): TC - 7328
(GPCB Recognized Schedule-II Environmental Auditor)
ISO 9001: 2015 Certified Company
OHSAS 18001: 2007 Certified Company

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1.0 EXECUTIVE SUMMARY

1.1 Company Profile

Introduction

M/s. Crystal Crop Protection Pvt. Ltd. Proposed Expansion Of Pesticide & Pesticide Intermediates Manufacturing (3175 Mt/ Annum to 17625 Mt/Annum) In Existing Unit at Plot No. D2/CH-14, Dahej - II, GIDC Industrial Estate,Tal: Vagra, Dist: Bharuch, Gujarat

1.2 Project Details

LIST OF PRODUCTS WITH PRODUCTION CAPACITY

Sr. No.	Products	Existing Quantity (MT/Year)	Additional Quantity (MT/Year)	After Expansion Quantity (MT/Year)	CAS No.	LD50
1.	Boscalid	30	00	30	188425-85-6	2000 mg/kg
2.	Cyproconazole	20	00	20	94361-06-5	1010 mg/kg
3.	Difenoconazole	20	00	20	119446-68-3	2010 mg/kg
4.	Flutriafol	30	00	30	76674-21-0	1140 mg/kg
5.	Epoxiconazole	40	00	40	133855-98-8	3160 mg/kg
6.	Hexaconazole	200	00	200	79983-71-4	2189 mg/kg
7.	Kresoxim methyl	30	00	30	143390-89-0	2150 mg/kg
8.	Mancozeb	400	00	400	8018-01-7	4500 mg/kg
9.	Metalaxyl	100	00	100	57837-19-1	3100 mg/Kg
10.	Pencycuron	30	00	30	66063-05-6	2000 mg/kg
11.	Propiconazole	100	00	100	60207-90-1	1211 mg/kg
12.	Propineb	30	00	30	12071-83-9	3708 mg/kg
13.	Prothioconazole	25	00	25	178928-70-6	2500 mg/kg
14.	Thiophanate methyl	100	00	100	23564-05-8	5000 mg/kg
15.	Tricyclazole	100	00	100	41814-78-2	2000 mg/kg
16.	Bispyribac Sodium	100	00	100	125401-75-4,	2250 mg/kg
17.	Clodinofop-propargyl	100	300	400	105512-06-9	2271 mg/kg
18.	Dicamba	20	00	20	1918-00-9	1190 mg/kg
19.	Diuron	20	00	20	330-54-1	3400 mg/kg
20.	Imazethapyr	100	00	100	81335-77-5	2150 mg/kg
21.	Metribuzin	100	200	300	21087-64-9	1090 mg/kg
22.	Oxyfluorfen	100	00	100	42874-03-3	5000 mg/kg
23.	Pendimethalin	400	00	400	40487-42-1	1421 mg/kg
24.	Penoxsulam	40	00	40	219714-96-2	5000 mg/kg
25.	Propanil	40	00	40	709-98-8	2500 mg/kg
26.	Propaquizafop	100	00	100	111479-05-1	2000 mg/kg
27.	Quizalofop ethyl	100	300	400	76578-14-8	1210 mg/kg

28.	Terbuthylazine	50	00	50	5915-41-3	1000 mg/kg
29.	Diafenthiuron technical	100	00	100	80060-09-9	2068 mg/kg
30.	Fenpyroximate	100	00	100	134098-61-6	2000 mg/kg
31.	Flubendiamide	250	00	250	272451-65-7	5000 mg/kg
32.	Thiamethoxam	200	1800	2000	153719-23-4	1563 mg/kg
33.	Pretilachlor	00	3500	3500	51218-49-6	6099 mg/kg
34.	Cloquintocet				99607-70-2	5000 mg/kg
35.	Bensulfuron Methyl				83055-99-6	2000 mg/kg
36.	Halosulfuron Methyl				100784-20-1	1287 mg/kg
37.	Pyrazosulfuran Ethyl				93697-74-6	2000 mg/kg
38.	Oxadiazon				19666-30-9	8000 mg/kg
39.	Clethodim				99129-21-2	1630mg/kg
40.	2,6-Dichloroquinoxaline				1810-72-6	2000 mg/kg
41.	1,2,4 Triazinone				33509-43-2	20000 mg/kg
42.	2,6-Diethyl-N-(2-Propoxyethyl)Aniline				61874-13-3	750 mg/kg
43.	2-(4-Hydroxyphenoxy) Propanoic Acid Ethyl Ester				65343-67-1	1000 mg/kg
44.	(R)-(+)-2-(4-Hydroxyphenoxy)Propionic Acid				94050-90-5	2500 mg/kg
45.	Sulfosulfuron Methyl	00	3500	3500	141776-32-1	5000 mg/kg
46.	Metsulfuron Methyl				74223-64-6	5000 mg/kg
47.	Carfentrazone				128639-02-1	2250 mg/kg
48.	Fomesafen				72178-02-0	3,000 mg/kg
49.	Mesotrione				104206-82-8	5000 mg/kg
50.	Sulfentrazone				122836-35-5	2250 mg/kg.
51.	Dimethomorph				110488-70-5	3900 mg/kg
52.	Fluxapyroxad				907204-31-3	2000 mg/kg
53.	Mandipropamid				34726-62-2	5000 mg/kg
54.	Clothianidin				210880-92-5	4000 mg/kg
55.	o-Fluoro Benzotrichloride	00	1200	1200	488-98-2	--
56.	p-Fluoro Benzotrichloride				402-44-8	--
57.	o-Chlorobenzyl chloride				5216-25-1	--
58.	2,4-Dichlorobenzyl chloride				94-99-5	--

59.	3-Chloro pivaloyl chloride				4300-97-4	--
60.	O-Chloro Benzyl Chloride				611-19-8	--
61.	CCMT (2 Chloro 5 Chloromethyl Thiazole)				105827-91-6	--
62.	N- Propyl Bromide	00	1200	1200	106-94-5	3600 mg/kg
63.	N-Butyl Bromide				109-65-9	2761 mg/kg
64.	Iso- Propyl Bromide				75-26-3	2000 mg/kg
65.	Ethyl Bromide				74-96-4	1350 mg/kg
66.	Ethylene Di Bromide				106-93-4	117 mg/kg
67.	4-Bromo Anisole				104-92-7	3800 mg/kg
68.	5-Nitro Isophthalic Acid	00	1200	1200	618-88-2	--
69.	Meta Nitro Para Toluidine				119-32-4	--
70.	Nitro Benzoyl Chloride				119-32-4	--
71.	O-M-P Toluidine	00	1200	1200	108-44-1	1160 mg/kg
72.	Dichloro Benzidine Hydrochloride (DCBH)				612-83-9	6000 mg/kg
73.	3 Amino 4-Methyl Benzoic Acid				2458-12-0	--
74.	2, 4, 5-Trichloroaniline				636-30-6	300 mg/kg
75.	2,5 Dichloro 1,4 Phenylene Diamine				20103-09-7	1750 mg/kg
76.	Pilot trials	**00**	**50**	**50**		
Total		**3175**	**14450**	**17625**		

LIST OF RAW MATERIALS

Name of Raw Materials	**Quantity (MT/Year)**	**CAS No.**
Boscalid		
CNA	17.0	--
Thionyl chloride	15.4	7719-09-7
Toluene	90.0	108-88-3
ACBP	18.7	--
Cyproconazole		
1-(4-Chlorophenyl)-2-cyclopropyl-propanone	15.3	123989-29-7

Catalyst	4.0	213343-64-7
DMF	50.0	4637-24-5
1,2,4-Triazole	4.8	288-88-0
Difenoconazole		
1,2,4 –Triazole	8.6	288-88-0
DMSO	39.3	67-68-5
Toluene	216.3	108-88-3
Bromoketal	36.7	60207-89-8
IPE	16.7	108-20-3
PE	3.3	9002-88-4
Flutriafol		
Oxirane	22.5	75-21-8
1,2,4-Triazole	6.7	288-88-0
KOH	5.4	1310-58-3
TBAB	3.1	1643-19-2
DMF	112.5	4637-24-5
Epoxiconazole		
Fluoro benzene	12.8	462-06-6
Chloro acetyl chloride	15.0	79-04-9
Aluminium chloride	16.0	7446-70-0
EDC	52.0	25952-53-8
Potassium hydroxide	22.2	1310-58-3
1,2,4-Triazole	9.12	288-88-0
DMF	72.0	4637-24-5
2-Chloro benzyl chloride	21.2	611-19-8
Dimethyl sulphide	8.1	75-18-3
Hexaconazole		
Dimethyl sulfate	96.0	75-18-3
Sodium sulfide	5.3	1313-82-2
DCVP	151.9	61023-66-3
Potassium Hydroxide	62.6	1310-58-3
1,2.4 Triazole	49.3	288-88-0
Potassium carbonate	9.3	584-08-7.
DMF	242.6	4637-24-5
Kresoxim methyl		
MPMP glyoxylic acid methyl ester	24.6	89-91-8
O-Methyl hydroxyl amine hydrochloride	6.0	593-56-6
Soda ash	1.8	497-19-8
Toluene	90.0	108-88-3
Mancozeb		
Carbon disulphide	228.8	75-15-0
EDA	82.4	107-15-3

NaOH (48%)	232.0	1310-73-2
$MnSO_4$	760.0	7785-87-7
$ZnSO_4$	66.4	7733-02-0
RVD	49.6	1193362-76-3
SLS	13.2	151-21-3
HMT	160.0	100-97-0
Metalaxyl		
Methoxy acetyl chloride	30.0	38870-89-2
MDMPA	74.0	4767-03-7
Hexane	82.0	110-54-3
Caustic soda	3.0	1310-73-2
Pencycuron		
PIC	10.9	124-87-8
4-ClBCPA	19.2	122-88-3
Toluene	90.0	108-88-3
Propiconazole		
DMSO	180.0	67-68-5
Potassium hydroxide	23.75	1310-58-3
Triazole	26.5	288-88-0
Bromoketal	121.0	60207-89-8
Propineb		
Bisthiocarbamate	28.1	8018-01-7
Zinc sulphate	16.8	7733-02-0
Prothioconazole		
2-(1-Chloro-cycloprop-1-yl)-1-(2chloro-phenyl)-2-hydroxy-3-(1,2,4triazolidine-5-thiono-1-yl)-propane	25.0	79-97-0
Toluene	480.5	108-88-3
Iron chloride solution	278.0	7705-08-0
Thiophanate methyl		
EDC	200.0	25952-53-8
Sodium Thiocyanate	42.6	540-72-7
Methyl chloroformate	39.6	79-22-1
OPDA	34.9	95-54-5
Tricyclazole		
HMBT	96.0	20174-68-9
Formic acid	53.0	64-18-6
Caustic lye	4.0	1310-73-2
Bispyribac Sodium		
2,6 DihydroxyBenzoilc Acid	438.5	303-07-1
4,6 Diethoxy 2, Methyl Sulfonyl Pyrimidine	148.0	113583-35-0
TBAB	5.5	1643-19-2

Caustic Soda	41.0	1310-73-2
Toluene	2193.0	108-88-3
n-Butanol	78945.0	71-36-3
Ethyl Acetate	219.5	141-78-6
Clodinofop -propargyl		
DMF	188.0	4637-24-5
DHPPA	60.0	26386-88-9
K_2CO_3	100.0	584-08-7
DFCP	54.0	1302-78-9
Propargyl chloride	28.0	624-65-7
HCL	0.0	7647-01-0
Methanol	114	67-56-1
Dicamba		
3,6 Dichloro Methoxy Benzoate	24.0	217-635-*6*
NaOH	6.0	1310-58-3
TBAB	0.8	1643-19-2
HCl	16.4	7647-01-0
Diuron		
3,4-DCA	19.4	95-76-1
Sodium cyanate	12.9	917-61-3
Acetic acid	14.2	64-19-7
Hydrochloric acid	12.9	7647-01-0
Xylene	3.42	1330-20-7
Dimethyl amine	10.3	124-40-3
Imazethapyr		
Di-ethyl-5-ethylpyridine dicarboxylate	97.0	105151-39-1
2 Amino 2,3 dimethyl Butane amide	60.0	3850-30-4
Sodium Ethoxide	66.0	141-52-6.
Toluene	320.0	108-88-3
HCL 30%	117.0	7647-01-0
Ethanol	493.0	64-17-5
Metribuzin		
Sulfuric acid	122.1	7664-93-9
Triazinone	99.0	33509-43-2
Dimethyl sulfate	63.0	77-78-1
Soda ash	186.5	1310-58-3
Oxyfluorfen		
3,4-Dichloro benzotrifluoride	61.4	328-84-7
Resorcinol	31.7	108-46-3
Sodium hydroxide	23.3	1310-73-2
Dimethyl sulphoxide	110.0	67-68-5
Ethyl bromide	30.6	74-96-4

Nitric acid	18.0	7732-18-5
Toluene	100.0	108-88-3
EDC	80.0	25952-53-8
Pendimethalin		
DEK	344.0	96-22-0
4 NO_X	207.2	955272-06-7
Hydrogen	11.2	1333-74-0
Caustic lye	166.0	1310-58-3
Promoter	4.8	219315-22-7
Hydrogen	3.2	1333-74-0
EDC	414.4	25952-53-8
Hexane	414.4	110-54-3
Nitric acid	316.8	7732-18-5
Sulfuric acid	149.2	7664-93-9
HCl	20.8	7647-01-0
Soda Ash	33.2	497-19-8
Penoxsulam		
Trizolopyrimidine amine	16.1	22483-09-6
Benzene Sulphonyl chloride	26.9	98-09-9
Pyridine	6.6	110-86-1
DMSO	80.0	67-68-5
Propanil		
3,4-DCA	29.9	95-76-1
Propionic acid	16.2	79-09-4
Propaquizafop		
(R)-2-(4-((6-chloroquinoxalin-2-yl)oxy)phenoxy)propanoic acid	77.6	100646-51-3
Propan-2-one O-(2-hydroxyethyl) oxime	26.4	83495-51-6
Thionyl chloride	26.9	7719-09-7
Pyridine	17.8	110-86-1
Toluene	388.0	108-88-3
DMF	310.4	4637-24-5
Quizalofop ethyl		
DMF	170.0	4637-24-5
DichloroQuinoxaline	58.0	2213-63-0
K_2CO_3	50.0	584-08-7
Ethyl 2-(4-hydroxyphenoxy) propionate	62.0	65343-67-1
HCl	0.88	7647-01-0
Methanol	104.0	67-56-1
Terbuthylazine		
Toluene	234.0	96-22-0
Cynuric chloride	42.0	955272-06-7

Tertiary Butyl Amine	16.9	1333-74-0
25 % NaOH	72.8	1310-58-3
Mono ethyl amine	14.7	219315-22-7
Alphamethrin		
Alphacypermethrin acid chloride	38.3	25952-53-8
m-Phenoxybenzaldehyde	32.7	110-54-3
Sodium cyanide	10.0	7732-18-5
Hexane	12.5	7664-93-9
TEBA	0.9	7647-01-0
Soda ash	0.9	497-19-8
Diafenthiuron technical		
Xylene	123.6	75-15-0
DIPBA	82.5	107-15-3
NaSCN	26.7	1310-73-2
HCl	38.4	7785-87-7
t-Butyl amine	21.9	7733-02-0
Fenpyroximate		
TBB	75.5	4637-24-5
DMPPO	64.7	26386-88-9
KOH	17.2	584-08-7
DMF	400.0	1302-78-9
MDC	450.0	624-65-7
Flubendiamide		
3-Iodo-2-((2-methyl-1-(methylthio)propan-2-yl)carbamoyl)benzoic acid	154.5	89-91-8
4-(Perfluoropropan-2-yl)aniline	102.5	593-56-6
MDC	617.5	497-19-8
TEA	39.7	108-88-3
Thionyl chloride	46.7	89-91-8
mCPBA	142.0	4637-24-5
THF	835.0	26386-88-9
Profenofos		
o-Chloro phenol	39.8	75-15-0
Liquid bromine	48.5	107-15-3
DETCl	56.6	1310-73-2
TMA (30% aq. solution)	70.9	7785-87-7
n-Propyl bromide	36.2	7733-02-0
Thiamethoxam		
MMTO	115.6	96-22-0
CCMT	128.0	955272-06-7
K_2CO_3	40.0	1333-74-0
CAN	480.0	1310-58-3
Triazophos		

PHT	77.0	123989-29-7
Na_2CO_3	38.0	213343-64-7
DETCl	98.0	4637-24-5
CuCl	1.4	288-88-0
KCl	1.4	67-68-5
KHP	1.0	108-88-3
H_3PO_4	5.0	1310-73-2
NaCl	0.4	7785-87-7
o-Xylene	80.0	7733-02-0
Pretilachlor		
DEPA	2679.43	107-15-3
NA2CO3	1189.00	1310-73-2
CAC	1406.70	7785-87-7
CLOQUINTOCET		
MONOCHLORO ACETIC ACID	3533.25	328-84-7
HEPTANOL	4239.90	108-46-3
PTSA	49.88	1310-73-2
TOLUENE (1000 L)	3574.82	67-68-5
Ester	2169.83	74-96-4
Hexane	2635.39	7732-18-5
DMF (1440 L)	5653.21	108-88-3
5-CHLORO-8-HYDROXY QUINOLINE	1995.25	25952-53-8
DMF Washing	1151.43	328-84-7
Potassium Carbonate	1122.33	108-46-3
HCL(30%)	49.88	1310-73-2
Toluene (1200 L)	4289.79	67-68-5
Bensulfuron Methyl		
PHENYL CHLOROFORMATE	3888.50	
DMC	11550.00	4637-24-5
ADMP	2159.50	26386-88-9
3,5-LUTADINE	1750.00	584-08-7
HYDROCHLORIC ACID (HCl)	325.50	1302-78-9
SULPHONAMIDE	2159.50	624-65-7
ACETONITRILE	11840.50	7647-01-0
NaOH	430.50	67-56-1
METHANOL	5120.50	4637-24-5
Halosulfuron Methyl		
PHENYL CHLOROFORMATE	1456.00	1885-14-9
ACETONE	7738.50	67-64-1
5-(AMINOSULFONYL)-3-CHLORO-1-METHYL-1H-PYRAZOLE-4-CARBOXYLIC ACID, METHYL ESTER	1970.50	100784-26-7
POTASSIUM CARBONATE	1284.50	584-08-7

HCl	787.50	7647-01-0
ADMP	1260.00	1266134-54-6
Toluene	8526.00	108-88-3
Methanol	9348.50	67-56-1
PyrazoSulfuran Ethyl		
PHENYL CHLOROFORMATE	2012.50	1885-14-9
ACETONE	9765.00	67-64-1
5-(AMINOSULFONYL)-3-CHLORO-1-METHYL-1H-PYRAZOLE-4-CARBOXYLIC ACID, ETHYL ESTER	2485.00	61-82-5
POTASSIUM CARBONATE	1764.00	584-08-7
HCl	1491.00	7647-01-0
ADMP	1613.50	1266134-54-6
Toluene	8606.50	108-88-3
Methanol	6090.00	67-56-1
OXADIAZON		
1-Trimethylbutyl-2-(2,4-dichloro-5-isopropoxyphenyl) hydrazine	4021.50	51596-11-3
Toluene	16065.00	108-88-3
Methyl Chloroformate	1407.00	79-22-1
Hexane	14000.00	110-54-3
Sodium Methoxide	66.50	124-41-4
Methanol	12775.00	67-56-1
CLETHODIM		
Ethyl Mercaptane	724.50	75-08-1
Crotanaldehyde	843.50	123-73-9
Methyl Acetoacetate	1333.50	105-45-3
Caustic, 48 %	4207.00	1310-73-2
32% HCl	4095.00	7647-01-0
Toluene	8281.00	108-88-3
Phosphoric acid,85%	1368.50	7664-38-2
Di ethylmalonate	1522.50	77-25-8
25% Sodium Methoxide	2292.50	124-41-4
Propanoic Anhydride	1340.50	123-62-6
Hexane	14045.50	110-54-3
Ethyl Acetate	465.50	141-78-6
Trans 1-3 DCP	1228.50	80-43-3
2-Chlro propnyl hydroxyl amine HCL	1442.00	7647-01-0
Acetic Acid	633.50	64-19-7
2,6-DICHLOROQUINOXALINE		
2(1H)-6-Chloro quinoxalinone	3608.50	2427-71-***6***
Thionyl chloride	2499.00	7719-09-7
DMF	70.00	68-12-2

Toluene	5250.00	108-88-3
1,2,4 Triazinone		
3,-Dimethyl-2-oxobutanoic acid,	2995.30	815-17-8
Carbonothioic dihydrazide	2182.25	996-98-5
HCl	3808.00	7647-01-0
Caustic lye	910.00	1310-73-2
2,6-DIETHYL-N-(2-PROPOXYETHYL)ANILINE		61874-13-3
2,6,-diethyl benzenamine	2493.75	579-66-8
1-(2-chloroethoxy propane	2150.75	42149-74-6
Catalyst	50.75	1031262-71-1
2-(4-HYDROXYPHENOXY)PROPANOIC ACID ETHYL ESTER		
p-toluene sulfonyl chloride,	2616.95	7791-25-5
R-Ethyl lactate	1477.00	687-47-8
Hydroquinone	2345.00	123-31-9
K_2CO_3	5127.50	584-08-7
DMF	4375.00	68-12-2
Toluene	4200.00	108-88-3
(R)-(+)-2-(4-HYDROXYPHENOXY)PROPIONIC ACID		
p-Chloro phenol	2810.50	106-48-9
2-Hydroxy (2S) propanoic acid	2262.75	79-33-4
Aniline	2625.00	62-53-3
Caustic lye	2821.00	1310-73-2
HCl	735.00	7647-01-0
SULFOSULFURON METHYL		
Sulfonamide comp.	3885	256353-34-1
KOH	136.5	1310-58-3
Phenyl ester compound.	3710	122-79-2
Acetonitrile	6720	75-05-08
HCl	175	7647-01-0
Methanol	3500	67-56-1
METSULFURON METHYL		
Amino Compound	1288	61-82-5
Isocynate compound	2212	103-71-9
MDC	22750	75-09-2
Methanol	5250	67-56-1
Carfentrazone		
Azole comp.	3762.5	109-97-7
Ethanol	3762.5	64-17-5
PTSA	52.5	6192-52-5
Xylene	10745	1330-20-7

NaOH (4%)	5372.5	1310-73-2
Fomesafen		
Acefluorfen	3608.5	50594-66-6
SOCl2	1305.5	7719-09-7
Methane sulfonamide	948.5	256353-34-1
MDC	2495.5	75-09-2
Mesotrione		
Nitro comp	5005	99-56-9
Cyclo hexane	2117.5	110-54-3
Aceto nitrile	3412.5	75-05-08
K2CO3	10500	584-08-7
MDC	10500	75-09-2
Sulfentrazone		
Sulfentrazone amine	3885	122836-35-5
Toluene	1750	108-88-3
Methane sulfonyl chloride	1939	7791-25-5
Toluene	19250	108-88-3
Dimethomorph		
Int-A	3570	
Acetyl morpholine	1911	75-36-5
NaOH	52.5	1310-73-2
Toluene	12750.5	108-88-3
K2CO3	1785	584-08-7
Methanol	3850	67-56-1
Fluxapyroxad		
Amino compound	2578.8	61-82-5
Pyrazole compound	1092	109-97-7
THF	4830	109-99-9
EA	4830	141-78-6
NaCl solution	3220	7647-14-5
Mandipropamid		
Hydroxy comp.	3804.5	524-38-9
Propargyl bromide	2693.25	106-96-7
TBAB	36.75	1643-19-2
EDC	2240	25952-53-8
Hexane	1750	110-54-3
Ethyl acetate	1750	141-78-6
NaOH(48%)	1417.5	1310-73-2
Clothianidin		
Nitro Imino compound	3787	99-56-9
DMC	15606.5	616-38-6
Chloro compound	3598	7283-96-7

K2CO3	1456	584-08-7
o-Fluoro Benzotrichloride		
o-Fluorotoluene	622.6415	352-70-5
Chlorine gas	1188.679	7782-50-5
p-Fluoro Benzotrichloride		
p-Fluorotoluene	622.6415	352-70-5
Chlorine gas	1188.679	7782-50-5
o-Chlorobenzyl chloride		
o-Chlorotoluene	945	7283-96-7
Chlorine	525	7782-50-5
2,4-Dichlorobenzyl chloride		
2,4-Dichlorotoluene	990.7692	7283-96-7
Chlorine	430.7692	7782-50-5
3-Chloro pivaloyl chloride		
Pivaloyl chloride	941.1765	3282-30-2
Chlorine	549.0196	7782-50-5
O-Chloro Benzyl Chloride		
o-Chlorotoluene	429.8901	7283-96-7
chlorine	852.8938	7782-50-5
CCMT (2 Chloro 5 Chloromethyl Thiazole)		
TCP	1177	96-18-4
NaOH	383	1310-73-2
DCP	883	80-43-3
NH_4SCN	753.5	1762-95-4
CITP	1000	594-61-6
SO_2Cl_2	1165	7791-25-5
N- Propyl Bromide		
N-Propanol	615.3846	71-23-8
Liquid Bromine	820.3077	7726-95-6
H2SO4	12.30769	7664-93-9
Soda Ash	15.38462	1310-73-2
Sulphur	81.84615	7704-34-9
N-Butyl Bromide		
N-Butanol	697.6744	71-36-3
Liquid Bromine	754.186	7726-95-6
H2SO4	12.55814	7664-93-9
Soda Ash	17.44186	1310-73-2
Sulphur	75.34884	7704-34-9
Iso- Propyl Bromide		
Iso Propanol	685.7143	71-23-8
HBr	2057.143	10035-10-6
Sulphur	1028.571	7704-34-9

Ethyl Bromide		
Ethanol	631.5789	64-17-5
HBr	2336.842	10035-10-6
Sulphur	947.3684	7704-34-9
Ethylene Di Bromide		
Ethyl Glycol	500	1126-09-6
Liq. Bromine	1450	7726-95-6
Sulphur	550	7704-34-9
4-Bromo Anisole		
ANISOLE	835.2	100-66-3
MDC	1200	75-09-2
HBr	1370.4	10035-10-6
H2O2	619.2	121-91-5
5-Nitro Isophthalic Acid		
Isophthalic acid	1026.343	7697-37-2
Nitric Acid	549.0934	7664-93-9
Sulfuric Acid	5548.307	106-49-0
Meta Nitro Para Toluidine		
P-Toludine	996.00	108-24-7
Acetic anhydride	954.00	75-09-2
MDC	4999.2	7697-37-2
HNO3	720	99-56-9
Nitro Mass	2824.8	1310-73-2
Caustic Flake	373.2	9002-89-5
Hydrolyzed Mass	1360.8	99-56-9
Nitro Benzoyl Chloride		
p-nitrobenzoic acid	1404	7723-14-0
phosphorus pentachloride	1776	10043-52-4
Calcium Chloride	2640	71-23-8
O-M-P Toluidine		
4-nitro toluene	2856	99-56-9
Hydrogen	60	1333-74-0
Raney Nickel	576	7440-02-0
Methanol	2496	67-56-1
Dichloro Benzidine Hydrochloride (DCBH)		
ONCB	1932	88-73-3
Caustic Lye	294	1310-73-2
Recovered Toluene	2136	108-88-3
Catalyst	0.96	1031262-71-1
H2	84	1333-74-0
Toluene	108	108-88-3
HCl 30%	897.6	7647-01-0

Acidic Layer	2477.04	--
Aqueous Layer	997.2	--
Soda ash	81.6	1310-73-2
Crude OCA	168	95-51-2
Residue	12	--
Toluene	5100	108-88-3
H2SO4	8205.6	7664-93-9
Crude Toluene	4044	108-88-3
HCl 30%	1228.8	7647-01-0
Salt	1227.6	--
3 Amino 4-Methyl Benzoic Acid		
3-chloro-2-methylpheno	490.7216	7283-96-7
benzyl chloride	463.9175	100-44-7
Methanol	531.9588	67-56-1
2, 4, 5-Trichloroaniline		
Trichloro Nitro Benzene	1752	17700-09-3
Hydrogen	60	1333-74-0
Catalyst	1776	1031262-71-1
2,5 Dichloro 1,4 Phenylene Diamine		
2,5DC4DNB	486.5417	97-00-7
Raney Nickel	459.9659	7440-02-0
Methanol	1741.738	67-56-1

1.3 Green Belt Development

Total 30,000 m^2 land area is available at site; out of this area about 9,900 sq. meter (33 %) area will be covered as greenbelt and other forms of greenery.

1.4 Power & Fuel Requirement

Power requirement:
Power required from DGVCL is 5000 KVA

Fuel Requirements
Imported Coal/ Briquettes-230MT/Day
FO/LDO- 80 liter/hour
Agro Waste -250 kg/hour
HSD- 6000 Liter/Day

1.5 Water Requirement and Wastewater Generation & Treatment

Total water requirement will be 197 KL/Day [Total Water Requirement: 661 KLD = Fresh Water: 197 KL/Day + Reuse: 464 KL/Day] which will be met through GIDC water supply. The total

wastewater generation will be 435 KL/Day. The Low COD effluent from process (41 KL/Day) along with utility effluent (39 KL/Day) (Boiler, cooling, washing) will be treated in ETP and dispose (80 KL/Day) to the final treated wastewater will be sent to GIDC drain for final disposal.

High COD/TDS effluent from process (346 KL/Day) sent to Primary ETP followed by stripper shall go to MEE for further treatment and MEE Condensate will be reuse within plant premises.

Domestic wastewater- 9 KL/Day will be treated in STP and reuse for gardening.

1.6 Air Pollution Source and Control Management

The source of air pollution due to the project will be Flue gas emission & Process Vents.

Particulars	**Stack Height & Dia.**	**Fuel Used With Qty.**	**Parameter**	**Permissible Limit**	**APCM**
Existing					
Boiler (Capacity: 5 TPH)	30 M & 0.6 M	Agro Waste or FO/LDO-6 Mt/Day or 1920 Lit/Hr	SPM SO_2 NO_x	150 MG/NM^3 100 ppm 50 ppm	Multi Cyclone Separator With Bag Filter
DG Sets (1010 KVA)	12 M & 0.2 M	HSD - 3000 Liter/Day			Adequate Stack Height
DG Set (380 KVA)	12 M & 0.2 M	HSD - 3000 Liter/Day			Adequate Stack Height
Proposed					
Boiler (Capacity: 8 TPH)	30 M & 1 M	Imported Coal/Briquettes - 40 Mt/Day	SPM SO_2 NO_x	150 MG/NM^3 100 ppm 50 PPM	ESP + Water Scrubber
Boiler (Capacity: 8 TPH)-Stand by	30 M & 1 M	Imported Coal /Briquettes -40 Mt/Day			ESP + Water Scrubber
Boiler (Capacity: 2 TPH)	30 m & 0.2 m	Imported Coal/Briquettes - 50 Mt/Day			Multi Cyclone Separator With Bag Filter
Boiler (Capacity: 2 TPH)-Stand by	30 m & 0.2 m	Imported Coal/Briquettes - 50 Mt/Day			Multi Cyclone Separator With Bag Filter
Thermic fluid 06 lacs Kcal	30 m & 0.2 m	Imported Coal / Briquettes - 50	SPM SO_2	150 MG/NM^3	Multi Cyclone Separator With

Particulars	Stack Height & Dia.	Fuel Used With Qty.	Parameter	Permissible Limit	APCM
Existing					
		Mt/Day	NO_X	100 ppm 50 PPM	Bag Filter
Spray dryer 150 KLD	30 m & 0.2 m	-	SPM SO2 NOX	150 MG/NM3 100 PPM 50 PPM	Multi Cyclone Separator With Bag Filter

Details of Process Gas Emission

Sr. No.	Stack attached to	Stack Height	Air Pollution Control System	Parameter	Permissible Limit
Existing					
1	Process Vent – 1 (From Boscalid)	11 m	Two stages scrubber	HCl SO_2	20 mg/Nm^3 40 mg/Nm^3
2	Process Vent – 2 (From Profenophos)	11 m		HCl HBr	20 mg/Nm^3 05 mg/Nm^3
3	Process Vent – 3	11 m		SO_2	40 mg/Nm^3
Proposed					
1	Process Vent – 4 (From 4-Bromo Anisole)	11 m	Two Stage Alkali Scrubber	HBr	05 mg/Nm^3
2	Process Vent – 5 (From 5-Nitro Isophthalic Acid)	11 m	Two Stage Water Scrubber	NO_x	25 mg/Nm^3

1.7 Hazardous Waste Management

Sr. No.	Description	Source of wastes	Waste Cat.	Quantity			Mode of Disposal
				Existing MT/Annum	Additional MT/Annum	Total MT/Annum	
1.	Discarded Drums /Containers	Raw material storage area	33.1	10	500	510	Collection, Storage, Transportation, Decontamination & sold to authorized vendors

2.	Discarded Bags			0	100	100	Collection, Storage, Transportation, Decontamination & sold to authorized vendors or Landfilling
3.	Used Oil	Machine lubrication	5.1	0.5	30	30.5	Collection, Storage, Transportation & recycle to GPCB authorized recycler
4.	Process Sludge/Process ML	In Process	26.1	250	4750	5000	Collection, Storage, Transportation & sent for co-processing in cement industries or incineration at Common Incineration facility
5.	Distillation Residue	Distillation	36.1	180	1820	2000	Collection, Storage, Transportation & sent for co-processing in cement industries or incineration at Common Incineration facility
6.	ETP Sludge	ETP	35.3	300	6482	6782	Collection, Storage, Transportation and Disposal at Nearest TSDF for Secured Landfill.
7.	MEE Salt	ETP	35.3	350	3488	3838	Collection, Storage, Transportation & sent to common TSDF
8.	Inorganic Salt	--	--	1050	13716	14766	Collection, Storage, Transportation & sent to common TSDF
9.	Spent Sulphuric Acid	Process	--	350	1030	1380	Collection, Storage, Transportation & sell to end user having rule -9 permission/Reused
10.	Spent HCL (10 - 35 % solution)	Process	29.6	45	2040	2085	Collection, Storage, Transportation & sell to end user having rule -9 permission.
11.	Sodium Acetate	Process	--	00	868	868	Collection, Storage, Transportation & sell to

	Solution						end user having rule -9 permission.
12.	Spent Nitric Acid Solution	Process	29.6	00	160	160	Collection, Storage, Transportation & sell to end user having rule -9 permission.
12	Spent Acetic Acid Solution	Process	--	00	558	558	Collection, Storage, Transportation & sell to end user having rule -9 permission.
13	Spent Catalyst	Process	29.5	00	2473	2473	Collection, Storage, Transportation & sell to end user having rule -9 permission.
14	Spent Solvent	Process	29.4	00	74950	74950	Collection, Storage & Distill in-house and reuse in plant premises or sell to end user having rule -9 permission.
15	Sodium Sulphate	Process	--	00	1000	1000	Collection, Storage, Transportation & sell to end user having rule -9 permission.
16	NaBr/HBr/KBr Solution	Scrubber	--	00	5600	5600	Collection, Storage, Transportation & sell to end user having rule -9 permission.
17	$ALCL_3$ Solution	Process	--	81	729	810	Collection, Storage, Transportation & sell to end user having rule -9 permission.
18	Potassium Chloride	Process	--	2180	00	2180	Collection, Storage, Transportation & sell to end user having rule -9 permission.
19	Potassium Salt	Process	--	2180	00	2180	Collection, Storage and sell to end user having rule -9 permission/ TSDF .
20	Battery Waste	IT	--	00	500 nos.	500 nos.	Collection, Storage, Transportation & sent buy back to its supplier

							or sell as per rule
21	Bio Medical Waste	OHC	--	00	10	10	Collection, Storage, Transportation & sent at TSDF /CHWIF
22	Used filter bag / Cloth	Process	--	00	10	10	Collection, Storage, Transportation & sent for co processing/pre processing/end user having rule -9 permission
23	Filter media	Process	--	00	10	10	Collection, Storage, Transportation & sent for co processing/pre processing/end user having rule -9 permission
24	Contaminated oil socked cotton waste	Process	--	00	10	10	Collection, Storage, Transportation & sent to TSDF/CHWIF
25	E-Waste	IT /Electrical	--	00	10	10	Collection, Storage, Transportation & sent for co processing/pre processing/end user having rule -9 permission
Non-Hazardous Waste							
26	Fly ash	Utility	--	00	2800	2800	Collection, Storage, Transportation and sell to brick manufacturer/co processing/pre processing

2.0 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of the project and project proponent. In case of mining project, a copy of mining lease/letter of intent should be given.

Identification of the project

Proposed expansion of Pesticide & Pesticide Intermediates Manufacturing Unit in existing unit

Identification of the project proponent

Mr.Yashwant Kumar Saini (Sr. Manager Manufacturing)

2.2 Brief description of nature of the Project

Proposed expansion of Pesticide & Pesticide Intermediates Manufacturing Unit in existing unit

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

The Indian agrochemical industry currently tops amongst India's science based industries with wide ranging capabilities in the complex field of agrochemicals. The agrochemical industry in India meets around 60% of the country's demand. But in world market also Indian agrochemical products are well accepted. There is a good potential for us to fulfill the need of domestic market as well as contribute in earning foreign Exchange.

2.4 Demands-Supply Gap

Based on our informal survey of the market with our current customers and various traders, we have found that there is a big potential for the range of the products we are planning.

2.5 Imports vs. Indigenous production

Based on the current cost of indigenous raw materials and the non availability of some materials, we will have to import some of the key raw materials as they are not available indigenously. This will make us very competitive against imported finished products and we will export our finished products in the international market.

2.6 Export possibility

There is export potential of our proposed products.

2.7 Domestic/Export Markets

Our products have good demand in international market. We shall explore the possibility of export the products.

2.8 Employment Generation (Direct and Indirect) due to project.

M/s. Crystal Crop Protection Pvt. Ltd. will give direct employment to local people based on qualification and requirement. In addition to direct employment, indirect employment shall generate ancillary business to some extent for the local population.

[Exiting Manpower: 250 + Proposed Manpower: 550 = Total Proposed 800]

3.0 Project Description

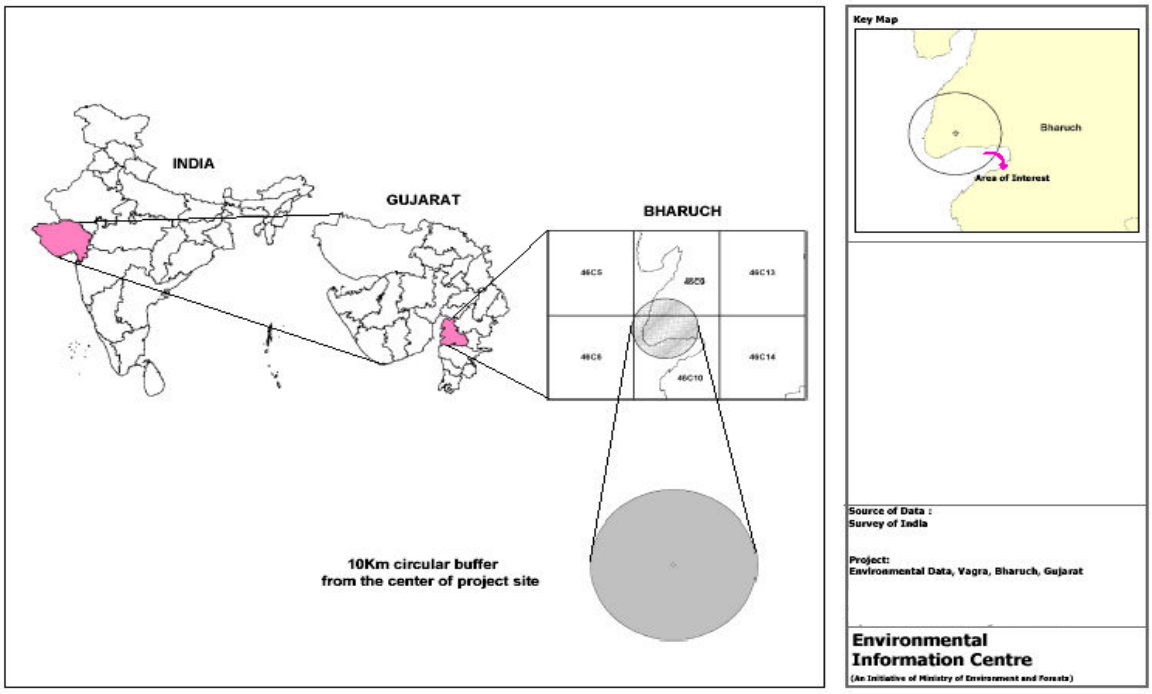
3.1 Type of Project including interlinked and interdependent projects, if any.

Proposed expansion of Pesticide & Pesticide Intermediates Manufacturing Unit in existing unit

Category: A-5(b)

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

Map showing general location



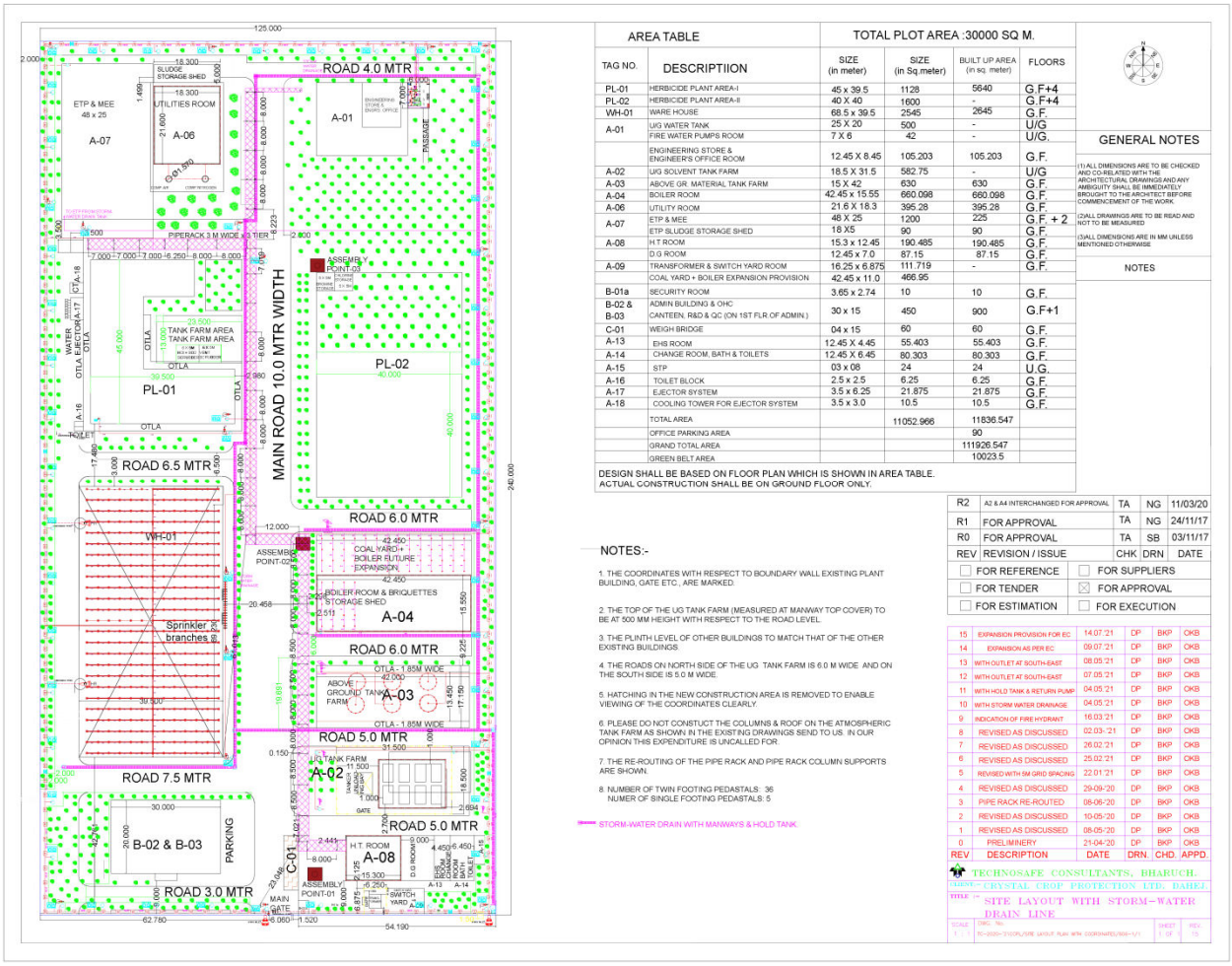
(Courtesy: Environmental Information Center, New Delhi)

- Specific location and project boundary


M/s. Crystal Crop Protection Pvt Ltd
Image © 2021 Maxar Technologies
170 m
Google Earth


M/s. Crystal Crop Protection Pvt Ltd
Image © 2021 Maxar Technologies
Image © 2021 TerraMetrics
7.65 km
Google Earth

Layout



AREA TABLE		TOTAL PLOT AREA :30000 SQ M.			
TAG NO.	DESCRIPTIION	SIZE (in meter)	SIZE (in Sq.meter)	BUILT UP AREA (in sq. meter)	FLOORS
PL-01	HERBICIDE PLANT AREA-I	45 x 39.5	1128	5640	G.F+4
PL-02	HERBICIDE PLANT AREA-II	40 X 40	1600	-	G.F+4
WH-01	WARE HOUSE	68.5 x 39.5	2545	2645	G.F.
A-01	U/G WATER TANK	25 X 20	500	-	U/G
	FIRE WATER PUMPS ROOM	7 X 6	42	-	U/G.
	ENGINEERING STORE & ENGINEER'S OFFICE ROOM	12.45 X 8.45	105.203	105.203	G.F.
A-02	U/G SOLVENT TANK FARM	18.5 X 31.5	582.75	-	U/G
A-03	ABOVE GR. MATERIAL TANK FARM	15 X 42	630	630	G.F.
A-04	BOILER ROOM	42.45 x 15.55	660.098	660.098	G.F.
A-06	UTILITY ROOM	21.6 X 18.3	395.28	395.28	G.F.
A-07	ETP & MEE	48 X 25	1200	225	G.F. + 2
	ETP SLUDGE STORAGE SHED	18 X5	90	90	G.F.
A-08	H.T ROOM	15.3 x 12.45	190.485	190.485	G.F.
	D.G ROOM	12.45 x 7.0	87.15	87.15	G.F.
A-09	TRANSFORMER & SWITCH YARD ROOM	16.25 x 6.875	111.719	-	G.F.
	COAL YARD + BOILER EXPANSION PROVISION	42.45 x 11.0	466.95		
B-01a	SECURITY ROOM	3.65 x 2.74	10	10	G.F.
B-02 & B-03	ADMIN BUILDING & OHC CANTEEN. R&D & QC (ON 1ST FLR OF ADMIN.)	30 x 15	450	900	G.F+1
C-01	WEIGH BRIDGE	04 x 15	60	60	G.F.
A-13	EHS ROOM	12.45 X 4.45	55.403	55.403	G.F.
A-14	CHANGE ROOM, BATH & TOILETS	12.45 X 6.45	80.303	80.303	G.F.
A-15	STP	03 x 08	24	24	U.G.
A-16	TOILET BLOCK	2.5 x 2.5	6.25	6.25	G.F.
A-17	EJECTOR SYSTEM	3.5 x 6.25	21.875	21.875	G.F.
A-18	COOLING TOWER FOR EJECTOR SYSTEM	3.5 x 3.0	10.5	10.5	G.F.
	TOTAL AREA		11052.966	11836.547	
	OFFICE PARKING AREA			90	
	GRAND TOTAL AREA			111926.547	
	GREEN BELT AREA			10023.5	

DESIGN SHALL BE BASED ON FLOOR PLAN WHICH IS SHOWN IN AREA TABLE.
ACTUAL CONSTRUCTION SHALL BE ON GROUND FLOOR ONLY.

GENERAL NOTES

(1) ALL DIMENSIONS ARE TO BE CHECKED AND CO-RELATED WITH THE ARCHITECTURAL DRAWINGS AND ANY AMBIGUITY SHALL BE IMMEDIATELY BROUGHT TO THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK.

(2)ALL DRAWINGS ARE TO BE READ AND NOT TO BE MEASURED

(3)ALL DIMENSIONS ARE IN MM UNLESS MENTIONED OTHERWISE

NOTES

NOTES:-

1. THE COORDINATES WITH RESPECT TO BOUNDARY WALL EXISTING PLANT BUILDING, GATE ETC., ARE MARKED.
2. THE TOP OF THE UG TANK FARM (MEASURED AT MANWAY TOP COVER) TO BE AT 500 MM HEIGHT WITH RESPECT TO THE ROAD LEVEL.
3. THE PLINTH LEVEL OF OTHER BUILDINGS TO MATCH THAT OF THE OTHER EXISTING BUILDINGS.
4. THE ROADS ON NORTH SIDE OF THE UG. TANK FARM IS 6.0 M WIDE. AND ON THE SOUTH SIDE IS 5.0 M WIDE.
5. HATCHING IN THE NEW CONSTRUCTION AREA IS REMOVED TO ENABLE VIEWING OF THE COORDINATES CLEARLY.
6. PLEASE DO NOT CONSTUCT THE COLUMNS & ROOF ON THE ATMOSPHERIC TANK FARM AS SHOWN IN THE EXISTING DRAWINGS SEND TO US. IN OUR OPINION THIS EXPENDITURE IS UNCALLED FOR.
7. THE RE-ROUTING OF THE PIPE RACK AND PIPE RACK COLUMN SUPPORTS ARE SHOWN.
8. NUMBER OF TWIN FOOTING PEDASTALS: 36
   NUMER OF SINGLE FOOTING PEDASTALS: 5

STORM-WATER DRAIN WITH MANWAYS & HOLD TANK.

REV		CHK	DRN	DATE
R2	A2 & A4 INTERCHANGED FOR APPROVAL	TA	NG	11/03/20
R1	FOR APPROVAL	TA	NG	24/11/17
R0	FOR APPROVAL	TA	SB	03/11/17

☐ FOR REFERENCE ☐ FOR SUPPLIERS
☐ FOR TENDER ☒ FOR APPROVAL
☐ FOR ESTIMATION ☐ FOR EXECUTION

REV	DESCRIPTION	DATE	DRN.	CHD.	APPD.
15	EXPANSION PROVISION FOR EC	14.07.'21	DP	BKP	OKB
14	EXPANSION AS PER EC	09.07.'21	DP	BKP	OKB
13	WITH OUTLET AT SOUTH-EAST	08.05.'21	DP	BKP	OKB
12	WITH OUTLET AT SOUTH-EAST	07.05.'21	DP	BKP	OKB
11	WITH HOLD TANK & RETURN PUMP	04.05.'21	DP	BKP	OKB
10	WITH STORM WATER DRAINAGE	04.05.'21	DP	BKP	OKB
9	INDICATION OF FIRE HYDRANT	16.03.'21	DP	BKP	OKB
8	REVISED AS DISCUSSED	02.03.'21	DP	BKP	OKB
7	REVISED AS DISCUSSED	26.02.'21	DP	BKP	OKB
6	REVISED AS DISCUSSED	25.02.'21	DP	BKP	OKB
5	REVISED WITH 5M GRID SPACING	22.01.'21	DP	BKP	OKB
4	REVISED AS DISCUSSED	29-09-'20	DP	BKP	OKB
3	PIPE RACK RE-ROUTED	08-06-'20	DP	BKP	OKB
2	REVISED AS DISCUSSED	10-05-'20	DP	BKP	OKB
1	REVISED AS DISCUSSED	08-05-'20	DP	BKP	OKB
0	PRELIMINERY	21-04-'20	DP	BKP	OKB

TECHNOSAFE CONSULTANTS, BHARUCH.

CLIENT :- CRYSTAL CROP PROTECTION LTD, DAHEJ.

TITLE :- SITE LAYOUT WITH STORM-WATER DRAIN LINE

SCALE 1 : 1 | DWG. No. TC-2020-21/CPL/SITE LAYOUT PLAN WITH COORDINATES/R06-1/1 | SHEET 1 OF 1 | REV. 15

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

Major factors involved in the selection of site are listed below:

- Existing & operational unit
- Site is very well connected by road
- Proximity to Raw Material suppliers
- Availability of sufficient land free from cultivation
- Availability of power evacuation facilities
- Availability of water for industrial use

Modern infrastructure support and amenities at par with industrial estates in other global markets, including:

- Efficient transport facilities within the industrial estate and to & fro the city area.
- Environment-friendly zone.
- Uninterrupted power supply.

3.4 Size or Magnitude of Operation

Please refer Annexure-I of Form-I.

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

Please refer Annexure-III in Form-I.

3.6 Raw material required along with estimated quantity, likely source, marketing area of final products. Mode of transport of raw materials and finished products.

Please refer Annexure-I in Form-I

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

Company will treat 9 KL/Day domestic wastewater in STP and the reuse it in gardening purpose. Also, Company will reuse MEE condensate 335 KL/Day within premises.

3.8 Availability of water its source, energy/power requirement and source should be given.

Power & Fuel Requirement

Power requirement:
Power required from DGVCL is 5000 KVA
Fuel Requirements
Imported Coal/ Briquettes-230MT/Day
FO/LDO- 80 liter/hour
Agro Waste -250 kg/hour
HSD- 6000 Liter/Day

Water Source

The entire water requirement will be met through GIDC Water Supply.

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

Liquid Waste:

Total water requirement will be 197 KL/Day [Total Water Requirement: 661 KLD = Fresh Water: 197 KL/Day + Reuse: 464 KL/Day] which will be met through GIDC water supply. The total wastewater generation will be 435 KL/Day. The Low COD effluent from process (41 KL/Day) along with utility effluent (39 KL/Day) (Boiler, cooling, washing) will be treated in ETP and dispose (80 KL/Day) to the final treated wastewater will be sent to GIDC drain for final disposal.

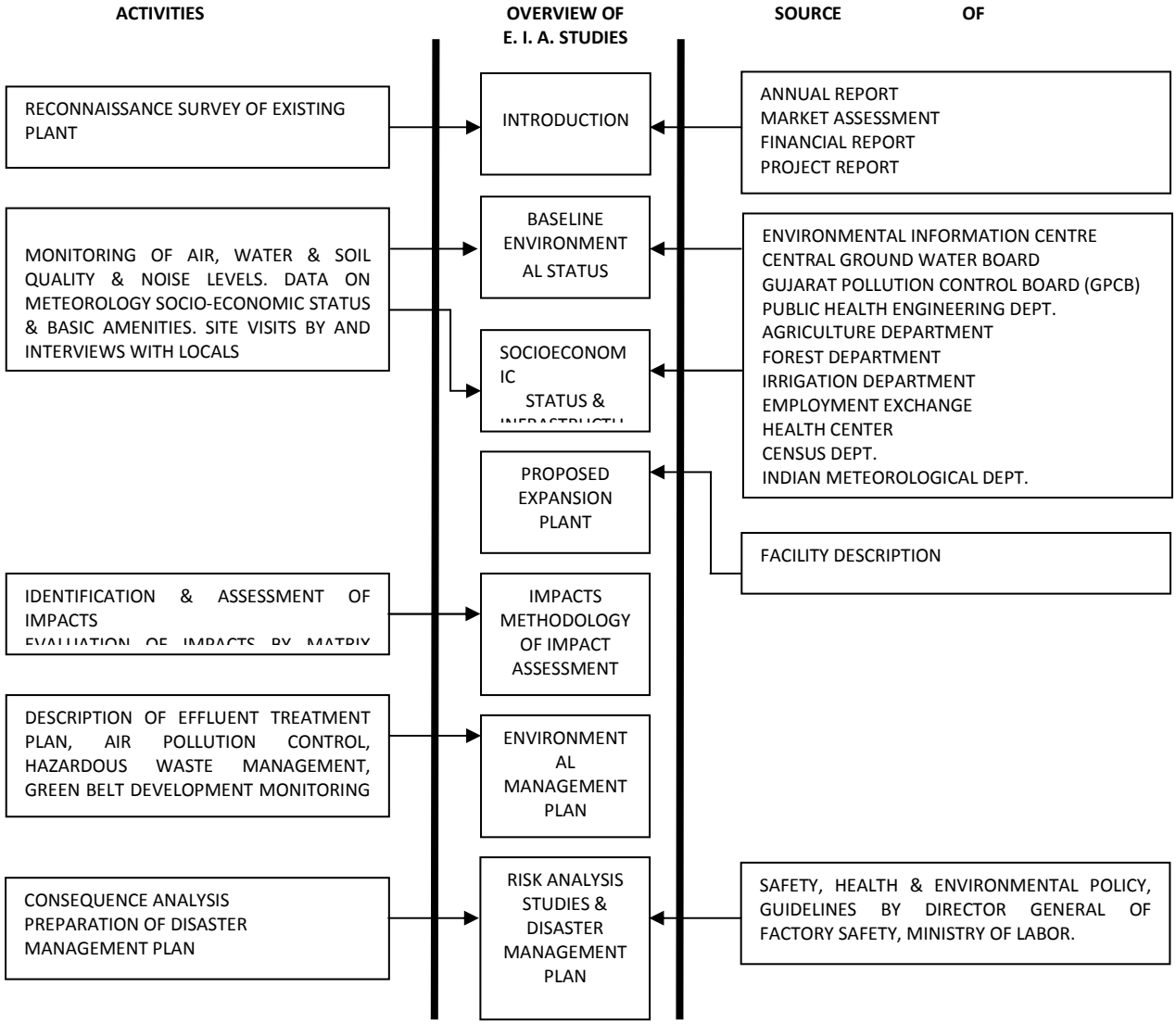
High COD/TDS effluent from process (346 KL/Day) sent to Primary ETP followed by stripper shall go to MEE for further treatment and MEE Condensate will be reuse within plant premises.

Domestic wastewater- 9 KL/Day will be treated in STP and reuse for gardening.

Solid Waste:

Please Annexure- VI in Form-I.

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

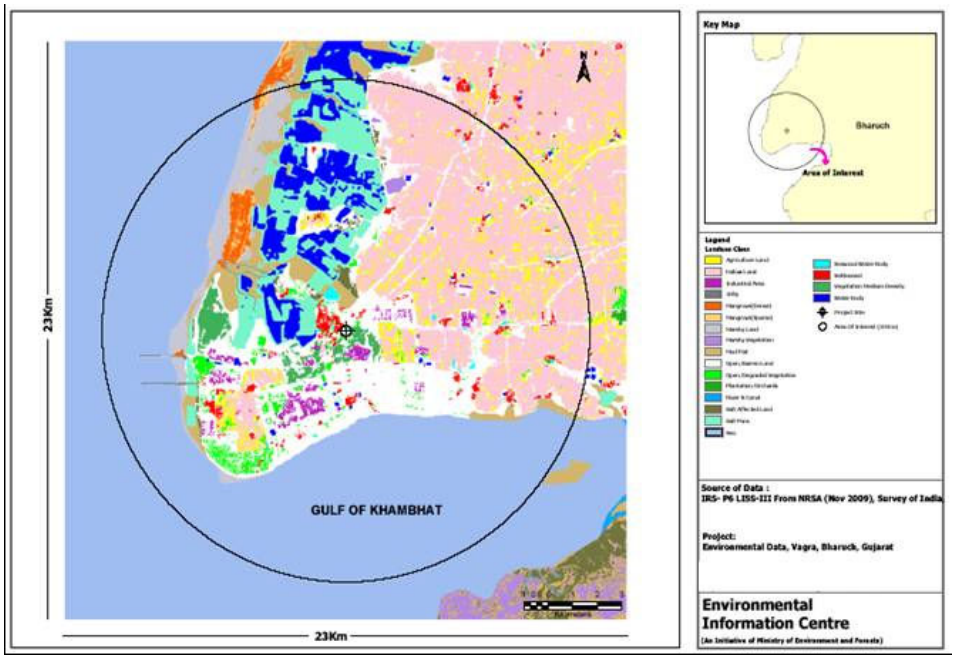


4.0 Site Analysis

4.1 Connectivity

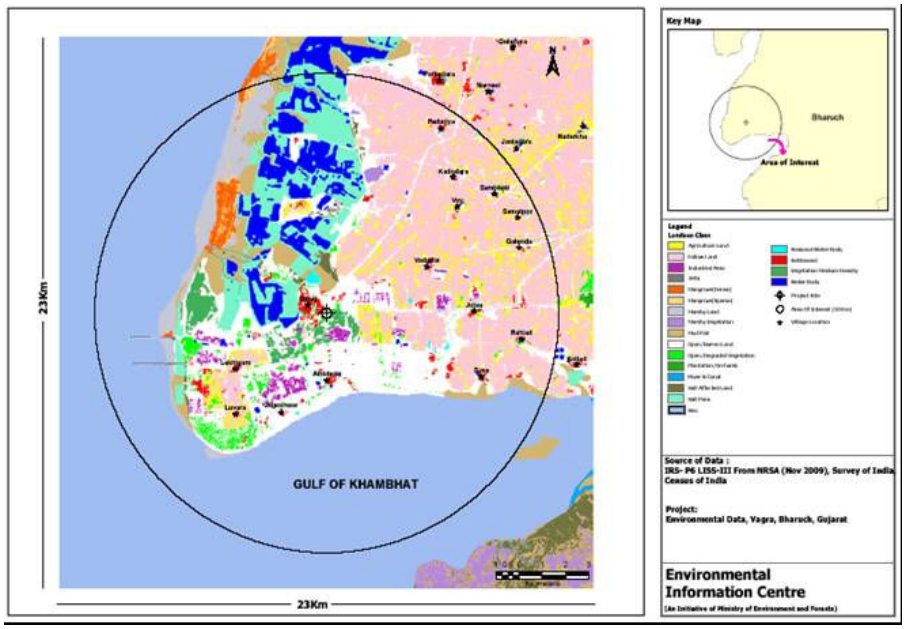
- Site is very well connected by road & rail
- Availability of power evacuation facilities
- Availability of water for industrial use

4.2 Land Form, Land Use and Land Ownership



Courtesy: Environmental Information Center, New Delhi)

4.3 Topography (along with map)



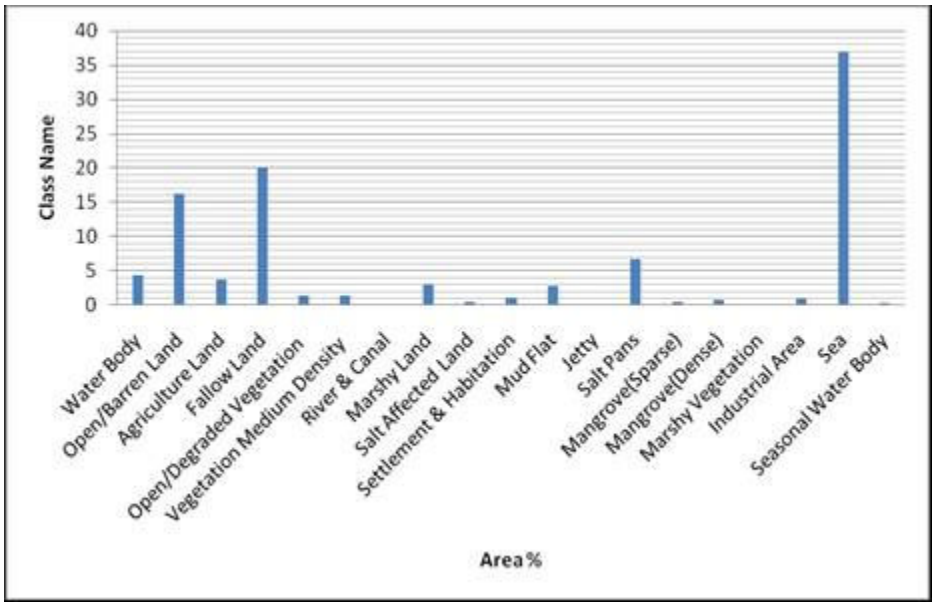
(Courtesy: Environmental Information Center, New Delhi)

AREAS UNDER DIFFERENT LANDUSE

Area Statistics of Landuse / Landcover Map				
Sr. No.	**Class Names**	**Area (In Hectares)**	**Area (In Sq.Km.)**	**Area %**
1	Water Body	1363.73	13.64	4.34
2	Open/Barren Land	5076.01	50.76	16.17
3	Agriculture Land	1159.56	11.60	3.69
4	Fallow Land	6291.40	62.91	20.04
5	Open/Degraded Vegetation	412.59	4.13	1.31
6	Vegetation Medium Density	397.40	3.97	1.27
7	River & Canal	23.25	0.23	0.07
8	Marshy Land	919.33	9.19	2.93
9	Salt Affected Land	128.45	1.28	0.41
10	Settlement & Habitation	324.50	3.25	1.03
11	Mud Flat	863.17	8.63	2.75
12	Jetty	32.91	0.33	0.10
13	Salt Pans	2083.03	20.83	6.63
14	Mangrove(Sparse)	117.30	1.17	0.37
15	Mangrove(Dense)	223.00	2.23	0.71
16	Marshy Vegetation	46.55	0.47	0.15
17	Industrial Area	290.32	2.90	0.92

18	Sea	11589.46	115.89	36.91
19	Seasonal Water Body	59.04	0.59	0.19
	Total	**31400.99**	**314.01**	**100.00**

(Courtesy: Environmental Information Center, New Delhi)



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

It will be incorporated in EIA Studies.

4.5 Existing Infrastructure

Existing Infrastructures facilities are listed below:

Site is very well connected by road

Proximity to Raw Material suppliers

Availability of CETP and common TSDF in the estate

Availability of sufficient land free form cultivation.

Availability of power evacuation facilitie

4.6 Soil Classification

It will be incorporated in EIA Studies.

CATEGORY	AREA_SQ KM	DESCRIPTION	TAXONOMY1	TAXONOMY 2	CLASS	SUB_CLASS
A	88.93	Very deep, moderately well drained, calcareous, fine soils on very gently sloping alluvial plain with slight erosion and moderate salinity; associated with very deep moderately well drained, calcareous, fine soils with moderate erosion.	Fine, montmorillonitic (calcareous), hyperthermic Typic Chromusterts	Fine, montmorillonitic (calcareous) hyperthermic Udic Chromusters	Soils of west coast (soils of Gujarat plain)	Soils of alluvial plains
C	108.64	Very deep, poorly drained, calcareous fine-loamy soils on very gently sloping coastal plain with moderate erosion and strong salinity; associated with very deep , imperfectly drained, calcareous, fine soils with severe erosion and strong salinity.	Fine-loamy, mixed (calcareous), hyperthermic Aeric Haplaquepts	Fine, mixed (calcareous), hyperthermic Typic Halaquepts	Soils of west coast (soils of Gujarat plain)	Soils of coastal plains
-	116.43	Sea	-	-	-	-

4.7 Climatic data from secondary sources.

Primary source: our own weather station & Secondary Sources: Indian Meteorological Department, Ahmedabad.

4.8 Social infrastructure available.

Depending on the growth of the company the required social infrastructure will be provided.

5.0 Planning Brief

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

Type of Industry: Industry-III [Pesticide & Pesticide Intermediates In Existing Unit]

5.2 Population Projection

Population data:

POPULATION DENSITY

Name	Population (Persons)	Population Density (Person / sq. km.)	Sex ratio (No. of females per 1000 males)
Within 5 km Radius (2011)	25483	324	675
Within 10 km Radius (2011)	32430	103	728
Taluka Vagra (2001)	82569	94	916
Taluka Vagra (2011)	100044	114	870
District Bharuch (2001)	1370104	210	920
District Bharuch (2011)	1551019	238	925

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

Industrial Area (Processing Area)

Processing Area (Plant facilities, R&D, ETP Area and Engineering / Utility Services)

Developed Area: 7,598.65 m^2

Residential Area (Non Processing Area)

Non Processing Area (Green belt, Raw material storage area, finished storage area, Administration Building, Parking, road and open area)

Area: 22,401.35 m^2

Total 30,000 m^2 land area is available at site; out of this area about 9,900 sq. meter (33 %) area will be covered as greenbelt and other forms of greenery.

5.4 Assessment of Infrastructure Demand (Physical & Social)

- Employment would be as per prevailing norms of state government for skilled and unskilled people for the proposed project activity.
- Social Welfare
- Cordial relation with the industry shall be established and representation shall be made to villagers for help for creation of facilities related to health, education, etc.

5.5 Amenities/Facilities

It will be incorporated in EIA Studies.

6.0 Proposed Infrastructure

6.1 Industrial Area (Processing Area)

Processing Area (Plant facilities, R&D, ETP Area and Engineering / Utility Services)
Developed Area: 7,598.65 m^2

6.2 Residential Area (Non Processing Area)

Non Processing Area (Green belt, Raw material storage area, finished storage area, Administration Building, Parking, road and open area)
Area: 22,401.35 m^2

6.3 Green Belt

Total 30,000 m^2 land area is available at site; out of this area about 9,900 sq. meter (33 %) area is covered as greenbelt and other forms of greenery.

6.4 Social Infrastructure

Depending on the growth of the company the required social infrastructure will be provided.

6.5 Connectivity (Traffic and Transportation Road/ Rail/Metro/ Water ways, etc.)

Major factors involved in the selection of site are listed below:

- Site is very well connected by road
- Proximity to Raw Material suppliers
- Availability of sufficient land free from cultivation
- Availability of power facilities
- Availability of water for industrial use

6.6 Drinking water Management (Source & Supply of water)

Total water requirement shall meet through GIDC supply.

6.7 Sewerage System

Sewage pipes are laid in entire company for the removal and disposal of mainly non-harmful liquid wastes from the offices, canteen and domestic waste coming from different sections. These liquid wastes are treated and disposed by STP.

6.8 Solid Waste Management

Please refer Section 1.7, Page No. 7 in Pre-Feasibility Report.

6.9 Power Requirement & Supply/Source

Power requirement:
Please refer Section 1.8, Page No.6 of this report.

7.0 Rehabilitation and Resettlement (R & R) Plan

7.1 Policy to be adopted (central/state) in respect of the project affected including home ousters, land ousters and landless laborers (a brief outline to be given)

There is no habitation on the proposed expansion project area and it is industrial land which is purchased by company for development of Company, so that R & R policy is not applicable to this project. There shall be no displacement of any population in project area.

8. Project Schedule & Cost Estimates

8.1 Likely date of start of construction and likely date of completion (Time schedule for the project to be given).

We shall start construction after getting EC & CTE. We shall start manufacturing after applying for CCA.

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

Total costs of the project will Rs. 252.87 Crore [Existing: 36.21 Crore + Proposed: 216.66 Crore].Capital cost of air & water pollution control system and environmental monitoring equipments will be Rs. 28.66 crore.

9. Analysis of Proposal (Final Recommendations)

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

- Employment would be as per prevailing norms of state government for skilled and unskilled people for the proposed project.
- Social Welfare shall be done.
- Cordial relation with the industry shall be established and representation shall be made to villagers for help for creation of facilities related to health, education, etc.