

o/c

BEIL INFRASTRUCTURE LIMITED



Ref.: BEIL/JIT/2026-27/07

Date: 29.05.2026

XGN ID: 86387

To,
Integrated Regional Office
Ministry of Environment, Forest and Climate Change,
A wing- 407 & 409, Aranya Bhawan,
Near CII-3 Circle, Sector-10A,
Gandhinagar-382010



Subject: Half yearly EC Compliance Status of Environmental clearance for setting up of a Common hazardous waste treatment, Storage, disposal facilities (TSDFs) capacity of 30 lacs MT at Survey no. 190, 233, 254, 263, 268, 269, 270, 271, 272 & 273 Village-Jitali, Ankleshwar Bharuch for the period October'25 to March'26.

Ref.: Environmental Clearance File no.; IA/GJ/INFRA2/406821/2022 grant on 16.03.2023

Dear Sir,

We M/s. Bharuch Enviro Infrastructure Limited proposes a TSDF Facility with capacity of 30 lacs at Survey no. 190, 233, 254, 263, 268, 269, 270, 271, 272 & 273 Village-Jitali, Ankleshwar Bharuch.

We have applied for Site Notification application at GPCB, and project will be implemented soon after. We shall comply with the conditions stipulated once the EC is implemented. However, we have complied the conditions mentioned under Miscellaneous and herewith submitting the half yearly EC Compliance status report for the period of October'25 to March'26 of Environmental clearance issued by MoEF&CC IA/ GJ/ INFRA2/ 406821/ 2022 grant on 16.03.2023.

In case you need any additional information, we will provide the same on hearing from you.

Thanking you,
Yours faithfully,

For **BEIL Infrastructure Limited**

(formerly known as Bharuch Enviro Infrastructure limited)

B.D. Dalwadi

(Chief Executive Officer)

C.C: (1) Central Pollution Control Board

Regional Directorate (West). Parivesh Bhawan. Subhanpura, Vadodara - 390023.

(2) Regional Officer, Gujarat Pollution Control Board, Ankleshwar.

(3) Unit Head-Hazardous waste cell,

Gujarat Pollution Control Board, Sector-10A, Paryavaran Bhavan. Gandhinagar-382 010.

(4) Member Secretary- Gujarat Pollution Control Board. Sector-10A, Paryavaran Bhavan, Gandhinagar-382 010.



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Government of Gujarat
Forest and Environment Department
Block No-14th, 8th Floor,
Sachivalaya, Gandhinagar.

NOTIFICATION
Dated: 26.06.2024

Notification No- GVN-2022-14-ENV-10-2024-BEIL-09-T

In exercise of power under Rule 21 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 made under section 6, 8 & 25 of the Environment (Protection) Act 1986 and the G.R. No. ENV-10-2017-34-T dtd. 22.11.2017 issued by the Govt. of Gujarat, the State Government here by notifies the site at Survey No. 190, 233, 254, 263, 268, 269, 270, 271, 272 & 273 Village - Jitali, Ta – Ankleshwar, Dist. - Bharuch for the development of waste disposal facilities for setting up of common Hazardous and Other Waste Treatment, Storage and Disposal Facility (TSDF) by **M/s. Bharuch Enviro Infrastructure Limited.**

The Project Proponent shall obtain all necessary permission from the concerned Authorities/Government Department prior to the operation of the facility

D.M. Thaker
(D. M. Thaker)
Director, Environment

Copy To:-

- ✓ 1. P.S. to Hon'ble Chief Minister, Government of Gujarat.
2. P.S. to Hon'ble Minister (Forest & Environment), Government of Gujarat.
3. P.S. to Hon'ble Minister of State (Forest & Environment), Government of Gujarat.
4. PS to ACS Forest & Environment Department, Government of Gujarat.
5. PS to ACS Revenue Department, Government of Gujarat.
6. PS to ACS Industries & Mines Department, Government of Gujarat.
7. PS to ACS Panchayat and Rural Development Department, Government of Gujarat.
8. The District Collector, Bharuch.
9. The Member Secretary, Gujarat Pollution Control Board, Gandhinagar.
10. Select file.



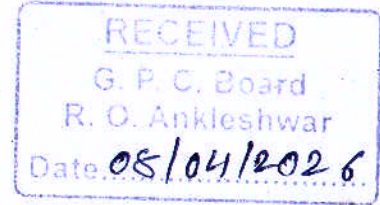
BEIL INFRASTRUCTURE LIMITED

Ref: - BEIL/JIT/2026-27/02

Date: 08.04.2026

PCB ID: 86387

To,
Dr. S.N. Agravat
The Regional Officer,
GPCB – Ankleshwar
Gujarat.



Subject: Progress report Regarding Commencement of landfill Cell-2, 3, Cell- 1 inclusive of monsoon storage shed, Stabilization shed, drain work and Building structure Construction Work at New BEIL Infrastructure limited - Jitali Site.

Ref: 1. Our Previous work commencement letter number: BEIL/JIT/2025-26/02 dated 01.05.2025.
2. Our Previous work progress report letter number: BEIL/JIT/2025-26/09 dated 20.11.2025.

Respected Sir,

We would like to formally inform your esteemed office that our company, **BEIL INFRASTRUCTURE LIMITED at Survey Nos. 190, 233, 254, 263, 268, 269, 270, 271, 272, and 273 Village-Jitali, Ankleshwar Bharuch-Gujarat** site has initiated the construction activities at our new landfill site as per the guidance, approved plans and regulatory clearances by IIT-Delhi.

All landfill construction activities are being undertaken in accordance with the conditions stipulated in the Environmental Clearance (EC) identification no:EC23A032GJ141577 dated 16.02.2023 (Ministry vide proposal number: IA/GJ/INFRA2/406821/2022 dated 08 Dec 2022), Consent to Establish (CTE) No: GPCB/HAZ – GEN – 747/ ID-86387/755188 dated 06.10.2023, and other applicable statutory requirements. We are committed to maintaining full compliance with environmental norms and will ensure that all necessary safeguards and best practices are followed during the landfill construction phase.

The Current status of landfill construction at site is landfill Cell-2, 3, Cell- 1 inclusive of monsoon storage shed, Stabilization shed, drain work and Building structure, as required under the applicable regulatory framework. The approx. progress work completion details are as under:

MONSOON SHED CELL 01

SR NO.	DESCRIPTION OF WORK	STATUS	% COMPLETED	REMARK
1	Excavation for Cell	COMPLETED	100%	
2	Monsoon Shed Column	COMPLETED	100%	
3	Soil filling for road	PROGRESS	95%	
4	Fabrication & Erection work of Shed	PROGRESS	95%	

CIN NO. U45300GJ1997PLC032696

Regd. Office : Plot No. 9701-16, GIDC Estate, Post Box No. 82, Ankleshwar - 393 002, Dist. : Bharuch (Gujarat)
Phones : (02646) 253135, 225228 • Fax : (02646) 222849 • E-mail : dalwadibd@beil.co.in • website : www.beil.co.in



BEIL INFRASTRUCTURE LIMITED

5	Side Slope cutting	PROGRESS	80%	
6	Clay liner	PROGRESS	80%	
7	HDPE Sheet	NOT STARTED	0%	
8	Geo textile	NOT STARTED	0%	
9	Sand filling	NOT STARTED	0%	
10	Gravel Filing	NOT STARTED	0%	

CELL 02 & 03

SR NO	DESCRIPTION OF WORK	STATUS	% COMPLETED	REMARK
1	Excavation for Cell	PROGRESS	100%	
2	Clay Liner bottom of Cell	PROGRESS	100%	
3	Soil filling for road	PROGRESS	95%	
4	Side Slope cutting	PROGRESS	100%	
5	Clay liner	PROGRESS	100%	
6	HDPE Sheet	PROGRESS	65%	
7	Geo textile	PROGRESS	65%	
8	Sand filling	PROGRESS	40%	
9	Gravel Filing	PROGRESS	40%	

BUILDING STRUCTURE

SR NO	DESCRIPTION OF WORK	STATUS	% COMPLETED	REMARK
1	Security Building	PROGRESS	90%	
2	Leachate Collection tank	COMPLETED	100%	
3	GIDC Water tank	COMPLETED	100%	
4	Truck Parking	PROGRESS	65%	
5	Admin Building	PROGRESS	70%	
6	Driver Rest Room	PROGRESS	100%	
7	Gents Worker Toilet	PROGRESS	80%	
8	Ladies Worker Toilet	PROGRESS	70%	
9	Weigh Bridge Office	PROGRESS	80%	
9	PCC Room	PROGRESS	70%	
10	Service Road	PROGRESS	50%	

STABILIZATION SHED

SR NO	DESCRIPTION OF WORK	STATUS	% COMPLETED	REMARK
1	RCC WORK	PROGRESS	40%	
2	STRUCTURE WORK	PROGRESS	50%	

CIN NO. U45300GJ1997PLC032696

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BEIL INFRASTRUCTURE LIMITED

DRAIN WORK

SR NO	DESCRIPTION OF WORK	STATUS	% COMPLETED	REMARK
1	RCC WORK	PROGRESS	70%	

We appreciate your continued guidance and support. Kindly take note of the above.

Thanking you,

Yours Faithfully,

For, **M/s BEIL Infrastructure Limited**

(Formerly known as M/s. Bharuch Enviro Infrastructure Limited)

Authorized Signatory

Cc: Unit Head – Hazardous waste cell, Gujarat Pollution Control Board, Gandhinagar

Construction Activity – BEIL Jitali Site





Government of Gujarat

Dakshin Gujarat Vij Company Limited

(A Government of Gujarat Undertaking, CIN No.:U40102GJ2003SGC042909)

INDUSTRIAL DIVISION - ANKLESHWAR

Hall No. H-2, Office No. 411,412,421 & 422, Forth Floor, Sargam Complex,
ONGC Road, Nr. Tran Rasta, Ankleshwar, Bharuch (Gujarat).

Toll Free No. 1800-233-3003, Email ID: eeank.dgvcl@gmail.com

Registered Office: "Urja sadan", Nana Varachha Road, Opp. Gajjar Petrol Pump, Kapodra, Surat-395006 (Gujarat)



BY RPAD

To,

M/S BAIL infrastructure limited,

Plot No.-G7&8 with road No. 1&2, Road No. 1to4 & Ele. Lines G.S.& Area of Plot 191510.33 Sq.MTR, Road No. South 14/A-16 MTR Between Plot No.9901 to 9906 &9815-9828,7905/E-7905/H,7924-7927,9401-9412,9501-9506,9601-9604,9701-9716,9801-9828,9901-9906,9923-9928,10001-10003,GIDC Ankleshwar Ta-Ankleshwar, Dist.-Bharuch.

Sub:-Approval for extension of power boundary for existing connection in respect of M/S BAIL infrastructure limited, Plot no. G7&8 with road No. 1&2, Road No. 1to4 & Ele. Lines G.S.& Area of Plot 191510.33 Sq.MTR, Road No. South 14/A-16 MTR Between Plot No.9901 to 9906 &9815-9828,7905/E-7905/H,7924-7927,9401-9412,9501-9506,9601-9604,9701-9716,9801-9828,9901-9906,9923-9928,10001-10003of GIDC Ankleshwar, Ta-Ankleshwar, Dist - Bharuch **(263398.33 Sq Mtr Area)** to adjoining survey no 190,233,235,236,254,263,268,269,270,271,272 & 273.,Jitali, Ta Ankleshwar Dist- Bharuch, **i.e., Extension of 227959 Sq mtr. area.** H.T consumer:- 39697, CD- 1500KVA.

Ref: 1. your application dt 22.11.23

2. Corporate office letter no-DGCS/0666/09/2024 Approved Date: 16-09-2024

Dear Sir,

With reference to the above subject, I am pleased to inform you that your application for extension of area/ Power boundary in respect of M/S BAIL infrastructure limited, Plot no. G7&8 with road No. 1&2, Road No. 1to4 & Ele. Lines G.S.& Area of Plot 191510.33 Sq.MTR, Road No. South 14/A-16 MTR Between Plot No.9901 to 9906 &9815-9828,7905/E-7905/H,7924-7927,9401-9412,9501-9506,9601-9604,9701-9716,9801-9828,9901-9906,9923-9928,10001-10003 of GIDC Ankleshwar**(263398.33 Sq Mtr Area)** to adjoining survey no 190,233,235,236,254,263,268,269,270,271,272 & 273.,Jitali, Ta Ankleshwar Dist- Bharuch, **i.e., Extension of 227959 Sq mtr. Area.** H.T consumer:-39697, CD- 1500KVA is hereby approved by competent authority vide above reference letter no 2. Hence on the receipt of this letter, you are authorized to utilize power supply from Plot no. G7&8 with road No. 1&2, Road No. 1to4 & Ele. Lines G.S.& Area of Plot 191510.33 Sq.MTR, Road No. South 14/A-16 MTR Between Plot No.9901 to 9906 &9815-9828,7905/E-7905/H,7924-7927,9401-9412,9501-9506,9601-9604,9701-9716,9801-9828,9901-9906,9923-9928,10001-10003 of GIDC Ankleshwar to adjoining survey no 190,233,235,236,254,263,268,269,270,271,272 & 273.,Jitali, Ta Ankleshwar Dist- Bharuch, as per your attached approved drawing.

This is for your kind information and necessary action please.

Thanking you.

Yours faithfully,

Executive Engineer (IND)

Ankleshwar

C. F. W. CS. TO: -

1. The Chief Engineer, Corporate office, DGVCL, Surat.
2. The C.E.O & S.E. (O&M), DGVCL, Circle Office, Bharuch.

Copy to:

1. The Supdt. Accountant (Rev), DGVCL, Ind. Division, Ankleshwar

...you are directed to update the record of this consumer and take necessary action for name change as above.

2. The Dy. Engineer (O&M), DGVCL, GIDC S/Dn, Ankleshwar.

Signature valid

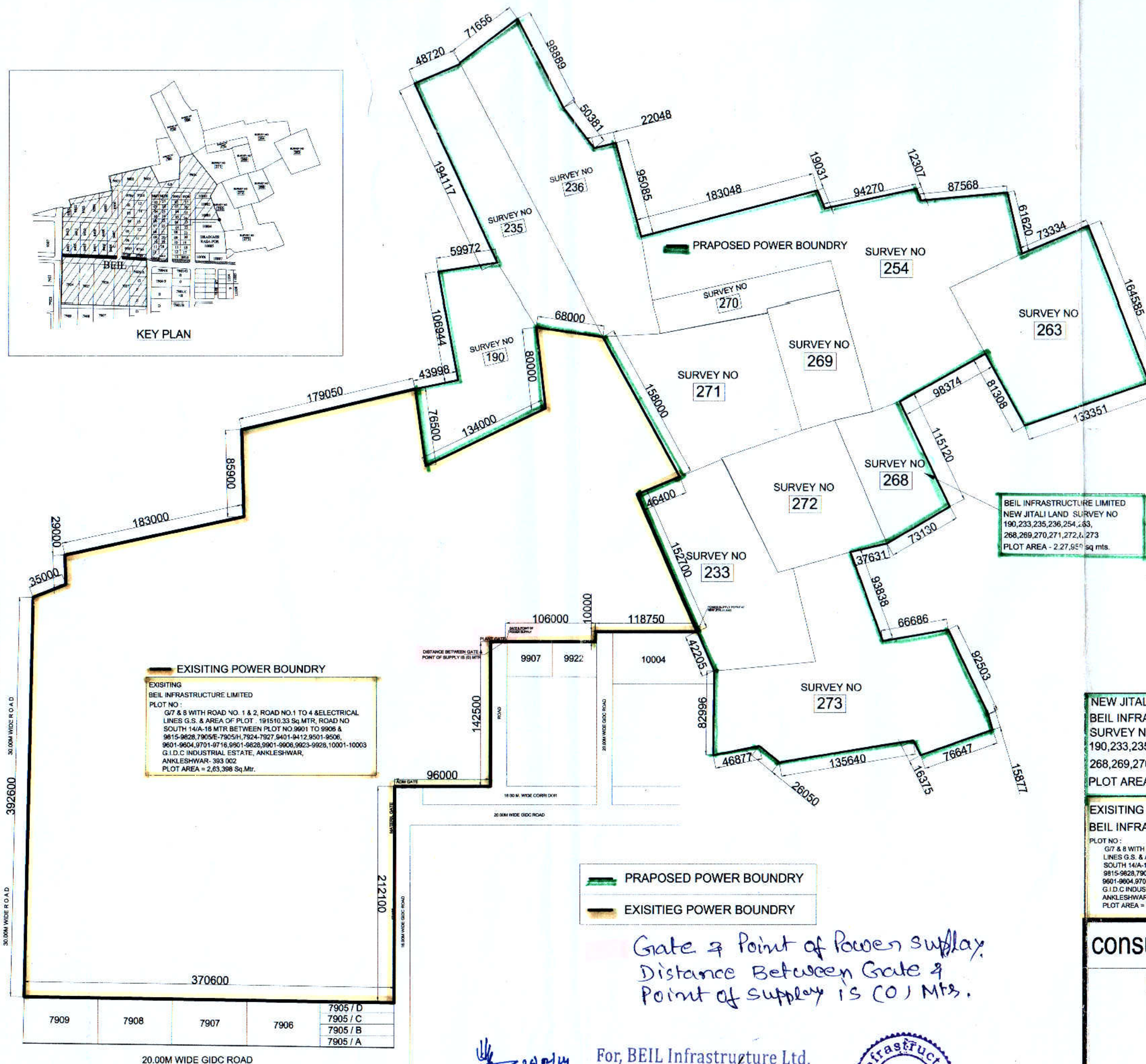
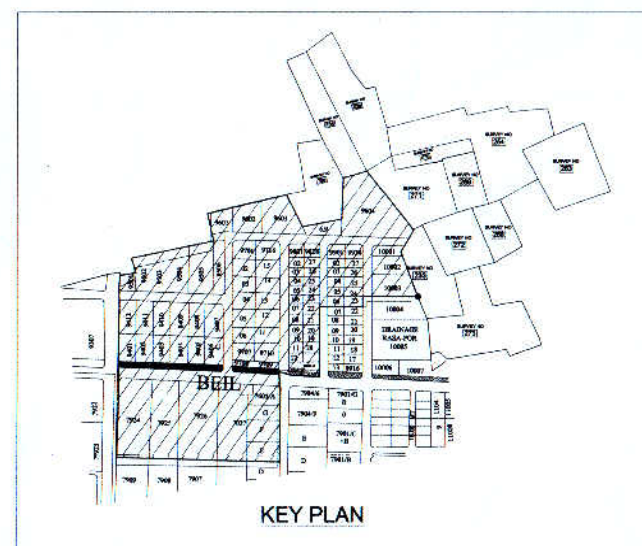
Signed by: Hemang
Rameshchandra Modi
Executive Engineer
Date: 2024.09.25 18:09:21
+05:30

File No: DGVCLDANKI/TECH/e-file/4441/2024/0406/Technical

Approved By: Executive Engineer, Technical, DGVCLDANKI

Open the document in Adobe Acrobat DC to verify the E-sign





Gate & Point of Power supply
Distance Between Gate &
Point of supply is 60 Mts.

For, BEIL Infrastructure Ltd.

EXECUTIVE ENGINEER (IND)
DGVCL, D.O. ANKLESHWAR

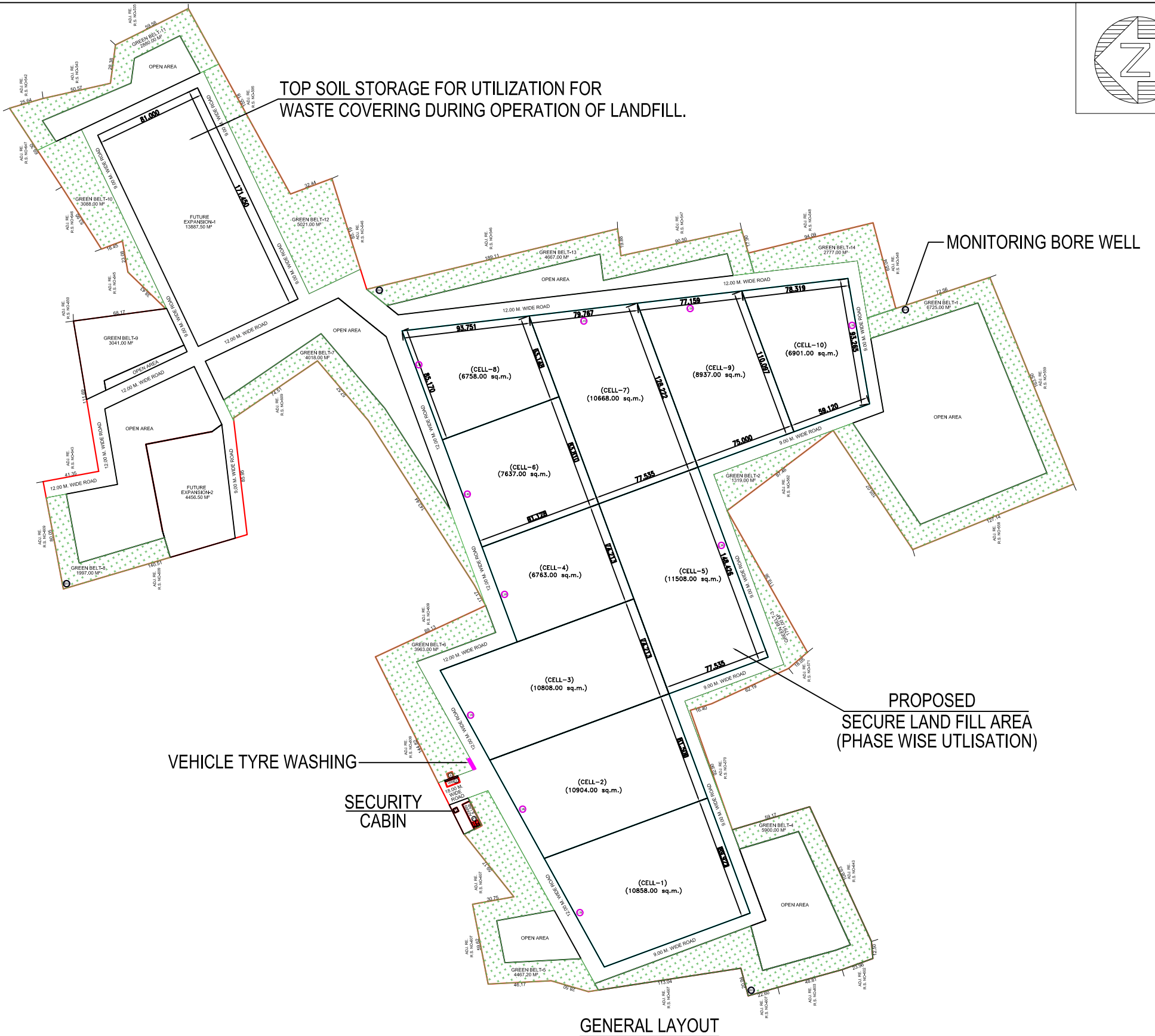
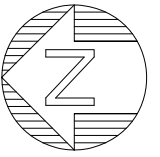
~~Authorized~~ Signatory



consultant :

UDGAM CONSULTANCY

F-26, Silver Plaza,
Nr. Sardar Patel Complex,
G.I.D.C., ANKleshwar
Ph.no- 9924428933, 99090 20981



GENERAL LAYOUT

BEIL INFRASTRUCTURE LIMITED-ANKLESHWAR		CELL WISE DETAIL		
TOTAL PLOT AREA	227959.00 M2	CELL NO	CELL AREA IN M2	CELL CAPACITY IN TON
GREEN BELT AREA	51354.00 M2	CELL-01	10858.00 M2	355061 TON
ROAD AREA	26108.00 M2	CELL-02	10904.00 M2	356565 TON
SECURED LANDFILL AREA	91742.00 M2	CELL-03	10808.00 M2	353426 TON
BUILDING AREA	185.00 M2	CEL-04	6763.00 M2	221153 TON
OPEN LAND AREA	40226.00 M2	CELL-05	11508.00 M2	376316 TON
FUTURE EXPANSION AREA	18344.00 M2	CELL-06	7637.00 M2	249733 TON
		CELL-07	10668.00 M2	348848 TON
		CELL-08	6758.00 M2	220989 TON
		CELL-09	8937.00 M2	292243 TON
		CELL-10	6901.00 M2	225665 TON
		TOTAL LF AREA	91742.00 M2	3000000 TON

LEGENDS

	MONITORING BORE WELL
	LEACHATE WELL
	VEHICLE TYPE WASTING

NOTE:- 61 NOS VENTS REQUIRE AS PER COPING AREA.



BEIL INFRASTRUCTURE LIMITED

RS NO: 233, 254, 263, 268, 269, 270, 271, 272, 273, 190, 235, 236
VILLAGE - JITALI - ANKLESHWAR

CAPITAL EXPENSE APPROVAL NOTE

Date of Preparation: 27.12.2025

Estimated Completion date: 31.03.2026

Company: BEIL Infrastructure Limited

Location: Ankleshwar

Project / O & M Site:

First Responsible Person: Kalpesh Bhagat

Old Approval Note No:

(in case of Amendment)

Cost Center: Jitali Project

Department: Civil

Subject: Installation of electrical accessory ,fire line installation and desktop system for Jitali Project

Approval Note Number:

Purpose / Background:

We have space in BEIL Ankleshwar landfill for three years. To complete the balance capacity we need to shift existing Monsoon shed to our New landfill site at Jitali plot. To maintain the continuity of Landfill after completion of existing Landfill we need to develop new facility in Jitali Plot. In First phase of Jitali Plot we will construct road, Parking, Monsoon shed, Security Cabin, Weigh bridge, Drivers waiting, Worker's wash room etc. We need to installation of electrical accessory ,fire line installation and desktop system for Jitali Project the summary of cost is as under. The total cost of fire line,electrical installation and desktop installation for Phase-01 with Rs.2,43,12,791.00

Financial Implication:

Sl. No.	Particular	Amount (Rs)	Remarks
1	Cost of particular		
1.1	Material part in Sn 1	1,79,14,369.00	(Breakup as per Annexure)
1.2	Service part in Sn 1	17,08,547.00	(Breakup as per Annexure)
2	Consultancy amount (if any)	—	
3	Contingency (if any)	9,81,145.00	@ 5 %
	Sub Total amount (Rs.)	2,06,04,061.00	
4	Taxes and duties	37,08,730.00	GST @ 18%
5	Total amount (Rs.)	2,43,12,791.00	

Recommended by:

Checked by:

Anant Patel
Sr. Manager

Pratik Christian
Compliance Officer

Approved by:

Atul Agarwal
Vice President
(Works)

Manoj Kumar Patel
Sr. Vice President
(Operations)

B. D. Dalwadi
Chief Executive
Officer

CAPEX to be Placed
in Next Board
Meeting.

klb
12/2025

COST CALCULATION SHEET

SR NO	DESCRIPTION	COST IN RS.	REMARK
1	MATERIAL COST	1,79,14,369	
	Electrical Cost	63,13,109	
	Fire line Cost	22,18,160	
	Fire Equipments	2,54,000	
	IT System	1,73,100	3-Nos.
	Horizontal Lifeline	12,00,000	
	CO2 Flooding System	7,00,000	
	Emergency Light	20,000	
	Scrubber System	60,36,000	
	Monitaring Borewell	10,00,000	2-Nos.
2	SERVICE COST	17,08,547	
	Fire line + Electrical Cost	17,08,547	
3	CONSULTANCY (IF ANY)		
4	CONTINGENCY (5%)	9,81,146	
A	SUB TOTAL (1+2+3+4)	2,06,04,062	
B	TAXES & DUTIES (18% ON A)	37,08,731	
C	TOTAL AMOUNT (A+B)	2,43,12,793	





BEIL Infrastructure Limited

ONSITE OFFSITE EMERGENCY PLAN

Plot No # Plot no 190,233,235,236,254,263,268 to 273 Jitali, Ankleshwar
. – Bharuch, Gujarat

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CCHAPTER-I

PRELIMINARY

1. INTRODUCTION OF THIS PLAN

Primarily this plan is prepared to furnish details, which may require at the time of the emergency, to delegate responsibility, to estimate the consequences in advance and to prepare ourselves to control any type of EMERGENCY. This plan is in two sections. The first section explains basic requirements as follow.

- Definition.
- Objectives
- Hazard identification.
- Risk analysis and environmental Impact Assessment.
- Organization setup.
- Communication system.
- Action on site.
- Link with offsite emergency plan.
- Training rehearsal and record aspect.

Second section is given as Annexure Section containing useful Annexure. These annexes are designed to give specific information required during emergencies. Ready information in all this Annexure will considerably save time in initiating all actions at the time of emergency. It will also be useful to Govt. for preparing the Area emergency control (Contingent) plan.

A separate chapter is given to pay attention on.

- Offsite effects of any emergency.

- The duties and functions to control it.
- Link with onsite emergency plan.

2. IDENTIFICATION OF THE FACTORY

BEIL Infrastructure Ltd (BEIL) is a Company promoted by industries in Bharuch District with major shareholding by UPL Ltd. to handle different types of waste generated by the neighboring industries. Drains and Temporary Storage have been provided. BEIL is operating a secured landfill for disposal of solid / hazardous wastes from member industries in the region.

The unit operates continuously in three shifts with total of around 50 employees in the factory. In every shift around 15 people are working.

Following are the details about the plant.

1. (A) Name_& Address of Factory

BEIL Infrastructure Ltd.,
190,233,235,236,254,263,268 to 273 GIDC Industrial Estate,
Ankleshwar- 393 002
Dist. Bharuch,
Gujarat State

Location

- The factory is around 20 kms, away from Bharuch Town and it is towards South side.
- From Ankleshwar station, it is 6 km towards East side.

(B) Regd. Office Address

Plot No. 9701-16, GIDC Estate,
Ankleshwar 393 002
Dist.: Bharuch (Gujarat)

2. Telephone Nos.

Factory : (02646) 253135 / 225228
Registered Office : (02646) 251223 / 250336

3. Full Name & Designation of the Occupier

Mr. Ashok A. Panjawani (Director)

4. Office Address & Telephone No. Of Occupier
 BEIL Infrastructure Ltd.,
 9701 - 9716, GIDC Industrial Estate,
 Ankleshwar- 393 002
 Dist. Bharuch,
 Gujarat State
 Office Tel.No. : (02646) 253135, 225228
 Residential Tel. No. : 9909994902

5. Working Shifts :

Shift
General (9:00 AM To 5:30 PM)
First (07.00 AM To 03.00 PM)
Second (3:00 PM To 11:00 PM)
Third (11:00 PM To 7:00 AM)

6. People to be contacted first in case of emergency

Name & Designation	Place of availability	Telephone Nos	
		Office	Residence
Mr. B. D. Dalwadi	ADM	02646-253135 Ext-101	9909994959
Mr. Manoj Patel	ADM	02646-253135 Ext-115	9909994907
Mr. Atul Agrawal	Inci.office	02646-25135 Ext-202	9909994908
Mr. Dinkar Trivedi	Incinerator Plant	02646-253135 Ext-217	9978996347
Mr. Ashish Gurjar	HR Office	02646-253135 Ext-107	9913064336
Mr. Narendra Patel	QC	02646-253135 Ext-127	9909994980
Mr. Viral Patel	Old Control Room	02646-253135 Ext-238	9925497837
Mr. Sanjay S Joshi	Safety Office	02646-253135 Ext-232	7575001962

3. MAP OF THE AREA

M/s. BEIL Infrastructure Ltd., is located at Plot no 190,233,235,236,254,263,268 to 273 Jinali area Ankleshwar – 393 002 Dist: Bharuch, Gujarat State. It is 6 km. away from Ankleshwar Railway Station. Other chemical manufacturing units located are, on the East side Agriculture land upto Jitali, North Side BEIL land fill., South Side Agriculture land, on West side small scale industries, M/s, Prerana, M/s, Dhiraj can.

4. DEFINITIONS

Various definitions on different analogies used on Onsite & off site Emergency Plan are as below:

An accident is an unplanned event, which has a probability of causing personal injury or property damage or both. It may result in physical harm (injury or diseases) to people(s), damage to property, and loss of company, a near miss or any combination of these effects.

A major accident is a sudden, unexpected, unplanned event, resulting from uncontrolled developments during an industrial activity, which causes, or has the potential to cause –

- i. Serious adverse effect immediate or delayed (death, injuries, poisoning or hospitalization.) to a number of people inside the installation and /or to persons outside the establishment, OR
- ii. Significant damage to crops, plants or animals, or significant contamination of land, water, or air, OR
- iii. An emergency intervention outside the establishment (e.g.: evacuation of local population, stopping of local traffic), OR
- iv. Significant changes in the process operating conditions, such as stoppage or suspension of normal work in a concerned plant for a significant period of time, OR
- v. Any combination of above.

An emergency could be defined as any situation which presents a threat to safety of persons or/and property. It may require outside help also.

A major emergency occurring at work is one that may affect several departments within it and may cause serious injuries, loss of life, extensive damage to property or serious

disruption outside the works. It will require the use of outside resources to handle it effectively.

Usually, the result of malfunction of normal operating procedures, it may also be participated by the intervention of an outside agency, such as severe electrical storm, flooding, crashed air craft or deliberate acts of arson or sabotage.

Emergency due to operating conditions (uncontrolled reactions, small fire, small gas leak, spill, failure of power, water, air, steam, cooling media, scrubbing media, etc.) is not considered as a major emergency. Operating instructions in the safety manual shall cover this area, though the on-site emergency plan will also be helpful.

Disaster is a catastrophic situation in which the day-to-day patterns of the life are, in many instances, suddenly disrupted and people are plunged into helplessness and suffering and as a result of need protection, clothing, shelter, medical and social care and other necessities of life, such as –

1. Disaster resulting from natural phenomena like earthquake, volcanic eruptions, storm, surges, cyclones, tropical storms, floods, landslides, forest fires, and massive insect infestation. Also in this group, violent draught which will cause a creeping disaster leading to famine, disease, and death must be included.

2. Second group includes disastrous events occasioned by man, or by man's impact on environment, such as armed conflict, industrial accidents, factory fires, explosions and escape of toxic gases or chemical substances, river pollution, mining or other structural collapses; air sea, rail and transport accidents, air crafts crashes, collisions of vehicles carrying inflammable liquids, oil spills at sea, and dam failure.

Environment as defined u/s 2(a) of the Environment Protection Act includes water, air, and land and the inter relationship which exists among and between water, air and land and human beings, other living creatures, plants, micro-organism and property.

Environmental pollutant defined by the same Act as any solid, liquid or any gaseous substance present in such concentration as may be or tend to be injurious to environment.

Hazardous substance is also defined by the same Act and Hazardous process is defined by Section 2(cb) of the F.A.1948.

Hazard is a physical situation which may cause human injury, damage to property or the environment or some combination of these criteria.

Chemical hazard is a hazard due to chemical (including its storage, process, handling etc.) and it is realized by fire, explosion, toxicity, corrosivity, radiation, etc.

Risk is the likelihood of an undesired event (i.e. accident, injury or death) occurring within a specific period or under specified circumstances. It may be either a frequency or a probability depending on the circumstances.

As per example risk of death for a man aged 30 is 1×10^{-3} per annum and that for a man aged 60 is 1×10^{-3} per annum.

Individual risk is the frequency at which an individual may be expected to sustain a given level of harm from the realization of specific hazards.

Social risk is a measure of the chances of a number of people being affected by a single event or set of events and is often presented as f/n curves (i.e. frequency v/s number of people affected).

The On-Site Emergency Plan deals with measures to prevent and controls emergency with the factory and not affecting outside public or environment.

The off-Site Emergency Plan will deal with measures to prevent and control emergencies affecting public and the environment outside the premises. The manufacturer should provide the necessary information on the nature, extent and likely effects of such incidents.

The Contingent or Disaster Plan of the area will be developed by the district or local authority based on the on-site and off-site emergency plan of individual units in that area.

5. OBJECTIVES OF THE EMERGENCY PLAN

It is the policy of M/s. BEIL Infrastructure Ltd. That each individual should be aware of and understand his role in case of fire or explosion, or toxic release of gases/material. The purpose of the preparation of disaster control plan is to work out as much details as possible for the likely events and prepare the instructions to point out action to be taken by individuals in case of fire or explosion or toxic release in the plant and surrounding areas. This is apart from the action taken by the process personnel, which will be according to their plant emergency procedures. These instructions are general in nature; however, it must be borne in mind that instruction of this nature cannot detail every action required in every situation which may arise. The action of each individual is described to minimize confusion and speed up action.

The key objectives of Emergency Plan are:

1. To define and assess emergencies, including risk and environmental impact assessment
2. To control and contain incidents.
3. To safeguard employees and people in vicinity.
4. To minimize damage to property or/and the environment.

5. To inform employees, the public and the authority about the hazards/risks assessed, safeguards provided, residual risk if any and the role to be played by them during emergency.
6. To be ready for 'mutual aid' if need is arising to help neighboring units. Normal jurisdiction of OEP is the own premises only, but looking to the factor in arriving the external help or off-site plan agency, the jurisdiction must be extended outside to the extent possible in case of emergency occurring outside
7. To inform authorities and mutual aid centers to come for help.
8. To effect rescue and treatment of casualties. To count injuries.
9. To identify and list any dead.
10. To inform and help relatives.
11. To secure the safe rehabilitation of affected areas and to restore normalcy.
12. To provide authoritative information to the news media.
13. To preserve records, equipment etc. and to organize investigation into the cause of the emergency and preventive measures to stop its reoccurrence.
14. To ensure safety of work before personnel re-enter and resume work.
15. To work out a plan with all provisions to handle emergencies and to provide for emergency preparedness and the periodical rehearsal of the plan.

On site emergency plan: Statutory requirement

- **Factory Act 1948, Section 41-B (4):** It requires to draw up an Onsite Emergency Plan with detailed Disaster Control Measures for the Factory and to educate the workers employed in the factory premises.
- **Rule 13 of the Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1998:** Preparation of Onsite Emergency Plan by the occupier.

It is obligatory by Rule 15 of MSIHC-1989 on the part of an Occupier of hazardous chemicals to prepare an emergency plan and to take appropriate steps to inform the 'Do's and Don'ts' which should be adopted in the event of major accident.

CCHAPTER-II

RISK & ENVIORNMENTAL IMPACT ASSESSMENT

1. FACTORY LAYOUT

Pls. refer Annexure – 3

2. STORAGE HAZARDS & CONTROLS

Products & raw materials

Main process of M/s BEIL Infrastructure Limited is to treat, store and transport hazardous waste generated by member units at TSDF.

List of raw material

BEIL is TSDF facility of Industrial Hazardous waste; this is nonmanufacturing Industry. No any product is produced hence no RM has been used but following RM used which is required to treat waste.

Bentonite Powder

Cement

Fly ash

4) Lime

Pls. refer Annexure – 4 for storage hazards & controls

MSDS of chemicals are also provided.

Pls. refer Annexure – 5 for MSDSs

3. PROCESS & VESSEL HAZARDS & CONTROLS

Beil Infrastructure has main facilities of common hazardous waste treatment, storage and disposal facility (Landfill of Hazardous waste

LAND FILL SITE

OPERATIONAL METHODOLOGY OF TSDF

1) Waste Acceptance Criteria

- The generator should have Authorization for disposal as per Hazardous Waste (Management, Handling & Tranboundary Movement) Rules, 2008.
- At the time of taking membership, the company is doing complete analysis of solid waste, and the same sample is preserved for further physical verification.

- As the dumper comes to site, it is weighed and samples are taken from 3 different location and composite samples are made and analyzed for following quick parameters:
 - pH
 - PFLT test for moisture content
 - Odour
 - Flammability
 - Compatibility
 - Physical state
 - LRT
 - Annealing loss

Only if the sample passes through above quick tests it is allowed to enter the disposal site.

2) Manifest System

We have manifest system as per Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. Manifests are six copies in different colors. However, GPCB has introduced an online manifest system for waste acceptance. At present, the online system is being followed. (GPCB- XGN generated manifest)

3) Transportation of Hazardous Solid Waste from Generation Site to TSDF

Transportation of hazardous solid waste is done as per guidelines of CPCB. The TSDF is having approved transporter with dedicated vehicles (Hydraulic) for transportation of solid waste. All the vehicles are having the nameplate with details of company's name, address, phone no., etc. During transportation, containers are closed from all sides and covered from top.

4) Weighing and Sampling of Waste

As the dumper enters weighbridge, samples are taken from three different locations and a composite sample is made. Once the quick test is passed, truck is allowed to enter the premises. If any truck does not meet the Hazardous solid waste inlet specification, it is returned back to member industry for necessary treatment.

5) Operation of TSDF dumping area

The dumper carrying the hazardous waste is first subjected to quick tests and if it is approved by QA, the hydraulic dumpers are sent for unloading in landfill area. The operation of land filling area is cell wise.

6) Ground Water Sampling and Analysis

Provided monitoring wells at the site for ground water monitoring. There are twelve electric bore wells. Four wells at the upstream and four wells downstream. Three additional wells are provided at the downstream side of Phase-II (new site). The monitoring parameters are

analyzed as per the guidelines given by the CPCB. Company has laboratory facility for analysis of bore well water. Monitoring is done once in Month.

7) Leachate Management System

Cell-wise leachate collection wells are provided. There are 6 numbers of Leachate well for closed site and 7 leachate well for the continue Phase-II. Leachate is pumped out from leachate wells to tankers and is sent to the M/s. ETL (CETP), Ankleshwar for treatment & disposal and part of it is being treated in MEE plant.

8) Gaseous Emission Management

Provided air vents at the closed portion of the land fill. We are regular monitoring these vents for VOC & HC.

9) Closure and post closure maintenance details for closed cells including vegetative stabilization:

Provided coverage system with vegetative cover area as per CPCB criteria for Phase-I cells. The closed portion is given proper landscape.

We are providing storage shade on operational cells during monsoon period. The main operational site is kept covered by tarpaulin with separate rainwater collection system during monsoon.

10) Surface Water Drainage System

The storm water drainage system is provided at the site. The surface water generated during rainy season is collected through storm water system and after filtration, recharged to ground water through water harvesting system.

11) Site Infrastructure:

- (a) We have established administrative and site control office with latest equipment like computers & computerized weighbridge, printers, fax, Xerox machine with scanning etc.
- (b) We have provided a well-equipped laboratory. For sampling and analysis of solid wastes, air, leachate and observation borewell water, Incinerable waste. The laboratory is accredited by national Accreditation Board for Analytical Laboratory (NABL).
- (c) Peripheral roads have been constructed near the Incinerable waste storage sheds.
- (d) Three additional storage sheds are constructed for Incinerable wastes. At present, there are a total 10 sheds for storage of Incinerable wastes.
- (e) Stabilization facility is provided for waste that require treatment/stabilization before disposal in landfill.
- (f) Green belt details:

We have developed green belt in and around our site and have planted more than 5000 trees.

12) Safety and pollution control i.e. traffic, noise, odour, litter, bird control, vermin and other pests, dust, mud on road, landfill fire control, landfill safety aspects.

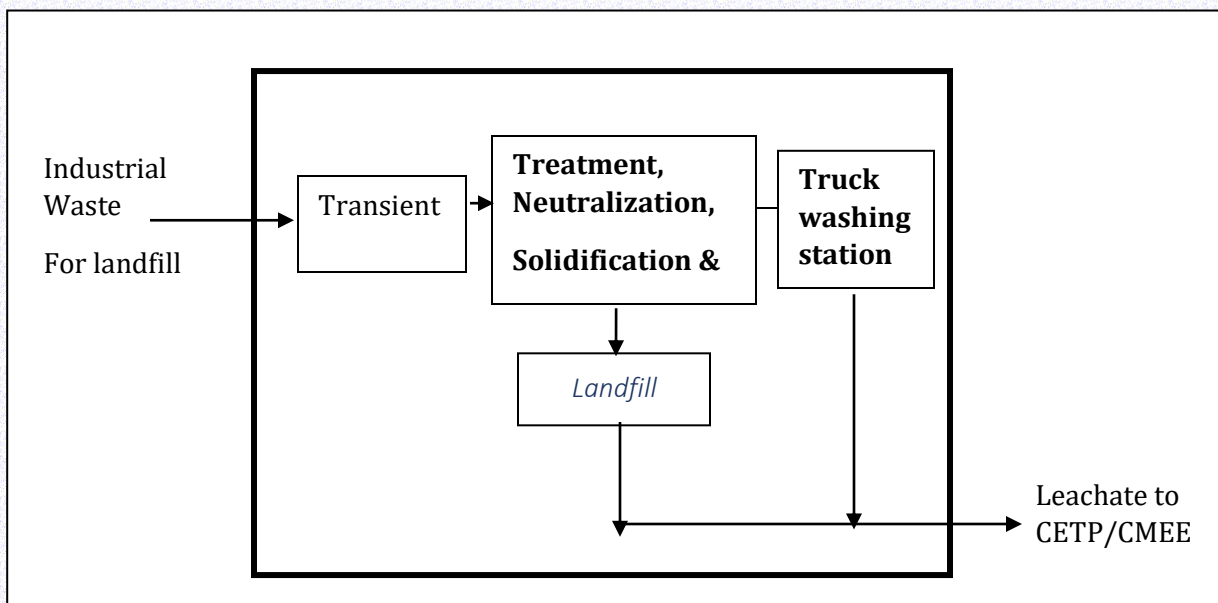
- Usage of PPE's like gum boots, gloves, gas mask by the person-working site.
- Avoiding manual operation. The company is using hydraulic dumpers for transportation of waste; no manual unloading is required for waste.
- The company utilizes bulldozers for separating and compacting waste.
- The company is checking the ignitability and compatibility of waste before dumping the waste to the site it is helping in fire control and any reactivity after disposal.
- There are not much noise making equipment used at site
- The company has procured road-sweeping machines for maintaining good housekeeping of roads.
- Oduor control is being done with control of the characteristics of waste being received. Closed handling system is used.
- The used area is covered with soil, which helps in control of vermin / insect / pests etc.
- Drivers are given training for handling hazardous waste at the disaster prevention and management center at Ankleshwar.
- Routine inspection of vehicles is done.
- On site emergency plan is prepared.

13) Closure and Post Closure Plan:

Completed landfill site has been provided top cover with vegetative cover of approx. 36,360 sq.m. area. The closed portion is given proper landscape. The surface water generated during rainy season is collected through storm water system and after filtration, recharged to ground water through water harvesting system. The covered portion is maintained properly and inspected by civil engineer.

A post closure fund is allotted and is being collected from all the member industries.

Flow diagram of landfill facility



4. OTHER HAZARDS & CONTROLS

Pls. refer Annexure – 7

5. TRADE WASTE DISPOSAL

Leachate to CETP/CMEE

6. RECORD OF PAST INCIDENTS

No any past Incident

7. RISK ASSESSMENT

1. **The following maximum credible accident scenarios may occur in a hazardous waste landfill (TSDF).**

1. Slop Failure of landfill
2. Water accumulation at landfill due to heavy rain
1. Slop failure of Landfill

Precaution is always better than cure. To mitigate the slope failure during designing and operation of BEIL landfill the Stability analysis criteria are considered and are as follow.

Stability Analysis of Slope:

$$F_c = c/(y_d * H_{Sn})$$

The F_c shall be more than 1.5.

In each case for BEIL Landfill the F_c is @ 4

Settlement of landfill base on soft soil.

$$\text{Settlement} = (C_c H / (1 + e_o)) * \log_{10} (P_o + \Delta P) / P_o$$

For, ΔP 24.98 the settlement is 216mm and for ΔP 22.90 the settlement is 205mm

Geomembrane Stability: Tensile Stress under self-weight

Design Ratio shall be more than 10

For BEIL it is 11.72

Geomembrane Stability: Tensile Stress under waste down – drag during filling.

Design ratio shall be more than 10

For Landfill for BEIL it is 963.70

Stability of soil over Geomembrane.

A. Sliding of soil over Geomembrane F.O.S. shall be more than 1.5 for landfill of BEIL it is 1.513

B. Tensile Force in Geomembrane: design Ratio shall be more than 2.2 for BEIL landfill it is 2.2

Vehicle or Ramp or Slop:

(Static) F.O.S. is 5.29 (Shall be more than 3)

(Dynamic F.O.S. is 4.93 (shall be more than 3)

Wheel loading

Design Ratio is 5 (shall be more than 3)

M/s. KCT Consultancy Services as per CPCB criteria carried out the stability analysis for Landfill Facility.

The capping activity is also carried out immediate once the waste filling is completed in particular cell.

After completion of capping of landfill site there should not be chances of increase moisture content of filled waste, so there should not be any chances of failure of top slop.

Phase I was completed in all respect with capping in Dec 2008 till date we have not observed any toe failure or slop failure in closed landfill site.

Phase II we have completed cell capping. Phase III has been started for landfilling.

Only present active cells are under operation so failure of slop is also minimized.

To prevent the failure of slop during the operation we are compacting it with dozer and roller. We are also making temporary bund wall to prevent any sliding of waste during operation.

Following steps to be carried out in case of slope failure:

- Implementation of onsite emergency plan
- Incoming waste to be stopped
- Slop failure may increase exposure risk to personnel and public so necessary PPEs to be provided. Relocation and covering of waste to be performed quickly and safely
- Perform mitigating activity to limit further contamination or damage
- Work to be done round the clock
- Primary report to be prepared and reviewed at regular intervals regarding the activities of waste shifting.

II. Water accumulated in landfill due to heavy rain.

We are keeping four nos of Diesel pump of 40 m³/hr capacity and 5 Electric pump of 80 m³/hr capacity to pump out the accumulated water due to heavy rain. In the event of a landfill instability such as a slop failure the first concern is always safety, safety of site personnel, safety of site entrants, and safety of general public. The situation will need to be assessed concisely and necessary emergency procedures and precautions implemented as quickly as possible.

Following steps to be carried out in case of water accumulation in landfills due to heavy rain:

- Implementation of onsite emergency plan
- Start pumps to pump out the water accumulated.
- Check the water quality, if contaminated sent for treatment.
- Necessary PPEs like helmet, gum boot, hand gloves, raincoat to be provided. If required, relocation and covering of waste to be performed quickly and safely
- Perform mitigating activity to limit further contamination or damage
- Work to be done round the clock
- Primary report to be prepared and reviewed at regular intervals regarding the activities of waste shifting.

8. ENVIRONMENTAL IMPACT ASSESSMENT

The project data/activities has been analyzed & linked with the existing baseline environmental conditions in order to list out the affected environmental parameters and assess the likely impacts on such parameters. Pls. refer Annexure – 12 & 13 respectively.

CCHAPTER-III

EMERGENCY ORGANISATION

This chapter is device to suggest the organization for emergency preparedness. No plan will succeed without emergency organization. Key personnel to combat emergency are nominated with specific responsibilities according to the set procedures (rehearsed) and making the best use of resources available and to avoid confusion). Such key personnel include incident controller, Site main controller, other key personnel and essential workers. Assembly points for non-essential workers, emergency control centre, ambulance van, fire and toxicity control arrangements, medical arrangements, transport and evacuation arrangements, pollution control arrangements, other arrangements and people to manage them are also an important part of the emergency organization.

1. INCIDENT CONTROLLER:

His primary duty is to take charge at the scene of the incident. In the initial stages he may be required to take decisions involving the operation of the other plants or to stop or to continue any process and to take technical decisions to control the incident. Therefore, he should be fully knowledgeable for these purposes. He might be the shift or plant manager. Appoint such person for each shift including holidays. Any one incident controller must be available at any time. Their duties are fixed that way. The deputy is

appointed to take charge of Incident Controller if he is not available due to some reason. He is also equally competent.

Responsibilities / Duties of Incident Controller

1. Assess the scale of the emergency and decide if a major emergency exists or is likely. On his decision, he will activate the on-site emergency plan and if necessary, the off-site emergency plan.
2. Assume the duties of the Site Main Controller pending the latter's arrival (for SMC's duties). For this purpose, he will deputy his deputy on the scene and he will go to the control center. Particularly he will-
 - a. Direct the shutting down and evacuation of the plant and areas are likely to be affected by the emergency.
 - b. Ensure that the outside emergency services, including mutual aid, have been called in.
 - c. Ensure that key personnel have been called in.
3. Direct all operations within the affected area with the following priorities:
 - a. Secure the safety of the personnel.
 - b. Minimize damage to plants, property and the environment.
 - c. Minimize loss of material.
4. Direct rescue and fire-fighting operations until the arrival of the outside Fire Brigade, when he will relinquish control to the Fire Brigade.
5. Search for casualties.
6. Evacuate non-essential workers to the assembly points.
7. Set up a communications point and establish radio/telephone/messenger contact as appropriate with the Emergency Control Centre.
8. Give advice and information as requested to the Head of the Fire Brigade and other Emergency Services.
9. Brief the site main controller and keep informed of developments.
10. Preserve evidence that will be necessary for subsequent inquiry in to the cause of the emergency and concluding preventive measures.

Pls. refer Annexure – 14

Deputy Incident controller is appointed to deal with the emergency in absence of Incident Controller.

Pls. refer Annexure – 15

2. SITE MAIN CONTROLLER:

He has overall responsibility for directing operations and calling outside help from emergency control center. He is required to take decisions by collaboration between the senior managers at the site (works) and the senior officers of the outside services.

Responsibilities / Duties of Incident Controller

Immediately being aware of the emergency, he will go to the emergency control center. On arrival, he will –

1. Relieve the incident controller of responsibility for overall main control.
2. On consultation with the incident controller decide whether major emergencies exist and on declaration of a major emergency, ensure that the outside emergency services and mutual help are called, the off-site plan (page-3) activated and if necessary, nearby factories and population are informed.
3. Ensure that the key personnel are called in.
4. Exercise direct operational control of those parts of the works outside the affected area.
5. Continually review and assess possible developments to determine the most probable course of events.
6. Direct the safety close down and evacuation of plants in consultation with the incident controller and key personnel. If necessary, arrange for evacuation of neighboring population.
7. Ensure that casualties are receiving adequate attention. Arrange for hospitalization of victims and additional help, if required. Ensure that the relatives are advised.
8. Inform and communicate with the chief officers of the fire and police service. District emergency authority and with the factory inspectorate and experts on health and safety. Provide advice on possible effects on areas outside the factory.
9. In case of prolonged emergencies involving risk to outside areas by wind-blown materials. Contact the local meteorological office to receive early notification of impending changes in weather conditions.
10. Ensure the accounting for personnel and rescue of missing persons.
11. Control traffic movement within the factory.
12. Arrange for a chronological record of the emergency to be maintained.
13. Where the emergency is prolonged, arrange for the relief of personnel and the provision of catering facilities.
14. Issue authorized statements to the news media. Where necessary, inform head office.
15. Ensure that proper consideration is given to the preservation of evidence. Arrange for photographs/videos.

16. Control rehabilitation of affected areas and victims on cessation of the emergency.
Do not restart the plant unless it is ensured safe to start and clear by authorities.

Pls. refer Annexure – 16

3. OTHER KEY PERSONNEL:

Other key personnel are required to provide advice to and implement the decisions made by the site main controller in the light of information received on the developing situation at the emergency.

Such key personnel include the senior managers responsible for safety, security, fire, gas, and spill control, pollution control, communication system including telephone, wireless, messenger etc. medical services, transport, engineering, production, technical services (including utilities, laboratories), stores and personnel (including welfare, canteen, etc.).

As necessary, they will decide the actions needed to shut down plants, evacuate personnel, carry out emergency engineering work, arrange for supplies of equipment, utilities (fuel, water, power, etc.) carry out atmospheric tests, provide catering facilities, liaise with police, fire brigade, emergency planning authority, factory inspectorate, hospitals, neighboring industries find population, assembly points, outside shelters, mutual aid centers, relatives of casualties, press and so on, under the direction of the site main controller.

At the declaration of a major emergency, all key personnel and others called in to assist shall report to the emergency control center. They shall be available at any time on duty or on call on off-duty or holiday.

Pls. refer Annexure – 17

4. ESSENTIAL WORKERS:

A taskforce of essential trained workers (expert teams) must be available to get the work done by the incident controller and the site main controller; such work will include:

1. Firefighting, gas leak and spill control till a fire brigade takes charge.
2. To help the fire brigade and mutual aid teams, if it is so required.
3. Shutting down plants and making it safe.
4. Emergency engineering work e.g. isolating equipment, materials, process, providing temporary bypass lines, safe transfer of material, urgent repairing or replacement, electrical work etc.
5. Provision of emergency power, water, lighting, instruments, equipment, material etc.
6. Movement of equipment, special vehicle and transport to or from the site of the incident.

7. Search evacuation, rescue, and welfare.
8. First-aid and medical help.
9. Moving tankers or other vehicles from areas of risk.
10. Carrying out atmospheric test and pollution control.
11. Managing assembly points to record the arrival of evacuated personnel. Managing for outside shelters and welfare of evacuated people there.
12. Assistance at casualties' reception areas to record details of casualties.
13. Assistance at communication centers to handle outgoing and incoming calls and to act as messengers if necessary.
14. Manning of works enters liaison with the police to direct emergency vehicles entering the work, to control traffic leaving the works and to turn away or make alternative safe arrangements for visitors, contractors and other traffic arriving at the works.
15. Informing surrounding factories and the public as directed by the site main controller.
16. Any special help required.

Pls. refer Annexure – 18

5. ASSEMBLY POINTS:

In affected and vulnerable plants, all non-essential workers (who are not assigned any emergency duty) shall evacuate the area and report to a specified assembly point. The need to evacuate non-essential workers from non-affected area will be determined by the size of work and the foreseeable rate at which the incident may escalate.

Each assembly point is clearly marked by conspicuous notice and provided with an identification number e.g. ASSEMBLY POINT NO.1 mamarksuch points permanently for the notice of people.

Three total assembly points are provided:

- (1) To ensure that employees do not have to approach the affected area to reach the point
- (2) In case any assembly point lies in the path of windblown harmful materials e.g. toxic gas, burning brands, thrown (exploded) materials, etc. in case the factory is big having more plants and wide area.

Each assembly point is managed by a nominated person(s) to record the names and departments of those reporting there. He has a means of communication with the site main controller in case it is necessary to establish the whereabouts of people and to receive further instructions concerning the deployment of the evacuated personnel.

Before reaching an assembly point or subsequently, if it is required to pass through an affected area or the release of toxic substance, suitable personal protective equipment (PPE) including respirator, helmets, etc. should be available to the people.

Pls. refer Annexure – 19

EMERGENCY CONTROL CENTRE:

The emergency control center (or room) is the place from which the operations to handle the emergency are directed and coordinated. It will be attended by the site main controller, key personnel and senior officers of the fire, police, factory inspectorate, district authorities and emergency services. The center is equipped to receive and transmit information and directions from and to the incident controller and areas of the works as well as outside. It also has equipment for logging the development of the incident to assist the controllers to determine any necessary action.

In addition to the means of communication, the center is equipped with relevant data and equipment which will assist those manning the center to be conversant with the developing situation and enable them to plan accordingly.

It is sited in an area of minimum risk and close to a road to allow ready access by a radio-equipped vehicle for use if other systems fail or extra communication facilities are needed.

The center therefore contains:

1. An adequate number of external telephones.
2. An adequate number of internal telephones.
3. Mobile phones and walkie-talkie.
4. Plans of the factory.
5. Additional plans which may be marked up during the emergency to show:
 - a) Areas affected or endangered within the factory.
 - b) Surrounding areas, population and other environments likely to be affected due to toxic release, wind speed recorders and ready computer models (risk counters) based on prevailing wind direction, velocity, weather conditions and other parameters, will be very useful for quick judgment and evacuation of those areas.
 - c) Areas where problems arise.
 - d) Area evacuated and safe routes for escape.
 - e) Deployment of emergency vehicles and personnel.
 - f) Other relevant information.

6. Nominal role of employees, work permits, gate entries and documents for head count or access to this information. Employee's blood group information and addresses will also be useful.

7. Note pads, pens, pencils, rubber and stationery to record all messages received and sent by whatsoever means.

8. Note copies of this on-site emergency plan i.e. updated full text including all annexure. From this, some vehicles and messengers (runners) should be kept ready at the center.

9. A tape-recorder and video to record the incident and evidence of the cause and effect and actions to control the emergency.

10. Torches, umbrella, raincoats and some extra sets of gas detectors, explosive meters and personal protective equipment.

Pls. refer Annexure – 20

6. FIRE AND TOXIC CONTROL ARRANGEMENTS:

BEIL has its own wet fire hydrant system:

1. Enough Fire Extinguishers are available in plants, utility, and office area to handle any Fire class. The portable fire extinguishers provided in all area are mainly ABC/ Dry Chemical, Carbon Dioxide & M. Foam type. The Electrical installations are provided with Carbon dioxide type of fire extinguishers. Apart from above, trolley mounted Carbon Dioxide & M. Foam type fire extinguisher is located near Electrical Control Panel & storage area.
2. Wet fire hydrant systems have been provided in the factory area with jockey pump and main fire pumps, which come online automatically when there is a pressure drop in the fire hydrant system. The main Hydrant Pump connected to the Fire Hydrant System is electrical driven. The standby can be Diesel Engine Driven Pump or Electrical Motor driven connecting to alternate source of energy from DG in case of failure of main electrical supply.

a) Fire Fighting Water Storage Details

Sr. No.	Description	Capacity
1	Raw water storage	100KL
2	Fire water storage	250KL
	Total Water Storage	300KL

a) Jockey Pump

Capacity : 03 M3/Hr. at 70-M head
RPM : 2930
Motor HP : 12.5

b) Diesel Driven Pump

Capacity : 273 M3/hr. at 70-M head
RPM : 1880
Motor HP : 133

c) Electrical Power-Driven Pump

Capacity : 171 M3/Hr. at 70-M head
RPM : 2970
Motor HP : 120

d) Fire Hydrant Point Details

Sr. No.	Description	Quantity
1	Single hydrant	36 Nos.
2	Hose pipe	36 Nos.
3	Hose box	36 Nos.

e) Sand Buckets

Sr. No.	Description	Quantity
01	MCC room	01

f) External Fire Fighting Service

For additional help in firefighting, the fire brigade can be called from DPMC , Panoli, ONGC & Bharuch Nagarpalika. The response time to get external help from above fire station and the distances are as below:

Sr. No.	Fire Brigade Station	Distance	Response Time
---------	----------------------	----------	---------------

1	DPMC Ankleshwar	3 KM	5 Min.
2	ONGC, Ankleshwar	6 KM	8 Min.
3	Nagarpalika, Ankleshwar	7 KM	10 Min.
4	Fire Station, Panoli	10 KM	15 Min.
5	Nagarpalika, Bharuch	12 KM	30 Min.
6	GNFC Bharuch	15 KM	35 Min.

1. Emergency Handling Arrangement

- Emergency Control Center : 01 Nos. (Main Gate)

It is sited in Office Building, which is readily accessible & with minimum risks equipped with telephone facilities and announcements if extra communications facility is needed. It has enough meant to receive and transmit information and directions from Emergency Controller to incident controller and other areas.

In emergency control center due to its safer location and advantage of easier accessibility, all necessary personnel protective equipment, and fire fighting extinguishers are stocked in sufficient quantity.

- Stabilization : 01 Nos.
- Assembly Points : 03 Points
- Siren : 01 Nos. (Adm. Building)
- Wind Indicator : 05 Nos. (Plant-1 + Adm. Bldg)

2. Other PPE's available at ECC.

Sr. No.	Name of PPE	Qty.	Sr. No.	Name of PPE	Qty.
1	Safety Helmet	06 Nos.	5	Face Shield	03 Nos.
2	Disposable Hand Gloves	02 Pkts.	6	PVC Apron	02 Nos.
3	PVC Hand Gloves	06 Pkts.	7	Safety Belt	02 Nos.
4	Safety Goggles	06 Nos.	8	Air Bubble Hood	02 Nos.

MEDICAL ARRANGEMENTS:

Occupational health center is available for medical treatment of the workers in normal working and also at the time of emergency. It is fully equipped with necessary instruments, arrangements, medicines including antidotes, and staff. It has sufficient space, capacity and is sited in a safe place (avoiding normal downwind direction). There are sufficient first aid boxes and first aiders properly trained. The staff is available round the clock.

An emergency vehicle is available for the purpose of transportation of serious cases of accidents or sickness.

First Aiders

1. First Aid trained staff available round the clock in each plant. The First Aiders are arranged/selected such that in each shift, minimum one first aider is available in all plants.
2. External Faculty gives First Aid Training to all First Aiders.

First Aid Box

First-aid boxes with emergency medicines are available at following locations:

- ✓ Stabilization Plant
- ✓ Maintenance room
- ✓ Admin Building

Routine checking of First Aid Box by HSE department.

Emergency Vehicle

Ambulance is available round the clock in factory premises to carry injured people into nearby hospital.

Hospital

Orange Multispecialty Hospital, Shri. Jayaben Modi hospital, GIDC Ankleshwar & Municipal Hospital, Bharuch Hospital has all the facilities for treatment of serious cases and is well equipped with following. The hospitals are 5 km and 15 km away respectively BEIL Infrastructure Ltd, Ankleshwar.

- X-Ray facilities, Pathological Laboratory.
- Well-equipped operation theatre and facilities to carry emergency surgery.
- Blood grouping facilities and Blood Bank.

The hospital has all the necessary specialists and medical staff with different wards and hospitalization.

TRANSPORT AND EVACUATION ARRANGEMENTS:

Transport & Evacuation Arrangements are available in the factory round the clock.

Pls. refer Annexure – 23

7. POLLUTION CONTROL ARRANGEMENTS:

Adequate pollution control arrangements for water, air & soil are provided.

Pls. refer Annexure – 24

8. OTHER ARRANGEMENTS:

Heavy vehicles like JCB, forklifts are available round the clock. Transporters for material are also available round the clock. Two DG sets, having 600 KV capacity are provided for alternate power supply in case of electricity failure.

Special equipment like oxygen meter, LEL meter, VOC meter are easily available.

Weather monitoring system is installed to monitor following parameters:

- Ambient temperature
- Wind direction
- Wind speed
- Humidity
- Rain flow
- UV radiation
- Barometric pressure

Apart from these, BEIL has formed an Emergency Response Team to deal with any kind of emergency.

Pls. refer Annexure – 25

CCHAPTER-IV

COMMUNICATION SYSTEM

The communication system beginning with raising the alarm, declaring a major emergency and procedure to make it known to others is explained below in brief.

1. RAISING THE ALARM:

In BEIL plant there are 01 Nos. of alarm/sirens. In case of an emergency, any person can press the button so that alarm/alarm can be heard. Alarms are audible all over the factory.

Siren Code

Sr. No.	Siren Type	Description
1	Fire or Other emergency	10 sec. ON & 5 sec. OFF three times
2	Gas leak	15 Sec. ON & 15 Sec. OFF four times
3	All clear	1 min. continue
4	Testing	1 Min. Continuous on every Wednesday 10.30 am

Pl. refer Annexure-26

Security personnel who will initiate appropriate action to call on/pass on information to all required persons. Complete list of internal phone nos. & external phone nos. is available with security personnel. Availability of emergency vehicles is always ensured.

Pl. refer Annexure-27 & 28 respectively for the list of internal phone nos. & external phone nos.

As standard procedure any person can raise the alarm to control the situation at earliest possible and avoid the development of major emergencies, where appropriate early notification to outside agency is also needed.

2. DECLARING THE MAJOR EMERGENCY:

The declaration of major emergency puts many agencies on action, and the running system may be disturbed which may be very costly at times or the consequences may be serious, therefore such declaration should not be decided on whims or immature judgment or without proper thought.

In BEIL plant only Site Main Controller (SMC) does declaration of major emergencies. In absence of SMC, people are nominated for declaration of emergency.

Pl. refer Annexure-29

3. TELEPHONE MESSAGES:

After hearing the emergency alarm and emergency declaration or even while just receiving the emergency message on phone, a telephone operator will immediately contact SMC and on his advice call the local fire brigade. In case internal/external telephone system becomes inoperative, he shall inform the Officer-HRD through a messenger/runner. In case fire is discovered but no alarm is sounding, he shall receive information about location from the person discovering the fire and thereafter immediately consult the Emergency Controller and inform on telephone to the staff, location of the Incident and to evacuate to their assembly points. His such duties are described in the emergency instruction booklet given as the last annexure.

Pl. refer Annexure-30

4. COMMUNICATION OF EMERGENCY:

The telephone operator or ECC receives message regarding emergencies and informs relevant authorities.

1. Inside the Factory to the Employees

Through the internal plant Announcement System.

2. To Key Personnel Outside Normal Working Hours

The details of key personnel availability after working hours are made available at security gate as well as plants. Availability of emergency vehicles is ensured to fetch the key personnel residing outside.

3. To The Outside Emergency Services & The Authorities

Facilities such as phones, emergency vehicles, and security personnel are available to help in calling outside emergency services and authorities.

The emergency will be immediately communicated to the government officers and other authorities such as fire brigade, police, district emergency authority, factory inspectorate, hospital etc.

4. To Neighboring Firms & The General Public

In case of emergency public will be cautioned regarding the same. Co-ordination of police will be sought for speedy action.

Pl. refer Annexure-31 on page No. 130

CHAPTER-V

ACTION ON SITE

1. CO-RELATED ACTIVITIES:

Following three stage co-related activities provide better points for emergency preparedness, emergency actions and subsequent follow-up.

(a) Pre-emergency activities

- Internal safety surveys with regard to identification of hazards, availability of protective equipment, checking for proper installation of safety devices is carried out periodically.

- Periodic pressure testing of equipment.
- Periodic fire hydrant system testing.
- Mutual aid scheme with the neighboring organizations for getting / extending help to each other in emergencies.
- Mock drill to check up level of confidence, extent of preparedness of personnel to face emergency is being contemplated.
- Regular training to all personnel to create awareness.
- Adequate safety equipment are made available.
- Internal/ external communication system is maintained in good working order.
- 5 kms. Range siren system is installed which can be operated in case of emergency.
- Wind-cocks/wind recorders are installed inside the plan areas as prominent locations to indicate wind direction and velocity.
- Periodic checkup of emergency lights.
- Emergency Control Center is identified
- Safe assembly points are identified.
- Storage of adequate first aids treatment facilities.
- Statutory information is imparted to workers

(b) Emergency Time activities

During emergencies, all personnel will work with specific objectives in consultation with Incident Controller to tackle the situation.

(c) Post Emergency Time activities

Post emergency activities comprise of steps taken after the emergency is over to establish the reasons of the emergency and preventive measures.

The steps involved are-

- ✓ Collection of records
- ✓ Conducting enquiries and concluding preventive measures
- ✓ Making insurance claims

- ✓ Preparation of inquiry reports and suggestion scheme.
- ✓ Implementation of inquiry report's recommendations.
- ✓ Rehabilitate the affected people within the plant and outside the plant.
- ✓ To restart the plant.

2. CONTROLLING EMERGENCY:

MODE OF EMERGENCY

Man made	Natural Calamities	Extraneous
Fire	Flood	Riots/Civil Disorder /Mob attack
Toxic Release	Earthquake	Terrorism
Spillage / Leakage of solid / liquid material during transportation	Cyclone	Bomb Threat
Unsafe act / condition		War
In-adequate maintenance		Food / water poisoning

Some hazardous events and their control procedures are explained below in brief:

(A) Fire

- ✓ Inform Incident Controller at once when the fire is noticed.
- ✓ Put off electrical mains for the plant where in fire is observed, connected MCC's for the plant should be put off.
- ✓ Fire lighting crew to be directed for immediate actions in the area to extinguish the fire by use of fire extinguishers and water from fire hydrant posts.
- ✓ Simultaneously put off the source of gas emission.
- ✓ Steps to be taken to evacuate non-essential people.
- ✓ Use of portable fire extinguishers like foam type, ABC type to be made to contain the solvent fire.
- ✓ Use of water to be made to extinguish the fire and cool off the equipment and storage surface till the fire extinguished and equipment are cooled.
- ✓ In case of Carbon dioxide do not allow the persons to enter the area till the time, the carbon dioxide is dispersed and diluted to avoid any suffocation.

- ✓ To put off the fire due to solvents make use of excessive foam/DCP/ABC type fire extinguishers & water fog. Make use of excessive water to cool the surface area of equipment.
- ✓ Provide gas masks, Goggles, Aprons, Helmets and safety wears to the firefighting team.
- ✓ Keep people away from the danger area.
- ✓ Do not permit any naked flame and smoking in the area.
- ✓ Stop leakages and flush the leaky liquid, do not allow flow the leaky liquid in the drain.
- ✓ Give first aid to the injured people.
- ✓ If necessary, induce vomiting, give artificial respiration and the effected person should be sent to the nearest doctor/clinic.
- ✓ Inform neighboring industries and population.
- ✓ Contact fire brigade, Police, Doctor/Hospital and other authorities.
- ✓ Contact statutory authorities and give information.
- ✓ Cordoned off whole area to restrict the entry by posting security personnel.

Action after Fire is Extinguished

The Incident Controller shall...

- a. Prepare immediate abnormal occurrence report as soon as possible and submit it to safety department/administration department.
- b. The affected department head shall carry out an investigation and prepare a detailed report mentioning any further requirement of facilities for tackling such type of emergencies.
- c. Before the plant is re-commissioning the mechanical/ electrical / instrumentation shall assess the danger to ensure equipment is safe for continued services.
- d. Make a note of the fire extinguisher used and need replacement

(B) Spillage of solid waste during transportation:

- On Noticing spillage, intimate safety officer and Plant Manager through Intercom/telephone system and clearly inform about
 - 1) The Location
 - 2) Manifest No.
 - 3) Characteristics of material
- Evacuate & barricade the Area
- Use following PPEs

- Boiler suit
 - Hand Gloves
 - Apron
 - Face Mask or Safety goggles
 - Helmet
 - Multi gas cartridge mask
 - Gum Boot
- Check Wind Direction & monitor the surrounding environment.
 - Reach to the place through the opposite direction to wind direction
 - Cover the spilled are by using dry soil or fly ash as absorbing inert media.
 - Collect the material in plastic bags / drums and clean the floor.
 - Send the material for proper disposal.

(C) Landfill slope failure:

- Inform Incident Controller when slope failure is noticed
- Implementation of onsite emergency plan
- Incoming waste to be stopped
- Slope failure may increase exposure risk to personnel and public so necessary PPEs to be provided. Relocation and covering of waste to be performed quickly and safely
- Perform mitigating activity to limit further contamination or damage
- Work to be done round the clock
- Primary report to be prepared and reviewed at regular intervals regarding the activities of waste shifting.

(D) Water accumulation in landfill due to heavy rain:

We are keeping four nos of Diesel pump of 40 m³/hr capacity and 5 Electric pump of 80 m³/hr capacity to pump out the accumulated water due to heavy rain. In the event of a landfill instability such as a slope failure the first concern is always safety, safety of site personnel, safety of site entrants, and safety of general public. The situation will need to be assessed concisely and necessary emergency procedures and precautions implemented as quickly as possible.

- Inform Incident Controller when water accumulation is noticed
- Implementation of onsite emergency plan
- Start pumps to pump out the water accumulated.
- Check the water quality, if contaminated send for treatment.
- Necessary PPEs like helmet, gum boot, hand gloves, rain coat to be provided. If required, relocation and covering of waste to be performed quickly and safely
- Perform mitigating activity to limit further contamination or damage
- Work to be done round the clock

- Primary report to be prepared and reviewed at regular intervals regarding the activities of waste shifting.

(E) Electric Shock:

- Electric shock results in irreversible damage to brain cells followed by deterioration of other organs.
- Rescue and first aid –
- Do first thing first, quickly and without fuss or panic.
- Switch off the supply if this can be done at once. If not possible, use a dry stick, dry cloth or other nonconductor to separate the victim of electrical contact. The rescuer must avoid receiving shock by wearing gloves or using a jacket to pull the victim. Always keep in mind that delay in rescue and resuscitation may be fatal. Every second counts.
- Artificial respiration
 - Give artificial respiration, if breathing has stopped. There are several methods of artificial respiration. If the victim is not injured in the face, try mouth to mouth. If the victim is injured in the face, use Silverster Brosch method.

(F) Snake Bite:

- Reassure the patient
- Do not allow the person to run or walk
- Apply a ligature above the wound (in between the heart and the wound) if the bite is in the leg or hand.
- Wash the wound with potassium permanganate solution or with soap and water.
- Allow free bleeding.
- Never suck the blood from the wound.
- Treat for shock.
- Arrange immediate hospitalization, by transporting the patient in a lying down position.

3. EVACUATION & TRANSPORT:

In case of emergency, evacuation and transportation of non-essential workers is carried out immediately after hearing Siren. The effected personnel will be transported for medical aid. Availability of transportation is always essential.

4. SAFE CLOSE DOWN:

During emergency, plant shut down will be carried out if you hear siren or instruction from SMC or Incident Controller.

5. USE OF MEDICAL AID:

The help from outside i.e. mutual aid will be taken if required by Site Main Controller.

6. USE OF EXTERNAL AUTHORITIES:

As and when necessary, statutory authorities, police, pollution control personnel, medical aid/center, ambulance etc. will be contacted.

7. MEDICAL TREATMENT:

The effected personnel will be brought to safer place immediately to give them first aid. Immediate medical attention will be sought.

8. ACCOUNTING FOR PERSONNEL:

Proper accounting for personnel as laid down in all the shifts. The number of persons present inside the plant premises, their duty etc. will be available with the security staff. This record will be regularly updated and will be made available.

9. ACCESS TO RECORD:

The relatives of affected personnel will be informed. The details regarding all employees are made available at Administration building.

10. PUBLIC RELATIONS:

A senior manager is appointed as the sole authoritative source of information to the news media. All other employees are instructed not to divulge information themselves which may, in the event, be misleading or inaccurate.

11. REHABILITATION:

The affected area will be cleared from emergency activities only after positive ascertaining of the system in all respects. The entry to affected area will have to be restricted until statutory authorities visit and inspect the spot of incident. Nothing should be disturbed from the area till their clearance. The Site Main Controller will be incharge of the activities to be undertaken.

The plan will cover emergencies, which can be brought under control by the works with the help of emergency team/fire services. Emergency Control Plan for gas leak & fire has been prepared for entire factory.

LEVEL OF EMERGENCY

Level of emergency can be classified in three categories:

Level 1

The emergency, which is containable within the plant premises. Emergency may be due to

- a.** Electrical Shock

- b.** Snake bite

Level 2

The emergency, which is containable within the factory premises. Emergency may be due to

- A.** Big fire in factory premises/Fall of structure/failure of line, vessel etc...
- B.** Medium scale explosion.
- C.** Collapsing of heap of soil during construction of landfill

Level 3

1. Landfill

- A.** Slope failure of landfill
- B.** Flood hazards
 - Water accumulation due to heavy rain
 - Resulting from Dam and / or reservoir failure*
 - Resulting from seismic sea waves*

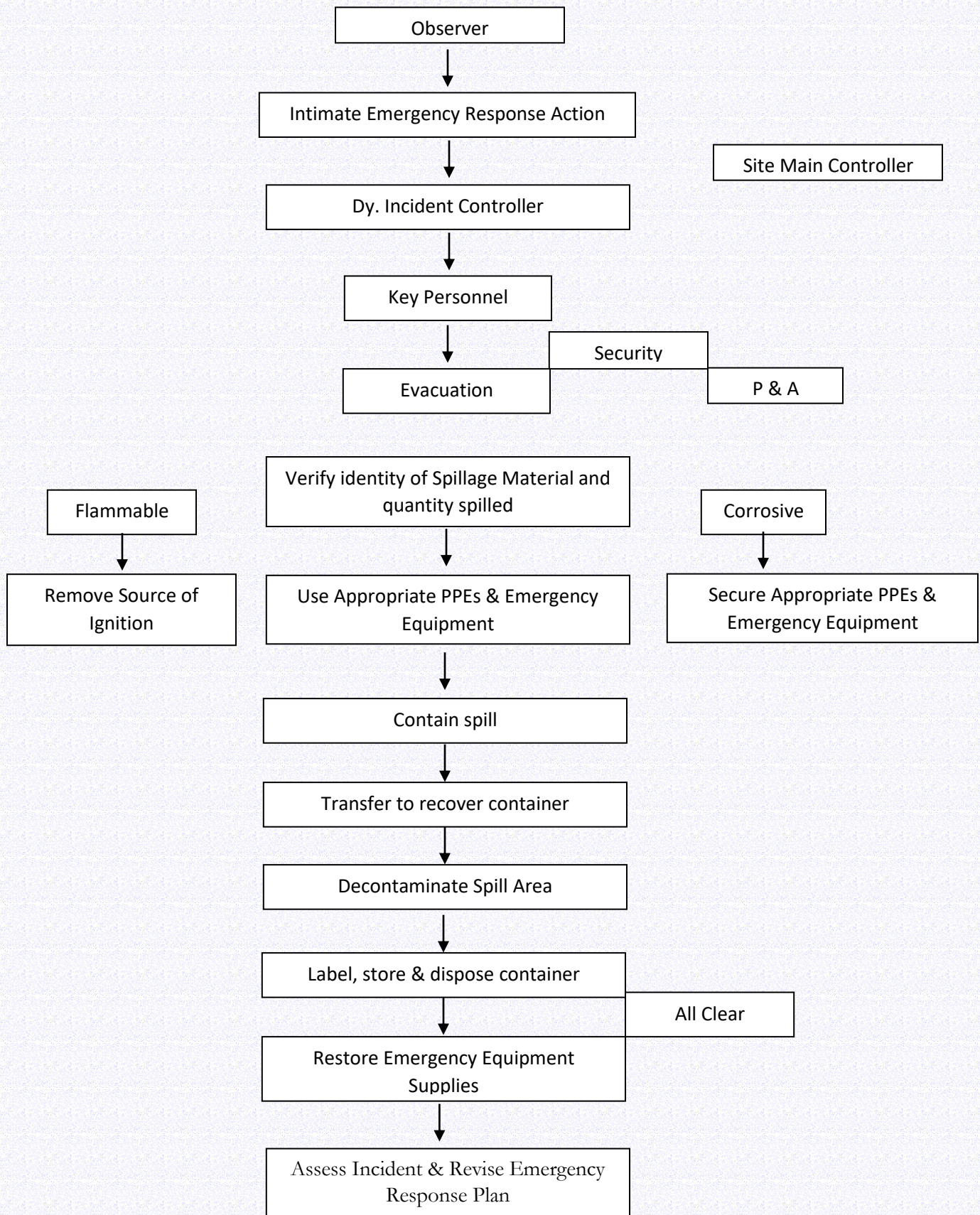
*BEIL is facility at Ankleshwar GIDC, Dist. Bharuch. Neither a dam nor reservoir near to the Facility, which failure can affect the TSDF. The Sea Mean level is below 32.78 Meter and highest flood level height is below 12.77 Meter from BEIL

ON HEARING EMERGENCY SIREN

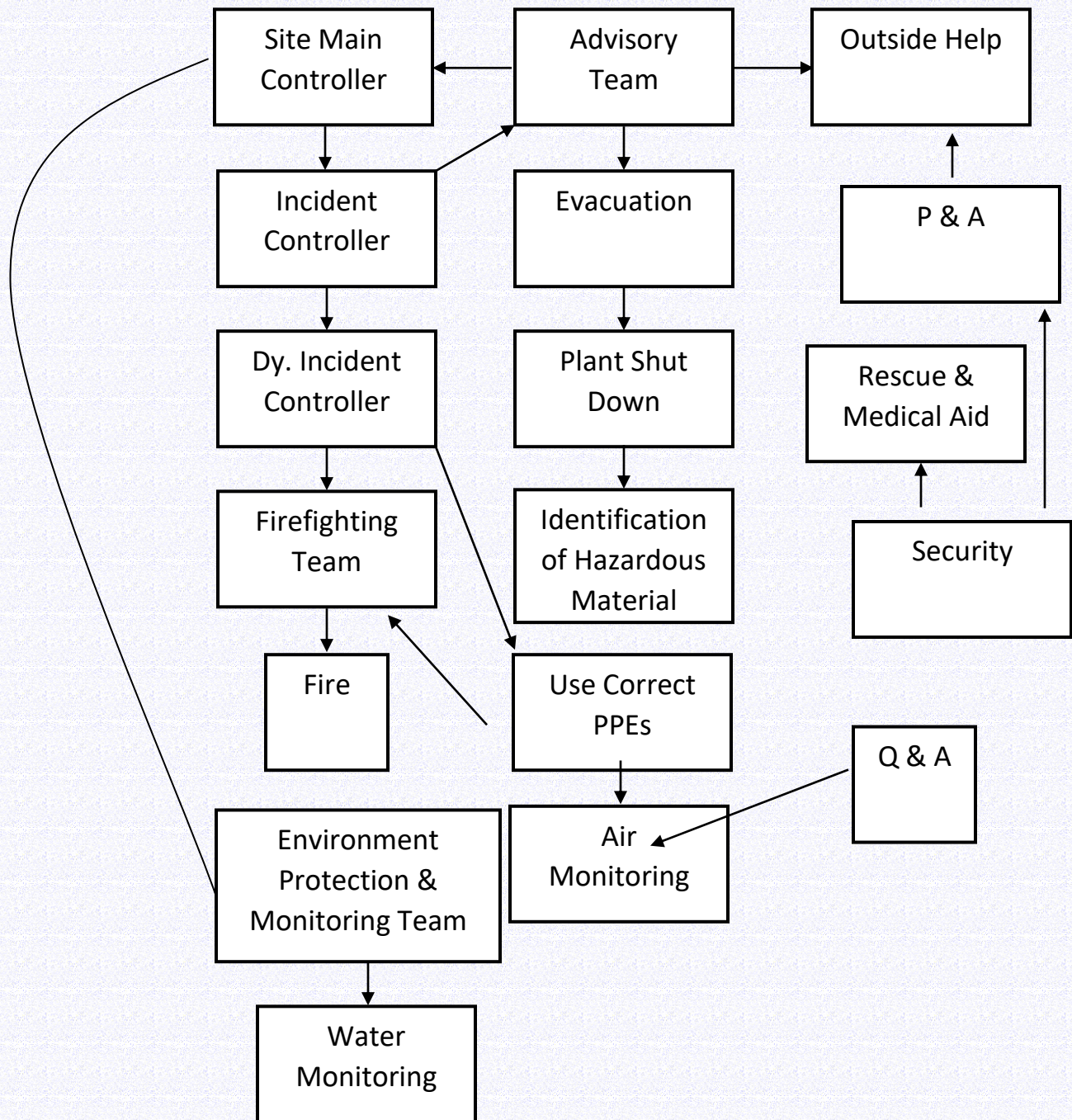
*Non-essential personnel shall follow safe route for evacuation.

Non-essential personnel will not rush towards incident site.

Emergency Response Flow Chart for Major Spills



Emergency Response Flow Chart for Major Fire



CCHAPTER-VI

OFF-SITE EMERGENCY PLAN

1. NEED OF THE EMERGENCY PLAN:

Depending on the wind direction and velocity the effects of accidents in factory may spread to outside its premises. To avoid major disasters, it is essential to seek guidance/assistance of statutory authorities, police, and health department. The movement of traffic may have to be restricted. Required information will be given to the authority and consultation will be sought for remedial measures.

Purposes of the off-site emergency plan are:

- a) To provide the local/district authorities, police, fire brigade, doctors, surrounding industries and public the basic information of risk and environmental impact assessment and appraise them of the consequences and the protection/ prevention measures and to seek their help to communicate with public in case of major emergency.
- b) To assist district authorities for preparing the off-site emergency plan for district or particular area and to organize rehearsals from time to time and initiate corrective actions on experience.

2. STRUCTURE OF THE OFF-SITE EMERGENCY PLAN:

1.ROLE OF THE FACTORY MANAGEMENT:

The Emergency Controller will provide a copy of action plan to the statutory authorities in order to facilitate preparedness of district/area off-site emergency plan.

2. ROLE OF THE EMERGENCY CO-ORDINATION OFFICE (ECO):

He will be a senior police or fire officer co-ordinating with Emergency Controller. He will utilize emergency control center.

3. ROLE OF THE LOCAL AUTHORITY:

Preparation of off-site plan lies with local authorities. An emergency planning officer (EPO) works to obtain relevant information for preparing basis for the plan & ensures that all that organization is involved in offsite emergency and to know their role and responsibilities.

Separation distances in respect of chemicals in BEIL is given in Annexure 32.

Pls. refer Annexure 32 on page no. 130

4. ROLE OF THE FIRE AUTHORITY:

The fire authorities will take over the site responsibility from incident controller after arrival. They will be familiarized with site of flammable materials water and foam applies points, firefighting equipment.

5. ROLE OF THE POLICE AND EVACUATION AUTHORITY:

Senior Police Officer designed as emergency coordinating officer shall take overall control of an emergency. The duties include protection of life, property and control of traffic movement.

Their functions include controlling standards, evacuating public, identifying dead and dealing with casualties and informing relatives of dead or injured.

There may be separate authorities / agencies to carry out evaluation and transportation work.

Evacuation depends upon the nature of accident, in case of fire only neighboring localities shall be alerted. Whole areas have to be evacuated in case of toxic release.

6. ROLE OF THE HEALTH AUTHORITY:

After assessing the extent of effect caused to a person the health authorities will treat them

7. ROLE OF THE MUTUAL AID AGENCIES:

Various types of mutual aid available from the surrounding factories and other agencies will be utilized.

8. ROLE OF THE FACTORY INSPECTORATE:

In the event of an accident, the Factory Inspector will assist the District Emergency Authority for information and help in getting Neighboring Industries / mutual aid from surrounding factories.

In the aftermath, Factory Inspector may wish to ensure that the affected areas are rehabilitated safely.

CCHAPTER-VII

TRAINING, REHEARSAL AND RECORDS

1. NEED OF REHEARSAL & TRAINING:

Regular training and rehearsal program of emergency procedures shall be conducted with elaborate discussions and testing of action plan with mock drill. If necessary, the co-operation / guidance of outside agencies will be sought.

2. SOME CHECK POINTS:

Following check points are help-full in assessing the adequacy of the emergency plan, At the time of training these can be checked:

- ❖ The extent of realistic nature of incidents.
- ❖ Adequate assessment of consequences of various incidents.
- ❖ Availability of sufficient resources such as water, firefighting aids, personnel.
- ❖ The assessment of time scales.
- ❖ Logical sequences of actions.
- ❖ The involvement of key personnel in the preparation of plan.
- ❖ At least 24 hours, cover to take account of absences due to sickness and holiday, minimum shift manning.
- ❖ Satisfactory co-operation with local emergency services and district or regional emergency planning offices.
- ❖ Adequacy of site.

3. RECORDS AND UPDATING THE PLAN:

All records of various on-site and off-site emergency plans of factory will be useful along with those of the factors by which statutory authorities draw a detailed plan for the whole area/district. The record of the activity is being updated regularly.

4. EMERGENCY BOOKLET:

The duties/functions of role are mentioned in the last annexure given as Emergency Instruction Booklet.

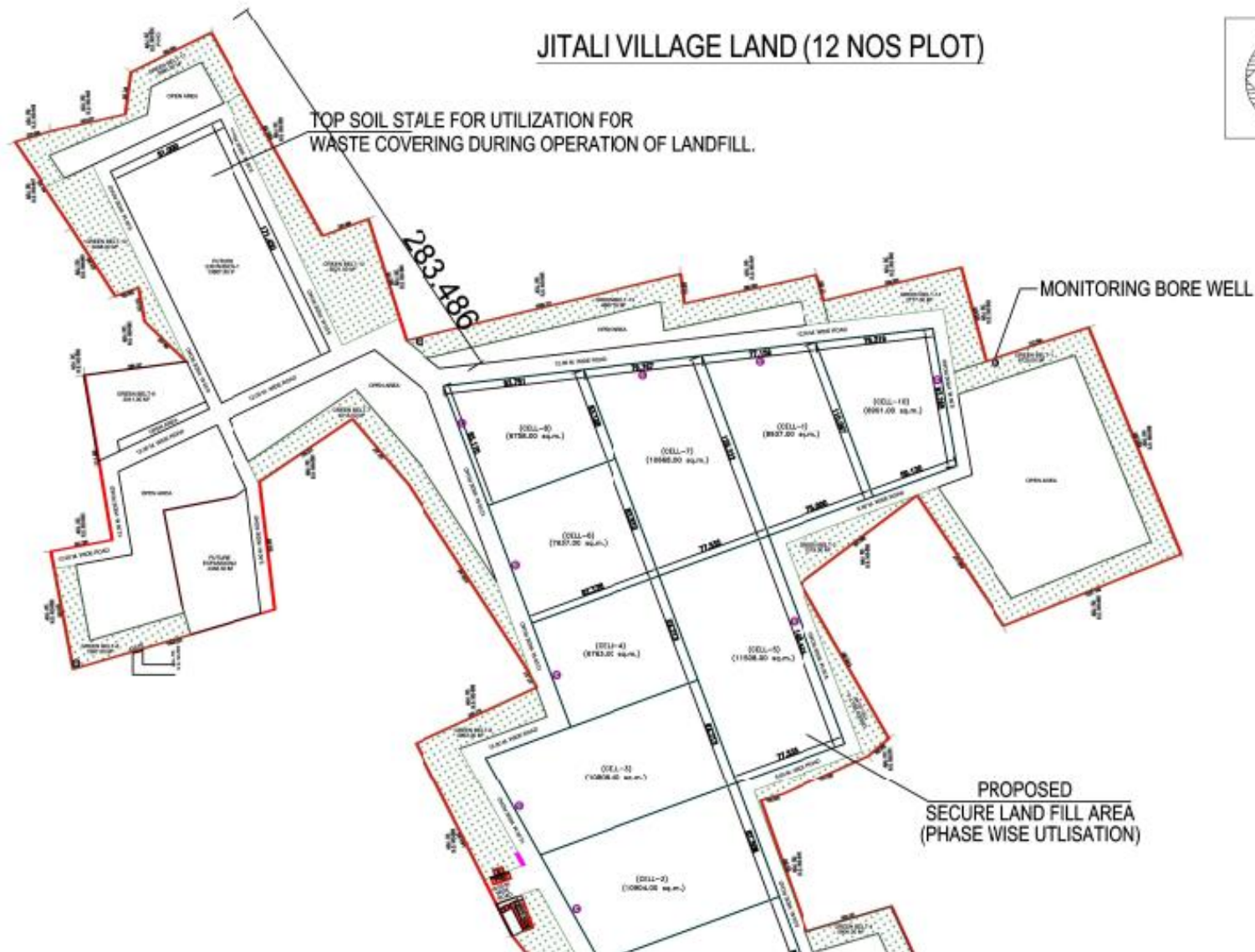
Pls. refer Annexure 33

ANNEXURE-1**IDENTIFICATION OF FACTORY**

1.	Name of the Factory	:	BEIL Infrastructure Ltd.	
2.	Address	:	Plont no 190,233,235,236,254,263,268 to 273 Jinali Ta. AnkleshwarDist – Bharuch, Gujarat	
3.	Telephone No.	:	02646-253135/226591/225228	
4.	Fax No.	:	02646-222849/250707	
5.	E-mail I.D.	:	panjawania@uniphos.com	
6.	Full Name & Address of the Factory Occupier	:	Mr. Ashok Panjwani Near navsarjan bank, GIDC – Ankleshwar	
	Telephone No.	:	9909994902	
7.	Full Name & Address of the Factory Manager	:	Mr. Manoj Patel 407/9, Sardar Patel Society, GIDC – Ankleshwar	
8.	Manufacturing process	:	TSDF of Hazardous waste	
9.	Shift details:	:		
Name of the Shift				
		Staff	Contract	Total
	General(G)	02	25	27
	First (A)	02	10	12
	Second (B)	01	10	11
	Third I	01	05	06
	TOTAL	06	50	56
First person to be contacted in case of emergency:				
Name of the shift	First person to be contacted in case of emergency			
	Name & Designation	Place of Availability	Phone No.	
			Office	Res.
General(G)	Mr. Manoj Patel (sr.V.P – Operation)	Plant Office	02646-226591	9909994907

First (A)	Mr. Mahesh Trivedi (GM)	Plant Office	02646-226591	9909994579
Second (B)	Mr. Production Officer	Control Room	02646-226591	
Third I	Production officer	Control Room	02646-226591	9727990047
On Holiday	Mr. Pratik Shah	Control Room	02646-226591	8511043083
Any other information, if any:				

ANNEXURE-3
FACTORY LAY OUT



ANNEXURE-4**STORAGE HAZARDS AND CONTROLS**

Name of the hazardous substance	Max. Storage Capacity M.T	Place of its storage	State operating pressure & Temperature	Type of Hazards possible (fire, explosion, toxic release, spill, etc.)	Control Measures provided
1	2	3	4	5	6
Bentonite Powder	250	Storage shed	Atm & Amb.	Non-Toxic	Use pf PPEs
Cement	2000	Storage shed	Atm & Amb.	Non-Toxic	Use pf PPEs
Lime	50	Storage shed	Atm & Amb.	Non-Toxic	Use pf PPEs
Fly ash	250	Storage shed	Atm & Amb.	Non-Toxic	Use pf PPEs

ANNEXURE-5

MATERIAL SAFETY DATA SHEET

1) Lime



REVISION DATE: SEPTEMBER 15, 2023

SAFETY DATA SHEET **HYDRATED LIME**

OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS Rev03.

SECTION 1. IDENTIFICATION

Product Name	Hydrated Lime
Chemical Name	Calcium Hydroxide
Synonyms	Chemical Hydrate, Commercial Hydrate, Industrial Hydrate, Hydrate Lime, Hydrate Tailings
Uses	Soil Stabilization, Fixation, Neutralization, Desulphurization, Agriculture, Water Treatment
Distributor	Mintek Resources 3725 Pentagon Blvd. Suite 100 Beavercreek, OH 45431 Phone: 937-431-0218
Emergency Contact	VelocityEHS: (800) 255-3924 (MIS8507735)

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture



GHS08 Health Hazard



GHS05 Corrosion

Signal Word	Danger
Hazard-Determining Components of Labeling	Calcium Oxide, Calcium Carbonate, Calcium Hydroxide
Hazard Statements	H303 May be harmful if swallowed. H335 May cause respiratory irritation. H373 May Cause damage to organs (lungs) through repeated or prolonged exposure.
Precautionary Statements	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P260 Do not breathe dust. P264 Wash hands thoroughly after handling. P270 Do not eat, drink when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection.
Response	P303 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. P304 If inhaled: Remove person to fresh air and keep comfortable for breathing. P305 If in eyes: Rinse cautiously with water for several minutes

SECTION 3. COMPOSITION

Component	Formula	% Wt.	CAS No.	PEL
Calcium Hydroxide	Ca(OH) ₂	>90	1305-62-0	5 mg/m ³
Silica-Crystalline Quartz	SiO ₂	<1%	14808-60-7	10 mg/m ³ respirable

SECTION 4. FIRST AID MEASURES

Inhalation	Acute: May cause respiratory irritation. Chronic: Respiratory tract irritation, coughing, burning sensation.
Eyes	Acute: Causes serious eye damage. Chronic: Pain, watering, redness.
Skin	Acute: Causes skin irritation. Chronic: Pain or irritation, redness, blistering may occur.
Ingestion	Acute: No known effects. Chronic: Burning sensation, abdominal cramps and pain, vomiting.

Treatments

Inhalation	Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration.
Eyes	Immediately flush eyes with large amounts of water for at least 15 minutes. Pull back the eyelid to make sure all the lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.
Skin	Flush exposed area with large amounts of water. Seek medical attention immediately.
Ingestion	Give large quantities of water or fruit juice. Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	Non-flammable
Autoignition Temperature	Non-flammable
Inflammability Limits	None, Non-combustible solid, but will support combustion by liberation of oxygen.
Explosion Risk	None by itself, but heat produced by reaction with strong acids can generate steam and pressure.
Hazardous Combustion Products	Decomposes to produce calcium oxide (CaO), which can react with water to produce steam and pressure.
Extinguishing Media	Use dry chemical fire extinguisher. Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of lime kiln dust. Use appropriate extinguishing media for surrounding fire conditions.
Fire Fighting Instructions	Keep personnel away from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (self-contained breathing apparatus).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Individual and Collective Precautions	Avoid creating conditions which release dust – use mechanical vacuums to remove dust from workspaces.
Avoid inhalation of Dust	Wear respiratory protection – minimum NIOSH N-95 Dust Mask.
Cleaning Methods (Leaks & Spills)	Use personal protective equipment (eyes, skin, and inhalation, see Section 8). Use dry methods (vacuuming, sweeping) to collect spilled materials. Avoid generating dust. For large spills, evacuate area downwind of clean-up area operations to minimize dust exposure. For small spills, store spilled materials in dry, sealed plastic or metal containers. Dust residue on surfaces may be washed with water.
Precautions for the Protection of the Environment	May not be released into surface waters without controls (increases pH).
Waste Disposal	Dispose according to federal, provincial/state, and local environmental regulations.

SECTION 7. HANDLING & STORAGE

Handling	In open air or in ventilated places, avoid skin and eye contact, avoid creating airborne dust.
Storage	Store in dry places sheltered from humidity. Keep away from acids. Keep out of reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)	Ont. Reg. 833 TWAEV (mg/m ³)
Calcium Hydroxide	5	2	2
Silica - Crystalline Quartz	2.5 (total dust), 0.8 (respirable)	0.5 (respirable)	0.1

Engineering Controls	Use ventilation and dust collection to control exposure to below applicable limits.
Individual Protection Measures (Personal Protective Equipment):	
Respiratory Protection	Wear NIOSH N-95 Dust Mask.
Eye Protection	Eye protection (chemical goggles, safety glasses and/or face shield) should be worn where there is a risk of lime exposure. Contact lenses should not be worn when working with lime products.
Hand Protection	Use clean dry gloves.
Skin Protection	Cover body with suitable clothes (long sleeves shirts and trousers). Use over the ankle waterproof caustic resistant footwear.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	Solid, brown/white/tan/gray granular
Odor	Odorless
Odor Threshold	Not Applicable
pH	12.4 graduated solution at 25°C

Melting Point	1076°F (580°C)
Boiling Point	5162°F (2850°C)
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability	Not Applicable
Upper/Lower Flammability	Not Applicable
Vapor Pressure (+t°)	Non-Volatile
Vapor Density (air=ml)	Non-Volatile
Relative Density	700-900 kg/ m³
Solubility in Water	0.165g/100g
Partition Coefficient	Not Applicable
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Applicable
Viscosity	Not Applicable

SECTION 10. STABILITY & REACTIVITY

Stability	The product is stable.
Decomposition Temperature	None
Reactivity	No specific test data related to reactivity available for this product.
Conditions to Avoid	Vicinity of incompatible materials.
Incompatibility	• Acids • Reactive Fluoridated • Brominated or Phosphorous Compounds • Aluminum (may form hydrogen gas) • Reactive Powdered Metals • Organic Acid Anhydrides • Nitro-organic Compounds • Interhalogenated Compounds
Hazardous Decomposition Products	None

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity	This product is not listed by MSA, OSHA, or IARC as a carcinogen, but this product may contain crystalline silica, which has been classified by IARC as (Group 1) carcinogenic to humans when inhaled in the form of quartz or cristobalite. No reported Carcinogenicity, Reproductive Effects, Teratogenicity or Mutagenicity.
Exposure Limits	Refer to Section 8
Irritancy	Can cause severe irritation of eyes, skin, respiratory tract, and gastrointestinal tract.
Chronic Exposure:	Inhalation of silica can cause a chronic lung disorder, silicosis.

SECTION 12. ECOLOGICAL INFORMATION

Alkaline substance that increases pH to 12.4 in a saturated water solution at 25°C.

Calcium hydroxide gradually reacts with CO₂ in air to form calcium carbonate (CaCO₃).

Calcium carbonate is ecologically neutral.

Uncontrolled spillage in surface waters should be avoided since the increase pH could be detrimental to fish.

Harmful to aquatic life in high concentration.

SECTION 13. DISPOSAL CONSIDERATIONS

Dispose according to federal, provincial/state, and local environmental regulations.

SECTION 14. TRANSPORT INFORMATION

Classification TDG: Not listed for ground transportation.
 HMR: Not listed for ground transportation.

TDG: Transportation of Dangerous Goods Regulation (Canada)

HMR: Hazardous Materials Regulation (USA)

SECTION 15. Regulatory Information

Symbol	WHMIS RATING			
	D2A, E			
	NFPA RATING			
	HEALTH-3	SPECIFIC HAZARD – ALK	FLASH POINTS-0	REACTIVITY-1
	HMIS RATING			
	HEALTH-2	SPECIFIC HAZARD – ALK	FLASH POINTS-0	REACTIVITY-1

SECTION 16. OTHER INFORMATION

Original Prepared 05/13/2013

Revision Date 9/15/2023

Revision # 2

Calciment can be removed from vehicles using rags dampened with dilute vinegar. After applying dilute vinegar, vehicles (especially chrome surfaces) must be washed with water.

The information contained herein is believed to be accurate and reliable as of the date hereof. However, Mintek Resources, Inc. makes no representation, warranty or guarantee as to results or as to the information's accuracy, reliability or completeness. Mintek has no liability for any loss or damage that may result from use of the information. Each user is responsible to review this information, satisfy itself as to the information's suitability and completeness, and circulate the information to its employees, customers and other appropriate third parties.



TATA CHEMICALS LIMITED
SAFETY DATA SHEET (SDS)

Name of chemical: CEMENT

1. PRODUCT IDENTIFICATION / COMPANY ADDRESS

Trade Name	CEMENT	Common Name	CEMENT	Synonyms	Portland cement. Also known as hydraulic cement
Company Name / Address / Phone / Fax	Tata Chemicals Limited, Mithapur District: Devbhoomi Dwarka (Gujarat) 361 345 INDIA <u>Contact in case of Emergency Only:</u> +91(02892 675802 /03) Contact Person :+91 9227676113 Mr. Devendra Thakur				
Chemical Name	CEMENT				

2. HAZARD IDENTIFICATION

Hazard Classification	<u>Hazardous Substances</u>	<u>OSHA PEL (8-Hour TWA)</u>	<u>ACGIH TLV-TWA (1995–1996) (8-Hour TWA)</u>	<u>NIOSH REL (8-Hour TWA)</u>
	Portland Cement Clinker (CAS#65997-15-1) Nominal 95% by weight	50 million particles/ft ³	10mg total dust/m ³	
	Calcium sulphate (CAS#7778-18-9) [Gypsum (CAS#13397-24-5)] Nominal 5% by weight	5 mg respirable dust / m ³ 10 mg total dust / m ³	10 mg total dust/m ³	
	Calcium Oxide (CAS#1306-78-8) (Free Lime) < 4% by weight	5 mg / m ³	2 mg / m ³	
	Magnesium Oxide (CAS #1309-48-4) < 5% by weight	15 mg total dust / m ³	10 mg total dust / m ³	

	Crystalline silica (CAS#14808-60-7)	10 mg of respirable dust / m ³ (%SiO ₂ +2)	0.10 mg respirable quartz / m ³	0.05 mg respirable quartz / m ³
LABEL ELEMENTS				
Signal word	Danger			
Hazard statement				
Precautionary statement				

3. COMPOSITION / INFORMATION AND INGREDIENTS

Structural Formula	Mainly mixture of: 3 CaO-SiO ₂ , 2CaO-SiO ₂ , 3CaO-Al ₂ O ₃ , 4CaO-Al ₂ O ₃ Fe ₂ O ₃ -CaSO ₄ . Contains less than 1 % crystalline Silica.	Chemical Family	Calcium compounds
		Molecular weight	
CAS No		Molecular Formula	3 CaO-SiO ₂ , 2CaO-SiO ₂ , 3CaO-Al ₂ O ₃ , 4CaO-Al ₂ O ₃ Fe ₂ O ₃ -CaSO ₄ .
Name	Product identifier	%	Classification
Cement		100%	

4. FIRST AID MEASURE

Ingestion	Do not induce vomiting. Wash out mouth with water and give patient plenty of water to drink, Seek medical help
Inhalation	Move the person to a non-polluted area. The dust in the throat and nasal ducts must be removed immediately. Consult a physician if the irritation persists.
Eyes	A speedy response is essential in order to avoid permanent damage to the eyes. Wash eyes immediately with plenty of clean water for at least 15 minutes and seek medical advice without delay.
Skin	Wash the affected area thoroughly with soap and water before continuing. If irritation, pain or other skin trouble occurs, seek medical advice. Clothing contaminated by wet cement, concrete or mortar should be removed and washed thoroughly before use.
Antidote	

Most important symptoms/ effects, acute and or delayed	Eye Contact- Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries. Inhalation- Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of developing lung diseases. Skin contact- Cement may have an irritating effect on moist skin (due to transpiration or humidity) after prolonged contact. Prolonged skin contact with wet cement or fresh concrete may causes serious burns because they develop without pain being felt (for example when kneeling in-fresh concrete even when wearing trousers). Repeated skin contact with wet cement may cause contact dermatitis. Ingestion- No Relevant routes of entry, only by accident
Indication of immediate medical attention and special treatment needed	

5. FIRE FIGHTING MEASURES

Fire extinguishing media	In case of fire in adjacent areas, any suitable fire-extinguishing media may be used.
Hazardous decomposition products	Cement is non-flammable, non-combustible and may not cause or maintain combustion processes of other materials.
Special fire fighting procedure	No special instruction
Precaution to Fire Fighters	

6. ACCIDENTAL RELEASE MEASURES

Personal precaution	• Avoid contact with eyes and skin, do not inhale the dust. Use personal protection equipment, as mentioned under point number 8, No special procedures are necessary.
Precautions for the environment	Do not attempt to wash Portland cement down drains. Dispose of waste material according to local, state and federal regulations.
Clean up method	• Recover the spillage in a dry state if possible. Minimize generation of airborne dust. The product can be slurred by the addition of water but will subsequently set as a hard material. • Do not wash cement down sewage and drainage system

7. HANDLING AND STORAGE

General precaution	• Do not handle or store near food, drinks or tobacco products. • Bagged cement used in open mixers: First put the water and then carefully add the cement. • Do not pour it from a great height. Mix slowly and carefully. Do not press the empty bags, except if you put them in a clean bag. • Carry the bags carefully to avoid straining and bruising your back, arms, shoulders and legs. Load the bags carefully and use suitable control measures.
Personal protection	Refer to Section 8.
Storage	• Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality. • Bags should be stacked in a stable manner.
Incompatibilities	Moisture (Water). Keep away from unintentional contact with water.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Personal protection			
			
Skin	• Chemical protective gloves, gum boots, and/or other chemical protective clothing to prevent all possible skin contact. • A chemical protective acid-resistant full-body encapsulating suit and respiratory protection may be required in some operations. • Have a safety shower/eye-wash fountain readily available in the immediate work area.	Eyes	• Wear appropriate protective face shield and eyeglasses or chemical safety goggles.
Respiration	• Use cartridge type gas mask to evacuate from area. • To attend emergency wear self-contained breathing apparatus or supplied airline.	Other	
Exposure limits			
TLV-TWA	NA	TLV-STEL	NA
Appropriate Engineering Control	Use local exhaust or general dilution ventilation to control exposure below applicable limits.		

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid grey particles	Molecular Weight		Specific gravity	No data available
Odour/Odor threshold	Odorless	Flash Point °C	Not Pertinent	pH/ Acidity	11-13.5 (in saturated water solution, T = 25°C):
Auto Ignition Temp. °C	Not Pertinent	Boiling Point °C @ 760 mm Hg	Not Pertinent	Melting Point °C	
Vapor Press. Mm Hg @ 20 °C	1.41 kPa (10.6 mm Hg) at 20 °C	Vapour Density		Water Solubility @ 20 °C	Slightly Soluble
LEL %		UEL %		% Volatile	
Evaporation rate		Viscosity @ 25 °C		PH	
Octanol / Water Partition Coefficient	No data Available			No data available	

10. STABILITY AND REACTIVITY

Chemical Stability	Dry cements are chemically stable	Possibility of Hazardous reaction	Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.
Hazardous Reactions/ Decomposition products	Cement does not decompose in any hazardous substances	Incompatible Materials	Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.
Condition to avoid	If stored appropriately dry cements are stable and compatible with most building materials. When mixed with water they cure and form a stable mixture which may not react with the environment. Presence of moisture during storage may cause lumps and product quality loss. Avoid uncontrolled application of aluminium powder with wet cement as it liberates hydrogen.		

11. TOXICOLOGICAL INFORMATION

Routes of exposure	Inhalation.				
LD50 (oral / rats) mg/kg	----	LD50 (dermal/ rats) mg/kg		LC50 (inhalation / rats)	----
Target Organ Effects	lungs				
Symptoms related to physical, chemical & toxicological characteristics					

12. ECOLOGICAL INFORMATION

Mobility in Soil	No data available
Persistence and degradability	No data available
Bio accumulative Potential	No data available
Effects on fish (Ecotoxicity)	Large quantity of cement in water can raise pH and therefore can be toxic to water life under certain circumstances.
Effects on birds	No recognized unusual toxicity to plants or animals.
Effects on bees	No

13. DISPOSAL CONSIDERATIONS

Waste bags must be disposed of in accordance with federal, state and local environmental control regulations

14. TRANSPORT INFORMATION

UN No.		IMDG No.	---
Shipping Name	cement	Hazard class	---
Packing group	---	Hazard Sub class	---
Marine Pollutant	---	Labels required	---
Warning Statement	---		
Packaging / Precaution			
Shipping Marking			

15. REGULATORY INFORMATION**LABELING:****PHRASES R:**

R37/38 Irritates respiratory system and skin

R41 Risk of serious damage to eyes

R43 Possible sensitization in case of skin contact.

PHRASES S:

S 2 Keep out of the reach of children

S22 Do not breathe dust

S24/25 Avoid contact with eyes and skin

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S46 If swallowed, seek medical advice immediately and show this container or label

16. OTHER INFORMATION

The information provided in this Material Safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with other materials

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Safety Data Sheet

Fly Ash (All Types)



Date Prepared: 10/01/2022

Supersedes: 03/01/2022

Version 2.0

SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Name: Fly Ash, Class C fly ash, Class F fly ash, Roadmix and blends of Class C and F fly ash, O1TR, Intrix, P2 Performance Pozzolan, Economizer Ash, PV20A 5, PV20A-5 Micron, Micron 3, **MACS** Ash, Roadmix, Durabase, Flexbase, C-Stone, Celceram, Powerlite, CFB Ash or any of its derivatives, synthetic gypsum.

1.2 Intended Use of the Product

Component of wallboard, concrete, asphalt, roofing material, bricks, cement kiln feed functional filler and construction material for various civil engineering applications

1.3 Name, Address, and Telephone Number of the Responsible Party

Eco Material Technologies Inc., and its subsidiary and affiliate companies
10701 S. River Front Parkway, Suite 300
South Jordan, UT 84095
(801) 984-9400

1.4 Emergency Telephone Number

(678) 757-7583

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the Substance or Mixture (GHS-US)

Skin Irritation 2
Eye Irritation 2A
STOT-SE (Single Exposure) 2 (Respiratory)
Carcinogenicity 1
STOT-RE (Repeated Exposure) 1 (Respiratory)

2.2 Label Elements (GHS-US)

Hazard Pictograms:



Signal Word:

- Danger

Hazard Statements:

- Causes skin irritation. (H315)
- Causes serious eye irritation. (H319)
- Harmful if inhaled. (H332)
- May cause respiratory irritation. (H335)
- May cause cancer (H350)
- Causes respiratory harm through prolonged or repeated exposure. (H372)

Precautionary and Response Statements:

- Do not handle until all safety precautions have been read and understood. (P202)
- Avoid breathing dust. (P261)
- Wash hands, forearms, and other exposed areas thoroughly after handling. (P264)
- Wear protective gloves, protective clothing, and eye protection. (P280)
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301) (P330) (P331)
- IF ON SKIN (OR HAIR): Remove all contaminated clothing immediately. Rinse skin with water/shower. (P303) (P353) (P361)
- IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. (P304) (P340)
- IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing until pain or irritation subsides. (P305) (P338) (P351)
- If symptoms persist: Get medical advice/attention. (P308) (P313)

- Remove contaminated clothing and wash before re-use. (P362) (P364)

2.3 Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Repeat inhalation exposure may cause obstructive pulmonary disease, chronic bronchitis, silicosis, and cancer.

2.4 California Proposition 65:



WARNING: CANCER—www.P65Warnings.ca.gov

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Description of Product

Fly Ash—All Types

3.2 Mixture Ingredients and Hazard Classification

Ingredient	Product Identifier (CAS No.)	% (w/w)	Hazard Classification (GHS-US)
Fly ash combustion residue (amorphous calcium-aluminum silicates) ^{fn1)}	68131-74-8	60 – 70	• Skin Irritation 2, H315 • Eye Irritation 2A, H319 • Respiratory STOT-SE (Single Exposure) 3, H332 • Respiratory STOT-RE (Repeated Exposure) 1, H373
Crystalline silica ^{fn2)}	14808-60-7	< 16	• Respiratory STOT-RE (Repeated Exposure) 1, H373 • Carcinogenicity 1 (H350)
Calcium oxide	1305-78-8	< 25	• Skin Irritation 2, H315 • Eye Irritation 2A, H319
Iron oxide	1309-37-1	< 7	• Not classified
Magnesium oxide	7487-88-9	< 5	• Not classified
Potassium oxide	12136-45-7	< 1	• Skin Irritation 2, H315 • Eye Irritation 2A, H319
Phosphorus pentoxide	1314-56-3	< 2	• Skin Corrosivity 1, H313 • Eye Irritation 1, H319
^{fn1)} Fly ash and other CCPs are UVCB substances (substance of unknown or variable composition or biological). Fly ash is defined by the U.S. EPA as: "The residuum from the burning of a combination of carbonaceous materials. The following elements may be present as oxides: aluminum, calcium, iron, magnesium, nickel, phosphorus, potassium, silicon, sulfur, titanium, and vanadium." The exact composition of fly ash is dependent on the fuel source and flue additives composed of many constituents. The classification of the final substance is dependent on the presence of specific identified oxides as well as other trace elements. ^{fn2)} Respirable fraction not tested.			

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. Any person who is experiencing symptoms of injury or illness should be moved to a comfortable area with fresh air, and the label or SDS of this material reviewed. If feeling unwell, seek medical advice.

Inhalation: Move person to fresh air. Provide drinking water, if conscious, to flush mouth and irrigate upper respiratory tract. Seek medical attention if pain, coughing or other symptoms do not subside.

Eye Contact: If the exposed person experiences burning eye irritation due to dust exposure, careful flushing with clean water should continue for at least 15 minutes. If contact lenses are present, they should be removed after flushing if easy to do. Continue flushing. Obtain medical attention if irritation persists.

Skin: Flush skin with plenty of water until irritation subsides. If irritation persists, obtain medical assistance. Wash contaminated clothing before re-use.

Ingestion: Ingestion of this material is not an expected route of exposure. Rinsing mouth with water is appropriate.

4.2 Most Important Symptoms and Effects—Both Acute and Delayed

General: The most important symptoms and effects from exposure to this material after contact with dust are eye and skin irritation. Breathing dust can cause respiratory irritation and respiratory system chronic illness if significant exposures occur repeatedly.
Inhalation: The immediate acute response to dust inhalation is respiratory system irritation. Upon repeated dust exposure at levels exceeding regulatory limits, crystalline silica content of the dust may cause delayed or chronic respiratory illnesses, including silicosis and cancer. Eye Contact: Exposures of the eyes to dust may result in irritation, which must be treated immediately with first aid (Section 4.1) followed by medical attention if irritation persists. Skin Contact: Skin contact can cause irritation. 4.3 Indication of Immediate Medical Attention and Special Treatment Any time symptoms of eye or respiratory irritation occur, immediate first aid should be provided as described in Section 4.1, and medical attention should be obtained if irritation persists.
SECTION 5: FIRE-FIGHTING MEASURES 5.1 Extinguishing Media Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Material is not combustible. 5.2 Special Hazards Arising from the Substance or Mixture Fire Hazard: Not combustible. Explosion Hazard: Material is not explosive. Reactivity: Material is not reactive. 5.3 Advice for Firefighters Not applicable.
SECTION 6: ACCIDENTAL RELEASE MEASURES 6.1 Personal Precautions, Protective Equipment, and Emergency Procedures General Measures: Do not breathe dust. Do not get dust in eyes or on skin. 6.1.1. For Non-Emergency Personnel Protective Equipment: Use appropriate personal protective equipment (PPE). Emergency Procedures: Evacuate unnecessary personnel. 6.1.2. For Emergency Personnel Protective Equipment: Equip responders and clean-up personnel with proper protection, including appropriate clothing, eye and face protection. Respiratory protection should be used as necessary to prevent dust exposure. Emergency Procedures: Ventilate area if dust is generated. 6.2 Environmental Precautions Reuse material as appropriate to avoid disposal. 6.3 Methods and Material for Containment and Clean-Up Containment: Contain and collect as any solid. Avoid actions that cause dust to become airborne. Do not breathe dust, and do not allow large quantities of dust or wetted material to contact skin or eyes. 6.4 Reference to Other Sections See Section 8. Exposure Controls and Personal Protection. For waste management information, refer to Section 13.
SECTION 7: HANDLING AND STORAGE 7.1 Precautions for Safe Handling Additional Hazards when Processed: Dust will be generated when transferring this material. Use engineered controls and other practices to control dust. Personal Protective Equipment (PPE) described in Section 8 should be used as necessary. Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking, and again when leaving work. 7.2 Conditions for Safe Storage, Including any Incompatibilities Not applicable. 7.3 Specific End-Use(s) Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits

The following exposure limits are based on a time-weighted full-shift exposure, unless otherwise noted.

Ingredient	OSHA PEL ⁽¹⁾ (mg/m ³)	ACGIH-TLV ⁽²⁾ (mg/m ³)	Other ⁽³⁾ (mg/m ³)
Fly ash combustion residues ⁽³⁾ (amorphous calcium-aluminum silicates)	15 (total) 5 (respirable)	10 (total) 3 (respirable)	None Established
Crystalline silica ⁽⁴⁾ (respirable fraction)	50 µg/m ³ (respirable)	0.025 (respirable)	0.05 (respirable)
Calcium oxide	5 (total)	2 (total)	2 (total)
Iron oxide	10 (total)	5 (total)	None Established
Magnesium oxide	None Established	None Established	None Established
Potassium oxide	2 (total, ceiling)	2 (total)	2 (total, ceiling)
Phosphorus pentoxide	None Established	None Established	None Established

^{fn(1)} OSHA PEL (Permissible Exposure Limit) at 29 CFR 1910.1000

^{fn(2)} ACGIH-TLV (American Conference of Governmental Industrial Hygienists-Threshold Limit Values 2018)

^{fn(3)} ^{fn(4)} NIOSH REL (National Institute for Occupational Safety & Health Recommended Exposure Limit)

^{fn(4)} Crystalline silica is regulated by OSHA as Respirable Crystalline Silica (RCS) [29 CFR 1910.1053]. The amount of RCS in fly ash has not been determined.

8.2 Exposure Controls

Appropriate Engineering Controls: Emergency eyewash equipment should be available in the immediate vicinity of any potential exposure. Use local exhaust or other suppression methods to maintain dust levels below exposure limits.

Personal Protective Equipment: Protective goggles or safety glasses, gloves, protective clothing. Wear respiratory protection if dust is present when transferring or processing.



Hand Protection: Protective gloves as appropriate to prevent irritation and other hand injuries.

Eye and/or Face Protection: Approved safety glasses, goggles, and/or face-shield.

Skin and Body Protection: Appropriate work clothing and footwear should be worn.

Respiratory Protection: If exposure limits may be exceeded or irritation is experienced, approved respiratory protection should be worn in accordance with OSHA Respiratory Protection Standard [29 CFR 1910.134].

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State: Granular solid.

Appearance: Flowable material—Various colors (gray to tan)

Odor: Essentially odorless.

Odor Threshold: No data.

pH: > 7 – 11

Evaporation Rate: Not applicable.

Melting Point: Not applicable.

Freezing Point: Not applicable.

Boiling Point: Not applicable.

Flashpoint: No data.

Auto-Ignition Temperature: No data.

Decomposition Temperature: No data.

Flammability (solid, gas): No data.

Lower Flammable Limit: No data.

Upper Flammable Limit: No data.

Vapor Pressure: No data.

Relative Vapor Density at 20° C: No data.

Relative Density/Specific Gravity: 2.2 – 2.8

Solubility: Slightly soluble in water.

Partition Coefficient—N-Octanol/Water: Not applicable.

Viscosity: Not applicable.

Explosion Data—Sensitivity to Mechanical Impact: Not applicable.

Explosion Data—Sensitivity to Static Discharge: Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Hazardous reactions are not expected to occur under normal conditions.
10.2	Chemical Stability	Stable.
10.3	Possibility of Hazardous Reactions	Hazardous polymerization or other reactions are not expected. For gas generation, see 10.6.
10.4	Conditions to Avoid	Material can become airborne in moderate winds. Dry material should be stored in silos or other structures. Material stored outdoors should be covered or dampened to reduce dusting.
10.5	Incompatible Materials	Not applicable.
10.6	Hazardous Decomposition Products	Not expected under normal conditions. Wetted material, which contains ammonia, may release ammonia gas, which may result in nuisance odor or potential harmful exposure in a confined area.
SECTION 11: TOXICOLOGICAL INFORMATION		
11.1	Likely Routes of Exposure	Skin Contact: Material may irritate unprotected skin. Eye Contact: Material may cause serious irritation of unprotected eyes. Inhalation: Respirable dust may be generated that if inhaled, can cause respiratory system irritation. Prolonged or repeated inhalation exposure may cause chronic respiratory illness, including silicosis and cancer. Ingestion: Not expected to be an exposure route of concern.
11.2	Symptoms Related to Physical, Chemical, and Toxicological Characteristics	Immediate Effects: Irritation of skin, eyes, and respiratory tract due to dust inhalation or exposure of eyes and skin to material. Delayed and Chronic Effects: Inhalation of dust on a prolonged or repeated basis may result in chronic lung disease or silicosis, and may also result in lung cancer.
11.3	Numerical Measures of Toxicity	The acute and chronic effects of exposure to this product's dust have not been quantified.
11.4	Carcinogenicity	The ingredient quartz, also known as crystalline silica, has been determined to be carcinogenic by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP). The potential cancer (H350) Hazard Class designation disclosed in Section 2 is conservative and based on the percentage of crystalline silica in this mixture product. Toxicological studies conducted on fly ash materials, including oral and inhalation repeated dose, as well as mutagenicity have shown no evidence of carcinogenic effects that, except for numerical percentage of crystalline silica and other potential carcinogenic substances included in OSHA GHHCS Guidance, classification as a carcinogen is not required. Reference: <i>American Coal Ash Association Safety Data Sheet Guidance Document</i>, May 2015.
SECTION 12: ECOLOGICAL INFORMATION		
12.1	Toxicity	No additional information available.
12.2	Persistence and Degradability	Not available.
12.3	Bioaccumulative Potential	Not available.
12.4	Mobility in Soil	Not available.
12.5	Other Adverse Effects	Not available.
SECTION 13: DISPOSAL CONSIDERATIONS		
13.1	Waste Treatment Methods	Waste Disposal Recommendations: Excess material should be re-used or recycled. Material as a waste is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR 261), but waste material

should be prevented from entering sewer systems, surface waters or the environment. Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 DOT (U.S.)

Not regulated for transport.

14.2 IMDG (Maritime Code)

Not regulated for transport.

14.3 IATA

Not regulated for transport.

14.4 TDG (Canada)

Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

15.1 U.S. Federal Regulations

SARA Section 311/312 Hazard Classes (40 CFR 370)

Reporting of fly ash is required if reporting threshold (10,000 pounds) is exceeded

- Skin corrosion or irritation
- Serious eye damage or irritation
- Specific target organ toxicity (single or repeated exposure)—Respiratory

SARA Section 313 Emission Reporting

This material may contain the following constituent listed under SARA (Title III) Section 313, but not in amounts requiring supplier notification under 40 CFR Part 372:

- Manganese compounds (< 2%)

Note: Fly ash is not a chemical listed at Part 372.65

TSCA Inventory

All constituents are included on the Toxic Substances Control Act Chemical Inventory (40 CFR 720) and exempt from inventory update reporting (40 CFR 710).

15.2 U.S. State Regulations

State Right-to-Know Laws

Fly ash contains hazardous substances subject to inventory reporting and other requirements of the Massachusetts, New Jersey and Pennsylvania right-to-know laws.

Component	CAS No.	Component	CAS No.
Calcium oxide	1305-78-8	Phosphorus pentoxide	1313-13-9
Iron oxide	1309-37-1	Potassium oxide	12136-45-7
Magnesium oxide	1309-48-4	Silica – crystalline quartz	14808-60-7

References to Table:

Massachusetts: 301 CMR 41, et seq. (January 16, 2015)

New Jersey: New Jersey Revised Statutes 34:5A-5 (2016) and New Jersey Health Department List

Pennsylvania: Title 34 Pennsylvania Code, Chapter 323

Note: These lists include specific chemicals and cross-references to other regulatory lists; for example, CERCLA § 102, EPCRA §§ 302 and 313, Clean Air Act § 112(r), OSHA PELs at 29 CFR § 1910.1000, and OSHA Hazard Communication [29 CFR § 1910.1200].

California Proposition 65—Warning Required [California Health and Safety Code § 25249.6]

Refer to Section 2.4.

15.3 Canadian WHMIS Regulations

Crystalline silica, titanium dioxide and other fly ash constituents are hazardous materials and subject to WHMIS 2015.

15.4 Other: HMIS and NFPA

HMIS:



NFPA:



SECTION 16: OTHER INFORMATION

Party Responsible for Preparation of this Document

Eco Material Technologies Inc.
(801) 984-9400

Limitations

The information and recommendations set forth herein are based on data we have in our possession, and we have reason to believe is accurate. It is, however, the user's responsibility to determine the safety, toxicity, or suitability for his/her own use of the herein described product. Because the actions of others is beyond our control, Eco Material Technologies Inc., and its subsidiary and affiliate companies make no warranty expressed or implied regarding accuracy of the data or the results to be obtained from the use thereof.

ANNEXURE-6**PROCESS & VESSEL HAZARDS & CONTROLS**

Hazardous process & operation	Materials in the process / operation	Name of the vessel & its location	Operating parameters	Type hazards possible	Control measures	Incharge Person with designation
1	2	3	4	5	6	7

ANNEXURE-7**OTHER HAZARDS AND CONTROLS**

Sr. No.	Name of the possible hazard / emergency	Its source & reason	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person
1	2	3	4	5	6	7
Utilities						
A	Electrical					
i	Fire	➤ Loose connections ➤ Weak earthing	➤ Electrical power failure ➤ Production Hindrance ➤ Loss of	➤ Transformer ➤ MCC panel	➤ Firefighting equipment's ➤ Gravel bed for oil spillage/soaking ➤ Isolated area for MCC panel & Transformer.	Mr. Mahesh Panchal Manager

		➤ Short circuit ➤ Improper Insulation	transformer		➤ Lightning arrester provided. ➤ Proper Earthing to Electrical Equipment. ➤ Alternate power source by D.G. Set ➤ Periodic checking of joints ➤ Proper insulation	
ii	Electrical Shock		➤ Electric shock can cause death ➤ Electric short circuit can cause damage to property	➤ Power points ➤ Live wires ➤ Electric Equipments	➤ Skilled manpower ➤ Proper insulation ➤ Proper earthing ➤ PPEs	
iii	Burning		➤ Serious injury or death	➤ Power points ➤ Live wires ➤ Electric Equipments	➤ Skilled manpower ➤ Proper insulation ➤ Proper earthing ➤ PPEs	
B	Compressed Air					
i	Injury/Death Due to High Pressure	➤ Air Compressor	➤ Serious injury or death can be caused by quite a small pressure of air especially on delicate parts such as eyes, ear & nose	➤ Compressor house ➤ Service air point	➤ It is ensured that compressed air is not used for cleaning itself. ➤ Direct air is not being used through hose	Mr. Mayur Dalwadi Sr. Manager
		➤	➤	➤	➤	
D	Structural Failure					

i	Structural failure	➤ Structure	➤ Potential damage to property ➤ Can cause severe injury/death to person.	➤ Within the factory	➤ Regular cleaning & painting ➤ Periodic structure stability inspection by competent person	Mr. Rajesh Nikose Asst. Manager
E	Natural Disasters					
v	➤ Natural Disaster. ➤ Earthquakes ➤ Lightning, storms, ➤ Man-made War. ➤ Sabotage & fire in neighboring industries	➤ Natural	➤ Production hindrance ➤ Trapping under debris. ➤ Death due to toxic releases. ➤ Chemical burn.	➤ Whole factory ➤ Population nearby	➤ Lightning arrester at highest point. ➤ Auto fire hydrant system. ➤ Respiratory protection equipment's. ➤ Siren, Evacuation, rescue & shelter/welfare facility	SMC

ANNEXURE-8

TRADE-WASTE DISPOSALS

Sr. No.	Name of the trade waste	Its generation per day	Place of its generation	Place of its safe disposal	Treatment method of safe disposal	Monitoring & control measures provided	In charge person
1	2	3	4	5	6	7	8
1	Leachate	70 to 80 KL	Landfill site	➤ CETP/ETL ➤ MEE plant-BEIL	Treatment Plant	➤ Separate leachate collection & transferring arrangement is provided ➤ Waste analyzed ➤ Ground water analysis	Mr. Rajesh Nikose Asst. Manager

ANNEXURE-9

RECORDS OF PAST INCIDENTS

Sr. No.	Type of incident (Major accident, emergency or disaster)	Date and time of Occurrence	It's place	Duration	Time required in controlling it	Nos. of workers working at that time	Persons affected		Persons died		Subsequent safety measures provided
							Inside factory	Outside factory	Inside factory	Outside factory	
1	2	3	4	5	6	7	8	9	10	11	12
➤ No any past records											

ANNEXURE-10

GAS DISPERSION CONCENTRATION

Assuming leak rate (Q) = 3 kg / sec. i.e. 3×10^6 mg/sec. And velocity (u) = 2 and 5 M/sec. Downwind concentrations of some gases at various distances are calculated and tabulated as follows:

Maximum concentration (PPM) IN DOWNWIND DIRECTION AT DISTANCE X. Wind velocity = 2 M/Sec. for most unstable after-noon weather
Condition (A)

Product	100 M	200 M	300 M	400 M	500 M	700 M	1 KM	2 KM	3 KM	4 KM	5 KM
Chlorine	439	110	41	27	21	11	4.11	1.03	0.45	0.26	0.16
Phosgene	315	79	29	20	15	7	2.95	0.74	0.33	0.18	0.12
SO ₃	389	97	36	24	19	11	3.65	0.91	0.41	0.23	0.15
Ammonia	1832	458	171	115	89	50	17.18	4.29	1.91	1.07	0.69
PCl ₃	254	64	24	16	13	-	2.39	0.60	0.27	0.15	0.09
CSA	279	70	26	17	14	-	2.50	0.63	0.28	0.16	0.10

Note: For other weather condition respective curve should be chosen

Maximum concentration (PPM) IN DOWNWIND DIRECTION AT DISTANCE X. Wind velocity = 5 M/Sec. for most unstable after-noon weather
Condition (B)

Product	100 M	200 M	300 M	400 M	500 M	700 M	1 KM	2 KM	3 KM	4 KM	5 KM
Chlorine	175	44	16	11	9	5	1.64	0.41	0.18	0.18	0.06
Phosgene	125	31	12	8	6	8	1.18	0.30	0.13	0.07	0.05
SO ₃	156	39	15	10	8	4	1.46	0.36	0.16	0.09	0.09
Ammonia	132	183	69	46	36	20	6.87	1.72	0.76	0.43	0.24

PCI ₃	111	28	10	7	5	3	0.96	0.24	0.11	0.06	0.04
CSA	112	28	10	7	5	3	1.00	0.25	0.11	0.06	0.04
Note: For other weather condition respective curve should be chosen											

ANNEXURE-11**EVACUATION TABLE**

EVACUATION TABLE BASED ON PREVAILING WIND OF 6 TO 12 mps

(2.7 TO 5.4 m/s)

Material	Radius immediate danger area (KM)	Dimension of evaluation area	
		Downwind (Km)	Crosswind (Km)
Acrolein	0.69	8.05	4.83
Acrylonitrile	0.03	0.32	0.16
Ammonia	0.08	0.64	0.48
Carbon disulfide	0.04	0.32	0.16
Chlorine	0.31	3.22	2.41
Dimethylamine	0.14	1.13	1.29
Epichlorohydrin	0.05	0.32	0.32
Ethylene oxide	0.04	0.32	0.16
Fluorine	0.20	1.61	1.61
Hydrogen chloride	0.24	2.41	1.61
Hydrogen cyanide	0.12	1.13	0.44
Hydrogen fluoride	0.30	3.22	1.61
Hydrogen sulfide	0.15	1.61	0.81
Methyl mercaptan	0.09	1.29	0.48
Monomethylamine	0.14	1.13	1.29
Nitric acid	0.13	1.13	0.64
Nitrogen tetroxide	0.14	1.13	1.29
Oleum	0.35	3.22	1.61
Phosgene	0.75	8.05	4.83
Phosphorous trichloride	0.14	1.21	0.81
Sulfur dioxide	0.13	1.21	0.81
Sulfur trioxide	0.35	3.22	1.61
Sulfuric acid	0.35	3.22	1.61
Trimethylamine	0.35	3.22	2.41

Source: Emergency Action Guide for selected Hazardous Materials, U.S. Dept. of Transportation, 1978

ANNEXURE-12

ENVIRONMENTAL IMPACT ASSESSMENT

Sr. No	Distance (radius) from the factory	Environment	Population	Possible consequences & Assessment			Control measures Provided
				Type of risk & effect possible	Duration of risk	Risk assessment	
						Frequency of the hazard (i.e. one such incident in what time)	
1	2	3	4	5	6	7	9
1	Upto 1000 Mt.	GIDC Area	3000	Gas exposure due to fire	1 to 4 hrs.	Rarely	➤ Provision of Fire Hydrant System & Extinguishers. ➤ Proper Grounding of storage vessel to earth pit. ➤ Safety work permit system is in place. ➤ Proper Earthing & bonding before Loading/Unloading operations.
2	1.9 Km	Jitali	3900	Gas exposure due to fire	1 to 4 hrs.	Rarely	
3	2.5 Km	Dadhal	3100	Gas exposure due to fire	1 to 4 hrs.	Rarely	
4	2.6 Km	Sarangpur	12600	Gas exposure due to fire	1 to 4 hrs.	Rarely	
5	3.4 Km	Motali	700	Gas exposure due to fire	1 to 3 hrs.	Rarely	
6	3.6 Km	Kosamdi	5400	Gas exposure due to fire	1 to 3 hrs.	Rarely	
7	4.2 Km	Gadkhhol	1100	Gas exposure due to fire	1 to 2 hrs.	Rarely	

ANNEXURE-13

WEATHER CONDITIONS

Sr. No.	Period of the year		Temp. °C		Wind Vel. KM/Hrs.	Wind Direction		Weather Conditions	Pasquill Classification A TO F
	Dates					Day	Night		
	From	To	Max.	Min.					
1	2	3	4	5	6	7	8	9	10
1	1 st Jan.	31 st Jan.	26.7	11.9	1.19	SE/NE	NE/NW	Cold & Stable	D
2	1 st Feb.	28/29 Feb	31.0	14.5	1.19	SE/NE	W/NW	Dry & Stable	D
3	1 st Mar.	31 st Mar.	35.7	18.6	1.19	NE/NW	W/NW	Dry & Stable	D
4	1 st Apr.	30 th Apr.	39.0	23.6	1.19	NW/W	W/NW	Dry & Stable	D
5	1 st May	31 st May	44.0	26.0	1.19	NW/W	SW/W	Hot	D
6	1 st Jun.	31 st Jun.	43.0	27.0	1.19	SW/W	SW/W	Moist & Hot	D
7	1 st July.	31 st July	35.0	25.0	1.19	SW/W	SW/W	Hot & Rainy	D-F
8	1 st Aug.	31 st Aug.	31.0	24.0	1.19	SW/W	SW/W	Hot & Rainy	D-F
9	1 st Sep.	30 th Sep.	33.0	24.0	1.19	S/NW	SW/W	Hot & Rainy	D-F
10	1 st Oct.	31 st Oct.	35.0	21.0	1.19	NE/W	NE/NW	Moist	D
11	1 st Nov,	30 th Nov	33.0	16.0	1.19	NE/E	NE/E	Dry	D
12	1 st Dec.	31 st Dec.	29.0	12.0	1.19	NE/E	NE/NW	Cold &Stable	D

ANNEXURE-14**INCIDENT CONTROLLERS**

Shift	Incident Controller's				
	Name	Designation	Qualification	Place of availability	Res. Add.
1	2	3	4	5	6
First & General	Mr. Mahesh Trivedi	GM	M.Sc, PHD	Plant Office	Ankleshwar
Second	Shift charge In	Executive	B.E	Control Room	Ankleshwar
Third	Shift charge In	Officer	B.E	Control Room	Ankleshwar
Holiday	Shift charge In	Sr. Officer	B.E	Inci Control Room	Ankleshwar

ANNEXURE-15**DEPUTY INCIDENT CONTROLLERS**

Shift	Deputy Incident Controller's				
	Name	Designation	Qualification	Place of availability	Res. Add.
1	2	3	4	5	6
First & General	Mr. Pratik shah	Manager	M.E	Landfill office	Ankleshwar
Second	Mr. Chintan Patel	Asst. Manager	B.E.	MEE Plant	Ankleshwar
Third	Mr. Janak Prajapati	Asst. Manager	B.E.	MEE Plant	B-302, Amidhara complex, Nr. ragini cinema, Bhadkodra, Ankleshwar
Holiday	Mr. Viral Patel	Executive	DME	Warehouse Office	Ankleshwar

ANNEXURE-16**SITE MAIN CONTROLLERS**

Sr. No.	Site Main Controller's						
	Name	Designation	Qualification	Place of availability	Res. Add.	Phone No.	
						Factor y	Resi.
1	2	3	4	5	6	7	8
1	Mr.B D Dalwadi	CEO	B.E.	ADM	408/9, Sardar Patel Society, GIDC, Ankleshwar	02646-226591	9909994959
2	Mr. Manoj Patel	Sr.V.P	B.E.	ADM	. 407/9, Sardar Patel Society, GIDC, Ankleshwar	02646-226591	9909994907

ANNEXURE-17**KEY PERSONNEL**

Sr. No.	KEY PERSON'S				NEXT PERSON'S	
	Dept.	Name	Designation	Phone No.	Name & Designation	Phone No.
1	2	3	4	5	6	7
1	Safety	Mr. Sanjay Joshi	Sr. Manager	7575001962	Mr. Dharmen Mistry	7575050741
2	Security	Mr. Sangram Singh	In charge	6260453897	Security supervisor	8758201814
3	Pollution control	Mr. Narendra Patel	GM	9909994980	Mr. Dhaval	9428168715
4	Medical	Mr. Tiwari	Nurse	6359359190	Mr. Shailesh	6359359190
5	Engineering	Mr. Dixit Geet	Executive	7698889800	Mr. Dharmesh Patel	8128088158
6	Production	Mr. Mahesh Trivedi	GM	9909994579	Mr. Chintan Patel	9974925181
7	Technical Services	Mr. B R Trivedi	GM	9979997106		

8	Stores	Mr. Anant Raval	Manager	9909992978		
9	Warehouse	Mr Viral Patel	Manager	9925497837		
10	Civil	Mr.Kalpesh Bhagat	Manager	987911248	Mr. Ravi Shastri	9998078910
11	Electrical	Mr. Pathan	Assistant Manager	8140166360	Mr.Manish Parekh	9909994988
12	Instrument	Mr. Bhavin Modi	Manager	9879141402	Mr. Chirag Patel	8320974288

ANNEXURE-18

ESSENTIAL WORKERS

Sr. No.	Name & Designation	Trained work	for	Place of availability	Phone No.
1	2	3		4	5
1	Mr. Chirag Patel	Gas Leakage		Maint. room	241
2	Mr. Jemish Patel	Gas Leakage		Instrument Office	222
3	Mr. Nitin Patel	Gas Leakage		ADM	104
4	Mr. Mahendra Solanki	Fire Fighting		Safety Office	100
5	Mr. Ajay Solanki	Fire Fighting		Safety Office	100
6	Mr. Dharmendra Chavda	Fire Fighting		Safety Office	100

7	Mr. Chetan Tadv	Fire Fighting	Safety Office	100
8	Mr. Bhalabhai Pagi	Fire Fighting	Safety Office	100
9	Mr. Ganesh Jha	Building Collapse	Plant	219
10	Mr. Chirag Patel	Building Collapse	Instrument Office	222
11	Mr. Shailesh Prajapati	First Aid	OHC	108
12	Mr. Laxminarayan Tiwari	First Aid	OHC	108
13	Mr. Dharmen Mistry	Evacuation & Search Operation	Safety Office	100
14	Mr. Samim Shaikh	Evacuation & Search Operation	Warehouse	239
15	Mr. Hetal Shah	Spill & Leak control	Main Gate	9727433160
16	Mr. Anna Patil	Spill & Leak control	Shed No. 04	9727675348
17	Mr. DG Patel	Heavy vehicle arrangement	-	9825060239

ANNEXURE-19**ASSEMBLY POINTS**

Sr. No.	Location	Accommodation Capacity	At the time of emergency		
			Person incharge's		
			Name & Designation	Place of availability	Phone No.
1	2	3	4	5	6
1	Material Gate	200	Mr. Ashish Gurjar	ADM	Ext. 106
2	Incinerator plant Office	100	Mr. Chintan Patel	MEE Plant	Ext. 223
3	New Land filling behind Phase III	200	Mr. Pratik Shah	Landfill office	Ext. 107

ANNEXURE-20

EMERGENCY CONTROL CENTRE

Location of Centre: Main Adm. Telephone No. of the ECC: 105			
Sr. No.	Items kept in the center	Quantity	Notes
1	2	3	4
1	SCBA set	01	
2	Cartridge mask	05	
3	Rubber hand gloves	20 Pairs	
4	PVC Hand Gloves	20 pairs	
5	Dust mask	100	
6	Gum Boot	05 pairs	
7	Safety Helmet	05	
8	Safety Goggles	10	
9	Onsite Emergency Plan	01	
10	List of Emergency Phone No.	01	
11	Plant Lay out copy	01	

ANNEXURE-21

FIRE AND TOXICITY CONTROL ARRANGEMENTS

➤ **TAC APPROVED FIRE HYDRANT SYSTEM**

➤ **WATER STORAGE CAPACITY : 250 K L**

➤ **FIRE PUMPS**

Primary electricity driven pump : 171 M3/Hr

Diesel Driven pump : 171 M3/Hr

Jockey pump : 10 M3/Hr

➤ **DETAIL OF FIRE HYDRANT POSTS & MONITORS**

EVERY 50 METER FIRE HYDRANT POST INSTALLED

STABILIZATION PLANT	ABC	4.5 Kg
STABILIZATION PLANT	ABC	4.5 Kg
STABILIZATION PLANT	ABC	4.5 Kg
STABILIZATION PLANT	ABC	4.5 Kg
STABILIZATION PLANT	CO2	4.5 Kg
STABILIZATION PLANT	FOAM	200 Ltr.
Security	ABC	9 kg

ANNEXURE-22

MEDICAL ARRANGEMENTS

Sr. No.	Name & Location	Incharge Person		Facilities & Equipment	Anti-dotes available	First aiders available	Ambulance van or alternate arrangement		
		Name	Phone No.				Place of availability	Capacity	Incharge
1	2	3	4	5	6	7	8	9	10
1	OHC Nr. Main Gate	Mr. Dharmen Mistry	233	First Aid treatment facility	Atropin Avil Methelene Blue Snake bite PAM DNS TT	Mr. Tiwari Mr. Shailesh	Main Gate	Ambulance-2 Maruti Van-2 person Car-2 person	Mr. Ashish Gurjar
Mutual Aid Arrangements									
Name & address of the factories & Hospitals		Approximate distance	Phone No.	Facilities available					
				Accommodation	Doctors	Equipments	Antidotes	Ambulance	
11		12	13	14	15	16	17	18	
Orange Multi specialty Hospital		7 KM	246535	50	Available	All type	Available	1	
Jayaben Hospital	Modi	5 KM	222220	100	Available	All type	Available	2	

ANNEXURE-23**TRANSPORT & EVACUATION ARRANGEMENTS**

Sr. No.	Type of vehicle	Capacity	Place of availability	Incharge	Phone No.
1	2	3	4	5	6
1	Ambulance van	2 persons	Main Gate	Mr. Ashish Gurjar	107
1	Maruti Van	2 persons	Main Gate	Mr. Ashish Gurjar	107
2	Car	2 persons	Main Gate	Mr. Ashish Gurjar	107

ANNEXURE-24**POLLUTION CONTROL ARRANGEMENTS**

Water Pollution Controls					Air Monitoring					
Type & capacity of effluent treatment plant	No. of sample monitoring centers & its frequency	Other control measures	Log book & records	Incharge person's name address & phones	No and place of sample monitoring centers	Type parameters & frequency of tests	Wind direction & velocity meters	Instruments available	Log Book & records	In charge person's name address & phones
1	2	3	4	5	6	7	8	9	10	11
Wastewater sent to CETP (ETL) for treatment					Nr. Bore well No. HB 05	As per CCA	Weather monitoring system	Available	Form No. 37	Sathish

ANNEXURE-25**OTHER ARRANGEMENTS**

Sr. No.	Type and name of arrangements available	Qty.	Place of availability	Incharge person's	
				Name & designation	Phone
1	2	3	4	5	6
1	JCB / Dozer	05	Landfill site	Mr. Pratik Shah Manager	9428685121
3	Transporters for Material	03	Landfill Site	Mr. Pratik Shah Manager	9428685121
4	DG Sets	02	Plant	Mr. Pathan Assistant Manager	8140166360
5	Fire Trailer Pump	01	Plant	Mr. Dharmen Mistry	7575050741

ANNEXURE-26**ALARMS & SIRENS**

Sr. No.	Location of Sirens	Type of the alarm or siren	Period of checking	Type of emergency	Type of Siren	Duration Of sounding
1	2	3	4	5	6	7
1	Main Adm	Electrical	Weekly	Fire or Other	Interrupted	10 sec. ON & 5 sec. OFF three times
				Gas leak	Interrupted	15 Sec. ON & 15 Sec. OFF four times

ANNEXURE-27**INTERNAL PHONES**

Sr. No.	Name of the plant / department	Intercom number	Person available on this phone		
			Name	Designation or duty under On-site / off-site emergency plan, if any	Residence Phone No.
1	2	3	4	5	6
1	ADM	101	Mr. B D Dalwadi	SMC	9909994959
2	ADM	115	Mr. Manoj Patel	SMC	9909994907
3	Production	202	Mr. Atul Agrawal	IC	9909994908
7	QC	127	Narendra Patel	Key Personnel	9909994980
8	Maintenance	245	Mr. Geet Dixit	Dy. IC	7698889800
9	Electrical	255	Mr. Pathan	Key Personnel	8140166360
10	Safety	232	Mr. Sanjay Joshi	Key Personnel	7575001962
11	Instrument	204	Mr. Bhavin Modi	Key Personnel	9879141402
12	HR	107	Mr. Ashish Gurjar	Key Personnel	9913064336
13	Civil/Landfill	113	Mr. Pratik Shah	Key Personnel	9428685121
14	Marketing	152	Mr. Rajeev Mathur	Key Personnel	8238040998
15	Security	112	Mr. Sangram Singh	Key Personnel	8758201814
16	OHC	108	Mr. L.N Tiwari	Key Personnel	6359359190
17	Store	239	Mr. Anant Raval	Key Personnel	9909992978

ANNEXURE-28**EXTERNAL PHONES**

Sr. No	Name	Office Phone No
1	2	3
1	UPL Unit # 1	251223 / 250336
2	UPL Unit # 2	250578 / 250563
3	UPL Unit # 3	251189
4	Fire Station	220229 / 226101 / 257201
5	UPL Unit # 5 Jhagadia Fire Station	02645 – 226012 / 226014
6	GPCB Local Office, Ankleshwar	02646 – 222932 / 222933
07	Dr Mahesh Mistry	9825282789
08	Smt Jayaben Modi Hospital	222220 / 224550
09	GIDC Police Station	225551
10	Mamlatdar Ankleshwar	246603
11	Sub Divisional Magistrate	242649
12	DPMC	226101 / 220229
13	AEPS	253802
14	Ankleshwar Nagar Palika	247137
15	District Collector, Bharuch	02642 – 244500 / 240600
16	Ankleshwar Industries Association	221000 / 222000
17	Enviro Technology Ltd	223569 / 252768
18	Senior Inspector of Factories, Bharuch	02642 – 240421 / 225838

ANNEXURE-29**NOMINATED PERSONS TO DECLARED MAJOR EMERGENCY**

Sr. No.	Name of the plant/ location	Name & designation of the nominated persons to declare major emergency	Duty of designation given if any under the on-site/off-site emergency plan	Phone No.	Residence	
					Phone No.	Address
1	2	3	4	5	6	7
1	ADM	Mr. B D Dalwadi (CEO)	SMC	252768/ 223569	9909994959	408/9 Sardar Patel Society, GIDC Ankleshwa r
2	ADM	Mr. Manoj Patel (Sr.VP)	SMC	226591/ 225228	9909994907	407/9 Sardar Patel Society, GIDC Ankleshwa r

ANNEXURE-30**A FORM TO RECORD EMERGENCY TELEPHONE CALLS**

PART A: ESSENTIAL INFORMATION		
Details of call as reported		
Caller's Name & designation _____ Date _____ Time _____ phone No. _____		
Purpose of call Is any particular advice required immediately.		
Name _____ of _____ Chemicals To be spelt out clearly		
Brief description of incident Fire / Explosion / Liquid Spill / Gas release Quantity involved Packaging / storing / handling / using details Location of incident Cause, if known, in brief		
PART B: INFORMATION TO BE OBTAINED IF READILY AVAILABLE		
Has anyone been injured?	Yes / No	If yes, how many?
Affected by chemicals?	Yes / No	If yes, how many?
What first-aid was given?		
Has anyone been taken to hospital?		Yes / No
If yes, address of the hospital		
Is the road blocked?		Yes / No
Closed to		
Who owns the chemicals?		
Has the owner been informed?		Yes / No

If caused by vehicle,

Vehicle Number _____

Name & address of the Owner _____

Has the owner been informed?

Yes / No

To whom was the load consigned?

ANNEXURE-31

STATUTORY COMMUNICATION

Statutory information to be given to:	Periodicity of such information to be given (statutory or self-decided)	Date of last information given	Suggestions received if any
1	2	3	5
The workers	Regular through training, leaflets etc.	Regular training and information	--
The general public & neighboring firms	As & when required		--
District Emergency Authority	As & when asked for	--	--
Factory Inspectorate	a) Prior approval for Construction, production b) During expansion c) Change of process/ Organization structure d) Updated information As & When Required		--

ANNEXURE-32**SEPERATION DISTANCES**

Sr. No.	Substance	Tank / Storage shed		Separation Distance (M)
		Capacity (T)	Nos.	
1	2	3	4	5
1	Hazardous Waste	--	01	--

ANNEXURE-33**EMERGENCY INSTRUCTION BOOKLET**

Sr. No.	Role to be played as	His emergency duties / functions	Also refer	He should report at
1	2	3	4	5
1	Incident Controller	1. Assess the scale of the emergency and decide if a major emergency exists or is likely. On his decision, he will activate the on-site emergency plan and if necessary the off-site emergency plan 2. Assume the duties of the Site Main Controller pending the latter's arrival. For this purpose, he will depute his deputy on the scene and he will go to the control center. Particularly he will- a) Direct the shutting down and evacuation of the plant and areas likely to be affected by the emergency. b) Ensure that the outside emergency services, including mutual aid, have been called in. c) Ensure that key personnel have been called in. 3. Direct all operations within the affected area with the following priorities: a) Secure the safety of the personnel. b) Minimize damage to plant, property and the environment. c) Minimize loss of material. 4. Direct rescue and firefighting operations until the arrival of	Emergency Duty Card	The Incident Place

		the outside Fire Brigade, when he will relinquish control to the Fire Brigade. 5. Search for casualties. 6. Evacuate non-essential workers to the assembly points. 7. Set up a communications point and establish radio/telephone/messenger contact as appropriate with the Emergency Control Centre. 8. Give advice and information as requested to the Head of the Fire Brigade and other Emergency Services. 9. Brief the site main controller and keep informed of developments. 10. Preserve evidences that will be necessary for subsequent inquiry in to the cause of the emergency and concluding preventive measures.		
2	Site Main Controller	1. Relieve the incident controller of responsibility for overall main control. 2. On consultation with the incident controller decide whether major emergency exist and on declaration of a major emergency, ensure that the outside emergency services and mutual help are called, the off-site plan activated and if necessary, nearby factories and population are informed. 3. Ensure that the key personnel are called in. 4. Exercise direct operational control of those parts of the works outside the affected area. 5. Continually review and assess possible developments to	Emergency Duty Card	Emergency Control Center

		determine the most probable course of events. 6. Direct the safe close down and evacuation of plants in consultation with the incident controller and key personnel. If necessary, arrange for evacuation of neighboring population. 7. Ensure that casualties are receiving adequate attention. Arrange for hospitalization of victims and additional help, if required. Ensure that the relatives are advised. 8. Inform and communicate with the chief officers of the fire and police service. District emergency authority and with the factory inspectorate and experts on health and safety. Provide advice on possible effects on areas outside the factory. 9. In case of prolonged emergencies involving risk to outside areas by windblown materials. Contact the local meteorological office to receive early notification of impending changes in weather conditions. 10. Ensure the accounting for personnel and rescue of missing persons. 11. Control traffic movement within the factory. 12. Arrange for a chronological record of the emergency to be maintained. 13. Where the emergency is prolonged, arrange for the relief of personnel and the provision of catering facilities. 14. Issue authorized statements to the news media. Where necessary, inform head office.		
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		15. Ensure that proper consideration is given to the preservation of evidence. Arrange for photographs/videos. 16. Control rehabilitation of affected areas and victims on cessation of the emergency. Do not restart the plant unless it is ensured safe to start and cleared by authorities.		
3	Key Personnel	As necessary, they will decide the actions needed to shut down plants, evacuate personnel, carry out emergency engineering work, arrange for supplies of equipment, utilities (fuel, water, power, etc.) carry out atmospheric tests, provide catering facilities, liaise with police, fire brigade, emergency planning authority, factory inspectorate, hospitals, neighboring industries find population, assembly points, outside shelters, mutual aid centers, relatives of casualties, press and so on, under the direction of the site main controller.	Emergency Duty Card	Emergency Control Center
4	Essential workers	1. Firefighting, gas leaks and spill control till a fire brigade takes the charge. 2. To help the fire brigade and mutual aid teams, if it is so required. 3. Shutting down plants and making it safe. 4. Emergency engineering work e.g. isolating equipment, materials, process, providing temporary bypass lines, safe transfer of material, urgent repairing or replacement, electrical work etc. 5. Provision of emergency power, water, lighting, instruments, equipment, material etc. 6. Movement of equipment, special vehicle and transport to or	Emergency Duty Card	The Incident Place

		from the site of the incident. 7. Search evacuation, rescue, and welfare. 8. First-aid and medical help. 9. Moving tankers or other vehicles from areas of risk. 10. Carrying out atmospheric test and pollution control. 11. Manning assembly points to record the arrival of evacuated personnel. Manning for outside shelters and welfare of evacuated people there. 12. Assistance at casualties' reception areas to record details of casualties. 13. Assistance at communication centers to handle outgoing and incoming calls and to act as messengers if necessary. 14. Manning of works enters liaison with the police to direct emergency vehicles entering the work, to control traffic leaving the works and to turn away or make alternative safe arrangements for visitors, contractors and other traffic arriving at the works. 15. Informing surrounding factories and the public as directed by the site main controller. 16. Any special help required.		
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owned power plants

₹85,780cr borrowed from market

Social Work (MSW) 4. Master of Journalism (MJ) 5. MA Hindi (MAH) 6. MA History (MAH) 7. MA Political Science (MAPS) 8. Post Graduation Diploma in Journalism & Mass Communication (PGJMC) 9. Post Graduate Diploma in Electronic Media & Film (PGDEFM) 10. Post Graduate Diploma in Computer Applications (PGDCA) 11. Post Graduate Diploma in Creative Writing (PGDCW) 12. Post Graduate Diploma in Drama and Theater (PGDPT) 13. Post Graduate Diploma in Media Writing (PGDMW) 14. Post Graduate Diploma in Computer Application (DCA)

Month) : 1. Certificate in Social Leadership and Governance in Chinese Language (CCL)* 3. Certificate in French language in Japanese language (CJL)* 5. Certificate in Spanish Language

Month) : Certificate in Establishment and Management of

from Headquarters only.

Available on Website from 19/01/2023 to 31/03/2023.

For more details, please visit our website or call number 18002331575.

Registrar

of the leopard was not the Padratatuka.

: the suspected persons in eve that some person from kating yard, are still at large.

Pro-Khalistan group issues another threat

Invited by Deputy Chief Engineer (Bridge-line) Vadodara, Western Railway, Pratapnagar, Vadodara-390 004 for the following works.: Sr. No. (1) Tender No. & Name of Work: DYCE-BR-BRC-02-2023. Ratlam Division:- Providing side pathway on major and important bridge No. 306UP, 306DN, 317UP, 317DN, 2UP, 2DN, 29UP, 29DN, 403 RTM-UJN section of RTM Division. (Balance work). Approximate cost of the work: ₹ 2,13,18,419.90/- Bid Security to be deposited: ₹ 2,56,600.00/- Date and time for submission of e-tender and opening of e-tender: Online Tender is to be submitted on 17.04.2023 before 15.00 Hrs. and is to be opened on same date at 15.30 Hrs. Web site particulars and notice for location where complete details can be seen etc. Website@ www.ireps.gov.in Deputy Chief Engineer (Bridge Line) Vadodara Western Railway, Pratapnagar, Vadodara -390 004. W.65/1/125/Reinvite(balance qty.) 287

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PUBLIC NOTICE ENVIRONMENTAL CLEARANCE

It is hereby informed that the Ministry of Environment, Forest and Climate change (IA. III Section), Indira Paryavaran Bhawan, JorBagh Road, New Delhi - 110003, has accorded Environmental Clearance along with environmental conditions and safeguards for Proposed secured landfill of Common Hazardous Waste Treatment, Storage and Disposal facility (TSDF) of M/s. Bharuch Enviro Infrastructure Ltd. at Survey no. 190, 233, 235, 236, 254, 263, 268, 269, 270, 271, 272 & 273 Village-Jitali, Ankleshwar Bharuch-Gujarat vide letter No. F. No. 21-78/2022-IA-III dated 16/03/2023 under the provision of EIA Notification 2006, which we received on 16/03/2023 through the website.

Copy of the Clearance letter are available on our website.

Date: 17.03.2023

B D Dalwadi
(CHIEF EXECUTIVE OFFICER)

State's daily count of Covid cases double in three days

TIMES NEWS NETWORK

Ahmedabad: The daily Covid cases in Gujarat doubled from 90 on March 15 to 179 on Saturday. The biggest jump was recorded in Ahmedabad city where the cases went from 49 to 83 in three days.

Other cases include 21 from Mehsana, 13 from Rajkot city, and 9 each from Surat city and Amreli. With the update, the active cases in Gujarat touched 655. Out of total, four were on ventilators.

The number of active cases include 321 from Ahmedabad, 70 from Rajkot, 62 from Surat, 60 from Mehsana and 30 from Vadodara. Experts said there are fewer hospitalizations compared to past few waves primarily due to better vaccination coverage and herd immunity. They however advised those with low immunity to wear masks as a precautionary method.

બારાના કપુરા પાસે હાઈવે રિપેર કરાતા ગ્રામજનોમાં આક્રોશ

હાઈવે 53 પર કપુરાથી વ્યારા સુધી જોડતો માર્ગ ખજડધજ થઈ જતા હાલાકી

તા.વ્યારા

કપુરા ગામની થતાં નેશનલ કપુરાથી વ્યારા થઈ જતા આ ર થવું વાહન બની ગયું છે. આ કપુરાથી વ્યારા સુધી જોડતો માર્ગ ખજડધજ થઈ જતા હાલાકી

રજૂઆત કરવા છતાં કોઈ પરિણામ આવ્યું ન હતું. આજરોજ ગ્રામજનો દ્વારા એકત્ર થયા હતા અને નેશનલ હાઈવે નંબર 53 રીપેરીંગ કરાવ્યાં એની ઉગ્ર માંગ સાથે તાપી જિલ્લા કલેક્ટર સહિત સાંસદ અને નેશનલ હાઈવે નંબર 53 ના ઓથોરિટી સહિત વિવિધ સ્થળોએ લેખિતમાં રજૂઆત મોકલી હતી. જેમાં જણાવ્યા મુજબ નેશનલ હાઈવે નંબર 53 એ સતત વાહનોની અવર જવર ધરાવતો હાઈવે છે. આ હાઈવે નવીનીકરણ કરાવ્યું છે, પરંતુ કપરાથી વ્યારા સુધીના



■ વ્યારા ના કપુરા ગામના લોકો એ નેશનલ હાઈવે 53 ને રીપેરીંગ ન કરાતા ઉગ્ર રોષ વ્યક્ત કર્યો હતો.

મેન્ટેનન્સ વધી રહ્યું છે. ખખડધજ માર્ગ પર વાહનો હંકારવાને લઈને વાહન ચાલકોના શરીર પર દુખી રહ્યા છે. કપુરા ગામના લોકો અવારનવાર માર્ગ

નિરાકરણ ન આવે તો ગાંધીજીએ માર્ગની પણ ચીમકી ગ્રામજનોને ઉચ્ચારી હતી છેલ્લા કેટલાય સમયથી મુશ્કેલીમાં મુકાયેલા ગ્રામજનોની હાલાકી બાબતે

વાહનના ટક્કર માત્ર

કુકરમુંડા | નિઝર તાલુકાના વેડાપાડા ગામે ઉચ્છલ-નિઝર સ્ટેટ હાઈવે પરથી યુવકનું અકસ્માતમાં મોત થયું હતું.

ભાસ્કરclassified

પ્રોપર્ટી
property

રહેણાંક-વેચવાનું છે

મકાન વેચવાનું છે ૧૨૫૦ ચો. ફુટ. મકાન, અરિથર રોડ, ચિત્રકૂટ-૨. મો. ૯૮૨૪૦ ૮૬૫૭૭

માંકણામાં રસલ વાઈપર સાપનું રેસ્કયુ

ભાસ્કરન્યૂઝ | કામરેજ

માંકણા ગામે આવેલી કિના સોસાયટી નજીક આવેલા બેતરના કૂવામાંથી સાપની દુર્લભ પ્રજાતિ એવી રસલ વાઈપર જાતિના ઝેરી સાપનું રેસ્કયુ કરવામાં આવ્યું હતું. કામરેજ વિસ્તારના માંકણા ગામની હદમાં આવેલા અમિનભાઈ નામના ખેડૂતના બેતરમાં સિંચાઈ માટે આવેલા કૂવામાં એક રસલ વાઈપર (ઝેરી સાપ) હોવાનું માલુમ પડ્યું હતું. બેતરમાં મજૂરી કામ કરી રહેલા મજૂરો દ્વારા પાણીની જરૂર પડતાં કૂવામાંથી પાણી બહાર કાઢતી વખતે કૂવામાં રસલ વાઈપર પ્રજાતિનો ઝેરી સાપ દેખાયો હતો. માંકણા ગામ રહેતા કેતનભાઈને જાણ કરતા

નાના મોટા કામ માટે વપરાતી કોર્ટ ફી ન મળતાં જનતા હેરાન મોસાલી પોસ્ટ ઓફિસમાં કોર્ટ ફી સ્ટેમ્પની અછતથી લોકોને ધક્કે

ભાસ્કરન્યૂઝ | વાંકલ

મોસાલી પોસ્ટ ઓફિસ ખાતે એક રૂપિયા અને બે રૂપિયા કોર્ટ ફી સ્ટેમ્પ છેલ્લા ત્રણ અઠવાડિયાથી અછત. જિલ્લામાંથી નાની કિંમતની આ સ્ટેમ્પનો પુરવઠો આવતો ન હોય. હાલ નાના મોટા કામ માટે વપરાતી આ કોર્ટ ફી ન મળતાં આમ જનતા હેરાન થઈ રહી છે. જેમાં ખાસ કરીને મામલતદાર કચેરીમાં વિવિધ દાખલાઓ માટે આવતાં લોકો વિદ્યાર્થીઓ અને તેમના વાલીઓ મુસીબતમાં મુકાઈ રહ્યાં છે. મોસાલી પોસ્ટ ઓફિસ માં કોર્ટ ફી ની સ્ટેમ્પ કિંમત 1 અને 2 રૂપિયાની બદલવામાં આવી છે.

અરજી પર સ્ટેમ્પ લગાવની હોય છે

પોસ્ટ ઓફિસમાં કોર્ટ ફી સ્ટેમ્પ મળતી ન હોય. અરજદારે અરજી ઉપર ફરજિયાત કોર્ટ ફી સ્ટેમ્પ લગાવવાની હોય અને કામ કરાવવું પણ જ હોય. જેથી ચેનકેન પ્રકારે ખાનગી વ્યક્તિઓ પાસેથી કોર્ટ ફી સ્ટેમ્પ મેળવવા મજબૂર કરવું પડે છે.

ત્રણ અઠવાડિયાથી સ્ટેમ્પની અછત

મોસાલી પોસ્ટ ઓફિસમાં છેલ્લા ત્રણ અઠવાડિયાથી કોર્ટ ફી સ્ટેમ્પનો પુરવઠો પૂર્ણ થયો છે. નવો પુરવઠો મંગાવવા માટે સુરત મેઈન ઓફિસ માંગ કરવામાં આવી છે. પરંતુ ટીકિટની અછતને કારણે માંગ પૂર્ણ નથી મનોજભાઈ, પોસ્ટ માસ્ટર મોસાલી

કચેરીમાં આવકનો દાખલો, નાના મોટા કામ માટે આવ જાતીનો દાખલો, આર્થિક સ્ટેમ્પની જરૂર પડે છે. જે અનામત માટેનો દાખલો જેવા મામલતદાર કચેરીમાં વિવિધ કામોમાં 1 થી 3 રૂપિયાની અને તેમના વાલીઓ વિદ્યાર્થીઓ અને તેમના વાલીઓ માટે મોટા કામ માટે આવ જાતીનો દાખલો, આર્થિક સ્ટેમ્પની જરૂર પડે છે. જે અનામત માટેનો દાખલો જેવા મામલતદાર કચેરીમાં વિવિધ કામોમાં 1 થી 3 રૂપિયાની અને તેમના વાલીઓ

-કુકરમુંડા ના ખેડૂતો વરસાદથી ચિંતિત

વ્યારા, કુકરમુંડા

આખો દિવસ ઉકળાટ થતા સાંજના સમયે ભારે ગાજવીજ સાથે કમોસમી વરસાદ વરસતા રાતે ઠંડક રહે છે. આખો દિવસ ફરી ઉકળાટ થતું હોય અને સાંજે વાદળછાયું વાતાવરણ થતા અનેક વિસ્તારમાં કમોસમી વરસાદ પડે છે. ગત રોજ નિઝર - કુકરમુંડા તાલુકામાં પણ વાદળછાયું વાતાવરણ અને કમોસમી વરસાદ વરસતા ખેડૂતો ચિંતિત બન્યા છે. ખેડૂતોએ તુવેર જેવા પાકોની

આખો દિવસ ઉકળાટ થતા સાંજના સમયે ભારે ગાજવીજ સાથે કમોસમી વરસાદ વરસતા રાતે ઠંડક રહે છે. આખો દિવસ ફરી ઉકળાટ થતું હોય અને સાંજે વાદળછાયું વાતાવરણ થતા અનેક વિસ્તારમાં કમોસમી વરસાદ પડે છે. ગત રોજ નિઝર - કુકરમુંડા તાલુકામાં પણ વાદળછાયું વાતાવરણ અને કમોસમી વરસાદ વરસતા ખેડૂતો ચિંતિત બન્યા છે. ખેડૂતોએ તુવેર જેવા પાકોની

કાપણી કરી લેતા કમોસમી વરસાદનો માહોલ ચાલુ હોવાથી ખેડૂતોએ કાપણી કરેલ તુવેરના પાકોને બેતરોમાં ઢગલાં કરી કમોસમી વરસાદથી પાક પલળી ન જાય તે માટે તાડપત્રી ઢાંકેલી જોવા મળી આવી છે. તો બીજી તરફ ખેડૂતો કમોસમી વરસાદથી ધઈ, તુવેર, ચણા, મગ જેવા અનેક પાકોને પણ ભારે નુકસાન થવાની ચિંતા બન્ને તાલુકાના ખેડૂતોમાં જોવા મળી રહ્યા છે.

જાહેર સુચના (પર્યાવરણીય મંજૂરી)

આ સાથે જણાવવામાં આવે છે કે મિનીટ્રી ઓફ એન્વાયરોમેન્ટ ફોરેસ્ટ એન્ડ ક્લાયમેટ ચેન્જ (IA, III સેક્શન) ઇન્ટિરા પર્યાવરણ ભવન, નોરબાગ રોડ, નવી દિલ્હી-110003, દ્વારા ભરૂચ એન્વાયરો ઇન્ફ્રાસ્ટ્રક્ચર લિમિટેડ સર્વે નં. 160, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242 અને 243, ગામ: જીતાલી, અંકલેશ્વર, ભરૂચ, ગુજરાત ખાતે સામાન્ય જોખમી કચરાના ટ્રીટમેન્ટ, સ્ટોરેજ અને નિકાલ માટે સ્થિત લેન્ડફિલ (TSDF) માટેની પર્યાવરણીય મંજૂરી, પર્યાવરણીય પરિસ્થિતિઓ અને સલામતી સાથે ક્રમાંક નં. F.No. 2178/2022-IA-III તારીખ 15-03-2023 દ્વારા ઇ.આઈ.એ. નોટીફિકેશન 2005 જોગવાઈ હેઠળ આપેલ છે. જે અમને તારીખ 15-03-2023ના રોજ વેબસાઈટ દ્વારા મળેલ છે. કલીયરન્સ લેટરની નકલ અમારી વેબસાઈટ પર ઉપલબ્ધ છે.

બી.કી.દલવાડી

(ચીફ ઇન્ફોર્મીટીવ ઓફિસર)

જાહેર નોટીસ

અરજદારના તરફ પિ.વ.ટી - ડી. એચ. પંચાલ

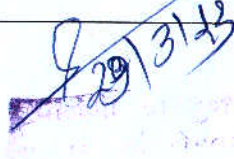
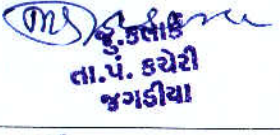
જાહેર જનતાને નોંધે કરવાનો છે; નીચામાં અસીલ ત્રા મોરેસે રાહ રહી મેડીએસીતિ મોર્ગ તા. ૭. ભરૂચના ખાતા નં. 1240, ટે. સં. નં. ૫૪ પૈકી ૧, જુની શરતની ખેતીની જમીન ૦-12-13 હે. આર. ઓ. મી. માપની આકાર-૨.૫૫ હે.સા, તેના હાલના માલીક પાસેથી વેચાણ દસ્તાવેજથી ખરીદ કરવા માંગે છે. ઉપરોક્ત જુની શરતની ખેતીની જમીન વેચનારાઓ ચોખ્ખી તથા બોજા રહીત હોવાનું જણાવે છે. જેથી અમારા અસીલે તેના માલીકના નામના ટાઇટલ કલીયરન્સ સર્ટીફિકેટ માંગણી કરેલ છે. જેથી ઉપરોક્ત જુની શરતની જમીન કે તેના કોઈપણ ભાગ ઉપર કોઈપણ વ્યક્તિ, બેંક, સરકારી કે અસંસ્થાનો કોઈપણ પ્રકારનો લાગ, ભાગ, હક્ક, હિત, હિસ્સો, બોજો, અલાખો કે ભરણા દાવો હોય તો તેઓએ તેના હક્ક બાબતે દસ્તાવેજ પુરાવાઓ સહીત સદર નોટીસ પ્રિન્ટિંગ માં અમારા નીચે જણાવેલ સરનામે રજૂ. એડી. ધી અથવા રૂબરૂમાં મળી પહોંચાડવું મુદત પિયરે સદરૂઠું જુની શરતની ખેતીની જમીન વાંધા રહીત અને ચોખ્ખી હોવાનું માની તે જમીનનું તેના હાલના માલીકના નામનું ટાઇટલ કલીયરન્સ સર્ટીફિકેટ આપીશું. ત્યારબાદ કોઈપણ પ્રકારની તર તકરાર ચાલશે નહીં. જેની જાહેર જનતાએ નોંધ લેવી.

ઓફીસ : ૧, કી. કિષ્ણા ચોખ્ખી, અમો મારફતે
જી. હાલ બચાવલય સામે, ભરૂચ, ફોન. 2554400, સહી / - શ્રી પ્રકાશ એન. મોદી
મો. નં. 982240 854400, 982240 0554400 નીનાબેન પી. મોદી (એડવોકેટ એન.)

જાહેર નોટીસ

આથી અમો એડવોકેટ શ્રી વિશાલ એમ. મોદી (સરવણ) તે અમારા અસીલો સુચના અને ફરમાઈશ અન્વયે જાહેર જનતાને આ નોટીસ આપી જણાવીએ છીએ. ભરૂચ, સહી કિ. અંકલેશ્વરના મોરે ગામ દીવી ની સીમમાં આવેલ ખેતીની જમીનની માલિકી અમારી છે. જેને અમારું હક્ક હોવાનું અમારું માન છે. જેથી અમારું માન છે.

Environment Clearance of Proposed Landfill- Jitali

Sr. No.	Address	Sign
1	Taluka Panchayat Office Ankleshwar	
2	Jilla Panchayat Office, Bharuch	BELL DIT / 2022-22/06 જિલ્લા કલેક્ટર 21/03/23 જિલ્લા પંચાયત
3	Taluka Panchayat Office, Jhagadia	 જિલ્લા કલેક્ટર તા.પં. કચેરી જગડીયા
4	The Sarpanch Gram Panchayat – Gadkhol	
5	The Sarpanch Gram Panchayat – Dadhal	
6	The Sarpanch Gram Panchayat – Piraman, Piraman, Ankleshwar	જિલ્લા કલેક્ટર તા.પં. કચેરી પીરામણ ગ્રામ પંચાયત તા. અંકલેશ્વર, જિ. ભરૂચ
7	The Sarpanch Gram Panchayat – Kosamdi	 જિલ્લા કલેક્ટર તા.પં. કચેરી કોસમડી તા. અંકલેશ્વર
8	The Sarpanch Gram Panchayat – Kapodara	



93764993761IN TVR-PLT 36002303
PL ANKLESHWAR IE 50 443002
Counter No: 12/04/2023 14:08
To: BHADKODARA GRAM PANCHAYAT,
PIN: 393102, Ankleshwar IE 50
From: BFTI INFRASTRUCTURE, ANK
SH 45005
Amt: 35.00 (Cash)
Track on www.india-post.gov.in
Dial 18002600402. Wear Masks. Stay Safe

Front Side
Front Side
Top Side
Back Side

9	The Sarpanch Gram Panchayat – Bhadkodara	
10	The Sarpanch Gram Panchayat – Andada	
11	The Sarpanch Gram Panchayat – Jitali	 ગામ પંચાયત છતાલી તા. અંકલેશ્વર, જિ. ભરૂચ
12	The Sarpanch Gram Panchayat – Sarangpur	
13	Ankleshwar Nagar Palika	 સરનાર S.H. moli
14	Notified Area Office, Ankleshwar	NOTIFIED AREA RECEIVED Dt. 27/03/2023 ANKLESHWAR
15	Notified Area Office, Panoli	 27/3/2023
16	Notified Area Office, Jhagadia	NOTIFIED AREA RECEIVED Filem 27/03 JHAGADIA

17	Collector District collector office, Bharuch	13/3 29/3/23 29/3/23 29/3/23
18	The principle, Footwear Design & Development Institute	8709665031
19	The principle, P.S School, Jitali	252400 252400 252400
20	The Principal Shree Gattu Vidyalaya, Ankleshwar	252400 SHREE GATTU VIDYALAYA ANKLESHWAR DIST. BHARUCH
21	The Principle, Smt Puspavati Devidas Shroff Sanskardeep Vidhyalaya Ankleshwar	252400 SMT. PUSPAVATI DEVIDAS SHROFF SANSKARDEEP VIDHYALAYA ANKLESHWAR DIST. BHARUCH
22	The Principle, Pioneer School, Jitali	PIONEER SECONDARY & HIGHER SECONDARY SCHOOL JITALI TA. ANKLESHWAR DIST. BHARUCH
23	The Principal Lions International Academy, Ankleshwar	31/3/23 Lions International Academy AFFI No. 430198 Lions Club of Ankleshwar Industrial Area Community Trust
24	The Principal Lion School Ankleshwar	R.D. Jayas 9510028308 LIONS SCHOOL PRE PRIMARY PRIMARY & SECONDARY SECTION

25	The Principle, Chanderbala Modi Academy, Ankleshwar	 
26	The Principle, R.B.L.P.S School, Ankleshwar	 આચાર્ય શ્રી સરદાર પટેલ પ્રાથમિક શાળા જી.આઈ.ડી.સી અંકલેશ્વર, જિ ભરૂચ
27	Administration Office, ESIC Hospital	 27/03/2023 ई.एस.आई.एच. अस्पताल ESIC HOSPITAL प्लॉट नंबर 500-3-4-5 Plot No. H-3-4-5 400 क्वाटर्स के भाड़ा Nr. 500 Quarters अंकलेश्वर जी. आर. पी. सी. G.I.D.C., Ankleshwar जिला. धारुच-392001 Dist. Bharuch-392001 Gujarat
28	Smt. Jayaben Modi Hospital Ankleshwar	 28/03/2023 
29	Dy. Director Industrial Safety & Health, 2nd Floor, Multi Storyed Building, Opp. Gayatrinagar, Bharuch-392001	— P.T.O. —
30	Bharuch Ankleshwar Urban Development Authority (BAUDA) Railway Colony, Bharuch, Gujarat 392001	— P.T.O. —
31	Deputy Conservator of Forest, Bharuch Near to District Treasury Office, Kanbivaga, Bharuch	— P.T.O. —
32	DGVCL office, Near GIDC police station, GIDC, Ankleshwar, Gujarat 393001	 Deputy Engineer (O&M) G.I.D.C., D/D DGVCL Ankleshwar

25	The Principle, Chanderbala Modi Academy, Ankleshwar	
26	The Principle, R.B.L.P.S School, Ankleshwar	
27	Administration Office, ESIC Hospital	ઈ.એસ. આર્કેશ્વરી હોસ્પિટલ ESIC HOSPITAL. પ્લોટ નંબર ૫૦૦-૩૯૨૦૦૧ Plot No. 500-392001 ૫૦૦ ક્વાર્ટર્સ ઓફ પાવર No. 500 Quarter અંકલેશ્વર જી.આઈ.સી. જી. G.I.D.C., Ankleshwar જિલ્લા. બારુચ-૩૯૩૦૦૧ Dist. Bharuch-393001 Gujarat ૨૫/૩/૨૦૨૩
28	Smt. Jayaben Modi Hospital Ankleshwar	
29	Dy. Director Industrial Safety & Health, 2nd Floor, Multi Storyed Building, Opp. Gayatrinagar, Bharuch-392001	રમણલાલ રામ મેદા ૨૮/૩/૨૩
30	Bharuch Ankleshwar Urban Development Authority (BAUDA) Railway Colony, Bharuch, Gujarat 392001	૨૮/૩/૨૩ 28/03/23 રામકેશ સહાયક (લોડીયા) ભરૂચ
31	Deputy Conservator of Forest, Bharuch Near to District Treasury Office, Kanbivaga, Bharuch	રવિનગી કારકુન રામકેશ સહાયક રામાકૃષ્ણ વન સંરક્ષક રામાકૃષ્ણ વન સંરક્ષક વિભાગની કચેરી કાનબિવાગ કલેક્ટર કચેરીના કંપાઉન્ડમાં ભરૂચ જિલ્લો ૩૯૨૦૦૧
32	DGVCL office, Near GIDC police station, GIDC, Ankleshwar, Gujarat 393001	

33	Deputy Industries Commissioner & General Manager, District Industries Centre, Bharuch.	28/03/2023 સાચી સમજૂતી જાહેર સેવા, ભરૂચ.
34	Taluka Development Officer, Taluka Development Office Ankleshwar, Bharuch.	— I —
35	District Development officer, District Development office, Bharuch.	લેલ. ડેવલપમેન્ટ ઓફિસ / 2022-23/66 28/03/23 જા. સેવા સાચી સમજૂતી જાહેર સેવા, ભરૂચ.

GWRDC REPORT
BEIL- ANKLESHWAR
DT/06/07/2020



**GUJARAT WATER RESOURCES DEVELOPMENT
CORPORATION LTD. GANDHINAGAR.**

hara . In reference to letter no14/18 Dated 10/01/18
CIN NO. U45300 GJ1971 SGCOO1892
www.gwrdc.gujarat.gov.in

Office of the Geohydrologist,
Unit-1,

'Regional Data Processing Centre',

Vasna Barrage Compound, Vasna , Ahmedabad – 380 007

Speed post

NO:- Unit-1 / PB/ Deposit work. BIFL / 461 / 2020

Date: - 06/07/20.

To,

BEIL INFRASTRUCTURE LIMITED

Plot No 9701-16 GIDC Estate

Post Box No 82

Ankleshwar 393002

Dist Bharuch

Sub.; Geohydrological Investigation at BIFL-Ankleshwar

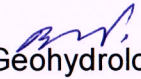
Ref.; Company letter Dated 5/6/2020

As per above reference letter , BEIL INFRASTRUCTURE LIMITED has deposited amount by ref. letter .In this ref. Geologist Vadodara had carried out Geohydrological investigation writhen 10 Kms peripheral radius area around premises of BIFL –Ankleshwar Dist. Bharuch .

Please find the Geohydrological investigation report with plan.

This is for your kind information please.

.Encl. A/a


Geohydrologist

Unit-1,

Ahmedabad.

Copy:

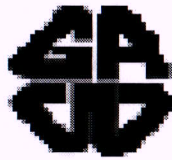
To Geologist Unit 2/1 ,Vadodara In reference to letter no 125 /18 Dated 4/7/20

www.gwrdc.gujarat.gov.in

125/10/7/20

BRIEF REPORT ON
GEOHYDROLOGICAL CONDITIONS AROUND BEIL,
ANKLESHWAR GIDC AREA, TALUKA ANKLESHWAR
DISTRICT BHARUCH

(June-2020)



GEOHYDROLOGIST
REGIONAL DATA CENTRE
VASNA BARRAGE
VASNA
AHMEDABAD

A BRIEF REPORT ON GEOHYDROLOGICAL CONDITIONS OF ANKLESHWAR GIDC AREA, TALUKA ANKLESHWAR DISTRICT BHARUCH

AIM OF STUDY:

Bharuch Enviro Infrastructure Ltd has asked for Geohydrological investigation within 10 kilometer peripheral radius around BEIL, Ankleshwar premises.

INTRODUCTION:

Geohydrological investigation was carried out geohydrological investigation on the bases of GWRDC existing ground water structures such as piezometers for long term seasonal water level data and quality data of the area, and the present existing structures like open wells and Tube wells in 10 kilometers peripheral radius around BEIL, Ankleshwar premises as per BEIL-Ankleshwar

LOCATION AND EXTENT :

. Ankleshwar Taluka is situated in the Southern part of Bharuch District and . GIDC Area is situated near Ankleshwar Town. The study area covering GIDC and surrounding villages lies between 73° 00' 00" to 73° 02' 00" East longitude and 22° 35' 00" to 21° 40' 00" North latitude covered under Survey of India Toposheet No. 46 C/14 & 46 G/2. The total geographysical area of the taluka is 436.04 Sq.Kms. out of which 19.30 Sq.Kms. is urban area and remaining 416.74 Sq.Kms. Rural areas. The major Town of Ankleshwar is connected by broad gauge railway line and National Highway No.8 Ahmedabad-Mumbai passes through Town.

PHYSIOGRAPHY:

The topography of the area is mainly plain with general slop towards North and Northwest direction.

DRAINAGE:

The drainage of the area is controlled mainly by perennial river Narmada flowing ENE-WSW direction and its tributary Amaravati flowing in SE-NW direction. The Kondh Khadi meets Amaravati at village Dadhal and Amla Khadi flowing in SSE-NNW direction and meets Narmada river.

CLIMATE:

The area having tropical climate with summer season from mid March to mid June with maximum temperature up to 42° , Winter season from November to February with minimum temperature up to 12° and Monsoon season from mid June to October. The long term average rainfall of the taluka is 840 mm for the period 1963 to 2010 and short term average rainfall is 727 mm from 2014 to 2018.

GEOLOGY

Geologically the area comprises of alluvial formations of Recent to Sub Recent age. The geological succession in stratigraphical order is mentioned below.

ERA	PERIOD	AGE	LITHOLOGY
Cenozoic	Quaternary	Sub-Recent to Recent	Alluvium consisting of Sand & Clay Beds
	Tertiary	Lower Miocene	Clay

The alluvium deposit of Sub-Recent to Recent age is observed in the area. It consists of alternate bands of Yellowish brown clay and fine to coarse grained sand. The Tertiary formation consists of clay underlies the alluvium.

GEOHYDROLOGY:

The main hydrological unit in the area is alluvium formation. The alluvium formation mainly comprises of alternate bands of sand & clay. The sand formation consists of fine to coarse grained and works as suitable aquifer. The ground water in area is extracted by shallow tube wells with varying depth from 25.24 mts to 150 Mts. (Table No.I)

Based on inventory of existing ground water structures in the area surrounding GIDC Ankleshwar. The water level varies from 4.40 mts. at Panoli piezometer to 25.50 Mts at village Andada in the Northwest direction of the taluka. The deeper water levels are observed 42.20 mts. To 32.50 mts At Shri Gattu Vadyalay in Western direction and In BEIL premises, it may be due to pumping effect of nearby GIDC tube wells.

GROUNDWATER FLOW:

The flow of the groundwater generally controlled by topography of the area. To study the groundwater flow pattern representative tube wells located in surrounding area and villages were connected with GTS bench mark and the water levels with reference to mean sea levels are computed, based on which reduced water level contour plan has been prepared for period June-2020.

The reduced water level plan shows highest value of 34.40 Mts. is observed at village Siludi in the Southeast part of BEIL whereas lowest value of – 7.70 Mts. is observed at village Andada in Northern part. In general ground water flow in the area is towards North direction, whereas around B.E.I.L. site the groundwater flows towards Amaravati River in Northeast direction. (Plate No.I)

GROUNDWATER SEASONAL FLUCTUATIONS:

To study the groundwater seasonal fluctuation in the area, the statement showing water level fluctuation of the existing monitoring station from the year 2015 to 2019 is studied. (Table No.II) The seasonal water level fluctuation ranges from 0.59 Mts. observed at village Panoli of Ankleshwar Taluka to 4.72 mts. at village Ankleshwar of Ankleshwar Taluka. The average seasonal fluctuation observed is 2.43 in the area..

GROUND WATER QUALITY :

To study the ground water quality water samples are collected from existing tube well constructed by BEIL in their premises and surrounding area of 10 kilometers which indicate TDS range from 480 ppm at village Sanjali to 6810 ppm; the higher values of TDS is observed at Panoli Bore well. (Table No.III) The TDS contour plan shown in (Plate No.II)

CONCLUSIONS:

- (1) Ground water level fluctuation in the area ranges from 0.59 Mts to 4.72 Mts with average fluctuation of 2.43 Mts.
- (2) Ground water level ranges from 4.40 Mts to 42.20 Mts.bgl in the study area.
- (3) The ground water contour plan indicates general flow is towards North and around BEIL site ground water flows in NorthEast direction.

NOTE : This report should not be treated as certificate for Ground water withdrawal

STATEMENT SHOWING DETAILS OF GEOLOGICAL INVESTIGATION AROUND BEIL-ANLESWAR, DISTRICT-BHARUCH

Sr.No	Village name and Location	Latitude	Longitude	Type of Structure	Total Depth in Mts	R.L. In mts	M.P. in Mts	S.W.L. in Mts	R.W.L. in Mts	TDS (PPM)
1	Kosamadi	21° 34' 58.45"	73° 02' 1.87"	Tube Well	60.00	25.60	0.50	17.40	8.20	1200
2	Jitali	21° 37' 35.64"	73° 03' 47.11"	Tube Well	60.00	24.90	0.10	26.90	-2.00	1070
3	Sarangpur	21° 38' 13.75"	73° 03' 4.26"	Tube Well	50.00	21.00	0.10	22.00	-1.00	1720
4	Sardarpura	21° 38' 21.30"	73° 06' 39.55"	Tube Well	70.00	38.70	1.00	9.90	28.80	1770
5	Kharchi	21° 39' 59.50"	73° 05' 27.50"	Tube Well	40.00	26.10	0.10	14.65	11.45	1120
6	BEIL-1 (HB-1) UPStrem	21° 36' 54.88"	73° 02' 54.92"	Tube Well	40.00	28.20	1.00	36.50	-8.30	3380
7	BEIL-2 (HB-2) DOWN Strem	21° 37' 0.99"	73° 03' 3.53"	Tube Well	40.00	28.30	1.00	33.00	-4.70	1750
8	BEIL-3 (HB-5) DOWN Strem	21° 37' 7.59"	73° 03' 2.21"	Tube Well	55.00	26.60	1.00	36.50	-9.90	2020
9	BEIL-4 (EB-9) UPStrem	21° 37' 0.13"	73° 02' 47.43"	Tube Well	80.00	29.00	1.00	32.50	-3.50	3750
10	Motali	21° 38' 55.05"	73° 02' 40.06"	Tube Well	50.00	19.10	0.60	15.90	3.20	1520
11	Nava kansiya (Samor)	21° 40' 38.89"	73° 02' 24.33"	Tube Well	40.00	11.00	0.50	7.75	3.25	1630
12	Andada	21° 39' 26.63"	73° 01' 20.13"	Tube Well	50.00	17.80	0.30	25.50	-7.70	1390
13	Divi	21° 39' 14.70"	72° 59' 22.00"	Tube Well	30.00	8.50	0.60	6.40	2.10	2630
14	Borbhatha	21° 40' 15.97"	72° 58' 34.62"	Tube Well	30.00	10.20	0.10	6.90	3.30	2060
15	Juna chhapra	21° 40' 37.30"	73° 01' 27.91"	Tube Well	40.00	10.60	0.30	7.40	3.20	520
16	South of BEIL(new plot boundary)	21° 36' 39.50"	73° 02' 58.81"	Tube Well	70.00	27.90	0.10	34.00	-6.10	1400
17	Shree Gattu Vidhyalay	21° 36' 24.44"	73° 01' 8.21"	Tube Well	150.00	27.30	0.50	42.20	-14.90	1170
18	Kharod	21° 33' 26.46"	73° 00' 39.33"	Tube Well	50.00	28.20	0.10	9.90	18.30	3970
19	Sajali	21° 33' 17.83"	72° 59' 37.52"	Tube Well	90.00	28.50	0.50	9.20	19.30	480
20	Ankleshwar PZ	21° 37' 53.11"	72° 59' 35.37"	Pizometer	41.46	17.70	0.70	16.80	0.90	1080
21	Kapodra PZ	21° 35' 37.88"	73° 00' 29.87"	Pizometer	40.01	17.40	1.00	15.00	2.40	860
22	Piprod PZ	21° 36' 41.61"	73° 05' 49.63"	Pizometer	25.24	29.80	1.00	13.80	16.00	930
23	Panoli PZ	21° 32' 2.70"	72° 58' 10.39"	Pizometer	56.93	22.90	1.00	4.40	18.50	6250
24	Bharan PZ	21° 30' 17.56"	73° 02' 13.26"	Pizometer	30.21	38.40	1.00	18.20	20.20	2740
25	Sulidi PZ	21° 31' 59.23"	73° 05' 56.61"	Pizometer	31.90	42.30	0.80	7.90	34.40	2480

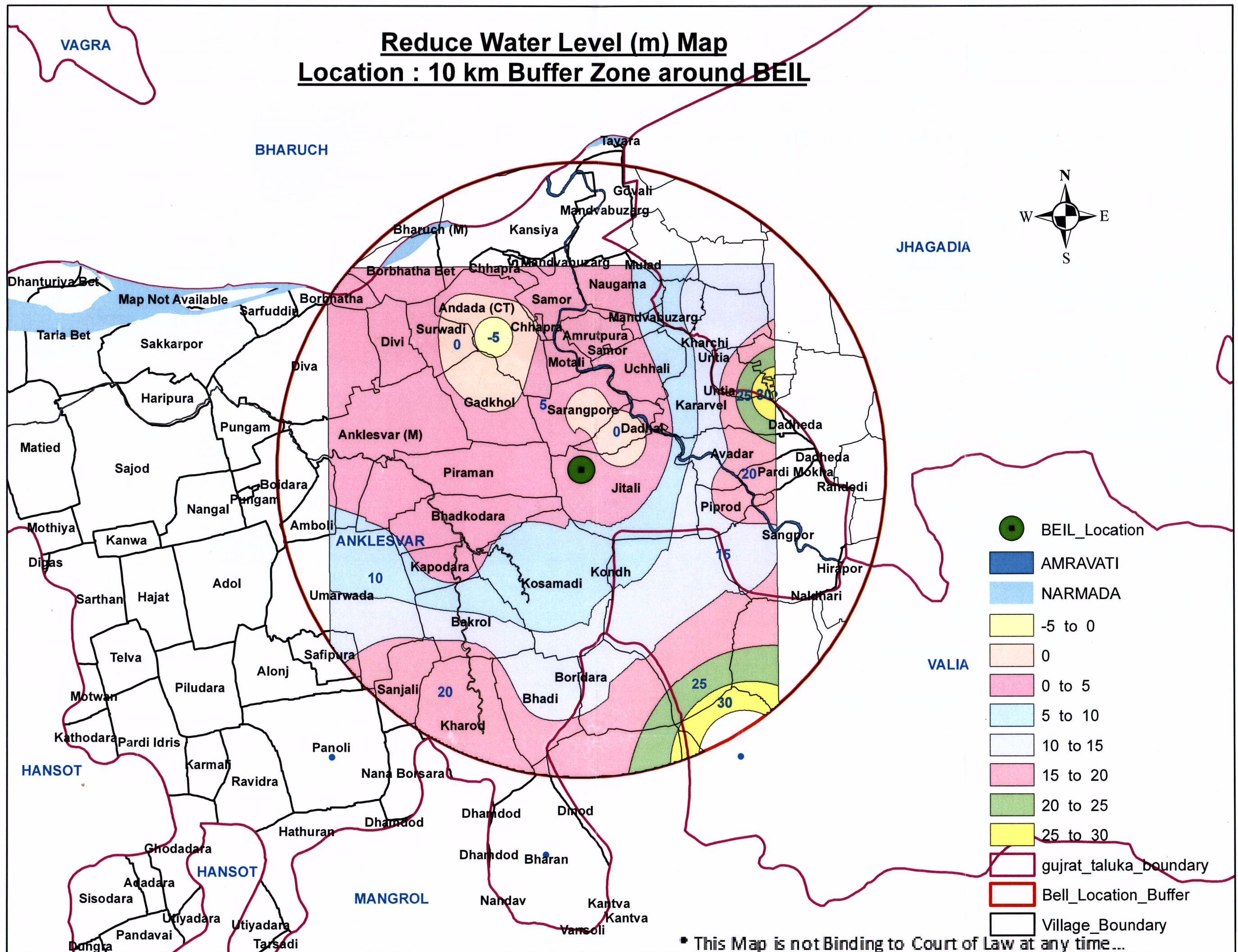
STATEMENT SHOWING DETAILS OF WATER LEVEL OF EXISTING GWRDC MONITORING STATION AROUND ANKLESHWAR G.I.D.C. (BIEL) ANKLESHWAR DIST. BHARUCH

Sr.No.	Village	Taluka	Type of well	Year 2015		Rise/Fall II In Mts	Year 2016		Rise/Fall I In Mts	Year 2017		Rise/Fall I In Mts	Year 2018		Rise/Fall II In Mts	Year 2019		Rise/Fall In Mts	Average Rise/Fall
				May	Oct.		May	Oct.		May	Oct.		May	Oct.		May	Oct.		
1	Ankleswar	Ankleswar	Piezometer	12.4	10.1	2.30	17.65	16.95	0.70	19.2	13.4	5.80	19.4	14.7	4.70	20.9	10.8	10.10	4.72
2	Siludi	Vaila	Piezometer	8.4	5.25	3.15	8.9	4.5	4.40	9.1	4.4	4.70	8.5	7	1.50	9	4.8	4.20	3.59
3	Panolli	Ankleswar	Piezometer	4.5	3.9	0.60	4.25	4	0.25	4.5	3.7	0.80	4.5	3.4	1.10	3.4	3.2	0.20	0.59
4	Kapodara	Ankleswar	Piezometer	10.15	8.4	1.75	12.15	9.8	2.35	11.2	8.9	2.30	14.3	12.7	1.60	16.4	13.8	2.60	2.12
5	Piprod	Ankleswar	Piezometer	14.3	14	0.30	16.1	15.3	0.80	16.9	12.3	4.60	16.8	14.9	1.90	16.9	12.7	4.20	2.36
6	Bharan	Ankleswar	Piezometer	17	16.4	0.60	19.15	19	0.15	20.4	19.7	0.70	20.9	19.9	1.00	21.1	17.5	3.60	1.21
Average water level				11.13	9.68		13.03	11.59		13.55	10.40		14.07	12.10		14.62	10.47		2.43

STATEMENT SHOWING DETAILS OF CHEMICAL ANALYSIS OF WATER SAMPLES COLLECTED DURING GEOHYDROLOGICAL INVESTIGATION AROUND BEIL-ANKLESHWAR, DISTRICT-BHARUCH

Sr.no	Village	S.W.L. (mts)	EC µmhos/ cm	pH	TDS (ppm)	Ca (ppm)	Mg (ppm)	Na (ppm)	K (ppm)	CO3 (ppm)	HCO3 (ppm)	SO4 (ppm)	Cl (ppm)	F (ppm)	NO3-N (ppm)	SAR	SSP	RSC	KSR	PSI	CL CO3 + HCO3	TH	Na/Cl
1	Kosamadi	17.90	1860	8.2	1200	65	42	268	7.2	0	305	136	376	0.94	1.9	6.35	62.72	Nil	1.73	-29.23	2.12	338	1.10
2	Kondh	2.60	6240	8	4000	120	108	1065	42.71	0	915	299	1440	0.63	8.87	16.91	74.21	Nil	3.09	23.80	2.70	750	1.14
3	Kharachi	14.75	1740	7.9	1120	60	39	254	3.42	0	244	181	336	0.41	2.12	6.26	63.58	Nil	1.77	-28.20	2.36	313	1.17
4	BEIL-4(EB-9) (BEIL)	33.50	5900	7.6	3750	165	126	924	2.62	0	829.6	415	1272	0.81	13.06	13.12	68.11	Nil	2.14	-12.13	2.63	938	1.12
5	Sanjali	9.70	730	8.3	480	30	18	97	3.42	12	170.8	0	144	0.29	1.17	3.44	57.70	0.2	1.40	-25.47	1.27	150	1.04
6	Jitali	27.00	1680	8.4	1070	65	36	242	1.39	12	256.2	120	328	1.04	5.88	5.95	62.59	Nil	1.68	-27.95	2.01	313	1.14
7	BEIL-3(HB-5) (BEIL)	37.50	3150	7.7	2020	75	69	500	10.04	0	488	154	720	0.1	0.59	9.98	69.02	Nil	2.29	-10.88	2.53	475	1.07
8	Navakashiya (Samor)	8.50	2540	7.7	1630	120	54	340	3.87	0	402.6	165	544	0.15	0.91	6.46	58.27	Nil	1.41	-48.70	2.32	525	0.97
9	Andada	25.80	2160	8.2	1390	95	57	276	3.33	0	366	212	368	0.8	11.19	5.51	55.62	Nil	1.26	-42.98	1.73	475	1.16
10	Sarangpur	22.10	2660	8.2	1720	95	90	328	2.89	0	427	330	440	0.73	4.39	5.77	53.67	Nil	1.17	-37.78	1.77	613	1.15
11	BEIL -2 (HB 2) (BEIL)	34.00	2720	8	1750	105	87	336	4.03	0	439.2	254	520	0.63	0.73	5.84	53.66	Nil	1.17	-41.83	2.03	625	1.00
12	Sardarpur	10.90	2780	8.5	1770	105	87	352	0.49	12	366	371	472	0.97	4.88	6.11	54.99	Nil	1.22	-36.35	2.07	625	1.15
13	Borbhatha	7.00	3250	8.3	2060	60	54	567	13.78	12	488	67	800	0.67	2.33	12.73	75.84	0.9	3.29	6.98	2.68	375	1.10
14	Divi	7.00	4120	7.8	2630	150	99	573	21.18	0	671	245	864	0.56	10.77	8.88	60.45	Nil	1.58	-39.95	2.21	788	1.02
15	Motali	16.50	2370	8	1520	100	72	290	4.28	0	366	297	384	0.85	9.42	5.37	53.12	Nil	1.14	-44.00	1.80	550	1.17
16	BEIL - 1 (HB 1) Near lab (BEIL)	37.50	5250	7.8	3380	160	141	751	4.57	0	793	524	1000	0.6	6.02	10.38	62.16	Nil	1.65	-27.00	2.16	988	1.16
17	Kharod	10.00	6220	8.1	3970	225	204	778	4.03	0	976	609	1160	1.01	11.64	9.01	54.42	Nil	1.20	-55.83	2.04	1413	1.04
18	Juna Chhapra	7.70	770	8.2	520	30	21	97	8.48	0	207.4	0	152	0.1	1.03	3.32	54.97	0.15	1.30	-29.35	1.26	163	0.99
19	South of BEIL (BEIL Company)	34.10	2160	8	1400	80	72	265	2.54	0	341.6	275	360	0.57	1.67	5.16	53.40	Nil	1.15	-36.80	1.81	500	1.14
20	Shree Gattu Vidhyalay	42.70	1850	8.4	1170	80	66	204	4.76	12	207.4	282	312	0.55	0.21	4.07	47.99	Nil	0.93	-39.02	2.31	475	1.01
21	Ankleshwar (Pz)	16.80	1620	9.9	1050	60	51	202	7.07	36	366	40	288	0.63	0.39	4.61	54.13	0	1.21	-21.76	1.13	363	1.08
22	Kapodara (Pz)	15.00	1260	8.7	810	50	42	146	9.64	24	183	151	200	0.27	0.23	3.67	50.42	0	1.06	-26.39	1.48	300	1.13
23	Piprod (Pz)	13.80	1330	9	850	50	45	160	4.4	36	280.6	48	224	0.12	2.69	3.92	52.16	0	1.11	21.11	1.09	313	1.10
24	Panoli (Pz)	4.40	10680	8	6810	280	267	1616	11.9	0	1537.2	782	2312	0.59	3.56	16.5	65.77	0	1.94	1.3	2.58	1813	1.08
25	Bharan (Pz)	18.20	4570	8.2	3000	85	81	691	181.95	0	732	225	984	0.15	18.65	12.81	65.73	1.02	2.73	3.38	2.31	550	1.09
26	Siludi (Pz)	7.90	3470	5.6	2260	175	72	445	23.5	0	488	450	600	0.72	5.9	7.12	55.76	0	1.31	-64.87	2.11	738	1.15

Reduce Water Level (m) Map **Location : 10 km Buffer Zone around BEIL**



SUMMARY ON THE BASELINE SITUATION

BASELINE ENVIRONMENTAL STATUS

The baseline environmental quality has been assessed in the post-monsoon season of October 2021 to December 2021 in a study area of 10 km radial distance from the project site.

AIR ENVIRONMENT

The dispersion of pollutants in the atmosphere is a function of several meteorological parameters viz. temperature, wind speed and direction, mixing depths, inversion level, etc. The ambient air samples were collected and analyzed for Suspended Particulate Matter, Respirable Suspended Particulate Matter (RSPM-PM₁₀), Respirable Suspended Particulate Matter (RSPM-PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x), Ammonia (NH₃), Ozone (O₃), Lead (Pb), Arsenic (As), Nickel (Ni), Benzene (C₆H₆), VOCs & Carbon Monoxide (CO) were monitored at site and nearby villages for identification, prediction, evaluation and assessment of potential impact on ambient air environment.

BASELINE AIR QUALITY

Sr. No.	Criteria Pollutants	Unit	Maximum Value	Minimum Value	Prescribed Standard
1.	PM ₁₀	µg/m ³	82.84	74.16	100
2.	PM _{2.5}	µg/m ³	47.64	43.17	60
3.	SO ₂	µg/m ³	19.52	14.81	80
4.	NO _x	µg/m ³	21.43	16.13	80
5.	O ₃	µg/m ³	12.06	8.69	180

The PM₁₀ and PM_{2.5} concentrations at all the AAQM locations were primarily caused by local phenomena including industrial & vehicular activities and natural dust getting air borne due to manmade activities and blowing wind. PM₁₀ and PM_{2.5} concentrations were observed below stipulated standards of CPCB for Industrial, Residential, Rural and Other Area at all air quality monitoring locations during the monitoring period. Results of all parameters are found within limit. The interpretation relates to the results found for particular locations and date of monitoring.

WATER ENVIRONMENT

10 nos. of ground water and 3 nos. of surface water samples were collected from the study area. These samples were analyzed for physio-chemical parameters to ascertain the baseline status in the existing surface water and ground water bodies. Samples were collected during the study period from October 2021 to December 2021 and analyzed as per the Standard Methods of Water and Wastewater Analysis (APHA).

BASELINE GROUND WATER QUALITY

Sr. No.	Criteria Pollutants	Unit	Maximum Value	Minimum Value	Desirable Limit	Maximum Permissible Limit
1.	pH	--	8.38	6.53	6.5-8.5	--
2.	Total Suspended Solids	mg/l	<10	<10	80	120
3.	Total Hardness	mg/l	545.3	78.31	200	600
4.	Fluoride	mg/l	<0.05	<0.05	1	1.5
5.	Total Dissolved Solids	mg/l	1948	368	500	2000
6.	Chlorides	mg/l	567.4	37.19	250	1000
7.	Zinc	mg/l	0.80	<0.05	5	15

*Maximum permissible limit as per Drinking water Standards, IS: 10500:2012.

BASELINE SURFACE WATER QUALITY

Sr. No.	Criteria Pollutants	Unit	Maximum Value	Minimum Value	Classification of inland water body
					A
1.	pH	--	8.15	7.59	6.5 to 8.5
2.	DO	mg/l	7.34	7.14	6.0
3.	COD	mg/l	4.66	2.04	--
4.	BOD	mg/l	<1.0	<1.0	2.0

Ground Water Quality: Based on comparison study with drinking water standards, it is interpreted that water samples collected from the villages should not be directly used in drinking but can be used in other domestic purposes like washing, bathing and irrigation. Results of iron, copper, lead in the water sample of all the villages are BDL. It can be observed that ground water qualities in terms of various essential and desirable characteristics are found within the limits specified by IS 10500:2012.

Surface Water Quality: There are two ponds located in Umarwada & Jitali and Narmada River considered in the study area. The water quality is good and it was observed that all the parameters are well within the range of acceptance criteria as per IS: 10500.

NOISE ENVIRONMENT

Hourly Equivalent noise levels Leq (day) and Leq (night) were measured at each monitoring locations. One day monitoring ranging in December, 2021 during day and night time was carried out at all the locations.

INDUSTRIAL

Sr. No.	Parameter	Unit	Maximum Value	Minimum Value	Prescribed Standard
1.	Leq (Day)	dB (A)	67.1	61.4	75
2.	Leq (Night)	dB (A)	64.8	60.2	70

RESIDENTIAL

Sr. No.	Parameter	Unit	Maximum Value	Minimum Value	Prescribed Standard
1.	Leq (Day)	dB (A)	53.9	48.3	55
2.	Leq (Night)	dB (A)	44.3	38.9	45

Based on noise level data obtained during the survey for residential area and industrial area, it is interpreted that noise levels are within the standard norms prescribed by MoEF&CC. Looking towards the increase in noise generating sources it is suggested that there is need to apply noise reducing devices at noise generating sources and generate public awareness.

LAND ENVIRONMENT

Soil samples were collected from ten locations during October 2021 to December 2021 within the study area to assess its physio-chemical characteristics.

BASELINE STATUS

Parameters like Porosity, Water Holding Capacity, Bulk Density, etc. were considered. Based on the soil analysis report, the following can be concluded:

Sr. No.	Criteria Pollutants	Unit	Maximum Value	Minimum Value
1.	pH	pH Scale	8.12	7.23
2.	Nitrogen (N)	mg/kg	486.5	228.3
3.	Phosphorus (P)	mg/kg	13.26	3.03
4.	Potassium (K)	mg/kg	109.1	21.86
5.	Electric Conductivity	ms/cm	0.89	0.38
6.	Porosity	%	59.24	52.07
7.	Water Holding Capacity	%	68.32	15.43
8.	Bulk Density	gm/cm ³	1.27	1.08
9.	moisture content	%	12.4	3.79
10.	Calcium	mg/kg	965.7	96.57
11.	Chlorides	mg/kg	167.5	19.74
12.	Organic matter	%	3.91	1.7

The porosity of soils can be considered as moderate to good for air and water movement in the soil and the pH of soils are slightly alkaline. Clay particles, reduced saturated hydraulic conductivity

and aeration. The concentration of available Nitrogen, Phosphorous and Potassium in the soil samples signifies that the soil of the area is fertile.