

**TECHNO ECONOMIC / PROJECT
FEASIBILITY REPORT**

FOR
**EXPANSION OF BULK DRUGS &
PHARMACEUTICAL FORMULATION UNIT**

OF
**M/s. GUFIC BIOSCIENCES LTD.
PLOT NO. 171, 195/3 & 175/2/P3, N.H.-8,
NEAR GRID,KABILPORE
NAVSARI-396424, GUJARAT**
Email: nvshrd@guficbio.com, bdprd_nvs@guficbio.com

PREPARED BY:

**M/s. GUFIC BIOSCIENCES LTD.
PLOT NO. 171, 195/3 & 175/2/P3, N.H.-8,
NEAR GRID,KABILPORE
NAVSARI-396424, GUJARAT**
Email: nvshrd@guficbio.com, bdprd_nvs@guficbio.com

EXECUTIVE SUMMARY OF THE REPORT

M/s. Gufic Biosciences Ltd. is going for expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/Month bulk drugs production & 6 Tons/Month Pharmaceutical Formulation) at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. No Defense Installation, Biosphere Reserve, National Park/Wild Life Sanctuary, Ecologically Sensitive Area within 20 KM radius. **Proposed Expansion will be carried out in new industrial land of 11,613 Sq.m.** adjacent to existing factory (29,946 Sq.m.). **Total Area after expansion will be 41,559 Sq.m.**

PROJECT COST

Cost of the proposed project would be **Rs. 7500.0 Lacs**. Total capital cost for environmental pollution control measures would be **Rs. 253 Lacs** and recurring cost per annum would be **Rs. 87.5 Lacs**.

DETAILS OF PRODUCTS

Details of production are given in following table.

| SN | PRODUCTS | EXISTING MT/MONTH | PROPOSED MT/MONTH | TOTAL MT/MONTH |
|-------------------------------|---|----------------------|----------------------|-------------------|
| A1. BULK DRUG – EXISTING | | | | |
| 1 | Miconazole / Miconazole Nitrate | 4.5 | 0 | 4.5 |
| 2 | Lidocaine / Lidocaine (Full Fledge) Hydrochoride | 9 | 0 | 9 |
| 3 | Ketoconazole | 1 | 0 | 1 |
| 4 | Econazole Nitrate | 0.5 | 0 | 0.5 |
| 5 | Micafungin | 0.005 | 0 | 0.005 |
| 6 | Anidulafungin | 0.005 | 0 | 0.005 |
| 7 | Caspofungin Acetate | 0.005 | 0 | 0.005 |
| 8 | Prilocaine/Prilocaine Hydrochloride | 0.6 | 0 | 0.6 |
| 9 | Isoconazole Nitrate / Isoconazole | 1 | 0 | 1 |
| 10 | Articaine Hydrochloride/ Articaine | 0.2 | 0 | 0.2 |
| 11 | Sterile API (Arbekacin, Omeprazole Sodium, Colistimethate Sodium, Teicoplanin, Amphotericin, Vancomycin Hydrochloride, Polymyxin Sulphate, Ulinastain, Dalbavancin) | 0.185 | 0 | 0.185 |
| TOTAL-A1 | | | | 17 |
| A2. HERBAL PRODUCT – EXISTING | | | | |
| 1 | Boswellia Serrata Extract | 3 | 0 | 3 |
| TOTAL-A1 + A2 | | | | 20 |
| A3. BULK DRUG – PROPOSED | | | | |
| ONCOLOGY PRODUCTS | | | | |
| 1 | Osimertinib | 0 | 0.15 | 0.15 |
| 2 | Erlotinib | | | |
| 3 | Crizotinib | | | |
| 4 | Palbociclib | | | |
| 5 | Ribociclib | | | |
| 6 | Fosaprepitant | | | |
| 7 | Levatinib | | | |
| 8 | Epirubicin | | | |
| 9 | Trabectedin | | | |
| 10 | Dimeglumine | | | |
| | | | | |
| ANESTHETIC | | | | |
| 11 | Tetracaine HCL | 0 | 1 | 1 |
| | | | | |
| ANTI FUNGAL | | | | |
| 12 | Butoconazole | 0 | 6.4 | 6.4 |
| 13 | Solconazole | | | |
| 14 | Tioconazole | | | |

| | | | | |
|-------------------------------|--------------------|-----|------|------|
| 15 | Terconazole | | | |
| | | | | |
| HYPER | | | | |
| 16 | Telmisertan | 0 | 1 | 1 |
| | | | | |
| ANTIBIOTIC | | | | |
| 17 | Arbikacin | 0 | 0.3 | 0.3 |
| 18 | Dalbavancin | | | |
| 19 | Oritavancin | | | |
| | | | | |
| FERTILITY HORMONE | | | | |
| 20 | Recombianant FSH | 0 | 0.15 | 0.15 |
| | | | | |
| BIOLOGICAL | | | | |
| 21 | Botulinum Type E | 0 | 0.01 | 0.01 |
| | | | | |
| ANTIDIABETIC | | | | |
| 22 | Liraglutide | 0 | 1 | 1 |
| 23 | Evoligliptin | | | |
| 24 | Vildagliptin | | | |
| 25 | Linagliptin | | | |
| TOTAL A3 | | | | 10 |
| TOTAL A1 + A2 + A3 | | | | 30 |
| B. PHARMACEUTICAL FORMULATION | | | | |
| 1 | Tablets / Capsules | 10 | 5.0 | 15 |
| 2 | Liquid & Dry Syrup | 9 | 0 | 9 |
| 3 | Ointment/Paste | 4 | 0 | 4 |
| 4 | Injections | 1.5 | 1.0 | 2.5 |
| TOTAL B. | | | | 30.5 |

REQUIREMENTS FOR THE PROJECT

Land: Proposed Expansion will be carried out in new industrial land of 11,613 Sq.m. adjacent to existing factory (29,946 Sq.m.). **Total Area after expansion will be 41,559 Sq.m.**

Water: Water requirement will be mainly for the process **77.27 KL/day**, boiler and cooling **203 KL/Day** approx and washing **21 KL/day**. Domestic **9 KL/Day** and for gardening **10 KL/Day**, **Total Water Requirement 320.27 KL/day**. Domestic waste water *i.e.* **8.9 KL/Day** will be generated which will be treated through septic tank and disposed through soak pit. Industrial effluent will be treated in in-house ETP followed by MEE & then through UF & RO in order to achieve Zero Liquid discharge (ZLD). After Reuse / Recycle of 164.08 KL/day, **Fresh Water Requirement will be 156.19 KL/day**.

Electrical Energy: Total power requirement for existing and proposed will be 1300 KVA. Power supply shall be taken from Gujarat Electricity Board. In case of Power failure, 2 Nos D. G. set of 175 KVA & 2 Nos D. G. set of 500 KVA will be provided to fulfill the power requirement.

Fuel: At present factory is having two boilers. One is briquette fired boiler of capacity 2 ton per hour. Another is Furnace oil fired boiler of 2.5 ton per hour. For the proposed expansion we require briquette fired boiler of capacity 4 ton per hour. Furnace oil boiler will be removed after installation of new briquette fired boiler of 4 ton capacity. Existing fuel consumption (Briquettes) is 200 kg/hr and for proposed project Briquettes consumption will be 400 kg/hr. Over all briquette consumption after expansion will be 600 kg/hr, and Diesel *i.e.* 225 Lit/Hr. will be required for the D.G. set.

Manpower: The proposed plant will have employment potential providing employment to approximately 323 full time persons. Both skilled and unskilled labours are easily available in the area.

SOURCES OF POLLUTION AND CONTROL MEASURES

FLUE GAS EMISSION AND CONTROL MEASURES ARE GIVEN IN FOLLOWING TABLE:

| EXISTING | | | | | | |
|----------|---|----------------|--------------|------------------|---------------------------------------|--------------------------------|
| Sr. No. | Source Of Emission | Stack | Type Of Fuel | Quantity Of Fuel | Type Of Emissions I.E. Air Pollutants | Air Pollution Control Measures |
| | With Capacity | Height (meter) | | MT/Day | | (APCM) |
| 1 | Steam Boiler * (2.5 MT/hour) | 30 | Furnace Oil | 100 Lit/Hr | Particulate matter | N.A. |
| 2 | Steam Boiler (2.0 MT/hour) | | Briquettes | 200 Kg/Hr | SO2 Nox | Multi Cyclone Separator |
| 3 | DG Sets-3 Nos. 125 KVA – 2 500 KVA – 1 | 11 (Each) | Diesel | 125 Lit/Hr | Particulate matter SO2 Nox | Adequate Stack Height |

| PROPOSED | | | | | | |
|----------|----------------------------|----------------|--------------|------------------|---------------------------------------|--------------------------------|
| Sr. No. | Source Of Emission | Stack | Type Of Fuel | Quantity Of Fuel | Type Of Emissions I.E. Air Pollutants | Air Pollution Control Measures |
| | With Capacity | Height (meter) | | MT/Day | | (APCM) |
| 1 | Steam Boiler (4.0 MT/hour) | 30 | Briquettes | 400 Kg/Hr | Particulate matter SO2 Nox | Multi Cyclone Separator |
| 2 | 1 Nos. 500 KVA D.G. Set | 11 (Each) | Diesel | 100 Lit/Hr | Particulate matter SO2 Nox | Adequate Stack Height |

*NOTE:- Existing F.O. based 2.5 TPH Boiler will be discontinued after installation of Proposed Steam Boiler 4.0 TPH Briquettes based.

PROCESS EMISSION AND CONTROL MEASURES:

| EXISTING | | | | |
|----------|---------------------------------|------------------|----------------|--------------------------------|
| Sr. No. | Specific Source Of Emission | Type Of Emission | Stack/Vent | Air Pollution Control Measures |
| | (Name Of The Product & Process) | | Height (Meter) | (APCM) |
| 1 | Reaction Vessels – 2 Nos. | HCl Cl2 | 12 | Water Scrubber (One each) |
| 2 | Reaction Vessels – 2 Nos. | HCl Cl2 | 12 | Water Scrubber (One each) |

| PROPOSED | | | | |
|----------|---------------------------------|------------------|----------------|--------------------------------|
| Sr. No. | Specific Source Of Emission | Type Of Emission | Stack/Vent | Air Pollution Control Measures |
| | (Name Of The Product & Process) | | Height (Meter) | (APCM) |
| 1 | OSIMERTINIB Process Vessel | H2 | 12 | Diffused With Flame Arrestor |

WASTE WATER GENERATION AND ITS TREATMENT:

Stream 1: High COD & High TDS Effluent from Process of 8.6 KLD will be sent to Stripper for VOC recovery. 8.4 KLD from Stripper & 20 KLD from RO Reject will be treated in in-house MEE, 28.37 KLD of MEE Condensate will be sent to in-house ETP for further treatment. 0.03 Ton MEE Centrifuge Salt will be sent to TSDF of SEPPL, Kutch.

Stream 2: Low COD & Low TDS Effluent from Process, Boiler, Cooling & Washing of total 84.81 KLD along with 28.37 KLD from MEE Condensate, Total 113.18 KLD will be treated in in-house ETP (120 KLD Capacity). 0.1 Ton Sludge will be sent to TSDF of SEPPL, Kutch. Treated Effluent will be subjected to UF-RO for further advance tertiary treatment and treated water 99.08 KLD will be reused in process, boiler & cooling. RO Reject i.e. 20 KLD will be sent to MEE as mentioned in Stream 1.

Stream 3: Domestic waste water 8.9 KLD will be generated, which will be disposed off through septic tank & soak pit.

Total Reuse / Recycle:- 164.08 KLD

1. 40 KLD Condensate Recovery in Boiler. (Recycle)
2. 25 KLD Reuse in process after necessary treatment.(Reuse)
3. 99.08 KLD Reuse after UF-RO to Cooling, Boiler & Process (Reuse)

NOISE POLLUTION AND CONTROL MEASURES:

Following noise control measures to be adopted in the proposed project:

1. Encasement of noise generating equipment.
2. A thick greenbelt will be developed all around the plant boundary to act as noise attenuator.
3. In addition personnel working near high noise level generating sources will be provided with ear muffs.
4. Proper and suitable acoustic barrier will also be provided around areas generating high noise.
5. Effective preventive maintenance and vibration measurement of all rotating equipment will help in the improvement of plant life and also noise reduction.

SOLID WASTE GENERATION AND ITS DISPOSAL METHOD

The sources of solid wastes generation and its management are given in the following table.

| Sr. No. | Type/Name Of Hazardous Waste | Specific Source Of Generation (Name of the Activity, Product etc.) | Category And Schedule As Per HW Rules. | Quantity (MT/Annum) | | | Management of HW |
|---------|------------------------------------|--|--|---------------------|----------|--------|--|
| | | | | Existing | Proposed | Total | |
| 1 | ETP Sludge | ETP | 35.3 | 12 | 35 | 47 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 2 | Used Oil | Maintenance Activity | 5.1 | 0.12 | 0.1 | 0.22 | Collection, storage, transportation disposal by selling to registered refiners |
| 3 | Empty Barrels / Containers/ Liners | Raw Materials | 33.1 | 4.8 | 3.8 | 8.6 | Collection, storage, decontamination or selling to approved recyclers. |
| 4 | Process | Process | 28.1 | 50.11 | 660 | 710.11 | Collection, storage, |

| | | | | | | | |
|----|---|----------|------|-------|------|---------------|--|
| | Residue & Wastes | | | | | | transportation disposal at CHWIF site, SEPPL, Kutch. |
| 5 | Spent Carbon | Process | 28.3 | 0.78 | 35 | 35.78 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch or Pre \ Co Processing. |
| 6 | Date expired Products | Process | 28.5 | 28.4 | 20.6 | 49 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch. |
| 7 | Spent Solvents Residue (Distillation Residue) | Process | 36.1 | 26.42 | 120 | 146.42 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch or Pre \ Co Processing. |
| 8 | Spent Solvents | Process | 20.2 | 60 | 30 | 90 | Collection, Storage, Reuse/ Recycling |
| 9 | Concentrati on or evaporation residue | MEE | 37.3 | 6 | 7 | 13 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 10 | Inorganic Waste | Process | 28.1 | 0 | 7 | 7 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 11 | Spent ML from Stripper | Stripper | 36.1 | 0 | 72 | 72 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch |

GREEN BELT DEVELOPMENT

About 13714.47 sq.m area *i.e.* 33.0 % of total plot area shall be developed as green belt at plant boundary, road side, around offices and buildings and Stretch of open land. Total investment in green belt development shall be Rs. 6.0 Lacs approx.

INDEX

| CHAPTER | CONTENT | PAGE |
|---------|--|------|
| 1. | INTRODUCTION OF THE PROJECT | 1 |
| 2. | PROJECT DESCRIPTION | 4 |
| 3. | SITE ANALYSIS | 18 |
| 4. | PLANNING BRIEF | 21 |
| 5. | PROPOSED INFRASTRUCTURE | 22 |
| 6. | REHABILITATION AND RESETTLEMENT (R & R) PLAN | 25 |
| 7. | PROJECT SCHEDULE & COST ESTIMATES | 26 |
| 8. | ANALYSIS OF PROPOSAL | 28 |

LIST OF TABLES

| TABLE | PARTICULAR | PAGE |
|-------|--|------|
| 1 | DETAILS OF THE DIRECTORS | 1 |
| 2 | DETAILS OF EMPLOYMENT REQUIREMENT | 3 |
| 3 | DETAILS OF RAW MATERIAL REQUIREMENTS (MONTHLY) | 7 |
| 4 | DETAILS OF WASTEWATER GENERATION | 16 |
| 5 | DETAILS OF SOLID WASTE | 16 |
| 6 | DETAILS OF EXISTING LAND USE | 18 |
| 7 | DETAILS OF EXISTING SOCIAL INFRASTRUCTURE | 19 |
| 8 | TEMPERATURE DATA | 19 |
| 9 | RAINFALL DATA | 20 |
| 10 | DETAILS OF SOLID WASTE MANAGEMENT | 23 |
| 11 | PROJECT IMPLEMENTATION SCHEDULE | 26 |
| 12 | TOTAL PROJECT COST AND IT'S BREAK UP | 27 |

LIST OF FIGURES

| FIGURE | PARTICULAR | PAGE |
|--------|--|------|
| 1 | MAP SHOWING PROJECT SITE, TOWN, NATIONAL HIGHWAY, STATE HIGHWAYS, RAILWAY LINES, ROADS ETC. | 4 |
| 2 | MAP SHOWING LOCATION OF THE PROJECT SITE, BOUNDARIES, LANDMARK FEATURES, ROADS, RAILWAYS, ETC. | 5 |
| 3 | AN ORGANOGRAM OF ENVIRONMENT MANAGEMENT CELL | 26 |

LIST OF ANNEXURES

| ANNEXURE | PARTICULAR | PAGE |
|----------|--------------------------|------|
| 1 | LAND AGREEMENT DOCUMENTS | 31 |
| 2 | LAYOUT OF THE PLANT | 33 |

INTRODUCTION OF THE PROJECT**1.1 IDENTIFICATION OF THE PROJECT AND PROJECT PROPONENT**

M/s. Gufic Biosciences Ltd. is a company of Gufic Group established by Late Shri Pannalal Choksi in 1970. Its Corporate Office Situated at 1st to 4th Floor, S.M. House, 11 Sahakar Road, Vile Parle (East), Mumbai – 400 057 and its registered office situated at 37, 1st Floor, Kamala Bhavan II, Swami Nityanand Road, Andheri (East), Mumbai - 400 069. (INDIA). Now, looking to the market demand, The management of M/s. Gufic Biosciences Ltd has been decided for expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/Month bulk drugs & 6 Tons/Month Pharmaceutical Formulation) at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. Land document is attached as **Annexure- I**. Existing and proposed products with respective capacities are given in Section 2.4 of Chapter-2. Unit has obtained EC from MoEF&CC for its existing activities and has valid Consent to operate issued by GPCB.

TABLE 1: DETAILS OF THE DIRECTORS

| SN | NAME OF THE DIRECTOR | CONTACT NO. | QUALIFICATION | ADDRESS |
|----|----------------------|-------------|--|--|
| 1. | Jayesh P. Choksi | 9820829555 | B. Pharm | Siddhi Priya, North South,, JVPD Scheme, Vile Parle (West), Mumbai, 400056, Maharashtra, India |
| 2. | Pranav J. Choksi | 9833101033 | B. Pharm, M.SC. Bio technology | Siddhi Priya, North South,, JVPD Scheme, Vile Parle (West), Mumbai, 400056, Maharashtra, India |
| 3. | Hemal M. Desai | 9870401030 | I.C.W.A | 501-B Rock Garden Dadabhai, Cross Rd Near Bhavans College, Andheri West Mumbai, 400058, Maharashtra, India |
| 4. | Gopal M. Daptari | 9820028752 | L.L.B | 301, 3rd Flre, BrijBhoomi , Abv Canara Bank, Nehru Road, Vile Parle (East) Mumbai 400057 Mh In |
| 5. | Shreyas K. Patel | 9225129200 | Diploma in Chemical Engineering | 8 Guru Smruti, 2nd flr 58 SwastikSoc, N. S. Rd No 4, Juhu Scheme, Vile Parle (W), Mumbai, 400056, Maharashtra, India |
| 6. | Pankaj J. Gandhi | 9324685099 | Commerce graduate | Flat no. 702, Wing C, Sevent Floor, Om Fortune, Jambli Galli, S.V.Road,Borivali(West), Mumbai 400092 |
| 7. | Jagdish D. Shah | 9820581680 | Chartered Accountant | 67/12 Vallabh Nagar Society, North South Road No.1, Vile Parle (West), Mumbai 400056 |
| 8. | Shrirang V. Vaidya | 9820002675 | B.Com, CAIIB and Diploma in Financial Management | 262/Kauri Post, atarsumakala, Atar Suma kala, Sultanpur, Uttar Pradesh 228121 |
| 9. | Bal Ram Singh | 8130234603 | M.sc, M.Phil & P.hd. | Room No, B-1, Navprabhat Co-Op. Hsg. Society, Santa Janabhai Marg, Vile Parle (East), Mumbai 400057 |

1.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

M/s. Gufic Biosciences Ltd has been decided for expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/Month bulk drugs production & 6 Tons/Month Pharmaceutical Formulation) at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat.

1.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION

Bulk drugs have become a part of our life for sustaining many of our day-to-day activities, preventing and controlling diseases. Bulk drugs manufacturing sector in India is well established and has recorded a steady growth in the overall Indian industrial scenario. The bulk drugs and allied industries have been amongst the fastest growing segments of the Indian industry.

The Indian pharmaceuticals market is the third largest in terms of volume and thirteenth largest in terms of value, and it accounts for 20 percent in the volume terms and 1.4 percent in value terms of the Global Pharmaceutical Industry as per a report by Equity Master. India is the largest provider of generic drugs globally with the Indian generics accounting for 20 percent of global exports in terms of volume. Of late, consolidation has become an important characteristic of the Indian pharmaceutical market as the industry is highly fragmented. Presently over 80 percent of the antiretroviral drugs used globally to combat AIDS (Acquired Immuno Deficiency Syndrome) are supplied by Indian pharmaceutical firms.

Unit manufacturer's pharmaceutical bulk drugs & formulation based on biotechnology. Now, proposed to expand manufacturing of products by considering present market scenario & expertise of same products in terms of technical with good market exposure. Unit is having a very good expertise for the manufacturing of Anesthetic, Antibiotic, Herbal, Antifungal, with different kind of R&D Products. There is ample market for National & International of these products. In view of the availability of scientific staff that able to develop sustainable process at relatively low cost, and demand of product in market; company has decided to expand its manufacturing capacity.

Cancer cases in India are on the rise with more than 3.5 million prevalent cases & a million new cancer cases being diagnosed every year. Among men, the cancer of the head and neck and in women cancer of cervix and breast are leading forms of cancer. The oncology segment in India is now witnessing increasing domestic presence with a large number of Indian companies entering into the foray. Not only are these companies competing for the existing portfolio but are also actively pursuing research for introduction of newer & improved specialty products. The sale of cancer drugs is expected to grow at nearly twice the rate of the rest of pharmaceuticals. With a large number of patents for many oncology products due to expire shortly, there is a lot of scope in oncology segment. Therefore, Gufic Biosciences Ltd. proposes to manufacture oncology products to take advantage of the growing demand in this sector and also to ensure availability of life saving drugs. Also with this Gufic Biosciences proposes for expansion in other segments like Antifungal, Anesthetic, Hyper, Antibiotic, Antidiabetic etc.

1.4 DEMAND – SUPPLY GAP

Indian pharmaceutical sector is estimated to account for 3.1 – 3.6 percent of the global pharmaceutical industry in value terms and 10 percent in volume terms. The market is expected to grow to US\$ 55 billion by 2020, thereby emerging as the sixth largest pharmaceutical market globally by absolute size, as stated by Mr. Arun Singh, Indian Ambassador to the US. Branded generics dominate the pharmaceuticals market, constituting nearly 80 percent of the market share (in terms of revenues). The sector is expected to generate 58,000 additional job opportunities by the year 2025.

India's pharmaceutical exports stood at US \$16.8 billion in 2018-19 and are expected to grow by 30 percent over the next three years to reach US \$20 billion by 2020, according to the Pharmaceuticals Export Promotion Council of India (PHARMEXCIL).

Indian companies received 304 Abbreviated New Drug Application (ANDA) approvals from the US Food and Drug Administration (USFDA) in 2017. The country accounts for around 30 percent (by volume) and about 10 percent (value) in the US\$ 70-80 billion US generics market.

ROAD AHEAD:

The Indian pharmaceutical market size is expected to grow to US \$100 billion by 2025, driven by increasing consumer spending, rapid urbanization and raising healthcare insurance among others. Pharma sector's revenues are expected to grow by 9 percent year-on-year through fiscal 2025.

Going forward, better growth in domestic sales would also depend on the ability of companies to align their product portfolio towards chronic therapies for diseases such as cardiovascular, anti-diabetes, anti-depressants and anti-cancers that are on the rise.

The Indian government has taken many steps to reduce costs and bring down healthcare expenses. Speedy introduction of generic drugs into the market has remained in focus and is expected to benefit the Indian pharmaceutical companies. In addition, the thrust on rural health programs, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies.

PRODUCT PROFILE

- Our products are backed by unique technology and process, and are not readily available with the competitor.
- These products play an important role in the production process of the user and hence user do not compromise or shift from tested products and user industry

TECHNOLOGY

- Technology is typically developed in-house with the critical equipment being out-sourced.
- We have in-house independent R & D, equipped with latest state of art technologies and facilities.

1.5 EMPLOYMENT GENERATION DUE TO THE PROJECT

The manpower requirement for the project is estimated at about 122. Existing and proposed manpower strength would be 323 including managerial staff and contract / casual labour. The managerial, supervisory and skilled personal shall be sourced from nearby area. The break – up of the manpower requirement is as under:

TABLE 2: DETAILS OF EMPLOYMENT REQUIREMENT

| S.No. | Shift | Existing | Proposed | Total |
|-------|------------------------|----------|----------|------------|
| 1. | Top Management | 6 | 0 | 6 |
| 2. | Managers | 15 | 2 | 17 |
| 3. | Engineers / Officers | 40 | 40 | 80 |
| 4. | Supervisors | 35 | 20 | 60 |
| 5. | Operators / Attendants | 100 | 60 | 160 |
| | | | | 323 |

Thus, from the viewpoint of infrastructural facilities, no major constraints are envisaged. M/s. Gufic Biosciences Ltd. will go for Expansion of Bulk Drugs and Pharmaceutical manufacturing Unit.

PROJECT DESCRIPTION

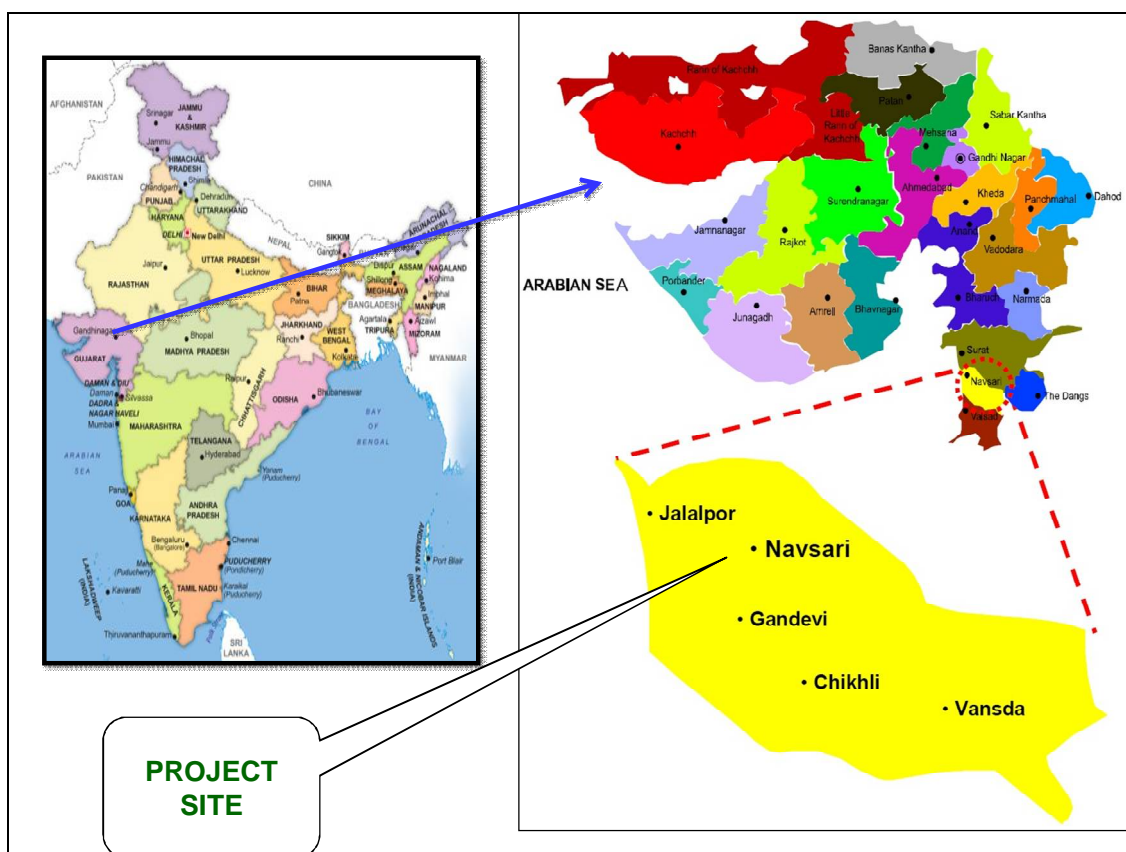
2.1 TYPE OF PROJECT

M/s. Gufic Biosciences Ltd. is going for expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/Month bulk drugs production & 6 Tons/Month Pharmaceutical Formulation) at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. The Gujarat region is expected to continue with increased focus on development and infrastructure activity. The current growth trends are expected to continue. Our proposed products are Import substitute and almost consumed in the Indian market only. We believe that the Indian consumption growth will continue to be there, considering demographic ratio in favor of youth.

2.2 LOCATION WITH COORDINATES

A map depicting administrative boundary showing project site, National Highway, major, medium and other roads with the railway lines is presented in figure – 1. The major water bodies with the rivers and the river beds are illustrated in the map to provide a better understanding of the project area.

FIGURE 1: MAP SHOWING PROJECT SITE, TOWN, NATIONAL HIGHWAY, STATE HIGHWAYS, RAILWAY LINES, ROADS ETC.



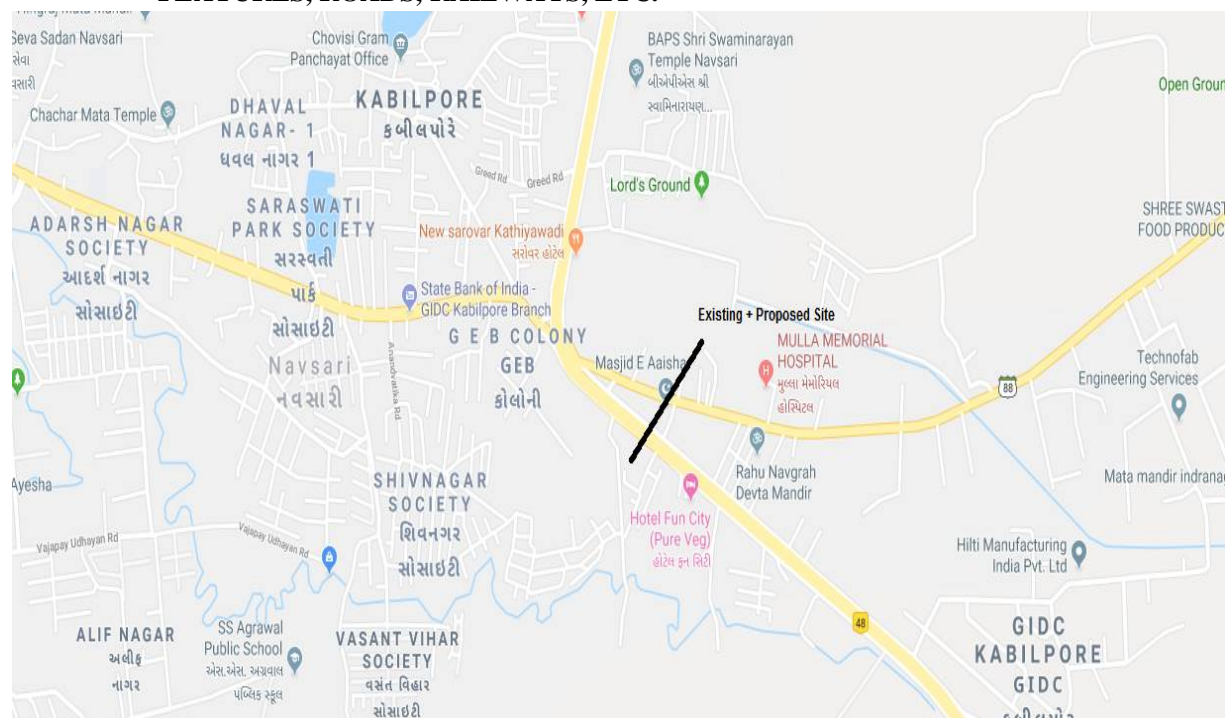
COORDINATES AT THE PROJECT SITE:

At the project site, latitude and longitude are as per the mentioned below:

Latitude: 20°56'35" N

Longitude: 72°57'43" E

FIGURE 2: MAP SHOWING LOCATION OF THE PROJECT SITE, BOUNDARIES, LANDMARK FEATURES, ROADS, RAILWAYS, ETC.



2.3 DETAILS OF ALTERNATE SITES

The proposed project site is situated at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. The site is about 5 km from Navsari. The access road around the proposed project site has already been developed. The proposed project site is located on an Industrial land adjacent to existing Unit. The site would need to be suitably developed to suit plant layout requirements. Transportation facilities to access various markets are readily available. Both skilled and unskilled labours are easily available in the area. The choice of the site is appropriate from the point of view of raw materials availability and market access. No alternate site was considered as proposed site is well connected with the existing infrastructure and requirement of the project like raw material, construction material, etc.

2.4 SIZE OR MAGNITUDE OF OPERATION

M/s. Gufic Biosciences Ltd. is going for expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/Month bulk drugs production & 6 Tons/Month Bulk Drugs Formulation) at Plot No. 175, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat.

DETAILS OF EXISTING AND PROPOSED PRODUCTS:

| SN | PRODUCTS | EXISTING MT/MONTH | PROPOSED MT/MONTH | TOTAL MT/MONTH |
|---------------------------------|-------------------------------------|-------------------|-------------------|----------------|
| A1. BULK DRUG – EXISTING | | | | |
| 1 | Miconazole / Miconazole Nitrate | 4.5 | 0 | 4.5 |
| 2 | Lidocaine / Lidocaine Hydrochloride | 9 | 0 | 9 |
| 3 | Ketoconazole | 1 | 0 | 1 |
| 4 | Econazole Nitrate | 0.5 | 0 | 0.5 |
| 5 | Micafungin | 0.005 | 0 | 0.005 |
| 6 | Anidulafungin | 0.005 | 0 | 0.005 |
| 7 | Caspofungin Acetate | 0.005 | 0 | 0.005 |
| 8 | Prilocaine/Prilocaine Hydrochloride | 0.6 | 0 | 0.6 |
| 9 | Isoconazole Nitrate / Isoconazole | 1 | 0 | 1 |
| 10 | Articaine Hydrochloride/ Articaine | 0.2 | 0 | 0.2 |

| | | | | |
|-------------------------------|---|-------|------|-------|
| 11 | Sterile API (Arbekacin, Omeprazole Sodium, Colistimethate Sodium, Teicoplanin, Amphotericin, Vancomycin Hydrochloride, Polymyxin Sulphate, Ulinastain, Dalbavancin) | 0.185 | 0 | 0.185 |
| TOTAL-A1 | | | | 17 |
| A2. HERBAL PRODUCT – EXISTING | | | | |
| 1 | Boswellia Serrata Extract | 3 | 0 | 3 |
| TOTAL-A1 + A2 | | | | 20 |
| A3. BULK DRUG – PROPOSED | | | | |
| ONCOLOGY PRODUCTS | | | | |
| 1 | Osimertinib | 0 | 0.15 | 0.15 |
| 2 | Erlotinib | | | |
| 3 | Crizotinib | | | |
| 4 | Palbociclib | | | |
| 5 | Ribociclib | | | |
| 6 | Fosaprepitant | | | |
| 7 | Levatinib | | | |
| 8 | Epirubicin | | | |
| 9 | Trabectedin | | | |
| 10 | Dimeglumine | | | |
| | | | | |
| ANESTHETIC | | | | |
| 11 | Tetracaine HCL | 0 | 1 | 1 |
| | | | | |
| ANTI FUNGAL | | | | |
| 12 | Butoconazole | 0 | 6.4 | 6.4 |
| 13 | Solconazole | | | |
| 14 | Tioconazole | | | |
| 15 | Terconazole | | | |
| | | | | |
| | | | | |
| HYPER | | | | |
| 16 | Telmisertan | 0 | 1 | 1 |
| | | | | |
| ANTIBIOTIC | | | | |
| 17 | Arbikacin | 0 | 0.3 | 0.3 |
| 18 | Dalbavancin | | | |
| 19 | Oritavancin | | | |
| | | | | |
| FERTILITY HORMONE | | | | |
| 20 | Recombianant FSH | 0 | 0.15 | 0.15 |
| | | | | |
| BIOLOGICAL | | | | |
| 21 | Botulinum Type E | 0 | 0.01 | 0.01 |
| | | | | |
| ANTIDIABETIC | | | | |
| 22 | Liraglutide | 0 | 1 | 1 |
| 23 | Evoligliptin | | | |
| 24 | Vildagliptin | | | |
| 25 | Linagliptin | | | |
| | | | | |
| TOTAL A3 | | | | 10 |
| TOTAL A1 + A2 + A3 | | | | 30 |
| B. FORMULATION | | | | |
| 1 | Tablets / Capsules | 10 | 5.0 | 15 |
| 2 | Liquid & Dry Syrup | 9 | 0 | 9 |
| 3 | Ointment/Paste | 4 | 0 | 4 |
| 4 | Injectons | 1.5 | 1.0 | 2.5 |
| TOTAL B. | | | | 30.5 |

2.5 RAW MATERIALS REQUIREMENT

TABLE 3: DETAILS OF RAW MATERIAL REQUIREMENTS

| Sr. no. | Name of the Products | Name of the Raw Materials | Quantity (MT/Month) |
|----------|----------------------|---|---------------------|
| | | | Proposed |
| 1 | OSIMERTINIB | 2-Chloro-pyrimidin -4 (3H) - one | 0.058 |
| | | 1,2_ dichloroethane | 1.39 |
| | | 4-fluoro -2- methoxy-5- nitroaniline | 0.124 |
| | | 4-dimethylaminopyridine | 0.029 |
| | | hydrochloric acid | 0.415 |
| | | Ethyl acetate | 1.731 |
| | | Methanol | 1.76 |
| | | 2- (4-fluoro-2-methoxy-5-nitrophenyl) pyrimidin -4 (3H) - one | 0.115 |
| | | Toluene | 0.375 |
| | | N, N , N'- trimethyl ethylenediamine | 0.159 |
| | | Sodium ethoxide | 0.07 |
| | | 2- (4- (N- (2- (dimethylamino) ethyl) -N- methylamino) -2-methoxy-5-nitrophenyl-amino) pyrimidin-4 (3H) -one _ | 0.143 |
| | | Ethanol | 0.981 |
| | | Raney nickel | 0.014 |
| | | 2- (4- (N- (2- (dimethylamino) ethyl) -N- methylamino) -2-methoxy-5-amino-phenylamino) pyrimidin -4 (3H)_ketone | 0.121 |
| | | Tetrahydrofuran | 1.067 |
| | | Phosphorus oxychloride | 0.058 |
| | | 2- (4- (N- (2- (dimethylamino) ethyl) -N- methylamino) -2-methoxy-5-phenyl-amino) -4-chlorobenzoic pyrimidine: | 0.117 |
| | | 1 - methyl -1H- indole | 0.056 |
| | | Potassium hydride | 0.022 |
| | | Isopropanol | 0.293 |
| | | 2- (4- (N- (2- (dimethylamino) ethyl) -N- methylamino) -2-methoxy-5-amino-phenylamino) -4- (1-methyl -1H- indol-3-yl) pyrimidine | 0.133 |
| | | Acryloyl chloride | 0.03 |
| | | N, N- diisopropylethylamine | 0.137 |
| | | Methanesulfonic acid | 0.035 |
| | | Activated carbon | 0.014 |
| | | Hyflo | 0.022 |
| 2 | ERLOTINIB | 6,7-dimethoxy-4-(3H)-quinazoline | 0.13 |
| | | 48% HBr | 0.2 |
| | | NaOH | 0.09 |
| | | NaHCO3 | 0.01 |
| | | 6,7-dihydroxyquinazolinone | 0.11 |
| | | DMF | 0.02 |
| | | POCl3 | 0.69 |
| | | Toluene | 3.18 |
| | | K2CO3 | 0.13 |
| | | Methanol | 0.4 |
| | | 6,7-bis(2-methoxyethoxy) quinazolinone | 0.11 |
| | | MeOH | 0.35 |

| | | | |
|----------|--------------------|---|-------|
| | | 6,7-bis (2- methoxyethoxy)- 4-methoxyquinazoline | 0.11 |
| | | 3-ethynylaniline hydrochloride | 0.07 |
| | | THF | 1.67 |
| | | sec- BuLi | 0.09 |
| | | HCl solution 22% | 0.16 |
| | | Activated charcoal | 0.01 |
| | | Hyflo | 0.01 |
| 3 | CRIZOTINIB | 4-sulfonate piperidine -I- carboxylate | 0.12 |
| | | 4-nitro-pyrazole | 0.04 |
| | | N, N- dimethylformamide | 0.87 |
| | | Sodium hydride | 0.01 |
| | | Ethyl acetate | 3.52 |
| | | 4- [4-amino -I- -IH- pyrazol-yl] piperidine -I- carboxylate | 0.14 |
| | | Zinc dust | 0.14 |
| | | NaOH | 0.07 |
| | | 4-[4-amino-IH-pyrazole-I-yl]piperidine-I-carboxylic acid tert-butyl ester | 0.13 |
| | | 1,2-dichloroethane | 0.52 |
| | | Boronic acid diethyl ester | 0.03 |
| | | Benzoyl peroxide | 0.002 |
| | | Isoamyl nitrite ester | 0.02 |
| | | petroleum ether: | 0.60 |
| | | Activated carbon | 0.02 |
| | | Hyflo | 0.03 |
| 4 | PALBOCICLIB | Crotonic acid | 0.14 |
| | | Dichloromethane | 3.44 |
| | | Hexamethyldisilazane | 0.16 |
| | | imidazole | 0.003 |
| | | Trimethylsilyl (2E)-but-2-enoate | 0.3 |
| | | 5-bromo-2-chloro-N-cyclopentylpyrimidin-4-amine | 0.15 |
| | | tetrahydrofuran | 0.68 |
| | | Trans-dichlorobis(acetonitrile) palladium | 0.01 |
| | | Tri(o-tolyl) phosphine | 0.01 |
| | | Acetic anhydride | 0.06 |
| | | Hydrochloric acid | 0.88 |
| | | Sodium bicarbonate | 0.01 |
| | | Activated carbon | 0.02 |
| | | Isopropyl alcohol | 1.65 |
| | | Hyflo | 0.02 |
| 5 | RIBOCICLIB | N, N- dimethyl-1,1-nitrile-3-yl-carbonyl - butyramide | 0.14 |
| | | methanol | 3.95 |
| | | hydrogen chloride gas | 0.21 |
| | | 2-methoxy -5- (N, N- dimethyl - A amido) _3_ pyrrole-carbonitrile | 0.13 |
| | | bromo-Cyclopentyl burning | 0.21 |
| | | cesium carbonate | 0.45 |
| | | N, N- dimethylformamide | 1.62 |
| | | Ethyl acetate | 7.89 |
| | | n-hexane | 1.58 |

| | | | |
|----------|----------------------|--|-------|
| | | 2-methoxy-N- cyclopentyl--5_ (N, N- dimethyl - carboxamido) pyrrole-carbonitrile _3_ | 0.13 |
| | | N- [5- (1- piperazinyl) -2_ piperidinyl] guanidine | 0.22 |
| | | xylene | 0.63 |
| | | Activated carbon | 0.04 |
| | | Hyflo | 0.08 |
| 6 | FOSAPREPITANT | tetrahydrofuran | 4.59 |
| | | aprepitant | 0.17 |
| | | tetra benzyl pyrophosphate | 0.24 |
| | | sodium bis-(trimethylsilyl) amide | 0.15 |
| | | sodium bicarbonate | 0.34 |
| | | IPE | 3.1 |
| | | potassium hydrogen sulfate | 0.58 |
| | | Hydrogen gas | 0.27 |
| | | Hyflo | 0.14 |
| | | methanol | 5.13 |
| | | N-methyl-D-glucamine | 0.12 |
| | | 10 % Pd/C | 0.03 |
| | | isopropyl alcohol | 2.676 |
| | | fosaprepitant | 0.19 |
| | | acetone | 5.13 |
| | | Activated carbon | 0.03 |
| 7 | LEVATINIB | 4-amino-3-chlorophenol | 0.08 |
| | | N, N- dimethylformamide | 0.57 |
| | | Pyridine | 0.07 |
| | | phenyl chloroformate | 0.08 |
| | | Ethyl acetate | 0.93 |
| | | HCl | 0.07 |
| | | [N- (2- chloro-4-hydroxyphenyl) carbamate] | 0.13 |
| | | Cyclopropylamine | 0.06 |
| | | Hexane | 0.28 |
| | | [I- (2-chloro -4-hydroxyphenyl) -3-cyclopropyl urea] | 0.09 |
| | | 7-methoxy-4-chloro - quinoline-6-carboxamide | 0.1 |
| | | Cesium carbonate | 0.28 |
| | | Dimethyl sulfoxide | 0.28 |
| | | Activated carbon | 0.01 |
| | | Hyflo | 0.01 |
| 8 | EPIRUBICIN | N-trifluoroacetyl-13-daunorubicinol | 0.58 |
| | | DMSO | 1.04 |
| | | DCM | 53.42 |
| | | oxalylchloride | 0.35 |
| | | triethylamine | 1.27 |
| | | acetic acid | 0.58 |
| | | 4keto-N-trifluo roacetyl-daunorubicin | 0.54 |
| | | tetrahydrofuran | 18.46 |
| | | sodium triacetylborohydride | 0.24 |
| | | hydrochloric acid | 1.16 |
| | | 4'epi-N-trifluoroacetyl-dauno rubicin | 0.69 |

| | | | |
|-----------|---------------------------|---|-------|
| | | NaOH | 0.05 |
| | | Methanol | 40.38 |
| | | 4'epi-daunorubicin hydrochloride | 0.24 |
| | | DMF | 0.32 |
| | | acetonitrile | 34.04 |
| | | acetone | 19.85 |
| | | sodium formate | 0.92 |
| | | Activated carbon | 0.06 |
| | | Hyflo | 0.09 |
| 9 | TRABECTEDIN | Dextrose | 1.8 |
| | | Manitol | 3.6 |
| | | Yeast Extract | 1.8 |
| | | (NH ₄) ₂ SO ₄ | 0.9 |
| | | K ₂ HPO ₄ | 0.36 |
| | | KCl | 0.72 |
| | | FeCl ₃ | 0.001 |
| | | L-Glycine | 0.09 |
| | | CaCO ₃ | 0.72 |
| | | PPG 2000 | 0.045 |
| | | anti-form | 0.18 |
| | | NaOH | 0.015 |
| | | Ethyl Acetate | 2.55 |
| | | Methanol | 2.25 |
| | | Acetonitrile | 0.45 |
| | | NaCl | 0.18 |
| 10 | DIMEGLUMINE | gadolinium oxide | 0.04 |
| | | DTPA | 0.09 |
| | | Gd-DTPA | 0.13 |
| | | Meglumine | 0.04 |
| | | Activated carbon | 0.01 |
| | | Hyflo | 0.01 |
| 11 | TETRACAINE HCL | p-nitrobenzoic acid 2-dimethylaminoethyl methacrylate | 0.66 |
| | | dimethylaminoethanol | 0.39 |
| | | p-nitrobenzoyl chloride | 0.82 |
| | | dichloromethane | 26.89 |
| | | iron powder | 0.33 |
| | | glacial acetic acid | 9.34 |
| | | sodium carbonate | 7.54 |
| | | ethyl acetate | 20.49 |
| | | 2-dimethylamino-aminobenzoic acid ethyl ester | 0.66 |
| | | 1-bromo-n-compound | 0.61 |
| | | K ₂ CO ₃ | 1.8 |
| | | N, N- dimethylformamide | 9.34 |
| | | hydrochloric acid | 0.29 |
| | | Activated carbon | 0.08 |
| | | Hyflo | 0.12 |
| 12 | BUTOCONAZOLE | 1-chloro-4-chlorophenyl-2-butanol | 4.06 |
| | | Toluene | 12.52 |

| | | | |
|-----------|--------------------|---|--------|
| | | sodium hydroxide | 2.59 |
| | | Benzyltriethylammonium chloride | 0.46 |
| | | Imidazole (III) | 2.52 |
| | | ethyl acetate | 17.89 |
| | | 1-[4-(4-chlorophenyl)-2-hydroxy-n-butyl]-imidazole (IV) | 3.75 |
| | | 1,2-dichloroethane | 23.43 |
| | | Dimethylformamide | 0.14 |
| | | Thionyl chloride | 2.04 |
| | | Methyl isobutyl ketone | 30.08 |
| | | sodium carbonate | 2.24 |
| | | 2,6-dichloro-thiophenol | 4.02 |
| | | potassium carbonate | 6 |
| | | Nitric acid | 1.79 |
| | | Activated carbon | 0.21 |
| | | Hyflo | 0.43 |
| 13 | SOLCONAZOLE | 1,3 Difluoro benzene | 3.2 |
| | | Chloro Acetyl chloride | 3.13 |
| | | Aluminium Chloride | 0.96 |
| | | MDC | 51.12 |
| | | 1,2,4-triazole | 1.66 |
| | | Triethyl Amine | 2.36 |
| | | Ethyl Acetate | 44.73 |
| | | Trimethyl Sulfoxonium iodide | 4.98 |
| | | Potassium Hydroxide | 1.28 |
| | | Toluene | 51.12 |
| | | 1,2,4-Triazole | 1.53 |
| | | Cetyl tri methyl Ammonium Bromide | 0.64 |
| | | Potassium carbonate | 3 |
| | | DMF | 41.54 |
| | | Hydrochloric Acid | 1.6 |
| | | Magnesium Sulfate | 0.32 |
| | | IPA | 28.76 |
| | | Activated Carbon | 0.64 |
| 14 | TIOCONAZOLE | 2-chloro-1- (2,4-dichloro-phenyl) - ethanol | 3.97 |
| | | DMF | 162.34 |
| | | Imidazole | 14.16 |
| | | Protopine | 1.38 |
| | | PEG600 | 3.11 |
| | | 2_ chloro-3-chloromethyl-thiophene | 3.45 |
| | | Activated carbon | 0.86 |
| | | Hyflo | 1.3 |
| | | Toluene | 86.35 |
| | | | |
| 15 | TERCONAZOLE | | |
| 16 | TELMISERTAN | 7-methyl-2-propyl-3H-benzo[d]imidazole COOH | 0.47 |
| | | N-methyl-O-phenylene diamine | 0.28 |
| | | Toluene | 1.42 |
| | | Poly phosphoric acid | 1.18 |
| | | Bromo Ester compound | 0.85 |

| | | | |
|-----------|--------------------|---|-------|
| | | ACTIVATED CARBON | 0.03 |
| | | HYFLO SUPER CEL | 0.01 |
| 17 | ARBIKACIN | 3, 2, 6'-N-tris (t-butoxycarbonyl)-dibekacin | 0.43 |
| | | DMF | 4.76 |
| | | Pyridine | 0.48 |
| | | N-(benzyloxycarbonyl)-succinimide | 0.3 |
| | | Diethyl ether | 0.48 |
| | | Benzaldehyde dimethylacetal | 0.57 |
| | | p-toluenesulfonic acid | 0.04 |
| | | Chloroform | 16.19 |
| | | Sodium hydrogen carbonate | 0.24 |
| | | Sodium chloride | 0.12 |
| | | THF | 1.43 |
| | | Ethyl acetate | 1.43 |
| | | DMSO | 2.86 |
| | | Pyridinium trifluoroacetate | 0.06 |
| | | dicyclohexylcarbodiimide | 0.41 |
| | | Oxalic acid dihydrate | 0.17 |
| | | Dioxane | 0.62 |
| | | Sodium hydrogen carbonate | 0.48 |
| | | Sodium chloride | 0.24 |
| | | Methanol | 19.05 |
| | | Ammonium acetate | 0.45 |
| | | sodium cyanoborohydride | 0.17 |
| | | THF | 8.1 |
| | | Triethylamine | 0.5 |
| | | di-t-butyl dicarbonate | 0.08 |
| | | Formic acid | 0.24 |
| | | Hydrogen | 0.57 |
| | | 10% palladium carbon | 0.18 |
| | | N-hydroxysuccinimide | 0.48 |
| | | dicyclohexylcarbodiimide | 0.15 |
| | | (S)-4-(p-methoxybenzyloxycarbonylamino)-2-hydroxybutyric acid | 0.26 |
| | | Trifluoroacetic acid | 4.76 |
| | | Ether | 4.76 |
| | | Activated carbon | 0.1 |
| | | Hyflo | 0.14 |
| 18 | DALBAVANCIN | Beef Extract | 1.5 |
| | | Yeast autolysate | 1.5 |
| | | Peptone | 1.5 |
| | | Dextrose Monohydrate | 1.5 |
| | | Sodium Chloride | 0.45 |
| | | Calcium Carbonate | 0.6 |
| | | n-butanol | 15 |
| | | Ethyl Acetate | 7.5 |
| 19 | ORITAVANCIN | Dextrose | 4.5 |
| | | Soya Bean Flour | 2.7 |
| | | Potato Protein | 5.4 |

| | | | |
|-----------|-----------------------------|---|-------|
| | | CaCO ₃ | 0.45 |
| | | Corn Steep Liq | 5.4 |
| | | PPG 2000 | 0.54 |
| | | Anti Foam | 0.36 |
| | | Soya Peptone | 0.9 |
| | | Methanol | 9 |
| | | IPA | 0.9 |
| | | Chlorobiphenylcarboxaldehyde | 0.54 |
| 20 | RECOMBIANANT FSH | Hydrochloric Acid | 0.005 |
| | | Activated Charcoal | 0.00 |
| | | Potassium Phosphate Monobasic | 0.001 |
| | | Potassium Phosphate Dibasic | 0.001 |
| | | Sodium Phosphate Monobasic | 0.001 |
| | | Sodium Phosphate Dibasic | 0.001 |
| | | Sodium Chloride | 0.018 |
| | | CHO medium | 0.055 |
| | | Antifoam agent | 0.005 |
| | | Sodium Hydroxide | 0.009 |
| | | Chromatography resin | 0.150 |
| 21 | BOTULINUM TYPE E | Bacto Peptone | 0.01 |
| | | Sodium Chloride | 0.11 |
| | | Sodium hydroxide | 0.01 |
| | | Glucose | 0.21 |
| | | PPG - 2000 | 0.11 |
| | | Soyabean Meal | 0.09 |
| | | KH ₂ PO ₄ | 0.02 |
| | | K ₂ HPO ₄ 7758-11-4 | 0.01 |
| | | MgSO ₄ | 0 |
| | | Cysteine HCl | 0.01 |
| | | Tyrosine | 0.01 |
| | | Iron Powder | 0 |
| | | Zinc Chloride | 0.01 |
| | | Manganese Chloride | 0.01 |
| | | Corn Steep Liquor | 0.06 |
| | | Ethyl Acetate | 0.7 |
| | | Activated Charcoal | 0.01 |
| | | Hyflo | 0.01 |
| | | Methanol | 0.3 |
| | | Botulinum Crude | 0.01 |
| | | Acetone | 0.12 |
| 22 | LIRAGLUTIDE | Wang Resin | 2.15 |
| | | WANG RESIN-AMINO ACID CHAIN | 3.3 |
| | | Dichloro methane | 36.48 |
| | | Dimethyl Formamide | 27.68 |
| | | DIC [N,N'-Diisopropylcarbodiimide] | 4.26 |
| | | HOBT [Hydroxybenzotriazole] | 7.42 |
| | | 1-(2-mesitylene sulfonyl)-3-nitro-1 H-1 ,2,4 triazole | 0.3 |

| | | | |
|-----------|---------------------|---------------------------------------|--------|
| | | 1-Methyl Imidazole | 0.06 |
| | | Piperidine | 13.73 |
| | | Fmoc-Histidine(trityl)-OH. | 0.22 |
| | | Fmoc-Phenylalanine-)OH | 0.22 |
| | | Fmoc-Glycine - OH | 0.22 |
| | | Fmoc-Arginine(pbf)-OH | 0.22 |
| | | Fmoc-Glutamic acid-(OH)-NH(palmitoyl) | 0.42 |
| | | Fmoc-Lysine-OH | 0.22 |
| | | Fmoc-Alanine - OH | 0.22 |
| | | Fmoc-Tyrosine(Otbu) | 0.22 |
| | | Fmoc-Serine (Otbu) | 0.22 |
| | | Fmoc-Aspartic acid (Otbu) | 0.22 |
| | | Fmoc-Threonine(Otbu) | 0.22 |
| | | Fmoc - Valine-OH | 0.22 |
| | | Fmoc - Leucine-OH | 0.22 |
| | | Fmoc - Tryptophan - Boc-OH | 0.22 |
| | | Fmoc - Iso Leucine-OH | 0.22 |
| | | Fmoc - Glutamine (Trityl) | 0.22 |
| | | TFA [Trifluoroacetic acid] | 29.51 |
| | | TIPS [Triisopropyl silane] | 0.54 |
| | | PHENOL | 0.54 |
| | | MTBE [Methyl tert-butyl ether] | 8.58 |
| | | Crude Liraglutide | 1.1 |
| | | 0.5 N NaOH solution | 0.86 |
| | | 10 mM TRIS Buffer | 7.73 |
| | | Aectonitrile | 30.04 |
| | | Activated Carbon | 0.21 |
| | | Hyflo | 0.3 |
| 23 | EVOLIGLIPTIN | 2,4,5_ trifluoroacetic acid | 65 |
| | | tetrahydrofuran | 18.2 |
| | | Malonic acid isopropyl ester | 0.55 |
| | | dichloroethane | 6.4 |
| | | Dilute HCl | 1.71 |
| | | Conc. HCl | 0.34 |
| | | diisopropylethylamine | 0.43 |
| | | isopropyl acetate | 6.86 |
| | | n-heptane | 6.48 |
| | | tetrabutylammonium bromide (TBAB) | 0.01 |
| | | isopropylamine | 0.2 |
| | | pyridoxal phosphate | 0 |
| | | sodium hydroxide | 0.07 |
| | | ω - transaminase | 0.57 |
| | | ethanol | 2.7 |
| | | activated carbon | 0.14 |
| | | Hyflo | 0.17 |
| 24 | VILDAGLIPTIN | PrOAc | 1.025 |
| | | Chloro Acetyl Chloride | 0.4875 |
| | | L-Prolinamide | 0.425 |

| | | | |
|-----------|--------------------|-----------------------------------|--------|
| | | Cyanuric Chloride | 0.345 |
| | | DMF | 1.325 |
| | | IPA | 2.125 |
| | | NaHCO ₃ Soln 5% | 2.5 |
| | | Ethyl Acetate | 2.75 |
| | | 1-Chloroacetyl-2-Cyanopyrrolidine | 0.6 |
| | | 3-amino-1-adamantanol | 0.6075 |
| | | THF | 8.1 |
| | | K ₂ CO ₃ | 1.4375 |
| | | KI | 0.03 |
| | | MEK | 4.625 |
| | | HYFLO | 0.15 |
| | | ACTIVATED CHARCOAL | 0.1 |
| 25 | LINAGLIPTIN | Bromo compound | 1.22 |
| | | Chloro compound | 0.78 |
| | | Potassium carbonate | 0.51 |
| | | Dimethyl formamide(DMF) | 10.80 |
| | | 3-Azido piperdine | 0.41 |
| | | 1-methyl 2- pyrrodinone | 1.80 |
| | | Acetonitrile | 7.20 |
| | | Triphenyl phosphine | 0.69 |
| | | Tetrahydrofuran | 16.20 |
| | | Methylene chloride | 27.00 |

2.6 RESOURCE OPTIMIZATION / RECYCLING AND REUSE

We will provide rain water harvesting for the resource optimization. 40 KLD Condensate Recovery in Boiler. (Recycle), 25 KLD Reuse in process after necessary treatment. (Reuse) & 99.08 KLD Reuse after UF-RO to Cooling, Boiler & Process (Reuse), **Total Reuse / Recycle – 164.08 KLD.**

2.7 AVAILABILITY OF WATER ITS SOURCE, ENERGY / POWER REQUIREMENT AND SOURCE

2.7.1 WATER REQUIREMENT AND ITS SOURCE

Total fresh water requirement is **320.27 – 164.08= 156.19 KLD** (domestic and industrial purpose) which will be sourced from existing (3 bore well) and proposed (1 bore well) own bore well only. ETP Treated Water will be reused for cooling tower, process & boiler. Water balance considered in two cases:

- Intensive use of water stream (Quantity of Water).
- High COD stream (Quality of water).

2.7.2 POWER REQUIREMENT AND ITS SOURCE

Total power requirement will be 1300 KVA. Power supply shall be taken from GEB.

In case of emergency or power failure D.G. set of 1250 KVA (2 Nos-125 KVA & 2 Nos – 500 KVA) will be used. It will be used to fulfill emergency power requirement.

2.8 QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND ITS MANAGEMENT / DISPOSAL

2.8.1 WASTEWATER GENERATION

Water requirement will be mainly for process, Boiler & cooling, Domestic and gardening. Waste water *i.e.* sewage waste water **8.9 KL/day** will be generated which will be treated through septic tank and disposed

through soak pit. Industrial waste water will be **93.41 KL/day** from process and utilities. Details of water requirement and waste water generation are given in following table.

TABLE 4: DETAILS OF WASTEWATER GENERATION

| Category | Existing | Proposed (Additional) | Total After Expansion |
|-------------------------------------|--------------|--------------------------|--------------------------|
| | KLD | KLD | KLD |
| (A) Domestic | 6 | 2.9 | 8.9 |
| (B) Industrial | | | |
| Process | 15.21 | 38.7 | 53.91 |
| Washing | 11 | 7.5 | 18.5 |
| Boiler | 8 | 5 | 13 |
| Cooling | 5 | 3 | 8 |
| Others | 0 | 0 | 0 |
| Total Industrial waste water | 39.21 | 54.2 | 93.41 |
| Total | 45.21 | 57.1 | 102.31 |

2.8.2 SOLID WASTE GENERATION

Solid waste generated will be Ash from boilers and Sludge from ETP, used/spent oil and discarded bags. The sources of solid wastes, generation and its management are as given in the following table.

TABLE 5: DETAILS OF SOLID WASTE

| Sr. No. | Type/Name Of Hazardous Waste | Specific Source Of Generation (Name of the Activity, Product etc.) | Category And Schedule As Per HW Rules. | Quantity (MT/Annum) | | | Management of HW |
|---------|------------------------------------|--|--|------------------------|----------|---------------|--|
| | | | | Existing | Proposed | Total | |
| 1 | ETP Sludge | ETP | 35.3 | 12 | 35 | 47 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 2 | Used Oil | Maintenance Activity | 5.1 | 0.12 | 0.1 | 0.22 | Collection, storage, transportation disposal by selling to registered refiners |
| 3 | Empty Barrels / Containers/ Liners | Raw Materials | 33.1 | 4.8 | 3.8 | 8.6 | Collection, storage, decontamination or selling to approved recyclers. |
| 4 | Process Residue & Wastes | Process | 28.1 | 50.11 | 660 | 710.11 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch. |
| 5 | Spent Carbon | Process | 28.3 | 0.78 | 35 | 35.78 | Collection, storage, transportation disposal at CHWIF site, SEPPL, |

| | | | | | | | |
|----|---|----------|------|-------|------|---------------|--|
| | | | | | | | Kutch or Pre \ Co Processing. |
| 6 | Date expired Products | Process | 28.5 | 28.4 | 20.6 | 49 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch. |
| 7 | Spent Solvents Residue (Distillation Residue) | Process | 36.1 | 26.42 | 120 | 146.42 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch or Pre \ Co Processing. |
| 8 | Spent Solvents | Process | 20.2 | 60 | 30 | 90 | Collection, Storage, Reuse/ Recycling |
| 9 | Concentration or evaporation residue | MEE | 37.3 | 6 | 7 | 13 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 10 | Inorganic Waste | Process | 28.1 | 0 | 7 | 7 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 11 | Spent ML from Stripper | Stripper | 36.1 | 0 | 72 | 72 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch |

SITE ANALYSIS

3.1 CONNECTIVITY

The proposed unit shall be located at Plot No. 171, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. The site is about adjacent to the N.H. - 8. The proposed project site is located outside of GIDC. The site would need to be suitably developed to suit plant layout requirements. Transportation facilities to access various markets are readily available. Both skilled and unskilled labours are easily available in the area. The choice of the site is appropriate from the point of view of raw materials availability and market access.

3.1.1 Road Connectivity

The plant location is about 0.2 Km from Mumbai-Ahmedabad Highway on N.H. – 8.

3.1.2 Rail

The Area is well connected by Railway. The Navsari Railway Station is about 5.0 Km in West direction from the site.

3.1.3 Airport

The nearest airport to the project will be Surat at a distance of 30.0 Km in NW direction.

3.1.4 Communication

The site has access of telephone and mobile connectivity.

3.2 LAND FORM, LAND USE AND LAND OWNERSHIP

Proposed Expansion will be carried out in new industrial land of 11,613 Sq.m. acquired adjacent to existing factory (29,946 Sq.m.). Total Area after expansion will be 41,559 Sq.m. at Plot No. 171, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. Total acquired land is classified as Industrial land. Lease Deed document is attached as Annexure – I.

3.3 TOPOGRAPHY

Topography of the area is plain.

3.4 EXISTING LAND USE PATTERN

Land is non agriculture. There is no Forest, no National park; no wild life sanctuary within a radius of 10 Km. Details of existing land use is given in the following table:

TABLE 6: DETAILS OF EXISTING LAND USE

| S.NO. | PARTICULAR | NAME & ITS DISTANCE |
|-------|---|-------------------------------|
| 1. | Nearest National Highway | NH-8 at around 0.2 Km |
| 2. | Nearest city | Navsari at around 5.0 Km |
| 3. | Nearest River | Purna at around 3.0 Km |
| 4. | Nearest Railway station | Navsari at around 5.0 Km |
| 5. | National park/Reserve Forest, Biosphere, etc. | None within a radius of 10 Km |
| 6. | Seismicity | Zone III |

3.5 EXISTING SOCIAL INFRASTRUCTURE

The following are the existing infrastructure facilities availability and distance from site are given in the following table:

TABLE 7: DETAILS OF EXISTING SOCIAL INFRASTRUCTURE

| S. NO. | PARTICULAR | DISTANCE |
|--------|-------------------------|----------|
| 1. | Mulla Memorial Hospital | 1 km |
| 2. | Kejal Life-in Hospital | 1 km |
| 3. | S S Agrawal College | 3 km |
| 4. | Govt & Pvt Schools | 2 km |
| 5. | BAPS Mandir | 0.8 Km |

3.6 CLIMATIC DATA

The climate of the area is humid and tropical. A hot and humid pre-monsoon from March to mid May, a prolonged southwest monsoon or rainy season from mid May to September, a pleasant post-monsoon or retreating monsoon from October to November and a cold pleasant winter from December to February are the characteristics of the general climate. Summer runs concurrently with the later part of the pre-monsoon season and continues throughout the monsoon season.

The four climatic seasons viz. pre-monsoon, monsoon, post-monsoon and winter could be considered as comprising of the following months:

| | |
|--------------|------------------------------------|
| Pre-monsoon | : March, April and May |
| Monsoon | : June, July, August and September |
| Post-monsoon | : October and November |
| Winter | : December, January and February |

Sometimes, the monsoon commences in mid-June and ends in mid-September. Therefore, the boundaries between the seasons are not very rigid.

Surat is the meteorological observatory, to whom the meteorological data (Temperature, Relative Humidity, Rainfall, Wind speed and Wind direction) for the year January 2012 to December 2012 were collected from Indian Meteorological Department (IMD) in Ahmedabad.

3.6.1 TEMPERATURE DETAILS

The hottest months were May to September with mercury reaching 37 °C during June. The coldest months were December, January and February when temperature drops to 15 °C. The months, November and March, can also be quite cold in some years. During the other months, temperature was more or less moderate in nature and pleasant to bear. Monthly mean Minimum and Maximum Temperatures of Surat station for the period of Jan'12 to Dec'012 are given in following table.

TABLE 8: TEMPERATURE DATA

| S. NO. | MONTHS OF YEAR 2012 | MONTHLY MEAN MINIMUM (°C) | MONTHLY MEAN MAXIMUM (°C) |
|--------|---------------------|---------------------------|---------------------------|
| 1. | January | 15.0 | 30.0 |
| 2. | February | 17.0 | 32.0 |
| 3. | March | 21.0 | 35.0 |
| 4. | April | 24.0 | 37.0 |
| 5. | May | 27.0 | 36.0 |
| 6. | June | 27.0 | 34.0 |
| 7. | July | 26.0 | 31.0 |
| 8. | August | 26.0 | 31.0 |
| 9. | September | 25.0 | 32.0 |

| S. NO. | MONTHS OF YEAR 2012 | MONTHLY MEAN MINIMUM (°C) | MONTHLY MEAN MAXIMUM (°C) |
|--------|---------------------|---------------------------|---------------------------|
| 10. | October | 23.0 | 35.0 |
| 11. | November | 20.0 | 34.0 |
| 12. | December | 17.0 | 32.0 |

(Courtesy: Indian Meteorological Department)

3.6.2 RELATIVE HUMIDITY (RH)

The mean values of Relative Humidity for Navsari station was recorded for 08:30 hrs and 17:30 hrs. Relative Humidity is generally high during the period from June to September. The diurnal variations are least during monsoon season. The diurnal variation is highest during summer period.

3.6.3 RAINFALL

Monthly total rainfall data for Surat station is presented in following table.

TABLE 9: RAINFALL DATA

| S.NO. | MONTHS OF YEAR 2009 | MONTHLY TOTAL (MM) | NUMBERS OF RAINY DAYS |
|--------------|---------------------|--------------------|-----------------------|
| 1. | January | 0.0 | 0 |
| 2. | February | 0.0 | 0 |
| 3. | March | 0.0 | 0 |
| 4. | April | 0.0 | 0 |
| 5. | May | 0.0 | 0 |
| 6. | June | 61.7 | 8 |
| 7. | July | 382.1 | 19 |
| 8. | August | 610.3 | 23 |
| 9. | September | 244.5 | 12 |
| 10. | October | 7.2 | 5 |
| 11. | November | 0.0 | 0 |
| 12. | December | 0.0 | 0 |
| TOTAL | | 1305.8 | 67 |

(Courtesy: Indian Meteorological Department)

The rainy season in the area extends from March to October. The mean total rainfall, during the monsoon period (June to September), has been recorded as 1298.6 mm out of mean total rainfall of 1305.8 mm at Surat Station. The average number of rainy days per month varies from 8 to 18 in monsoon months. The rainfall data indicates that the rainfall is limited to monsoon season for four months of the year.

3.6.4 WIND SPEED AND WIND DIRECTION

The April – Sept Month, have winds from South West to North East. From October-March is a period mixed with calm conditions and winds mainly from North East to South East. The winter months, November to February, experience frequent calm conditions. The maximum number of calm periods observed is in the month of December and February.

(Source: http://www.windfinder.com/windstats/windstatistic_surat_gujarat.htm)

PLANNING BRIEF

4.1 PLANNING CONCEPT

M/s. **Gufic Biosciences Ltd.** is going to expansion of bulk drugs & pharmaceutical formulation unit. (Proposed 10 Tons/month bulk drugs production and 6 Tons/Month Pharmaceutical Formulation) at N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat. Proposed Expansion project is envisaged as existing Bulk drugs manufacturing and pharmaceuticals formulation facilities of Gufic Biosciences Ltd in Navsari, Gujarat are not adequate to handle new development activities.

4.2 LAND USE PLANNING

Proposed Expansion will be carried out in new industrial land of 11,613 Sq.m. acquired adjacent to existing factory (29,946 Sq.m.). Total Area after expansion will be 41,559 Sq.m. at Plot No. 171, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat.

4.3 AMENITIES / FACILITIES

At the existing factory site OHC facility is already set up. Company will provide drinking water to the workers in the factory premises.

PROPOSED INFRASTRUCTURE

5.1 INDUSTRIAL AREA

About 11,613 Sq.m. is acquired adjacent to existing factory (29,946 Sq.m.) for the proposed expansion. Total Area after expansion will be 41,559 Sq.m. at Plot No. 171, 195/3 & 175/2/P3, N.H.-8, Near Grid, Kabilpore, Navsari-396424, Gujarat.

5.2 RESIDENTIAL AREA

There will be no residential area proposed for the project.

5.3 GREEN BELT

The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. The green belt helps to capture the fugitive emission and to attenuate the noise generated apart from improving the aesthetics. Development of green belt and other forms of greenery shall also prevent soil erosion and washing away of top soil besides helping in stabilizing the functional ecosystem and further to make the climate more conducive and to restore water balance.

About 13714.47 sq.m area *i.e.* 33.0 % of total plot area shall be developed as green belt at plant boundary, road side, around offices and buildings and Stretch of open land. Total investment in green belt development shall be Rs. 6.0 Lacs approx. In Green belt area about 2500 shall be planted in total of existing & proposed expansion.

The selection of tree species suitable for plantation at the industry shall be governed by guiding factors as stated below:

- The trees should be tolerant to air pollutants present in the area
- The trees should be able to grow and thrive on soil of the area, be evergreen, inhabitant, having minimum of leaf fall.
- The trees should be tall in peripheral curtain plantation and with large and spreading canopy in primary and secondary attenuation zone.
- The trees should possess extensive foliar area to provide maximum impinging surface for continued efficient adsorption and absorption of pollutants.
- The trees should be fast growing and indigenous and should maintain ecological, land and hydrological balance of the region.
- It is also recommended to plant few trees, which are sensitive to air pollution, as air pollution indicator.
- It is also recommended to carry out extensive plantation within premises.

Keeping in view the climatic conditions, status of soils and vegetation types in and around the project area the species shall be selected for proposed green belt development.

5.4 SOCIAL INFRASTRUCTURE

No new social infrastructure facility will be developed as the plot is located in notified industrial area having well developed infrastructure.

5.5 CONNECTIVITY**5.5.1 ROAD CONNECTIVITY**

As discussed earlier, proposed location of the plant is already well connected with the network of road & rail. So there is no need to construct any new road or rail for the transportation.

5.6 DRINKING WATER MANAGEMENT

For the proposed expansion project water will be sourced from the Bore Well.

5.7 WASTE WATER MANAGEMENT

5.7.1 STORM WATER DRAINAGE

Storm water drainage system shall consist of well-designed open surface drains network so that all the storm water is efficiently drained of without any water logging. Based on the rainfall intensity of the proposed area drainage system shall be design on the basis of the storm water flow and the depth available at the out fall point so as to ensure no back flow. Storm water drains shall be provided on both sides of roads. Rectangular drains shall be provided based on the quantity of storm water to be conveyed and depth limitations. For crossing roads, culverts shall be provided.

5.7.2 SEWERAGE WATER SYSTEM

The sanitary sewerage system shall be designed to cater the sanitary sewerage from plant premises. The design of facial sewerage system shall be designed based on no. of person to be served and average daily consumption of water. Only 8.9 KL/day will be generated which will be treated through septic tank and disposed through soak pit. For inspection, cleaning and maintenance of sewer lines, manholes of reinforced concrete constructions shall be provided at every bend, junction point of change in slope or diameter and on straight sections of pipes at interval not exceeding 30 meters.

5.7.3 INDUSTRIAL WASTE WATER MANAGEMENT

Water will be required for process, Boiler, cooling and other utility purpose, Domestic and Green belt development. Maximum recycling of water will be done. 93.41 KL/day industrial wastewater generated from process, washing, boiler, cooling and other utilities of the project (Existing + Proposed). Same will be treated in in-house ETP followed by MEE & UF & Ro in order to achieved ZLD.

5.8 SOLID WASTE MANAGEMENT

The sources of solid wastes, generation and its management are as given in the following table.

TABLE 10: DETAILS OF SOLID WASTE MANAGEMENT

| Sr. No. | Type/Name Of Hazardous Waste | Specific Source Of Generation (Name of the Activity, Product etc.) | Category And Schedule As Per HW Rules. | Quantity (MT/Annum) | | | Management of HW |
|---------|------------------------------------|--|--|---------------------|----------|--------|--|
| | | | | Existing | Proposed | Total | |
| 1 | ETP Sludge | ETP | 35.3 | 12 | 35 | 47 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 2 | Used Oil | Maintenance Activity | 5.1 | 0.12 | 0.1 | 0.22 | Collection, storage, transportation disposal by selling to registered refiners |
| 3 | Empty Barrels / Containers/ Liners | Raw Materials | 33.1 | 4.8 | 3.8 | 8.6 | Collection, storage, decontamination or selling to approved recyclers. |
| 4 | Process Residue & Wastes | Process | 28.1 | 50.11 | 660 | 710.11 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch. |
| 5 | Spent | Process | 28.3 | 0.78 | 35 | 35.78 | Collection, storage, |

| | | | | | | | |
|----|---|----------|------|-------|------|---------------|--|
| | Carbon | | | | | | transportation disposal at CHWIF site, SEPPL, Kutch or Pre \ Co Processing. |
| 6 | Date expired Products | Process | 28.5 | 28.4 | 20.6 | 49 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch. |
| 7 | Spent Solvents Residue (Distillation Residue) | Process | 36.1 | 26.42 | 120 | 146.42 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch or Pre \ Co Processing. |
| 8 | Spent Solvents | Process | 20.2 | 60 | 30 | 90 | Collection, Storage, Reuse/ Recycling |
| 9 | Concentration or evaporation residue | MEE | 37.3 | 6 | 7 | 13 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 10 | Inorganic Waste | Process | 28.1 | 0 | 7 | 7 | Collection, storage, transportation disposal at TSDF site, SEPPL, Kutch |
| 11 | Spent ML from Stripper | Stripper | 36.1 | 0 | 72 | 72 | Collection, storage, transportation disposal at CHWIF site, SEPPL, Kutch |

REHABILITATION AND RESETTLEMENT (R & R) PLAN

Proposed expansion project is located on industrial land, which is already acquired and there is no habitat. So proposed project proposal does not involve any Rehabilitation & Resettlement.

PROJECT SCHEDULE & COST ESTIMATES

7.1 PROJECT IMPLEMENTATION SCHEDULE

Implementation of Project within a pre-determined time frame is an important factor for the success of a project. Timely implementation saves on various costs like interest, administrative overheads and helps to realize the goals as per pre-determined objectives. Implementation of Project involves co-ordination of different activities at various levels of the firm and amongst different outside agencies. We are giving here under the details of the Project Implementation.

From the date of start, the implementation schedule envisages completion of project in 22 months. It is considered that preliminary activities such as obtaining necessary statutory clearance for proposed project and financial arrangements for the implementation of the project will be made at proper dates.

The major activities to be carried out at site during project work are as follows:

TABLE 11: PROJECT IMPLEMENTATION SCHEDULE

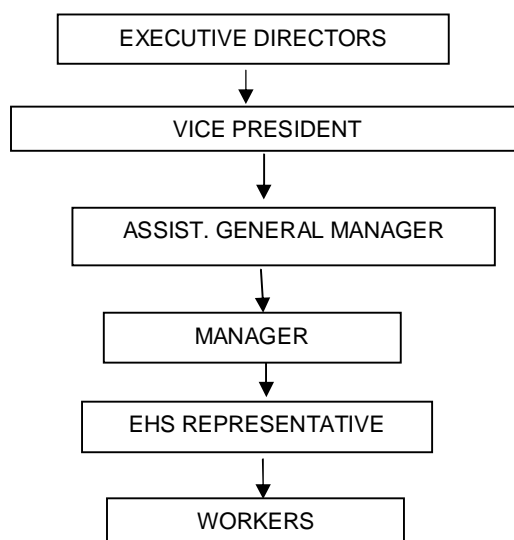
| S.NO. | WORK IMPLEMENTATION | TIME |
|--------------|---|------------------|
| 1. | Construction work | 12 Months |
| 2. | Machinery installation | 3 Months |
| 3. | Recruitment process | 2 Months |
| 4. | Commissioning, validation and qualification | 2 Months |
| 5. | Operation and functions | 3 Months |
| Total | | 22 months |

7.1.1 PROPOSED ORGANISATION CHART

In addition to preparing an EMP, it is also necessary to have a permanent organizational set up to ensure its effective implementation. Hence, company will create a team consisting of officers from various departments to co-ordinate the activities concerned with management and implementation of the environmental control measures. This team will undertake the activity of monitoring the stack emissions, ambient air quality, noise level etc. either permanently or by appointing external agencies wherever necessary. Regular monitoring of environmental parameters will be carried - out to find out any deterioration in environmental quality and also to take corrective steps, if required, through respective internal departments.

The Environmental Management Cell will also collect data about health of workers, green belt development etc. Organogram of the Environmental Management Cell is presented in figure – 3.

FIGURE 3: AN ORGANOGRAM OF ENVIRONMENT MANAGEMENT CELL



7.2 ESTIMATED PROJECT COST

Cost of the proposed project would be approx Rs. 7500.00 Lakhs. Break up of proposed project cost is given in following table:

TABLE 12: TOTAL PROJECT COST AND IT'S BREAK UP

| S. NO. | COST OF PROJECT | COST (RS. IN LACS) |
|---------------|----------------------------------|---------------------------|
| 1 | Land and Site Development | 1000.00 |
| 2 | Factory Building | 325.00 |
| 3 | Plant & Machineries | 5030.00 |
| 4 | Franchises Deposits/ Non CA | 0.00 |
| 5 | Investment/ Non CA | 0.00 |
| 6 | Other Misc. Assets | 750.00 |
| 7 | Preliminary & Pre-operative Exp. | 295.00 |
| 8 | Margin Money for working capital | 100.00 |
| | Total Cost of project | 7500.00 |

7.3 BUDGETORY PROVISIONS FOR EMP

Adequate budgetary provisions have been made by the management for execution of environmental management plans. The of capital Rs. 253 Lakhs and recurring (Rs 87.5 Lakhs per annum) budget earmarked for pollution control / monitoring equipment; operation and maintenance of pollution control facilities, for greenbelt development and maintenance.

ANALYSIS OF PROPOSAL

8.1 FINANCIAL AND SOCIAL BENEFITS

The industrial activity of the proposed project coupled with the ancillary industries, would contribute to the overall socio-economic development of the region.

8.2 DIRECT BENEFITS TO THE NATIONAL AND STATE EXCHEQUER

- Employment generation,
- Income tax from individual as well as corporate taxes from company and ancillary units,
- Transportation reduction.

8.3 OTHER BENEFITS

Most of the work force required for construction and operation of the proposed project will be drawn from the surrounding villages. During the construction phase, no family is required to rehabilitate from the core zone. The economic growth of the area in terms of employment generation, consumption of goods and market-growth are expected outcome of the project. The project has an employment generation prospect on skilled manpower. The direct employment potential of the project is estimated as 85 persons, the share of local people in this is expected to be significant. It is assumed that the generation of indirect employment would be multiple of direct employment. The general social development of the area, at least in restricted sense of the term, is expected due to the improvements in infrastructure and communication system. New facilities will be created to meet growing demand of the population. This will have impact on the current literacy level, primary and middle level education and on existing health facilities. A new awareness generated will have positive impact on the social pattern, which at this stage, is caste and community oriented. The long-term implications of this change are definitely progressive.

8.4 EMPLOYMENT

Due to proposed project, there will be development of communication facilities in the area. The total manpower requirement will be 323 for existing and proposed expansion. The plant site area will be equipped with sufficient infrastructural facilities including drinking water, toilets, sanitation facilities etc. During the operation, plant will generate direct employment as explained in the previous paragraph. The preference will be given for local population for employment in the semi-skilled and unskilled category. Indirect employment will be created by the plant.

8.5 HEALTH AND SAFETY MEASURES

The workers engaged in high pollution generation area will be equipped with appropriate protective equipment. Following measures will be adopted in the plant to keep check on the safety measures and health:

- Inspection and maintenance of pollution control systems regularly
- All safety measures such as provision of safety appliances, training, and giving-of safety awards.
- The workers exposed to noisy sources will be provided with ear muffs/plugs
- Adequate facilities for drinking water and sufficient toilets will be provided to the employees

8.6 SOCIAL WELFARE MEASURES AND CORPORATE ENVIRONMENT RESPONSIBILITY

The firm shall earmark funds for social development and welfare measures in the surrounding villages. socio cultural aspects which will be carried out under the Corporate Environment Responsibility.

ESTIMATED COST OF PROJECT and project viability

The capital cost of the project is estimated at about **Rs. 7500.00 Lakhs** for the installation of plant & machinery along with required auxiliary and balancing facilities for the proposed production capacity. The breakup of the same is shown below:

| S. NO. | COST OF PROJECT | COST (RS. IN LACS) |
|--------|----------------------------------|--------------------|
| 1 | Land and Site Development | 1000.00 |
| 2 | Factory Building | 325.00 |
| 3 | Plant & Machineries | 5030.00 |
| 4 | Franchises Deposits/ Non CA | 0.00 |
| 5 | Investment/ Non CA | 0.00 |
| 6 | Other Misc. Assets | 750.00 |
| 7 | Preliminary & Pre-operative Exp. | 295.00 |
| 8 | Margin Money for working capital | 100.00 |
| | Total Cost of project | 7500.00 |

BUDGETORY PROVISIONS FOR EMP

Adequate budgetary provisions are made by the management for execution of environmental management plans. The details of capital and recurring (per annum) budget earmarked for pollution control/monitoring equipment; operation and maintenance of pollution control facilities, for greenbelt development and maintenance will be as given in following table:

| Sr. No. | Item | | Capital Cost in Lakhs | Recurring Cost in lakhs/Annum |
|--------------|-----------------|--|-----------------------|-------------------------------|
| 1 | Air Act | Air Pollution Control Equipment/Chimney | 15.0 | 2.0 |
| | | Operation & Maintenance | - | |
| | | Total | 15.0 | 2.0 |
| 2 | Water Act | ETP (Primary, secondary & Tertiary) Treatment Facility + UF & RO | 200.0 | 21.5 |
| | | Chemicals Treatment Charges + Maintenance | - | |
| | | Total | 200.0 | 21.5 |
| 3 | Haz. Waste Rule | Membership Fees for TSDF facility | 1.0 | NIL |
| | | Haz. Waste Transportation | - | 35.0 |
| | | Disposal Charges | - | |
| | | Membership Fees for Incineration Facility | 1.0 | NIL |
| | | Incineration Charges | - | 22.0 |
| | | Total | 2.0 | 57.0 |
| 4 | AWH | Environmental Monitoring expenses | 5.0 | 2.0 |
| 5 | OH & Safety | Environment & Safety training | 25.0 | 2.5 |
| | | Fire Fighting, PPEs, Other Risk Minimise Action | | |
| 6 | Green Belt | Greenbelt development | 6.0 | 2.5 |
| Total | | | 253.0 | 87.5 |

ECONOMIC VIABILITY

STATEMENT SHOWING PROFITABILITY AND CASH ACCRUALS

| PARTICULARS | QUANTITY KG. | RATE PER KG. | TOTAL RS. IN CR. |
|---|-----------------|-----------------|---------------------|
| Purchase Value of Bulk drugs and Formulation Product | -- | 25000.00 | -- |
| If we will produce, Production Cost of Bulk drugs and Formulation Product | -- | 15000.00 | -- |
| Net Saving Per Kg. | -- | 10000.00 | -- |
| Actual Consumption / Day | 2316.00 | 15000.00 | 3.47 |
| Actual Consumption / Monthly | 69500.00 | 15000.00 | 104.25 |
| Actual Consumption / Quarterly | 208500.00 | 15000.00 | 312.75 |
| Actual Consumption / Yearly | 834000.00 | 15000.00 | 1251.00 |

ESTIMATE OF MEANS OF FINANCE (IN LAKH)

| | |
|----------------------------------|----------------|
| 1. Capital & Reserve | 1500.00 |
| 2. Share application money | 0.00 |
| 3. Unsecured loan (Shareholders) | 6000.00 |
| 4. Member's deposit | 0.00 |
| 5. Central & state subsidy | 0.00 |
| TOTAL | 7500.00 |

LAND DOCUMENTS

G. P. Bvc-(V)-2007-30,00,000-12-2017-(I)
G. R., R. D., No. R.A.M. 102006-1223-L.I. dated : 3-8-2006.]

આર. વી. ૧૬ જી. (સુધારેલ)

ગામ નમુનો નંબર ૮-અ (જમીનની ખાતાવહી) No. I 5084630

ગામ/મોજે : કબીલપોર તાલુકો : નવસારી પાનું : 2245077131
ખાતા નંબર : ૧૫ જિલ્લો : નવસારી 1 of 1

કબજેદારોના નામ :

ગુફિક લોમીટેશન ડાયરેક્ટર જયેશ પચાલાલ ચોકસી<૬૭૨૨>

પણવ જયેશ ચોકસી તથા વિપુલા જયેશ ચોકસી<૬૭૨૨>

| નમુના ક્રમો | બ્લોક/સર્વે નંબર | સેકશન | આકાર જુડી | લોકલ | શિક્ષણ | અન્ય | અન્ય વિગત |
|-------------|------------------|---------------|------------|------|--------|------|-----------|
| નોંધ નંબર | તથા કિસ્મો | હે. આર. ચોમી. | બી. ખે. વિ | સેસ | ઉપ-કર | કર | |
| ૧૭૧ | | ૨-૭૩-૧૬ | ૨૧.૦૬ | | | | ઉદ્યોગ |
| ૧૮૫/૩ | | ૦-૨૬-૩૦ | ૨.૭૫ | | | | બીન ખેતી |
| કુલ: | (૨) | ૨-૮૮-૪૬ | ૨૩.૮૧ | | | | |

20/08/2010 06:43 pm ની પ્રિન્ટિંગ

Processed By: (મી.યમ મુમલતદાર(ઉ-ધરા))

વેચાણની નકલ/Chargable Copy બંધે રૂ. ૫/- (રૂપીયા પાંચ પૂરા) મળેલ છે. આશર મફત. પાંદે તા. 20/08/2019 12:38:20
સૌજન્ય : રાષ્ટ્રીય મુખ્યાલય-વિજ્ઞાન કેન્દ્ર, ગુજરાત રાજ્ય નકલ આપનાર કચેરી : ગામ પચાલત KABILPORE, નવસારી

મામલતદાર કચેરી, ગુજરાત સરકાર

૧૭૫/૨/ પૈકી ૩

ગામ નમુનો નંબર ૭ અને ૧૨

No. O

6870226

1 of 1

બ્લોક/સરવે નંબર :

જુની શરત (જ.શ.)

સત્તાપ્રકાર :

૧૧૬૧૨.૫૦ ચો.મી.

ખેતરનું નામ :

અન્ય વિગતો :

મોજે : નવસારી

તાલુકો : નવસારી

જિલ્લો :

| સરકારી જમીન | ૧-૧૬ કોટકા | ખાતા નંબર | કોટકા | આકાર | નોંધ નંબર અને કબજદારના નામ |
|------------------------|---------------|---------------------------|---------------|------|-------------------------------|
| | હે.આરે.ચો.મી. | | હે.આરે.ચો.મી. | | |
| કુલ કોટકા | ૧-૧૬-૧૩ | ૫૬૫૮ | ૧-૧૬-૧૩ | ૬.૩૦ | ગુફીક પ્રાઇવેટ લીમીટેડ(૧૦૬૬૬) |
| આકાર રૂ. | ૬.૩૦ | | | | |
| જુડી તથા વિશેષધારે રૂ. | ૦.૦૦ | | | | |
| પાણીભાગ રૂ. | ૦.૦૦ | | | | |
| ગણતિયાની વિગતો | | બીજા હકો અને બોજાની વિગતો | | | |



#-નામંજુર &-તકરારી *-૨૬

08/12/2018 01:01 am ની સ્થિતિએ

વેચાણની નકલ/Chargable Copy અંકે રૂ. ૬/- (રૂપિયા પાંચ પુરા) મળેલ છે, આભાર સહ.

પ્રિંટ તા. 13/12/2018 17:23:39

મામલતદાર કચેરી, ગુજરાત સરકાર

LAYOUT OF THE PLANT

