Pre - Feasibility Report

1.0 Executive Summary

The Divi's Laboratories Limited was established in the year of 1990, with Research & Development as its prime fundamental. Divi's Laboratories focused on developing new processes for the production of Active Pharmaceutical Ingredients (APIs) & Intermediates. The company in a matter of short time expanded its breadth of operations to provide complete turnkey solutions to the domestic Indian pharmaceutical industry. With five years of experience, expertise and a proven track-record of helping many companies with its turn-key and consulting strengths, Divi's Laboratories established its first manufacturing facility in 1995,built on a 500 acre site at Hyderabad (Unit-I). The plant comprises of 13 multi-purpose production blocks and has space for further growth and expansion. Divi's Laboratories set up its second manufacturing facility at Visakhapatnam (Unit-II) in the year 2002 on a 350 acre site. The site has 14 multipurpose production blocks.

Divi's Laboratories Limited is proposing to establish Divi's Laboratories Limited, Unit III (previously known as Unit-IV) as a commercial facility for manufacturing of APIs & Intermediates products with a firm commitment to Environmental care. This manufacturing facility as Unit-III is going to be located at Ontimamidi (Kona) (V), Thondangi (M), East Godavari District of Andhra Pradesh. This manufacturing facility is proposed to be developed in an APIIC area of 271.34 Ha (670.5 acre) with multipurpose production blocks.

1.1. Features of the Site

Table-1
Site Features

Name of the Project	Divi's Laboratories Limited Unit- III	
Land Area	670.5 acres, (271.34 Ha)	
Survey Numbers	66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 447, 450, 451, 452, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474,475, 476, 482, 483, 884, 485, 486, 487, 488, 489, 490, 491, 92, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510.	
Land Coordinates	Latitude	Longitude
	17°12'48.28"	82°27'51.46"
	17°12'26.29"	82°27'37.09"
	17°11'45.62"	82°28'6.50"
	17°12'16.53"	82°28'40.88"
Nearest village	Ontimamidi - <1.5 Km NE	

Nearest Railway Station	Annavaram- 8.5 Km N
Nearest City in Km	Rajahmundry-73 Km
Nearest Airport	Rajahmundry
Nearest Highway	NH-5- 8.5 KM, North West
Water Supply	Pipe lines from the nearest water bodies (Jammeru vagu/ Samarlakota Canal/ Thandava River/ Borewell)
Manpower Required	2500 (1300 on permanent basis and 1200 temporary basis)
Working Hours	On shift basis, industries to run 24 Hours
Estimated Cost of the Project	Rs. 600 Cores

2.0 Introduction of the Project/Background Information

2.1. Identification of the Project and Project Proponent

The EIA notification of 2006 stipulates that the application seeking prior environmental clearance must provide a copy of the Pre-Feasibility Report (Office Memorandum dated 30th December 2010, the Ministry of Environment and Forests, Government of India) along with the application in prescribed format (Form1).

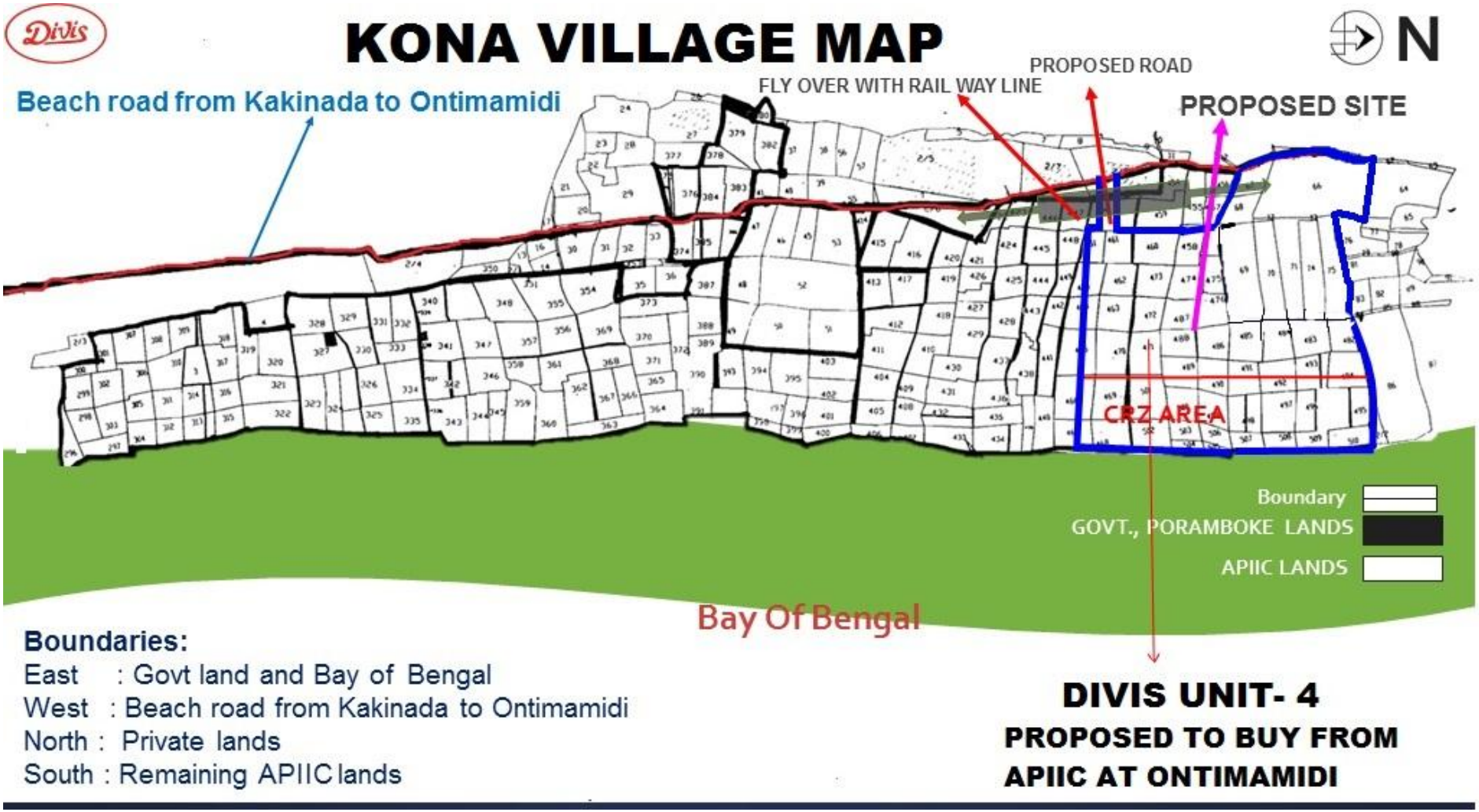
Divi's Laboratories Limited is proposing to establish Unit-III to be developed in APIIC area of 670.5 acres (271.34 Ha) located at Ontimamidi (Kona) (V), Thondangi (M), East Godavari District of Andhra Pradesh, where in it was proposed an Industrial multi sector industries based on the site suitability and market potential.

2.2 Brief Description of Nature of Project

The production and manufacturing process of API's and Intermediates involves various raw materials, where chemical reactions will take precipitation, substitution, addition, centrifugation, purifications, solvent recovery etc.

The layout of the proposed project is shown in **Figure 1**

Figure 1
Project Layout



2.3 Need for the Project and Its Importance to the Country and Region

World population is growing at an alarming rate. In the Indian sub-continent population growth is more than that of developed countries. To meet the needs and comforts of ever-growing population industrialization became inevitable. For the growing population the needs of health care substitutes are also increasing.

2.4 Demands-Supply Gap

Divi's Laboratories Limited has intended to develop and manufacture intermediates for many MNC customers by undertaking contract research work for them. The project is envisaged to meet the demand supply gap in both domestic market and export market, as API demand is increasing day by day.

2.5 Imports vs. Indigenous production

The project shall meet to reduce the imports in some of the intermediate products and also enhance the foreign exchange reserves in view of the proposed exports of few products.

2.7 Employment Generation (Direct and indirect) due to the project

The present project for manufacturing of Synthetic Organic Chemicals – Bulk Drugs & Intermediates requires substantial handling of raw materials, goods in process and finished goods. It is expected that the following employment will be generated by the project:

Direct employment: 1300
Indirect Employment: 1200
Grand Total: 2500

3.0 Project Description

3.1 Location of the Project and Project Boundary

The site for the proposed project is located at Ontimamidi (Kona) (V), Thondangi(M), East Godavari District of Andhra Pradesh, in survey nos. 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 447, 450, 451, 452, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474,475, 476, 482, 483, 884, 485, 486, 487, 488, 489, 490, 491, 92, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510. The site is 8.5 km away from Annavaram Railway station, 10.5 km away from the Kakinada town (District Headquarter) and 73 km away from Rajahmundry city.

Figure 2 shows the project location and **Figure 3** Topographical map of the proposed project (10 Km radius) and **Figure 4** shows the project boundary on the Google map.

Figure-2
Project Location

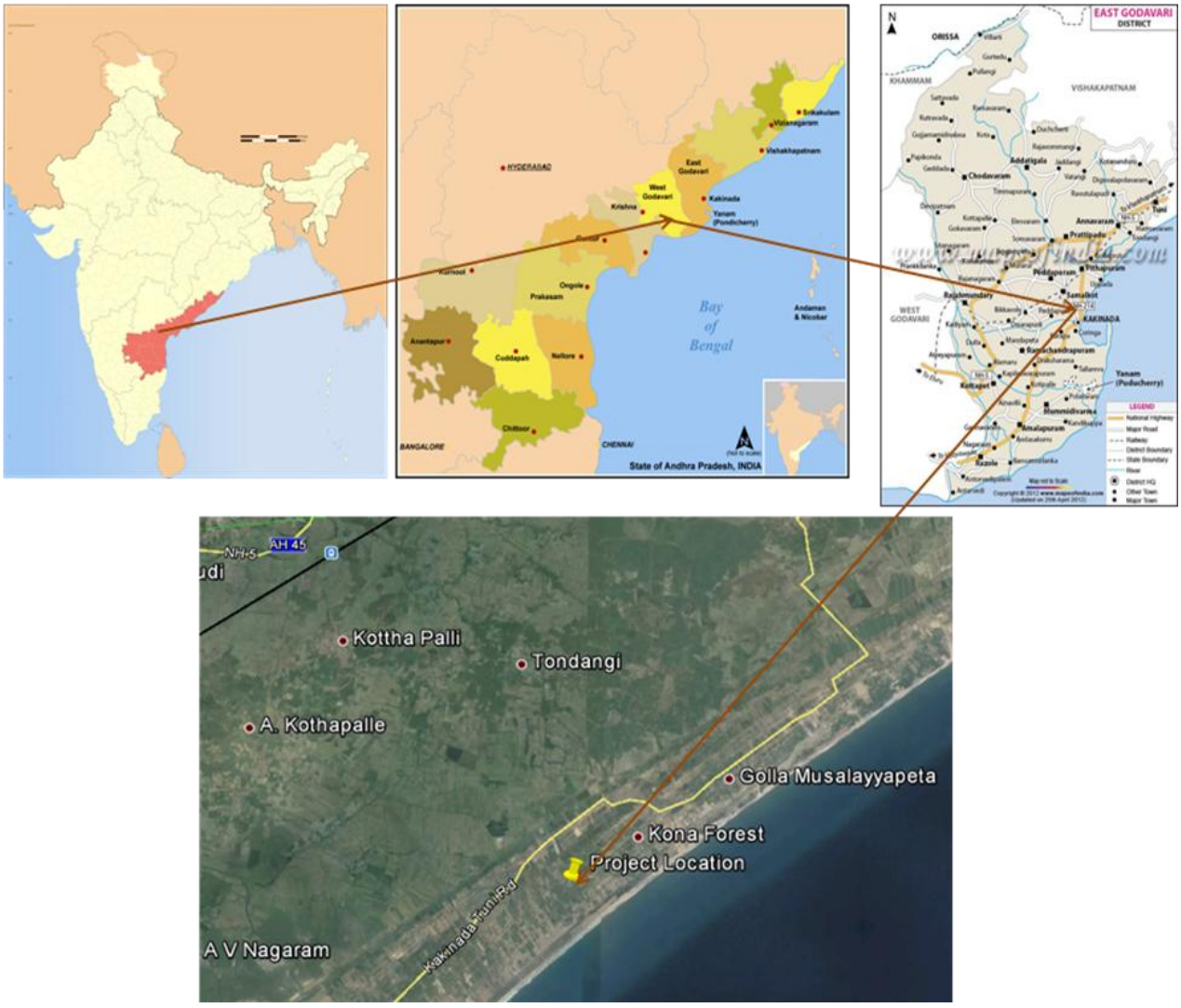


Figure 3
Topographical map of the proposed project (10 Km radius)

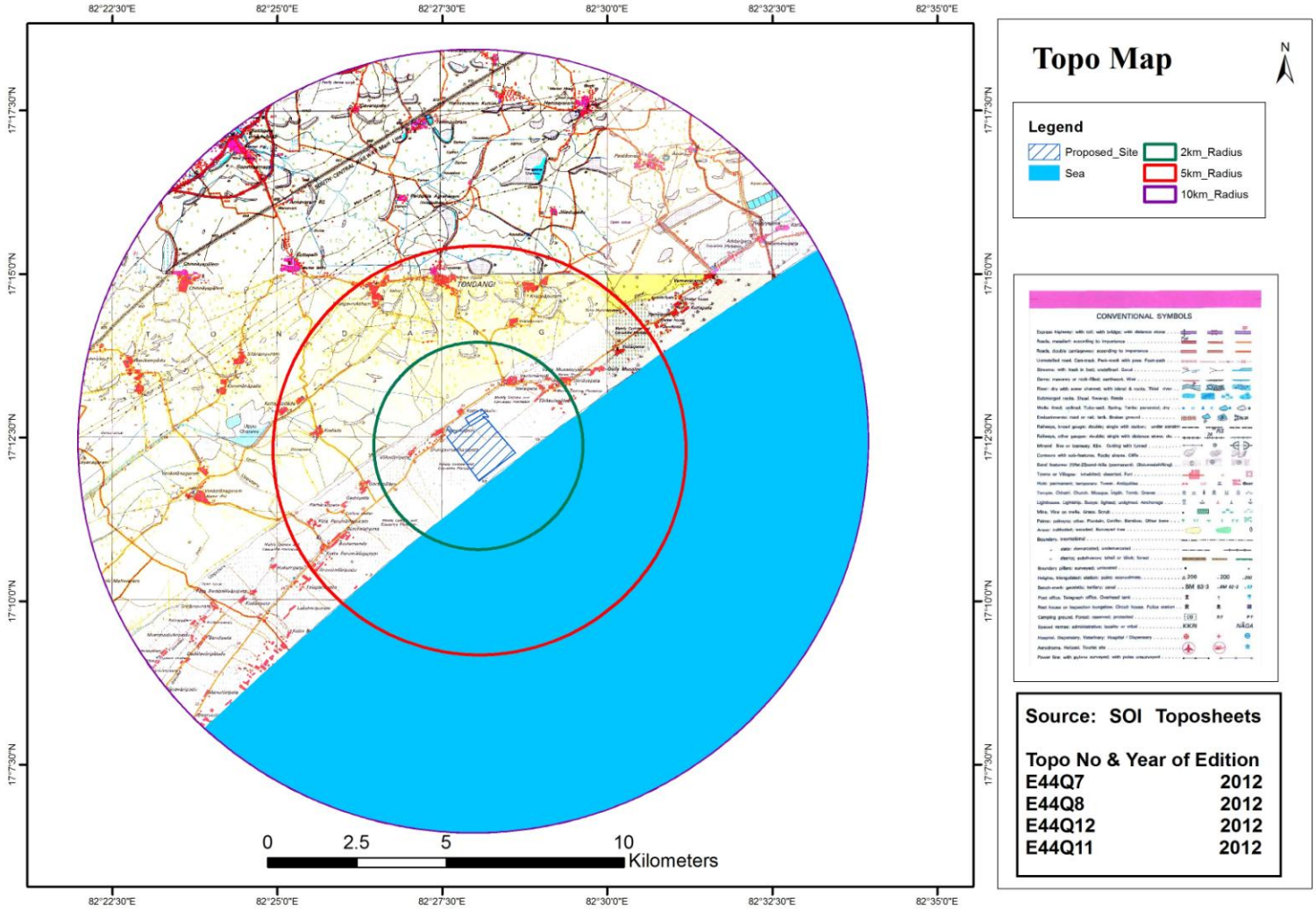
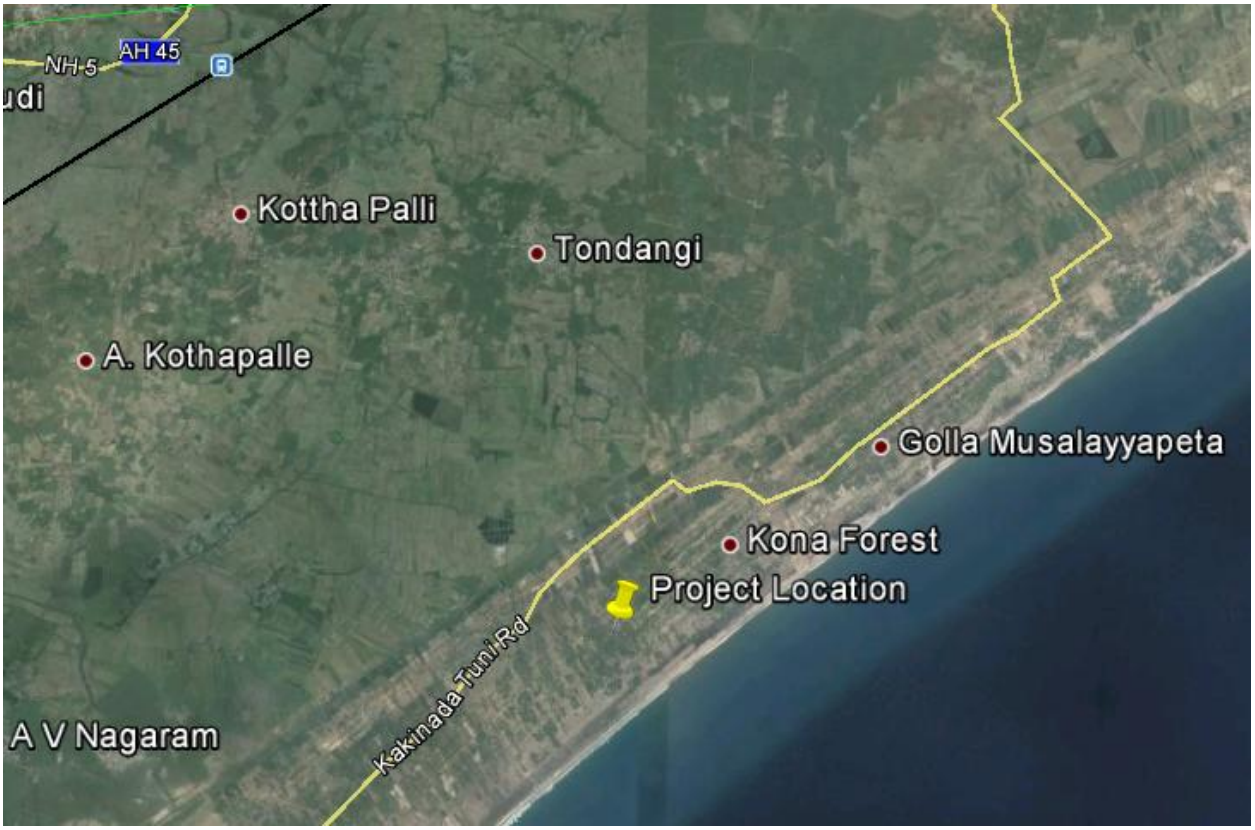


Figure 4
Project Location on the Google map



3.3 Details of Alternate Sites Considered and the Basis of Selecting the Proposed Site

For the proposed bulk drugs manufacturing unit, three sites have been identified in East Godavari District of Andhra Pradesh. After the detailed assessment of various environmental and financial implications, the Ontimamidi (Kona) (V), Thondangi (M), East Godavari District of Andhra Pradesh is identified as the suitable site for the proposed project. The proposed site in Ontimamidi (Kona) (V) is selected based on the environmental factors and also the Economic consideration, as the location is located close to NH-5 (Kolkatha-Chennai highway). The details of the three sites are given in **Table 2**.

Table 2
Comparison of the alternate sites for the proposed project

Details	Siting Guidelines	Alternative Site - 1	Alternative Site - 2	Alternative Site - 3
Land Coordinates (Latitude & Longitude)	At least 25 km	17°11' 57.2"N 82°27' 58.9"E	17°07'55.97"N 82°23'35.90"E	17°14'19.70"N 82°30'56.20"E

Details	Siting Guidelines	Alternative Site - 1	Alternative Site - 2	Alternative Site - 3
Location	-	Ontimamidi (Kona) (V), Thondangi (M), East Godavari District, Andhra Pradesh	Kona papaya peta (V), Kottapalli (M), East Godavari District, Andhra Pradesh	Vamavaram (V), Thondangi (M), East Godavari District, Andhra Pradesh
Ecological Sensitive Areas	At least 25 km	None in the study area.	None in the study area	None in the study area
Coastal Areas	½ km from high tide line	Bay of Bengal. <0.5 KM, East and South East	Bay of Bengal. <0.5 KM, East and South East	Bay of Bengal. <1 KM, East, South East and East
Flood plain of Riverine system	½ km from flood plain	There is no Riverine system in < 0.5 Km.	There is no Riverine system in < 0.5 Km.	There is no Riverine system in < 0.5 Km.
Transport & Communication	½ km from highway & railway	NH-5; 8.5 KM, North West Kakinada – Tuni Beach road , adjacent, North West Railway station: Annavaram- 8.5 KM, North	NH-214; 10.6 KM; North West Kakinada – Tuni Beach road , adjacent, South-South East - East NH-5; 14.0KM, North West	NH-5; 10 KM, North West Kakinada – Tuni Beach road, <0.1 KM, North West and North.
Major settlements (3 Lakhs population)	At least 25 km	None	Kona papaya peta adjacent to the site, East	Vemavaram village, <0.2Km, North East
Rehabilitation & Resettlement (R & R) issues		Not required	Require R & R	Require R & R
Type of land	Avoid Prime Agri Land	Private land (Plantation and Agricultural) Site is allotted by APIIC Which is part of PCPIR Corridor	There are nearby hatcheries and villages	Low laying area, water stagnation during floods

3.4 Size or Magnitude of Operation:- The total area required for setting up proposed project is **670.5 Acres** and the proposed manufactured products are given below.

Table-3
List of products and manufacturing capacity

S. No	Name of the product	Production Capacity (MTA)
1	(+) N-Formyl Octa Base	450
2	Octamandalate Base	780
3	P-Methyl phenyl acetic acid(PMPA)	780
4	2-(1-Cyclohexenyl) ethyl amine(CHEA(100%))	540
5	Atipadichloride	1210
6	2-(S) - Acetoxy propionylchloride	135
7	4-(4-chlorophenyl)cyclohexanecarboxylic acid (4-CPCCA)	50
8	3-Hydroxy acetophenone(3-HAP)	330
9	Benzyladrinone HCl	560
10	2-Acetyl-6-methoxy naphthalene	5000
11	2-(n-Butyl)-4-Chloro-5-formyl imidazole	250
12	Beta-Ionylidine ethyl triphenyl phosphene bromide	400
13	C10-dialdehyde	150
14	1,2,3-Tri-O-Acetyl-5-deoxy-n-ribofuranose	50
15	Acetonide	132
16	1-Pentynol	84
17	Lycopene	30
18	Beta-Carotene	100
19	Canthaxanthin	10
20	Apocarotenal	50
21	Lutein	50
22	ZL-Valine	150
23	DL-2,2-Dimethyl cyclopropane-1-carboxylic acid	30
24	Dimethylacetylene di carboxylate	60
25	N-Hydroxy succinamide	60
26	Iopamedal	300
27	Iohexol	300
28	valsartan	100
29	Astaxanthin(AXN)/Astaxanthin ester	100
30	Losartan(k)	100
31	Mesalamine	200
32	Orlistat	30
33	Alogliptin	10
34	Linagliptin	10
35	Saxagliptin	5
36	Merabegran	20
37	Sofosbuvir	10
38	Dolutegravir	10
39	S-Nicotin prolacrylics	10
40	2-amino-2-(hydroxymethyl)propane-1,3-diol 6-(4-((3-(2,6-dichlorophenyl)-5-isopropylisoxazol-4-yl)methoxy)phenyl)-1-naphthoate (GSK 488062C (API))	1
41	2-(5-chloro-2-(1-isopropyl-3-methyl-1H-pyrazol-5-ylamino)pyridin-4-ylamino)-N-methoxybenzamide hydrochloride (GSK 2256098C (API))	1
42	Esomiprazole	5

S. No	Name of the product	Production Capacity (MTA)
43	Pentaprozole	20
44	Viladazone	2
45	Vildagliptin	75
46	(2R)-2-[[4-[(3,4-DIHYDRO-2H-PYRANO[2,3-C]PYRIDIN-6-YL METHYL)AMINO]-1-PIPERIDINYL]METHYL]-1,2-DIHYDRO-3H,8H-2A,5,8A-TRIAZAACENAPHTHYLENE-3,8-DIONE, METHANESULFONATE (1:1) (GSK API)	5
47	(R)-isopropyl-2-((R)-(((2R,3R,4R,5R)-4-Chloro-5-(2,4-dioxo-3,4-dihydropyrimidin-1-(2H)-yl)-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy(phenoxy)phosphorylamino)propanoate (MK-3682)	2
48	DTTA Salt	15
49	Ethyl ester	10
50	2,4-Thiazole methyl amine	50
51	5-[4-Methylbiphenyl-2yl]-2-trityl-2Htetrazole	500
52	L-Valine methyl ester HCl	382
53	4-Bromomethylbiphenyl-2-Carbonitrile	630
54	N-Octyl-d-glucamine(NOG)	400
55	2,4,5-Trifluorophenylacetic acid	350
56	Triazole HCl	350
57	Ethyl -2-Isocyanato Acetate	10
58	1-Methyl-1h-Pyrazole-5-Boronic Acid	10
59	5-Amino-2-Methyl Benzene Sulfonamide	10
60	O-benzyl hydroxylamine hydrochloride	10
61	[(+/-)-trans -1,2-bis(methanesulfonyloxymethyl)cyclohexane	5
62	4-(1,2-benzisothiazole-3-yl)-piperazine	2
63	DL-Nicotine	10
64	P-Methyl-ω- Pyrrolidino Propiophenone HCl	10
65	2-Amino-6-Bromo Pyridine	10
66	6-Chloro Uracil	10
67	3-Phthalimido piperidine	10
68	(R)-3-azidopiperidine	10
69	Chloroquinozoline	10
70	8-Bromo-7-(but-2-ynyl)-3-methyl-1H Purine-2,6(3H,7H) dione	10
71	3,5-Di-O-benzoyl-2-deoxy-2-fluoro-2-C-methyl-D-robono-y-Lactone	25
72	6-®-2,2,6-Trimethyl-1,4-cyclo hexadione	15
73	(R)-3-aminobutan-1-ol	20
74	Difluorobenzyl amine	20
75	5-Amino-1-isopropyl-3-methyl pyrazole	5
76	2,5-dichloro-4-ido pyridine	5
77	Ranolazine	5
78	(2'R)-N-Benzoyl-2'-deoxy-2'-fluoro-2'-methylcytidine 3',5'-dibenzoate	25
79	2'-deoxy-2'-fluoro-2'-C-methyluridine	25
80	Butorphanol tartrate	20
81	4-Chloro-2-butanone	5
82	Boc-L-3-fluorophenyl alanone	0.5
83	2-Carbethoxy-3-cyano-5-methyl hexanoic acid ethyl ester	2
84	3,4-dihydro-2H-pyrano[2,3-c]pyridin-6-ylmethanol	0.5
85	5-(2-Phenyl ethyl)-2-(Propan-2-Yl)Benzene-1,3-diol	0.5

S. No	Name of the product	Production Capacity (MTA)
86	Naproxen	500
87	Gabapentin	500
88	Levodopa	500
89	Carbidopa	500
90	Dextromethorphan HBr	350
91	R&D Products	100
92	Antibiotics	50
93	Steroids	50
94	Enzymes	50
95	Human & Animal Health care products	50
TOTAL		**18394.5**

3.6 Raw material required along with estimated quantity likely source, marketing area of final product/s, mode of transport of raw material and finished product

All the raw materials required for manufacturing mostly available in India. There are no banned chemicals or products which are proposed to be used. It is proposed to enter into long term arrangements with some of the raw material suppliers both in India and overseas to avoid shortages at any time.

3.7 Resource Optimization/ Recycle and Reuse

The new & creative approach to enable less waste intensive production is based on different techniques will be adopted by regular up gradation of process technology.

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

The total water requirement for the proposed project is 6500 KLD drawn from the ground water and nearest water body (Jammeru vagu, samarlakota canal & Thandava River). The total water balance is presented table below.

Table 4
Water requirement and Waste water generation

S. No.	Description	Water Requirement (KL/Day)	Waste Water Generation (KL/Day)
1	Process water a) DM Water	1861	1861
	b) Raw water		
	c) RO Reject	290	288
2	Cooling Towers	900	1000

3	Boiler	800	1190
4	Water for canteen and dining halls	200	160
5	Water for construction and Gardens	800	0
6	Water For Hostels	1500	1275
7	Plant Toilets	74	62
Total		**6425**	**5586**

Note: Net Water requirement for the proposed project is 6500 KLD approximately

3.5.1 Electricity

The electricity requirement will be fulfilled by APTRANSCO nearby substation. Further requirement and power back up will be support by proposed DG sets and proposed 25 TPH coal fired boiler.

3.9 Quantity of wastes to be generated (liquid and solid) and Scheme for their Management/disposal

Table 5
Details of Solid Wastes/ Liquid wastes and Disposal

Solid and Hazardous Waste			
S.NO	**Name of the wastes**	**Quantity of Hazardous wastes**	**Disposal Option**
1	Process Residue	3102.87 kg/day	Incineration / Co-incineration in cement industries
2	ETP Sludge	200 kg/day	TSDF, Parawada, Visakhapatnam District for secured land filling
3	Multiple effect evaporation or forced evaporation	691 kg/day	
4	Incineration ash	75 kg/day	
Liquid Waste			
1	Process waste water (HTDS)	2175 KLD	High TDS Will be treated in MEE Low TDS shall be treated in ETP to the prescribed standards
2	Boiler Blow down/cooling tower	1058 KLD	Used for recycling
3	Domestic waste water	1160	Treated in STP and used for Green belt

3.9 Schematic Representation of the Feasibility Drawing for EIA Purpose

For development proposed project in Ontimamidi (Kona) (V) site screening, pre-feasibility report, environmental impact assessment (EIA) and environmental management plan (EMP) studies, etc. for obtaining environmental clearance and consent for establishment from statutory authorities.

Stage 1

- Zoning Plan indicating type of industries which can be established considering the site location and market potential

Stage 2

- Submission of Form-1, Prefeasibility report, draft TOR for appraisal to concerned authority (MOEF)

Stage 3

- Submission of EIA report as per approved TOR by concerned authority (MOEF)

Stage 4

- Submission of CFE application to APPCB Andhra Pradesh Pollution Control Board

4.0 Site Analysis

4.1 Connectivity

The proposed project is surrounded by Forest land in North and West directions. National High Way (NH – 5) is passing at a distance of 8.5 km NW and N from the proposed project site. The proposed site is covered by Bay of Bengal at a distance of 0.5 km from the site in East and South Directions.

4.2 Land Form, land Use and Land Ownership

The total area for the proposed project which is allotted by APIIC to Divi's laboratories Limited.

4.3 Site Topography Along With Map

The study area (10 km radius around the site) the map has been prepared from Survey of India, and Topo sheet Numbers are E44/7(65K/7), E44Q/8(65K/8), E44Q/11(65K/11) and E44Q/12(65K/12) (1:1 km scale), the Topographical map of 10km study area is given in **Figure 2**.

4.4 Existing Infrastructure

There is no infrastructure in proposed project site.

4.5 Climate Data from Secondary Source

East Godavari district occupies an area of 10,807 square kilometres (4,173 sq mi), comparatively equivalent to Indonesia's Sumba Island. The district is bounded on north by Visakhapatnam District, Malkangiri District of Orissa on the northwest by Khammam District, on the east and south by the Bay of Bengal and on the west by West Godavari District. The small enclave (12 sq. mi (30 km^2)) of the Yanam district of Puducherry state lies within this district.

Table 6:
Climatological Data for East Godavari District

IMD Station Kakinada - 16⁰ 56' 59.98"N, 82⁰ 14' 00.02"E, Elevation 9 m above MSL												
Month	**Temperature º C**				**Humidity %**		**Rainfall**		**Mean Wind speed KMPH**	**Mean Wind speed m/s**	**Pre - dominant direction**	
	Mean Min	**Mean Max**	**Highest**	**Lowest**	**8.30 Hrs**	**17.30 Hrs**	**Monthly mm**	**No of rainy days**			**1st**	**2nd**
Jan	19.9	28.9	31.7	17.7	77	66	11.2	0.6	6.9	1.9	E	NE
Feb	21.8	31.1	34.4	19.3	76	63	12.1	1.1	5.8	1.6	E	NE
Mar	23.8	34.1	37.3	21.2	75	59	4.4	0.3	4.9	1.3	E	NE
Apr	26.2	38.8	39.5	23.2	74	60	14.8	1.2	5.2	1.4	W	SW
May	27.8	37.7	43.0	23.6	71	60	33.2	2.4	6.1	1.6	W	NW
Jun	27.2	35.9	41.7	23.6	73	60	130.8	7.2	6.4	1.7	W	SW
Jul	26.0	32.9	37.1	23.6	81	68	177.2	10.6	5.4	1.5	W	SW
Aug	25.7	32.2	35.6	23.6	82	72	172.2	10.3	5.2	1.4	W	SW
Sep	25.8	32.8	35.8	23.5	82	74	174.1	8.6	4.4	1.2	W	NW
Oct	24.7	32.0	34.9	22.2	79	72	235.8	8.3	6.2	1.7	E	NE
Nov	22.5	30.3	32.7	19.4	73	68	158.9	4.9	9.0	2.4	E	NE
Dec	20.1	28.9	30.8	17.5	72	65	10.4	1.0	8.5	2.3	E	NE
Source: GOI, Ministry of Earth Sciences, IMD, Climatological Tables - 1971-2000												

4.6 Social Infrastructure available

All infrastructure facilities such as education, health facilities and other social facilities are adequate at district headquarter as well as in surrounding villages and habitations.

5.0 Planning Brief

5.1 Planning Concept (type of Industries, Facilities and Transportation)

5.1.1 Environment Planning in India

The need for the environmental administration of India to become active in the field of environmental planning is founded in the Environment (Protection) Act, 1986, which authorizes the Central and State Government " to have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. Since, the carrying capacity of the environment is not unlimited and some areas or ecosystems are more susceptible to adverse environmental impacts than others, the unplanned and haphazard location of industries might substantially increase the risk to the environment. Environmental planning is a proven tool for reducing the impacts from such risks. However, this tool has seldom been used in this country. Proper siting of newly planned industries and industrial estates is a strong pollution preventive instrument that ensures environmental soundness of the industrial development.

In 2011, East Godavari had population of 5,154,296 of which male and female were 2,569,688 and 2,584,608 respectively. In 2001 census, East Godavari had a population of 4,901,420 of which males were 2,459,640 and remaining 2,441,780 were females.

5.3 Land Use Planning (Break up along with Green Belt)

The detailed land breakup for the proposed project is given in Table.7

Table.7
Land breakup Details

Description	**Area in Acres**
Built up area	110
Greenbelt Development	221.3
Road Network	67.1
Common Facilities Area	53.6
Future expansion	218.5
Total Area	**670.5**

6.0 Proposed Infrastructure

6.1 Industrial Area – Processing Area

The proposed project is designed based on the market value potential and demand assessment study for sector of industries to be established in the proposed site. The categorization of industries by state pollution control board as Red Category.

6.2 Green Belt

Development of green belt is conceived at the beginning; in total 17.2 % of the total area will be covered under greenbelt. The distance between two plants will be kept minimum for thick green belt, regular maintenance of green belt will be done, dead plants will be replaced with new one during rainy season.

6.3 Social Infrastructure

The proposed project shall be made available with all infrastructures that required for industrial purpose and also for the locals where they can be benefitted from the infrastructure of the proposed project. The proposed infrastructure for the proposed project involves an establishment of Centralized Canteen, Administration Building, Emergency Medical Centre, Guest Rooms, Gas Station, Fire Station, Weight Bridge, Dormitories for Truck Drivers, Bus Terminal, and Truck Terminal.

6.4 Drinking Water Management Source and Supply of Water

Water is considered as one of the major resources in industrial and domestic activities. It is used directly in production and also for other utilities like floor and equipment washings, cooling, domestic purposes, green belt development etc. Provision of assured water supply is vital for achieving sustainability in any development. The drinking water requirement for the proposed project is 500 KL/Day.

6.5 Sewerage System

Sewerage system is designed in proposed project according to the elevation and contour profile. Sewage water generated form common facilities are transferred through a pipe line system and diverted to STP Sewage Treatment Plant. The treated water will use for the green belt and flushing purposes.

6.6 Industrial Waste Management and Solid Waste Management

Industrial waste management is classified as hazardous and non-hazardous. The Hazardous wastes will be treated as per Hazardous Wastes (Management and Handling) Rules, 1989 and its subsequent amendments. Electronic waste will be processed as per E-waste Management and Handling Rules 2011, The Batteries (Management and Handling) Rules, 2001 and its subsequent amendments.

6.7 Power Requirement and Supply/Source

Power required will be taken from AP TRANSCO and sub-station will be setup within the premises of the proposed project, a power grid of 15000 **KW Sub Station** is proposed for the project and for emergency DG sets will be made available by respective units of proposed project.

7.7 Rehabilitation and Resettlement Plan (R&R)

The proposed project does not envisage any disturbance to local community or the village since the land is acquired and fully owned by the Divi's laboratories Limited. The proposed project will not affect the home oustees, land oustees and landless laborers.

8.0 Project Schedule and Cost Estimates

8.1 Date of start of construction and date of completion time schedule for the project to be given.

The factors which are responsible for timely implementation of the project are:

- Arrangement of proper finance for the project.
- Finalization of layout of the proposed plant.
- Design of utilities and services.
- Placement of orders for plant and machinery.
- Arrangements for Govt. sanctions and supply of power.
- Recruitment of personnel.

As per an initial estimate around eight (8) months will be needed for implementation of the project from the starting date i.e. from the date of receiving all the statutory clearances for starting the project.

8.2 Estimated Project Cost along with analysis in terms of Economic Viability of the project

As per initial estimate, the cost of the project works out to around Rs. 600 Crores. After examining the Environmental feasibility and Commercial & financial feasibility, it may be inferred that the project will have a positive feasibility.

The estimated cost of the project is approximately Rs. 600 Crores.

Table.6
Project Cost Breakup Details

S.No	Project Cost Breakup	Rs: In Crores
1	Plant & Machinery	25.4

2	Total Civil buildings	170.1
3	Production Blocks	133.2
4	Pipe lines & insulation	20.7
5	ETP ,RO & MEE	66.7
6	ETP drains ,roads	34.1
7	On line Monitoring	0.04
8	Electricals & instrumentation	88.5
9	Reservoir & cooling towers	4.8
10	Services	46.5
11	Safety	9.9
Total		**600**

9.0 Analysis of Proposal

9.1 Financial and Social Benefits with emphasis on the benefit to the local people including tribal population if any, in the area.

The proposed project is expected to bring significant socio-economic and environmental benefits both at local level as listed below:

Social Infrastructure:

- Social awareness programs will be improved by the local authority such as sanitation and hygiene, HIV Prevention Program.
- Adult education and female education programme is planned to the illiterate adults and backward females of the villages in the project surrounding area.

Employment Potential

The project is going to create some employment. Due to this project activity, some persons in the project area will be recruited as skilled and semi-skilled workers by the company as per its policy. Therefore, some employment and income are likely to be generated for the local people. So, the project will contribute in a positive manner towards direct employment in the project area.

Benefits to the Region

The company will supply its product to the domestic market which is likely to improve the regional economy.

Peripheral Developments

Divi's Laboratories Limited intends to take up developmental work in the periphery area. The activities that have been considered include the following:

- Support existing schools for development of education in the area.
- Help in imparting vocational training to local eligible youth.
- Provide health facilities by way of medical checkup, by holding medical camps etc. in the neighborhood.

Thus, the proposed project shall usher in the social and economic upliftment of the persons living in the vicinity of the Project i.e. of society at large.

Executive Summary

Divi's Laboratories Limited was established in the year of 1990, with Research & Development as its prime fundamental. Divi's Laboratories focused on developing new processes for the production of Active Pharmaceutical Ingredients (APIs) & Intermediates. The company in a matter of short time expanded its breadth of operations to provide complete turnkey solutions to the domestic Indian pharmaceutical industry. With five years of experience, expertise and a proven track-record of helping many companies with its turn-key and consulting strengths, Divi's Laboratories established its first manufacturing facility in 1995, built on a 500 acre site at Hyderabad (Unit-I). The plant comprises of 13 multi-purpose production blocks and has space for further growth and expansion. Divi's Laboratories set up its second manufacturing facility at Visakhapatnam (Unit-II) in the year 2002 on a 350 acre site. The site has 14 multipurpose production blocks.

Divi's Laboratories Limited is proposing to establish Divi's Laboratories Limited, Unit III (previously known as Unit-IV) as a commercial facility for manufacturing of APIs & Intermediates products with a firm commitment to Environmental care. This manufacturing facility as Unit-III is going to be located at Ontimamidi (Kona) (V), Thondangi (M), East Godavari District of Andhra Pradesh. This manufacturing facility is proposed to be developed in an APIIC area of 271.34 Ha (670.5 acre) with multipurpose production blocks.

1.2. Features of the Site

Table-1
Site features

Name of the Project	Divi's Laboratories Limited Unit- III	
Land Area	670.5 Acres (271.34 Ha)	
Survey Numbers	66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 447, 450, 451, 452, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474,475, 476, 482, 483, 884, 485, 486, 487, 488, 489, 490, 491, 92, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510.	
Land Coordinates	Latitude	Longitude
	17°12'48.28"	82°27'51.46"
	17°12'26.29"	82°27'37.09"
	17°11'45.62"	82°28'6.50"
	17°12'16.53"	82°28'40.88"
Nearest village	Ontimamidi - <1.5 Km NE	
Nearest Railway Station	Annavaram- 8.5 Km N	
Nearest City in Km	Rajahmundry-73 Km	
Nearest Airport	Rajahmundry	
Nearest Highway	NH-5 - 8.5 KM, North West	
Water Supply	Pipe lines from the nearest water bodies (Jammeru vagu/ Samarlakota Canal/ Thandava River/ Borewell)	
Manpower Required	2500 (1300 on permanent basis and 1200 temporary basis)	

Working Hours	On shift basis, industries to run 24 Hours
Estimated Cost of the Project	Rs. 600 Cores

1.2 List of manufacturing products

The following API & intermediates products have been proposed to be manufactured depending upon the national and international market demand and availability of raw materials.

S. No	Name of the product	Production Capacity (MTA)
1	(+) N-Formyl Octa Base	450
2	Octamandalate Base	780
3	P-Methyl phenyl acetic acid(PMPA)	780
4	2-(1-Cyclohexenyl) ethyl amine(CHEA(100%))	540
5	Atipadichloride	1210
6	2-(S) - Acetoxy propionylchloride	135
7	4-(4-chlorophenyl)cyclohexanecarboxylic acid (4-CPCCA)	50
8	3-Hydroxy acetophenone(3-HAP)	330
9	Benzyladrinone HCl	560
10	2-Acetyl-6-methoxy naphthalene	5000
11	2-(n-Butyl)-4-Chloro-5-formyl imidazole	250
12	Beta-Ionylidine ethyl triphenyl phosphene bromide	400
13	C10-dialdehyde	150
14	1,2,3-Tri-O-Acetyl-5-deoxy-n-ribofuranose	50
15	Acetonide	132
16	1-Pentynol	84
17	Lycopene	30
18	Beta-Carotene	100
19	Canthaxanthin	10
20	Apocarotenal	50
21	Lutein	50
22	ZL-Valine	150
23	DL-2,2-Dimethyl cyclopropane-1-carboxylic acid	30
24	Dimethylacetylene di carboxylate	60
25	N-Hydroxy succinamide	60
26	Iopamedal	300
27	Iohexol	300
28	valsartan	100
29	Astaxanthin(AXN)/Astaxanthin ester	100
30	Losartan(k)	100
31	Mesalamine	200
32	Orlistat	30
33	Alogliptin	10
34	Linagliptin	10
35	Saxagliptin	5
36	Merabegran	20
37	Sofosbuvir	10
38	Dolutegravir	10
39	S-Nicotin prolacrylics	10

S. No	Name of the product	Production Capacity (MTA)
40	2-amino-2-(hydroxymethyl)propane-1,3-diol 6-(4-((3-(2,6-dichlorophenyl)-5-isopropylisoxazol-4-yl)methoxy)phenyl)-1-naphthoate (GSK 488062C (API))	1
41	2-(5-chloro-2-(1-isopropyl-3-methyl-1H-pyrazol-5-ylamino)pyridin-4-ylamino)-N-methoxybenzamide hydrochloride (GSK 2256098C (API))	1
42	Esomiprazole	5
43	Pentaprozole	20
44	Viladazone	2
45	Vildagliptin	75
46	(2R)-2-[[4-[(3,4-DIHYDRO-2H-PYRANO[2,3-C]PYRIDIN-6-YL METHYL)AMINO]-1-PIPERIDINYL]METHYL]-1,2-DIHYDRO-3H,8H-2A,5,8A-TRIAZAACENAPHTHYLENE-3,8-DIONE, METHANESULFONATE (1:1) (GSK API)	5
47	(R)-isopropyl-2-((R)-(((2R,3R,4R,5R)-4-Chloro-5-(2,4-dioxo-3,4-dihydropyrimidin-1-(2H)-yl)-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy(phenoxy)phosphorylamino)propanoate (MK-3682)	2
48	DTTA Salt	15
49	Ethyl ester	10
50	2,4-Thiazole methyl amine	50
51	5-[4-Methylbiphenyl-2yl]-2-trityl-2Htetrazole	500
52	L-Valine methyl ester HCl	382
53	4-Bromomethylbiphenyl-2-Carbonitrile	630
54	N-Octyl-d-glucamine(NOG)	400
55	2,4,5-Trifluorophenylacetic acid	350
56	Triazole HCl	350
57	Ethyl -2-Isocyanato Acetate	10
58	1-Methyl-1h-Pyrazole-5-Boronic Acid	10
59	5-Amino-2-Methyl Benzene Sulfonamide	10
60	O-benzyl hydroxylamine hydrochloride	10
61	[(+/-)-trans -1,2-bis(methanesulfonyloxymethyl)cyclohexane	5
62	4-(1,2-benzisothiazole-3-yl)-piperazine	2
63	DL-Nicotine	10
64	P-Methyl-GƆ- Pyrrolidino Propiophenone HCl	10
65	2-Amino-6-Bromo Pyridine	10
66	6-Chloro Uracil	10
67	3-Phthalimido piperidine	10
68	(R)-3-azidopiperidine	10
69	Chloroquinozoline	10
70	8-Bromo-7-(but-2-ynyl)-3-methyl-1H Purine-2,6(3H,7H) dione	10
71	3,5-Di-O-benzoyl-2-deoxy-2-fluoro-2-C-methyl-D-robono-y-Lactone	25
72	6-®-2,2,6-Trimethyl-1,4-cyclo hexadione	15
73	(R)-3-aminobutan-1-ol	20
74	Difluorobenzyl amine	20
75	5-Amino-1-isopropyl-3-methyl pyrazole	5

S. No	Name of the product	Production Capacity (MTA)
76	2,5-dichloro-4-ido pyridine	5
77	Ranolazine	5
78	(2'R)-N-Benzoyl-2'-deoxy-2'-fluoro-2'-methylcytidine 3',5'-dibenzoate	25
79	2'-deoxy-2'-fluoro-2'-C-methyluridine	25
80	Butorphanol tartrate	20
81	4-Chloro-2-butanone	5
82	Boc-L-3-fluorophenyl alanone	0.5
83	2-Carbethoxy-3-cyano-5-methyl hexanoic acid ethyl ester	2
84	3,4-dihydro-2H-pyrano[2,3-c]pyridin-6-ylmethanol	0.5
85	5-(2-Phenyl ethyl)-2-(Propan-2-Yl)Benzene-1,3-diol	0.5
86	Naproxen	500
87	Gabapentin	500
88	Levodopa	500
89	Carbidopa	500
90	Dextromethorphan HBr	350
91	R&D Products	100
92	Antibiotics	50
93	Steroids	50
94	Enzymes	50
95	Human & Animal Health care products	50
TOTAL		**18394.5**

The production facilities in the proposed project consist of Multi-purpose production blocks, special reaction blocks, warehousing and all service facilities.

The wastewater generated will be segregated based on BOD/COD, High TDS, Low TDS and necessary treatment options will be provided for treating individual streams. The entire wastewater will be treated in effluent treatment plant consisting of physical, chemical and biological treatment options, part of the treated water will be reused and rest will be discharged into the Sea after meeting sea discharge standards.

The main sources of air emissions in the unit are process emissions, boiler, DG set, and fugitive emissions from due to evaporation of solvents. To minimize the process emissions necessary scrubbers will be provided and the facilities will be designed with maximum flexibility to have an open type ventilation system and fumes if any, shall not linger in the plant. Boilers will be provided with particulate matter emission control measures (ESP/Bag filter/Multi cyclone) and for proper dispersion of gases emissions stack height meeting CPCB standards will be provided. DG set will be provided with stack height meeting CPCB standards. For minimizing the losses of solvents all reactors will be provided with condensers and due care will be taken by ensuring proper fixation of the fixtures, etc.

A well designed environmental plan to mitigate any adverse impact will be provided and necessary capital and recurring budget will be allotted, and for taking up CSR activities need based CSR budget will be provided for taking social development activities in the surrounding villages.

Form - 1
Appendix- I
(See Paragraph-6)

(I) Basic Information

S.No	Item	Details
1	Name of the Project/s.	M/s. Divi's Laboratories Limited, Unit – III (Previously named as Unit IV)
2	S.No. in the Schedule	Project falls under 5 (f) Synthetic Organic Industry, Category A (Bulk drugs and
3	Proposed capacity / area / length / tonnage to be handled /command area / lease area / number of wells to be drilled.	Capacity:18,394.5 MTA Area: 271.34 hectares (670.5 Acres)
4	New / Expansion / Modernization	New
5	Existing Capacity / Area etc.	Not applicable
6	Category of Project i.e. 'A' or 'B'	Category- 'A'
7	Does it attract the general conditions? If yes, please specify	-NA-
8	Does it attract the specific conditions? If yes, please specify	-NA-
9	Location	Ontimamidi (Kona) (V),
	Plot / Survey / Khasra No	66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 447, 450, 451, 452, 455 to 476, 482 to 510
	Village	Ontimamidi (kona)
	Mandal	Thondangi
	District	East Godavari
	State	Andhra Pradesh
10	Nearest railway station / airport along with distance in kms	Annavaram- 8.5 KM, North
11	Nearest town, city, district headquarters along with distance in kms	Annavaram town – 10.5 KM, NW Kakinada town (District Head Quarter)- 37 KM, SW
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone no.s, to be given)	Ontimamidi village (Panchayat), Thondangi Mandal, East Godavari Dist. Telephone: 8978971231
13	Name of the applicant	Madhu Sudhana Rao Divi
14	Registered Address	Divi's Laboratories Limited
15	Address for Correspondence	

S.No	Item	Details
	Name	Madhu Sudhana Rao Divi
	Designation (Owner/Partner/CEO)	Director (Projects)
	Address	Divi's Laboratories Limited, 7-1-77/E/1/303, Divis Towers, Dharam karan road, Ameerpet, Hyderabad
	Pin code	500016
	E-mail	raodivi@divislaboratories.com
	Telephone no.	8978971231
	Fax no.	040-23786460
16	Details of Alternate Sites examined, if any. Location of these sites should be shown on a top sheet	Alternative sites were considered for the proposed project. Details are mentioned in the PFR.
17	Interlinked Projects	-NA-
18	Whether separate application of interlinked project has been submitted	-NA-
19	If yes, date of submission	-NA-
20	If no, reason	-NA-
21	Whether the proposal involves approval / clearance under: if yes, details of the same and their status to be given: (a) The Forest (Conservation Act, 1980? (b) The Wild life (Protection) Act, 1972 (c) The C.R.Z. Notification, 1991?	Yes, Under The CRZ notification, 1991.
22	Whether there is any Government Order / Policy relevant / relating to the site	No.
23	Forest Land involved (hectares)	No
24	Whether there is any litigation pending against the project and / or land in which the project is proposed to set up? (a) Name of the Court (b) Case No.	No

S.No	Item	Details
	(c) Orders / directions of the court, if any and its relevance with the proposed project.	

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No.	Information / Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan).	yes	Land specified for new construction/ development
1.2	Clearance of existing land, vegetation and buildings?	Yes	Forest vegetation is involved in proposed site. There is no habitations/buildings in/at selected land for new construction
1.3	Creation of new land uses?	yes	New land proposing for new construction / development
1.4	Pre-construction investigations e.g. bore holes, soil testing?	yes	Bore holes and soil testing will be necessarily conducted
1.5	Construction works?	Yes	Industrial facilities
1.6	Demolition works?	No	-NA-
1.7	Temporary sites used for construction works or housing of construction works?	Yes	Within proposed construction area.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations.	Yes	Minimum and localized. This is based on the plant design conditions.
1.9	Underground works including mining or tunneling?	No	No mining or tunneling works.
1.10	Reclamation Works?	Yes	Applicable and minor.
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	No Structures (Only laying of pipelines for effluent discharge).
1.13	Production and manufacturing	Yes	The production and manufacturing

S.No.	Information / Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
	processes?		process of APIs & intermediates involves various raw materials, where chemical reactions will take place involving various stages like precipitation, substitution, addition, centrifugation, purifications, solvent recovery, etc.
1.14	Facilities for storage of goods or materials?	Yes	Storage facilities will be created for storing various raw materials, finished products, fuels, etc.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Facilities will be installed with additional capacities for appropriate handling of liquid, Solid and Gaseous wastes.
1.16	Facilities for long term housing of operational workers?	Yes	Housing facilities envisaged.
1.17	New road, rail or sea traffic during construction or operation?	Yes	Laying of internal roads will be taken up, the proposed site is directly accessible with Kakinada – Tuni Road.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	Yes	Only existing roads / improvements of internal roads envisaged
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	No closure or diversion of existing transport routes or infrastructure is foreseen.
1.20	New or diverted transmission lines or pipelines?	No	Pipelines will be laid for discharge of treated effluents into the sea
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not applicable as the proposed site does not have any water body, this requirement does not arise.
1.22	Stream crossings?	No	There are no streams in the existing plant site.
1.23	Abstraction or transfers of water from ground or surface waters?	No	Source of water: Surface water and Bore wells Necessary permissions will be obtained in consultation with statutory authority for fulfill the water requirement.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	Effective surface drainage / natural runoff suitable measures as mentioned under point 1.22 above would be taken.

S.No.	Information / Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Activities envisaged
1.26	Long-term dismantling or decommissioning which could have an impact on the environment?	No	Not Applicable.
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	--
1.28	Influx of people to an area in either temporarily or permanently?	Yes	Influx of people will be there both temporarily & permanently.
1.29	Introduction of alien species?	No	No introduction of alien species.
1.30	Loss of native species or genetic diversity?	No	The proposed new construction does not involve any actions resulting in chance of loss of native species and genetic diversity.
1.31	Any other actions?	Yes	According to the requirements in the specified area only.

2. Use of Natural resources for construction or operation of the Project (Such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No	Information /Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
2.1	Land especially undeveloped or agricultural land (ha)	Yes	Land Identified for the proposed industry is barren land and partly agricultural land with no much agricultural activities. No perennial water channels or water bodies flowing in the proposed site.
2.2	Water (expected source & competing users) Unit : KLD	Yes	Source: Ground water through bore wells, pipe lines from nearest surface water bodies. The water requirement is given in the Pre-Feasibility Report.
2.3	Minerals (MT)	No	No mineral requirement is envisaged for the proposed project.
2.4	Construction material – stone, aggregates, and / soil (expected source- MT)	yes	Requirement will be fulfilled from the nearby sources on the basis of the design condition of the proposed plant.

2.5	Forests and timber (source-MT)	No.	--
2.6	Energy including electricity and fuels (source, competing users) Unit : fuel **(MT**), energy **(MW)**	yes	The total power requirement for the entire plant will be acquired from APTRANSCO. In case of power failure the backup power supply is through DG sets. Power requirement is given in Pre-feasibility Report.
2.7	Any other natural resources (use appropriate standard units)	yes	Coal for boiler:

3. Use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No	Information /Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
3.1	Use of substance or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna and water supplies)	Yes	Chemicals like acids, alkalies, solvents, etc. will be used for manufacturing of products in controlled conditions.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	The products selected are only API & intermediates for this new project. No occurrences of disease or effect disease vectors are foreseen.
3.3	Affect the welfare or people e.g. by changing living conditions?	Yes	Improving living condition by contributing to economical growth.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patient's, children, the elderly etc.,	No	There is no effect envisaged for the vulnerable groups of people who could be affected by the project. All the pollution control norms will be strictly followed with respect to particulate matter and sulphur dioxide emissions by installation of state of the art pollution control equipments. The details about the pollution control equipments and their efficiency will be given in the EMP report.
3.5	Any other causes	No.	None

4. Production of solid wastes during construction or operation or decommissioning (MT/ month)

S. No	Information / Checklist Confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
4.1	Soil, overburden or mine wastes	No	Minor quantity of excavated soil and that will be used for leveling the surface.

S. No	Information / Checklist Confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
4.2	Municipal waste (domestic and or commercial wastes)	No	Solid waste generated will be treated and handled on-site as per the statutory guidelines.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	The hazardous waste generated from the proposed production will be process residues, ETP salts, ETP sludge, used catalysts, used batteries, etc.; will be quantified with respective units and will be disposed as per the hazardous waste management and handling rules.
4.4	Other industrial process wastes	No	There will not be any other industrial process wastes generated other than the wastes mentioned in Pre-Feasibility Report.
4.5	Surplus product	No	Production will be done as per the demand in the market; hence no surplus product is envisaged.
4.6	Sewage sludge or other sludge from effluent treatment.	Yes	Effluent treatment plant sludge will be sent to TSDF. Sewage sludge will be used for Green belt plantation needs.
4.7	Construction or demolition wastes.	No	Minor and will be utilized within the proposed site
4.8	Redundant machinery or equipment	No	Not Applicable.
4.9	Contaminated soils or other materials	No	--
4.10	Agricultural wastes	No.	Not Applicable.
4.11	Other solid wastes	yes	Fly ash from boilers shall be send to brick manufactures.

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information /Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Coal as fuel will be used for Boiler and Diesel for DG set.
5.2	Emissions from production processes	Yes	The major process emissions are carbon di-oxide, ammonia and acids. The details of emissions will be worked out in the EIA report**.**
5.3	Emissions from handling including storage and transport	No	Managed only under full fledged pollution control measures.

S.No.	Information /Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
5.4	Emissions from construction activities including plant and equipment	No	Very minimal
5.5	Dust or odors from handling of materials including construction materials, sewage and waste.	No	Necessary controls will be adopted to protect ambient air.
5.6	Emissions from incineration of waste	Yes	Incinerator will be provided with scrubber and stack at 40 m height for proper dispersion of emissions.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No.	No material will be openly burnt in air.
5.8	Emissions from any other sources	No	Emissions from other sources are not envisaged

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information /Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Noise will be generated during operation of boiler & DG sets. Necessary acoustic enclosures will be provided in blower and compressor house to suppress the noise levels within the norms. Necessary PPEs (ear muffs) will be provided for the personnel working in the area. Vibration is not a significant factor since the most of the equipments & structures are static. The vibration effect of these will be only local and the design of supports and foundation will nullify the intensity of vibration. Light emissions are not envisaged in the proposed project. Heat emissions are not envisaged in the proposed project.
6.2	From industrials or similar processes.	No	The effects of noise, light, vibration and heat are observed as explained above.
6.3	From construction or demolition	Yes	Necessary controls will be adopted.

S.No.	Information /Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
6.4	From blasting or piling	No	Not applicable.
6.5	From construction or operational traffic	No	There will be generation of noise and vibration during the plant operations. But this noise and vibration will be site specific and will not be transmitted out side the plant premises. The noise levels will be below the permissible limit owing to the green belt around the plant premises.
6.6	From lighting or cooling systems	No	Noise, vibration, heat and intensity of light will be negligible from the lighting and cooling systems.
6.7	From any other sources	No	None other than the sources mentioned above.

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information /Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
7.1	From handling, storage, use or spillage of hazardous materials.	No	The liquid raw materials will be stored in storage tanks in specific storage areas with dykes. Lime will be stored in lime shed with concrete flooring. All other hazardous materials will be temporarily stored in drums/tanks/barrels, and later shifted to incineration or secured landfill for disposal. Hence, there is no chance of contamination of water streams and land.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	The effluents will be generated from plant operations (low TDS) and domestic activities. Domestic waste will be treated in STP and recycled for Green Belt and flushing the toilets. Industrial wastewater will be treated in the proposed ETP and brings to coastal discharge standards. High TDS wastewater will be treated in evaporation systems.
7.3	By deposition of pollutants emitted to air, into the land or into water.	No	The major emissions from the proposed site are carbon dioxide, oxygen and nitrogen along with time specific particulate matter, SO_2 and NOx. The particulate matter will be

			released from boiler and DG sets. Adequate control systems like cyclones, dust collectors, bag filter are provided to control the particulate matter emissions. The emissions will be monitored periodically to maintain within the stipulated standards of Pollution Control Board.
7.4	From any other sources	No	--
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No.	No major concerned pollutants from the proposed production are envisaged. All pollution control measures will be followed by deploying a team of qualified personnel. Solid waste generated will be treated and disposed off in a scientific manner so that no long term effects can be observed. The same practice will be followed for controlling other pollutants. However all the pollutants will be maintained within the prescribed limits by providing proper Environmental Management Plan (EMP), thereby minimizing the risk of long term build up of pollutants.

8. Risk of accidents during construction or operation of the Project, which could affect human or the environment.

S.No	Information /Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	Only minimum quantity of the chemicals requires storage in the plant premises. Spillages and fires will be handled by trained emergency handling teams for minimum damage.
8.2	From any other causes	No.	--
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No.	The site selected for bulk drug operations is situated in earth quake free zone, far from river basin so no fear of floods and can be concluded that the plant site is free from environmental damage caused by natural disasters.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activates in the locality.

S. No.	Information /Checklist confirmation	Yes /No	Details thereof (with approximate quantities /rates, wherever possible) with sources of information data
9.1	Lead to development of supporting. facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste-water treatment etc.) • Housing development • Extractive industries • Supply industries • Other	Yes	The proposed project will have a positive impact on the overall development of the nearby villages and the region in respect to the following: • Supporting infrastructure viz. roads, power supply, water, schools, hospitals, etc will be developed. • Demand for housing will increase. • Large scale employment will be generated leading to social benefits. • Demand for Supply industries will also increase creating an ecosystem of industrialization of the region thereby leading to holistic growth.
9.2	Lead to after use of the site, which could have an impact on the environment	No.	Not Envisaged. The proposed project is going to be in operation for long term
9.3	Set a precedent for later developments	Yes	• Development of local community • Improvement in Quality of life • Ecological balance by sustainable development
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects)	No	Not envisaged.

III) Environment Sensitivity

S.No.	Areas	Yes /No	Aerial distances (within 15 km.) Proposed project location boundary.
1.	Areas protected under international conventions, national or	No	None in the study area.

S.No.	Areas	Yes /No	Aerial distances (within 15 km.) Proposed project location boundary.
	local legislation for their ecological, landscape, cultural or other related values.		
2.	Areas which are important or sensitive for ecological reasons- Wetlands, water courses or other water bodies, coastal zone, biospheres. Mountains, forests	Yes	Bay of Bengal. <0.5 Km, East and South West
3.	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration.	No.	Not applicable
4.	Inland, coastal, marine or underground waters	Yes	Marine water body (Bay of Bengal) < 0.5 Km East and South West
5.	State, National boundaries	No.	Not applicable
6.	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	yes	Kakinada – Ontimamidi Beach road, < 1 Km North. Annavaram Temple, 11 Km North.
7.	Defense installations	No.	None in the study area within 15 Km radius
8.	Densely populated or built-up area	No.	Ontimamidi village, <1.5 Km- North Thondangi village, 4 Km- North East Annavaram Village/ Temple, 11 Km North
9.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	Schools, Worship places, hospitals/Dispensaries community facilities are available in the nearby villages.
10.	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism,	Yes	Aquaculturing is usually practiced within 10 Km radius of the project site.
11.	Areas susceptible to	No	None

S.No.	Areas	Yes /No	Aerial distances (within 15 km.) Proposed project location boundary.
	natural hazard which could cause the project to present environmental problems (Earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)		