

**M/s. Kakinada SEZ Limited,
PONNADA AND RAMANAKKAPETA VILLAGES, U. KOTHAPALLI
MANDAL; AND A.V. NAGARAM AND THONDANGI VILLAGES IN
THONDANGI MANDAL, KAKINADA DISTRICT (FORMERLY PART OF
EAST GODAVARI DISTRICT), ANDHRA PRADESH**

**FORM I
Pre-Feasibility Report**

Submitted by : -

M/s. Kakinada SEZ Limited,
Galaxy Towers, Wing -A, 21st Floor,
Plot no.1, Knowledge City,
Raidugram, Hyderabad 500081,
Telangana State
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**Studies and documentation by
Team Labs and Consultants**

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**SUBMITTED TO
MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE
GOVERNMENT OF INDIA
INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI**

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APPENDIX - I
(See Paragraph - 6)
FORM I

I) Basic Information

S. No	Item	Details
	Whether it is a violation case and application is being submitted under Notification No. S.O.804 (E), dt.14.03.2017?	No
	Weather Consent to Establishment Obtained	No
	Upload copy of CTE	No
1	Name of the Project/s	Development of Multiproduct Industrial Park (MIP) at Ponnada and Ramanakkapeta Villages, U. Kothapalli Mandal; and A.V. Nagaram and Thondangi Villages, Thondangi Mandal, Kakinada District (formerly part of East Godavari District), Andhra Pradesh by M/s. Kakinada SEZ Limited
2	S. No in the Schedule	7 (c) - Industrial parks/parks/complexes/areas, export processing Zones
3	Proposed capacity/ area/ length / tonnage to be handled / command area / lease area/ number of wells to be drilled	Industrial Park: 1648.14 ha (4072.63 acres) Development of Multiproduct Industrial Park Project Cost: Rs.2500 Crores
4	New/Expansion/Modernization	New (Green Field Project)
5	Existing Capacity/ Area etc.	Not Applicable
6	Category of Project i.e 'A' or 'B'	"A"
7	Does it attract the general condition? If yes, please specify	No
8	Does it attract the Specific condition? If yes, please specify.	No
9	Location Plot/Survey/Khasra No. Village Tehsil District, State	Ponnada and Ramanakkapeta Villages in U. Kothapalli Mandal; and A.V. Nagaram and Thondangi Villages in Thondangi Mandal, Kakinada District (formerly part of East Godavari District), Andhra Pradesh. Survey numbers enclosed in Annexure.
10	Nearest railway station/airport along with distance in km.	Railway Station: Annavaram- 6.8 km - NE, Airport: Rajahmundry Airport - 59 km - NW.
11	Nearest Town, City, District Headquarters along with distance in kms.	Nearest Town: Annavaram - 7.8 km - NE, District Head Quarters: Kakinada - 16 km - SW
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal address with telephone nos. to be	Ponnada panchayat, Sriramapuram panchayat in U. Kothapalli mandal; A.V. Nagaram and K. Perumullapuram Panchayats in A.V. Nagaram village, Kodada panchayat in Thondangi village,

S. No	Item	Details
	given)	Thondangi mandal, Kakinada District (formerly part of East Godavari District), Andhra Pradesh - 533 449 Telephone no. 040-4670 4600
13	Name of the Applicant	
14	Registered Address	M/s. Kakinada SEZ Limited Galaxy Towers, Wing -A, 21 st floor, Plot no: 1, Knowledge City, Raidugram, Hyderabad 500081, Telangana State. Email: ksez@auinf.com Phone: 040-46704600
15	Address for Correspondence:	
	Name	Mr. Kodhanda Ram Reddy Ojilli
	Designation	Director
	Address	M/s. Kakinada SEZ Limited Galaxy Towers, Wing -A, 21 st floor, Plot no:1, Knowledge City, Raidugram, Hyderabad 500081, Telangana State. Email: ksez@auinf.com Phone: 040-4670 4600
	Pin Code	500 081
	E-mail	ksez@auinf.com
	Telephone Number	+91 89788 71437
	Fax No.	040 4670 4600
16	Details of alternative Sites examined, if any. Location of these sites should be shown on a topo sheet.	Yes, Presented in Annexure.
17	Interlinked Projects	Not applicable
18	Whether separate application of interlinked project has been submitted?	-NA-
19	If yes, date of submission	-NA-
20	If no, reason	
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 Wildlife (Protection) Act, 1972? (c) The C.R.Z Notification, 1991?	No No Yes CRZ Notification is applicable considering the proximity of Upputeru creek adjacent to the site in the southern part.

S. No	Item	Details
22	Whether there is any Government Order/Policy relevant/relating to the site?	Yes The project site is part of Visakhapatnam Kakinada Petroleum, Chemical, Petrochemical Investment Region (VKPCPIR) notified by Government of Andhra Pradesh in 2008. The VKPCPIR is the development body for approving plans and layouts, based on the relevant layout rules of Go AP.
23	Forest land involved (hectares)	No
24	Whether there is any litigation pending against the project and /or land in which the project is propose to be set up? (a) Name of the Court (b) Case No (c) Orders/directions of the Court, if any and its relevance with the proposed project.	No There are no litigations as on date which materially affect the development of the project land.

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 source 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	Proposed area of development 1648.14 ha (4072.63 acres). The land use is Industrial land, which is converted in the year 2009 by Go AP vide G.O.Ms.No. 1165. The land is fairly plain.
1.2	Clearance of existing land, vegetation and buildings?	yes	Site consists of trees and plants on the boundaries of land parcels and also casuarina and cashew plantations in some parcels. Trees along the bunds mainly consist of Palm trees / Borassus trees, Neem, Palm, Eucalyptus, while Mango and Cashew, Neem, Coconut trees are observed near the old homesteads. Acacia has grown extensively. The old land owners cut and took away the timber while clearing and grubbing the site.
1.3	Creation of new land uses?	YES	Project land is converted to non-agricultural land in the year 2009 by Go AP vide G.O.Ms.No. 1165.
1.4	Pre-construction investigations	YES	Soil test done and soil load bearing capacity

S. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	e.g. bore houses, soil testing?		established.
1.5	Construction works?	YES	The construction involves development of infrastructure like Roads, Services, Cross Drainage structures, Administrative Building, Canteen, Parking, Logistics, Utility Pipelines (Water, Wastewater, Gas, Storm Water etc.), Municipal Solid Waste Management Facilities, Water Storage Tanks, Common Effluent Treatment Plant, Sewage Treatment Plant, Power Supply lines, Sub Stations, Residential and Commercial Buildings, Fire station, other amenities and Utilities, etc.
1.6	Demolition works?	YES	Few houses (vacated) need to be demolished during clearing and grubbing. The houses in Ramaraghavapuram hamlet, which will be rehabilitated, will be demolished after R&R implementation.
1.7	Temporary sites used for construction works or housing of construction workers?	NO	The construction labour shall be employed from local villages.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	YES	Roads, Services, Cross Drainage structures, Administrative Building, Canteen, Parking, Logistics, Municipal Solid Waste Management Facilities, Water Storage Tanks, Common Effluent Treatment Plants, Sewage Treatment Plants, Power Supply lines, Sub Stations, Residential and Commercial Buildings, Fire station, other Amenities and Utilities etc. will be constructed. Filling is anticipated and the quantities shall be arrived at the time of DPR.
1.9	Underground works including mining or tunneling?	NO	Services as required will be laid. (E.g., underground pipelines/storm water and cable trenches etc.)
1.10	Reclamation works?	NO	
1.11	Dredging?	NO	
1.12	Offshore structures?	NO	
1.13	Production and manufacturing processes?	NO	Proposal is to establish Multiproduct Industrial Park (MIP). Production and manufacturing processes will be undertaken by the individual industries.
1.14	Facilities for storage of goods or materials?	YES	Storage facilities will be provided in the logistics area, amenities, utilities etc.
1.15	Facilities for treatment or	YES	Hazardous wastes generated from CETP are

S. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	disposal of solid waste or liquid effluents?		temporarily stored and disposed to TSDF located at Parawada, Anakapalli district. Storage is also provided for other solid wastes ranging from coal ash to domestic solid waste. It is proposed to establish CETPs on site. The treated effluents from CETP will be disposed through common marine outfall system proposed by Go AP. Sewage is treated onsite and reused for flushing/ green belt development. Wastewater treatment facilities details enclosed in Annexure III.
1.16	Facilities for long term housing of operational workers?	YES	Residential area is proposed in 20.05 ha.
1.17	New road, rail or sea traffic during construction or operation?	YES	Construction materials shall be transported to the site along the existing and proposed connecting roads. The Industrial Park shall generate additional road traffic mainly to transport men and materials. The proposed sea port nearby shall facilitate surface transport of bulk materials. The new KSEZ Port under construction shall also have a rail head, which can be used by the industries of KSEZ MIP.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	YES	It is proposed to provide the main connecting road from the site to the proposed Bharatmala road at a distance of 1 km in east direction. Bharatmala road is envisaged to facilitate transport along the coast connecting ports to the national highway network.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	YES	The connecting road between A.V Nagaram and K. Perumallapuram is passing through the site. The existing connecting roads between villages shall be suitably realigned.
1.20	New or diverted transmission lines or pipelines?	YES	New Power transmission and water supply pipelines and wastewater conveyance pipelines are planned for the proposed project. The transmission and distribution lines shall be laid by APTRANSCO and APEPDCL. Pipelines for water intake and wastewater conveyance shall be laid by KSEZ.
1.21	Impoundment, damming, culverting, realignment or other	Yes	It is proposed to realign few return agriculture drains passing through the site

S. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	changes to the hydrology of watercourses or aquifers?		based on a hydrology study of the site. A network of storm water drains will be provided along the roads with suitable cross drainage structures for effective drainage.
1.22	Stream crossings?	Yes	It is proposed to provide a bridge to cross Jammeru-major drain flowing in the southern part of the site to connect to Bharatmala road. Adequate cross drainage structures are proposed across the storm water drains in the site.
1.23	Abstraction or transfers of water from ground or surface waters?	YES	The project shall use sea water from desalination plant proposed in KSEZ Port premises and the estimated water demand for the proposed KSEZ MIP is 138.41 MLD, by considering reuse of 3.44 MLD, net water demand is about 135 MLD. Total water requirement during construction phase is in the order of 1 MLD and shall be temporarily abstracted from ground water after obtaining necessary approval from state ground water board.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	YES	It is proposed to realign few return agriculture drains passing through the site. The proposed development shall increase the runoff due to paved area. It is proposed to use part of raw water storage tank during monsoon for runoff storage to offset additional runoff discharge into Jammeru drain.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	YES	The construction material shall be drawn from local sources within 10 – 50 km. There is no transport of personnel as the construction workers shall be drawn from nearby villages.
1.26	Long-term dismantling or decommissioning or restoration works?	NO	
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	During construction phase local people will be hired from local villages on temporary basis. The proposed Multiproduct Industrial Park

S. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			project shall increase employment potential and may lead to influx of people to the area.
1.29	Introduction of alien species?	NO	
1.30	Loss of native species or genetic diversity?	No	
1.31	Any other actions?	NO	

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 source of information data
2.1	Land especially undeveloped or agricultural land (ha)	YES	Project land is converted to non-agricultural land in the year 2009 by Go AP vide G.O.Ms.No. 1165. The proposed area for development of Multiproduct Industrial Park is 1648.14 ha (4072.63 acres).
2.2	Water (expected source & competing users) unit: KLD	Yes	The project shall use ground water/ water drawn from desalination plant during construction and the quantity required shall be approximately 1 MLD in peak time. The estimated water demand for the proposed KSEZ IP is 138.41 MLD, by considering reuse of 3.44 MLD, net water demand is about 135 MLD. The industrial park shall store storm water during operational phase and reuse the same. <i>(Water Balance Enclosed in Annexure II)</i>
2.3	Minerals (MT)	NA	
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	YES	Sand, Aggregate, Cement, Reinforcement Steel, Bricks, Plumbing Material, Electrical Material, Paints and other miscellaneous materials will be purchased from nearby dealers and approved quarries/sources.
2.5	Forests and timber (source – MT)	YES	Steel and other Eco- friendly materials will be used to the extent possible thus minimizing the use of forest/timber.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (T), energy (MW)	YES	Energy requirement during construction shall be in the range of 3 MW. The power requirement for the project during operation is 360 MW, and shall be drawn from APEPDCL. Backup DG sets shall be provided. It is proposed to establish a 25 MW Co-gen plant utilizing the steam required for stripper and MEE in

S.No	Information/checklist confirmation	Yes / No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
			CETPs by providing steam boilers of 150 TPH (2 x 75 TPH). The required quantity of coal is 750 TPD. Coal shall be Imported through Kakinada Port and or other suppliers.
2.7	Any other natural resources (use appropriate standard units)	NO	

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 source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	YES	Hazardous chemicals will be handled in the proposed MIP. MSIHC rules, 2000 (as amended) shall be followed during storage, transportation and handling of Hazardous chemicals by the individual industries.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases).	NO	
3.3	Affect the welfare of people e.g. by changing living conditions?	YES	There will be a positive impact on the welfare of the people. Communication and transportation facilities will improve. The estimated employment for direct and indirect employment will be in the order of 90,000 and 2,25,000 respectively and there will be improvement in living standards.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	YES	Nearest School: 0.36 km in N direction Hospital: 0.21 km in N direction. It is proposed to locate industries that have low pollution potential in the vicinity of these sensitive locations.
3.5	Any other causes	NO	

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 source of information data
4.1	Spoil, overburden or mine		Excavated material if any shall be reused for

S. No	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
	wastes	YES	filling during the construction of roads.
4.2	Municipal waste (domestic and or commercial wastes)	YES	Wastes from canteen, other commercial wastes like paper, empty containers etc. The MSW shall be in the range of 30 TPD during operation.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	YES	HW generated during construction shall be waste oils, batteries and containers of paints etc.; while the operation phase contains salts from evaporators, ETP sludge and filtration media etc. It will be handled as per HWM Rules and disposed to nearby TSDF from project site through approved APPCB vendors. Individual units shall also follow the HWM rules for handling of hazardous wastes generated in their plants ranging from process residues, filter media, pre-treatment sludge etc.
4.4	Other industrial process wastes	YES	Enclosed at Annexure IV
4.5	Surplus product	NO	
4.6	Sewage sludge or other sludge from effluent treatment	YES	Sludge from Common Effluent Treatment Plant, Sewage treatment plant and evaporation salts shall be sent to TSDF. It has been estimated that about 1.3 TPD of sludge will be generated daily from the planned STPs and about 20.0 TPD of sludge from the CETP at full capacity.
4.7	Construction or demolition wastes	YES	During construction phase, construction debris may be generated which will be segregated and whatever is re-saleable will be sold to buyers and rest of the waste will be used for filling up of low-lying areas and development of internal roads and boundary walls.
4.8	Redundant machinery or equipment	No	
4.9	Contaminated soils or other materials	NO	
4.10	Agricultural wastes	NO	
4.11	Other solid wastes	No	

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 source of information data
5.1	Emissions from combustion of fossil fuels from stationary	YES	Coal shall be used as fuel for boilers and HSD for DG Sets. Emissions details are enclosed in

S.N o.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
	or mobile sources		Annexure V. During construction, emissions will be generated from exhaust of construction equipment including moving vehicles carrying human and materials. During operation , expected emissions are from process, diffuse, fugitive, utilities, vehicles, DG sets, boilers of CETP and also from industrial units which would result in the build-up of particulate matter and gaseous emissions.
5.2	Emissions from production processes	YES	Individual units shall have necessary control equipment like scrubbers, and condensers to mitigate and control process and VOC emissions while ESP and bag filters are used as air pollution control equipment for boilers.
5.3	Emissions from materials handling including storage or transport	YES	Individual units shall adopt mitigation measures for emissions during material transfer.
5.4	Emissions from construction activities including plant and equipment	YES	Dust may rise during transport of material and construction activity. The dust emissions shall be mitigated by water spraying on the roads within the premises.
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	YES	Dust may rise during transport of material and construction activity. The dust emissions shall be mitigated by water spraying on the roads within the premises.
5.6	Emissions from incineration of waste	NO	
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	NO	
5.8	Emissions from any other sources	YES	Diffuse emissions from equipment operations and fugitive emissions due to accidental release/spillage of chemicals may result in fugitive emission.

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

S.N o.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant,	YES	Material transport and construction equipment shall be source of noise, while

	crushers		mechanical equipment, pumps, motors, boilers, cooling towers, vacuum systems, DG sets are the sources of noise during operation.
6.2	From industrial or similar processes	YES	From Turbine and DG sets, and controlled by providing Acoustic Enclosures.
6.3	From construction or demolition	YES	Noise during construction shall be due to construction equipment, construction activity and emergency DG sets.
6.4	From blasting or piling	YES	No blasting activity is envisaged but there will be piling activity during the construction stage. Personal Protective Equipment will be provided to the work force.
6.5	From construction or operational traffic	YES	The increased traffic may have marginal impact
6.6	From lighting or cooling systems	YES	May result in marginal increase in the baseline at the boundary of the site.
6.7	From any other sources	NO	

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 source of information data
7.1	From handling, storage, use or spillage of hazardous materials	YES	All the hazardous materials are stored on elevated platform and stored in closed storage tanks and containers (Liner/MS/GI/HDPE) are stored in a closed shed and contamination of soil is anticipated in case of spillages and accidental releases.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	YES	Sewage of 4.3 MLD is estimated from industrial workers, amenities and utilities. At park level, 2.0 MLD of STP in a modular manner development is proposed and individual industries 2.30 MLD will be treated in their premises. Treated sewage will be reused for greenbelt. CETPs of 63.5 MLD is proposed with secondary treatment followed by tertiary treatment. Treated wastewater 63.5 MLD will be sent to Common Treated wastewater conveyance system with a marine outfall proposed by Go AP.
7.3	By deposition of pollutants emitted to air into the land or into water	YES	Deposition of pollutants is anticipated with cross media effects due to air emissions from utilities, process, diffuse emissions and fugitive emissions from the proposed industrial estate.
7.4	From any other sources	NO	

7.5	Is there a risk of long-term buildup of pollutants in environment from these sources?	YES	Industrial Park projects tend to increase the AAQ Levels.
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8.Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	YES	All Inbuilt Safety precautions will be adopted and there will not be any damage to environment or human health. Risks associated with handling, storage of hazardous materials at the proposed site will be assessed. Industry specific risk assessment study shall be carried out by individual units coming up in the project area.
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	As per India Seismic Zone Map (Updated in June 2019) the proposed project site is falling in Seismic Zone-II & III (Low & Moderate damage Risk Zone). The proposed improvements and modifications of drainage system shall ensure to avoid flooding of the site.

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 activities in the locality

S. No.	Information/Checklist confirmation	Yes / No	Details thereof (with approximate quantities/rates, wherever possible) with source 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.: <ul style="list-style-type: none"> Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) Housing development Extractive industries Supply industries Other 	YES	The project shall enhance the socio-economic status of the area by increasing the demand for housing, infrastructure, revenue to the state by the way of taxes in addition to employment. <ul style="list-style-type: none"> Yes Yes No Yes Yes

9.2	Lead to after-use of the site, which could have an impact on the environment	NO	
9.3	Set a precedent for later developments	YES	The area may see further development in the region due to the establishment of this MIP in addition to establishment of a port and proposed PCPIR.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	YES	The regional development is expected based on the projects being planned along with KSEZ MIP.

III) Environmental Sensitivity

S.N o.	Areas	Name / Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	NA	Not Applicable
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	YES	Reserve Forests: Tetagunta RF - 9.7 km- NE, Vajrakutam RF - 10 km - NW, Nellipudi RF - 10.2 km- NW, Water bodies: Tanks/Streams/Drains/Sea Ramaraogari Cheruvu - 1.4 km - NW, Uppu Cheruvu- 1.0 km - NW, Seasonal Upputeru/Jammeru - Adjoining, Bay of Bengal - 0.51 km - SE, Nakkala Khandi - 2.1 km - SW.
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	There is no record of any sensitive species of flora and fauna.
4	Inland, coastal, marine or underground waters	Yes	Bay of Bengal - 0.51 km - SE, Upputeru creek/Jammeru drain - Adjoining
5	State, National boundaries	NO	Nil within 15 km
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	YES	Vakalapudi Beach-14.5 km - SW
7	Defense installations	YES	Naval installation near Vakalapudi- 14.5 km- SW
8	Densely populated or built-up area	YES	There is no urban area within 15 km radius from the site. However, the following is the densely populated village. A.V. Nagaram- 50 m, NE (Population - 13566)
9	Areas occupied by sensitive man-made land uses (<i>hospitals, schools, places of worship, community facilities</i>)	YES	The study within 15 kms has urban area of Tuni, Annavaram and Pithapuram towns and 76 villages. The villages amenities are presented below

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S.N o.	Areas	Name / Identity	Aerial distance (within 15 km.) Proposed project location boundary
	Gollaprolu	✓	✓
	Pro. Donthamuru	✓	✓
	Pro. Rayavaram	✓	✓
	Bhogapuram	✓	✓
	Raparathi	✓	✓
	Madhavapuram	✓	✓
	Agraharam (R)	✓	✓
	Viravada	✓	✓
	Kandarada	✓	✓
	Chitrada	✓	✓
	Navakandravada	✓	✓
	P. Isukapalle	✓	✓
	Nagulapalle	✓	✓
	Mulapeta	✓	✓
	Amaravalli	✓	✓
	Yendapalle	✓	✓
	Vakatippa	✓	✓
	Kondevaram	✓	✓
	Kutukudumilli	✓	✓
	Kothapalle	✓	✓
	Aminabada	✓	✓
	Uppada	✓	✓
	Panduru	✓	✓
	Nemam	✓	✓
	Thammavaram	✓	✓
	Penumarathi	✓	✓
Source: 1. Survey of India Topo Sheet 2. Census of India 2011, Administrative atlas Andhra Pradesh			
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	YES	Ramaraogari Cheruvu - 1.4 km - NW, Uppu Cheruvu- 1.0 km - NW, Seasonal Nakkala Khandi - 5.6 km - SW. Upputeru creek/Jammeru-Adjoining
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	NO	
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	yes	The project area falls under Seismic Zone-II & III (Low and Moderate damage Risk Zone), which means that the area is under moderate risk of earthquakes. The proposed improvements and modifications of drainage system shall ensure to avoid flooding of the site.

IV) Proposed Terms of Reference for EIA studies

The model terms of conditions published by MoEF&CC in April 2015 shall be strictly followed (Ref: standard ToR for EIA/EMP report for projects /Activities requiring Environmental Clearance under EIA Notification, 2006). Additional TORs if any shall be followed

Standard Terms of Reference

7(c): standard terms of reference for conducting environment impact assessment study for industrial Estates/ Parks/ Complexes/ Areas, Export processing zones (EPZS), Special economic zones (SEZS), biotech parks, leather complexes and information to be included in EIA/EMP report

- 1) Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental damage, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
- 2) Submit the details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.
- 3) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
- 4) Examine the impact of proposed project on the nearest settlements.
- 5) Examine baseline environmental quality along with projected incremental load due to the project taking into account of the existing developments nearby.
- 6) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.

- 7) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area, and any obstruction of the same by the project.
- 8) Details regarding project boundary passing through any eco- sensitive area and within 10 km from eco- sensitive area.
- 9) Green buffer in the form of green belt to a width of 15 meters should be provided all along the periphery of the industrial area. The individual units should keep 33% of the allotted area as a green area.
- 10) Submit the details of the trees to be felled for the project.
- 11) Submit the details of the infrastructure to be developed.
- 12) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
- 13) Submit details regarding R&R involved in the project
- 14) Zoning of the area in terms of 'type of industries' coming-up in the industrial area based on the resource requirement along with likely pollutants with quantity from the various industries.
- 15) The project boundary area and study area for which the base line data is generated should be indicated through a suitable map. Justification of the parameters.

Environmental Attributes for Field Study

- | | | |
|---------------------------|---|------------------------------|
| ➤ Study Period | - | March – May, 2022 |
| ➤ Meteorology | - | 1 |
| ➤ Air Quality | - | 10 Locations |
| ➤ Water Quality | - | 15 Locations (GW-10, SW – 5) |
| ➤ Soil | - | 10 |
| ➤ Noise | - | 10 |
| ➤ Flora and Fauna survey- | | Field study by Experts |

- Demography - Census records (2011)
- Land Use - Census and Revenue Records
- Study Area - @ 10 km.

Sampling Location Maps are enclosed in **Annexure VI**.

Sampling/Monitoring Locations

S. No	Location Name	MM	AAQ	Noise	G. W	S. W	Soil
1.	Site	√	√	√	√		√
2.	Avulamanda		√		√		√
3.	A.V. Nagaram (AVenkatanagaram)		√		√		√
4.	Kodada		√		√		√
5.	Kuppirivanipeta		√		√		√
6.	AK Mallavaram		√		√		√
7.	Nagulapalle		√		√		√
8.	Vantimamidi		√		√		√
9.	Mayapatnam		√		√		√
10.	Kottapalli		√		√		√
11.	Durgada		√		√		√
12.	Chinnayapalem		√		√		√
13.	Avulamanda Junction			√			
14.	A.V. Nagaram Junction			√			
15.	Kodada Junction			√			
16.	Kuppirivanipeta Junction			√			
17.	AK Mallavaram Junction			√			
18.	Nagulapalle Junction			√			
19.	Vantimamidi Junction			√			
20.	Vakatippa Junction			√			
21.	NH -5 Near Annavaram			√			
22.	Durgada Junction			√			
23.	NH -5 Near Kotturu			√			
24.	Ramaraogari Cheruvu (AK Mallavaram)					√	
25.	Uppu Cheruvu					√	
26.	Upputeru Up stream					√	
27.	Upputeru down stream					√	
28.	Jammeru creek upstream					√	
29.	Jammeru creek downstream					√	

30.	Cultivation Canal near Kodada						
MM: Micrometeorology, G.W-Ground Water, S.W-Surface Water and AAQ-Ambient Air Quality. Sampling Period: March - May 2022							

- 16) Submit Legal frame work for the implementation of Environmental Clearance conditions - to be clearly spelt out in the EIA report.
- 17) Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
- 18) Site justification of the identified industry sectors from environmental angle and the details of the studies conducted if any.
- 19) Ground water classification as per the Central Ground Water Authority.
- 20) Submit the source of water, requirement vis-à-vis waste water to be generated along with treatment facilities, use of treated waste water along with water balance chart taking into account all forms of water use and management.
- 21) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.
- 22) Examine soil characteristics and depth of ground water table for rainwater harvesting.
- 23) Examine details of solid waste generation treatment and its disposal.
- 24) Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.
- 25) In case DG sets are likely to be used during construction and operational phase of the project, emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
- 26) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble-free system to reach different destinations in the city.

- 27) A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
- 28) Examine the details of transport of materials for construction which should include source and availability.
- 29) Examine the details of National Highways/State Highways/ expressways falling along the corridor and the impact of the development on them.
- 30) Examine noise levels - present and future with noise abatement measures.
- 31) Identify, predict and assess the environmental and sociological impacts on account of the project. A detailed description with costs estimates of CSR should be incorporated in the EIA / EMP report.
- 32) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
- 33) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
- 34) The Public hearing should be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the TOR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.
- 35) A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
- 36) Details of litigation pending against the project, if any, with direction / order passed by any Court of Law against the Project should be given.
- 37) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

38) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Industrial Estate>".

Additional Terms of Reference: -

- i. The planning of Industrial Estate should be based on the criteria mentioned in this ministry's Technical EIA guidelines Manual for Industrial Estate (2009), prepared by IL&FS as well as CPCB's zoning atlas guidelines for siting industries.
- ii. Detailed hydrological study delineating agriculture drain rehabilitation/diversion.
- iii. The terrain of the project area has to be detailed with hydrogeological study and its impact need to be carried out on the catchment and drainage system in core and buffer zones.

I hereby give the undertaking that data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost.

Date: 07.07.2022

Place: Hyderabad

Signature of the applicant
With Name and Full Address
(Project Proponent/ Authorized Signatory)

Kakinada SEZ Limited



(Kodhanda Ram Reddy Ojili)

Director

M/s. Kakinada SEZ Limited
Galaxy Towers, Wing -A, 21st floor,
Plot no:1, Knowledge City,
Raidugram, Hyderabad 500081,
Telangana State

M/s. Kakinada SEZ Limited (KSEZ), proposes to develop Multiproduct Industrial Park (MIP) in an area of 1648.14 ha (4072.63 acres) with necessary infrastructure, amenities, utilities and facilities at Ponnada and Ramanakkapeta villages, U. Kothapalli mandal; and A.V. Nagaram and Thondangi villages in Thondangi Mandal, Kakinada District (formerly part of East Godavari district), Andhra Pradesh to meet the market demands. An application requesting Terms of Reference (ToR) approval from Ministry of Environment, Forest and Climate Change (MoEF&CC) for a larger extent of 4,977.641 ha which is encompassing the above-mentioned area of 1648.14 ha was filed on April 30, 2007. MoEF&CC accorded ToR approval vide letter F.No. 21-454/2007-IA.III dated September 03, 2007. Subsequently, based on KSEZ request, MoEF&CC vide letter dated February 23, 2012 extended the validity of the ToR up to September 01, 2013. Environmental Clearance (EC) could not be pursued within the validity period of the ToR as the market scenario was undergoing a change and there was a need to revise the approach to respond to the modified situation. Subsequently, the extent of project land was also suitably reduced. The project entails a capital cost of Rs. 2500 crores towards establishing industrial park with necessary infrastructure like roads, drainage, water, sewage and effluent transfer, cogeneration power plant etc. It is proposed to provide common facilities of boilers; 2 x 75 TPH, Common Effluent Treatment Plants, Sewage Treatment Plant, Common storage facility, commercial space for administrative office and waste storage shed. Multiproduct Industrial Park comprises of following key sectors:

- Petroleum products and petro-chemical-based processing
- Synthetic organic chemicals
- Chemical fertilizers
- Chlor-alkali
- Pesticides industry and pesticide specific intermediates
- Integrated Paints
- Secondary Metallurgy (ferrous and non-ferrous)
- Inorganic chemical

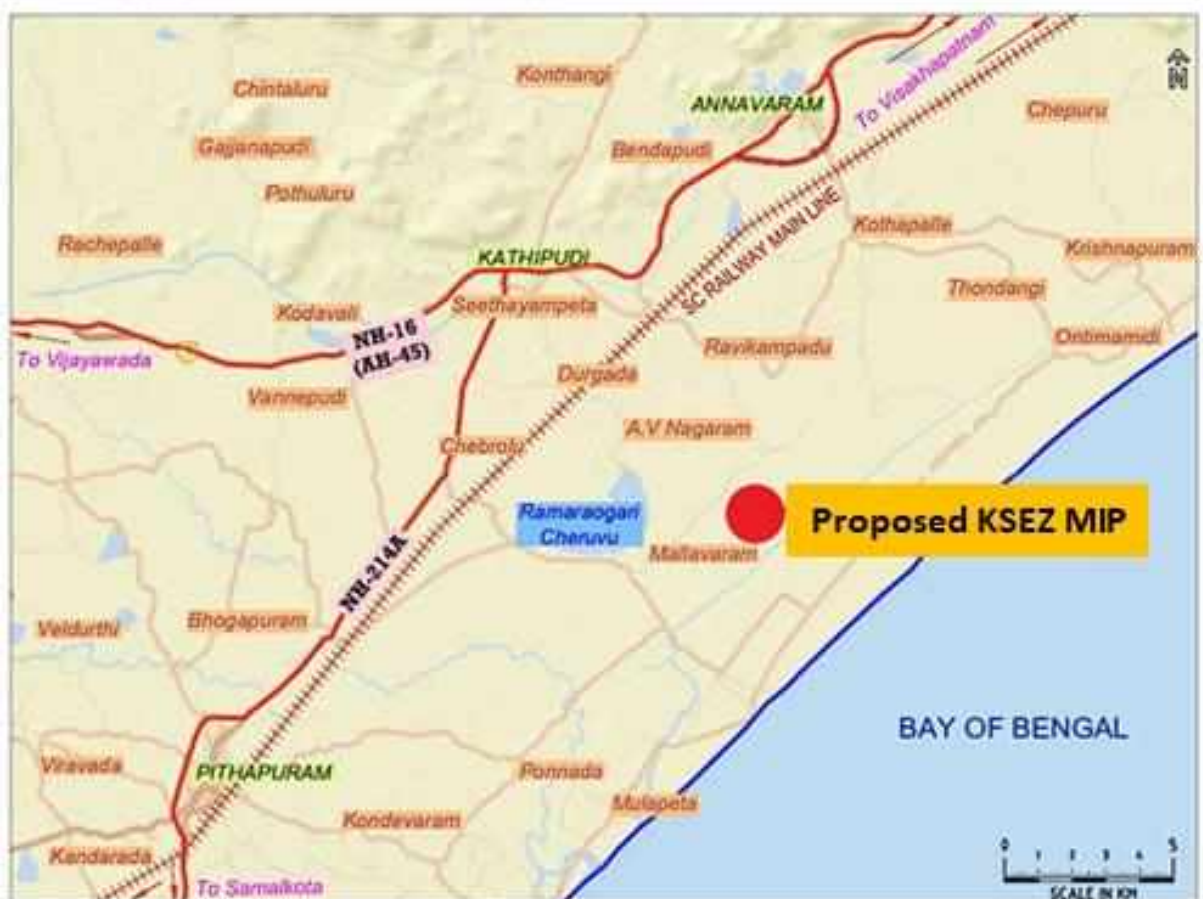
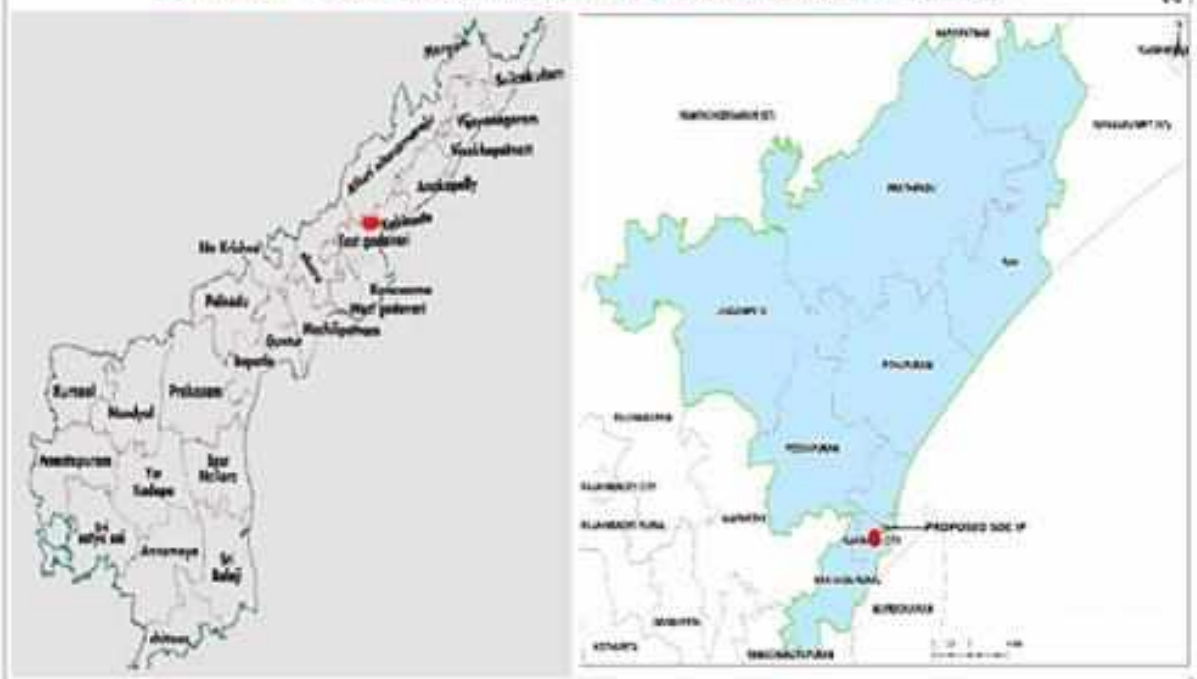
- Manmade fibres manufacturing
- Solar PV cell manufacturing
- Silicon wafer manufacturing-ingot/slicing/etching and allied products
- Lithium-ion battery manufacturing
- Glass, ceramic and sanitary ware.

Table A.1 Salient features

Description	Remarks
Name of the Project (s)	Development of Multiproduct Industrial Park (MIP) at Ponnada and Ramanakkapeta Villages, U. Kothapalli Mandal; and A.V. Nagaram and Thondangi Villages, Thondangi Mandal, Kakinada District (formerly part of East Godavari District), Andhra Pradesh by M/s. Kakinada SEZ Limited
Location of the Project	Ponnada and Ramanakkapeta Villages in U. Kothapalli Mandal; and A.V. Nagaram and Thondangi Villages in Thondangi Mandal, Kakinada District (formerly part of East Godavari District), Andhra Pradesh.
Project / Activity	7 (C) - Industrial parks/ parks/ complexes/ areas, export processing Zones
Category	A
project type	New (Green Field Project)
Capital Cost, ₹	₹.2500 crores
Land Use Pattern	The land use is Industrial land, which is converted in the year 2009 by Go AP vide G.O.Ms.No. 1165.
Survey of India sheet No	E44Q4,7,8,11,12 (65 K/4,7,8,11,12)
Elevation above Mean Sea Level (AMSL), m	0.9 - 4 m
Seismic zone	Zone II and III (Low and Moderate Damage Risk Zone)
Site surroundings	North : Open area
	East : Open area
	West : Open area
	South : Open area
Nearest Village	A.V nagaram - 0.3 km - NW direction
Accessibility to site	SH-162 connecting Kakinada to Tuni is at a distance of 1.0 km
Road access	From the SH-162, the site can be accessed by a village road of 5 m width connecting K. Perumallapuram to A.V. Nagaram
Nearest Town/Village	Tuni - 18 km - NE direction A.V. Nagaram, K Perumallapuram
District Head quarters	Kakinada - 16 km - SW direction
Nearest Railway station	Annavaram- 6.8 km - NW

Description	Remarks
Nearest airport	Rajahmundry- 59 km Visakhapatnam - 100 km- NE direction
Nearest Port	Kakinada Deep Water Port -25 km - SW direction
Major Industries	Nil
Water Bodies in buffer area	Nil
Water Bodies in Core Area	Nil
Water Bodies in study area	Ramaraogari Cheruvu - 1.4 km - NW, Uppu Cheruvu- 1.0 km - NW, Seasonal Upputeru/Jammeru - Adjoining, Bay of Bengal - 0.51 km - SE, Nakkala Khandi - 2.1 km - SW
The project / activity attracts the provisions of CRZ	CRZ Notification is applicable considering the proximity of Upputeru creek adjacent to the site in the southern part.
Reserve Forests	Tetagunta RF - 9.7 km- NE, Vajrakutam RF - 10 km - NW, Nellipudi RF - 10.2 km- NW,
Archeological / Historical / ancient Monuments	Nil within 10 km
Inter-state boundary and international boundary	Nil within 10 km
Protected Areas notified under the Wild Life (Protection) Act, 1972	Nil within 10 km
Eco-sensitive areas as notified under section 3 of the E (P) Act, 1986	Nil within 10 km
Critically polluted areas as identified by the CPCB from time to time,	Nil within 10 km

KEY MAP - ANDHRA PRADESH & KAKINADA DISTRICT



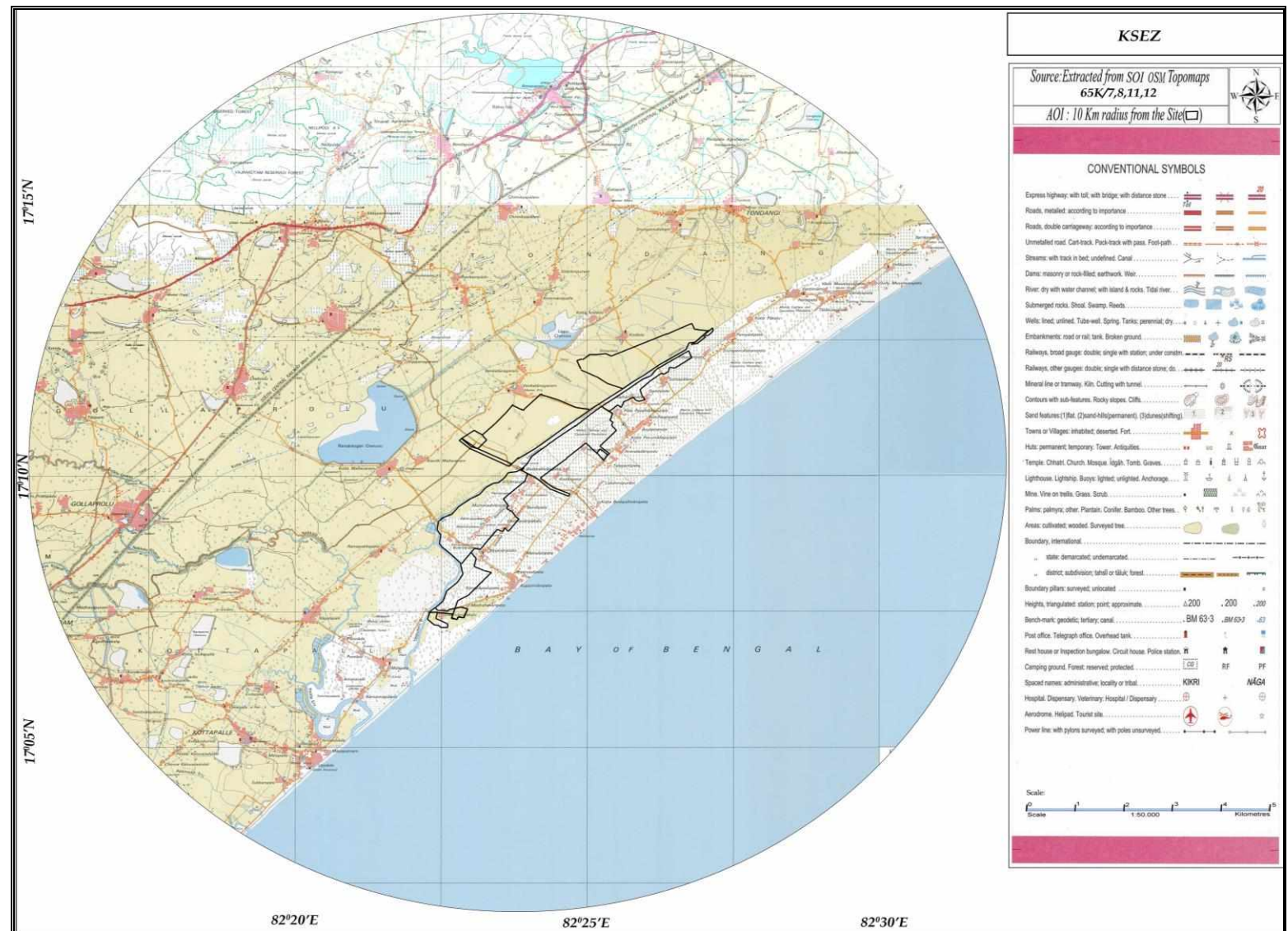


Figure A.1 Location of KSEZ MIP

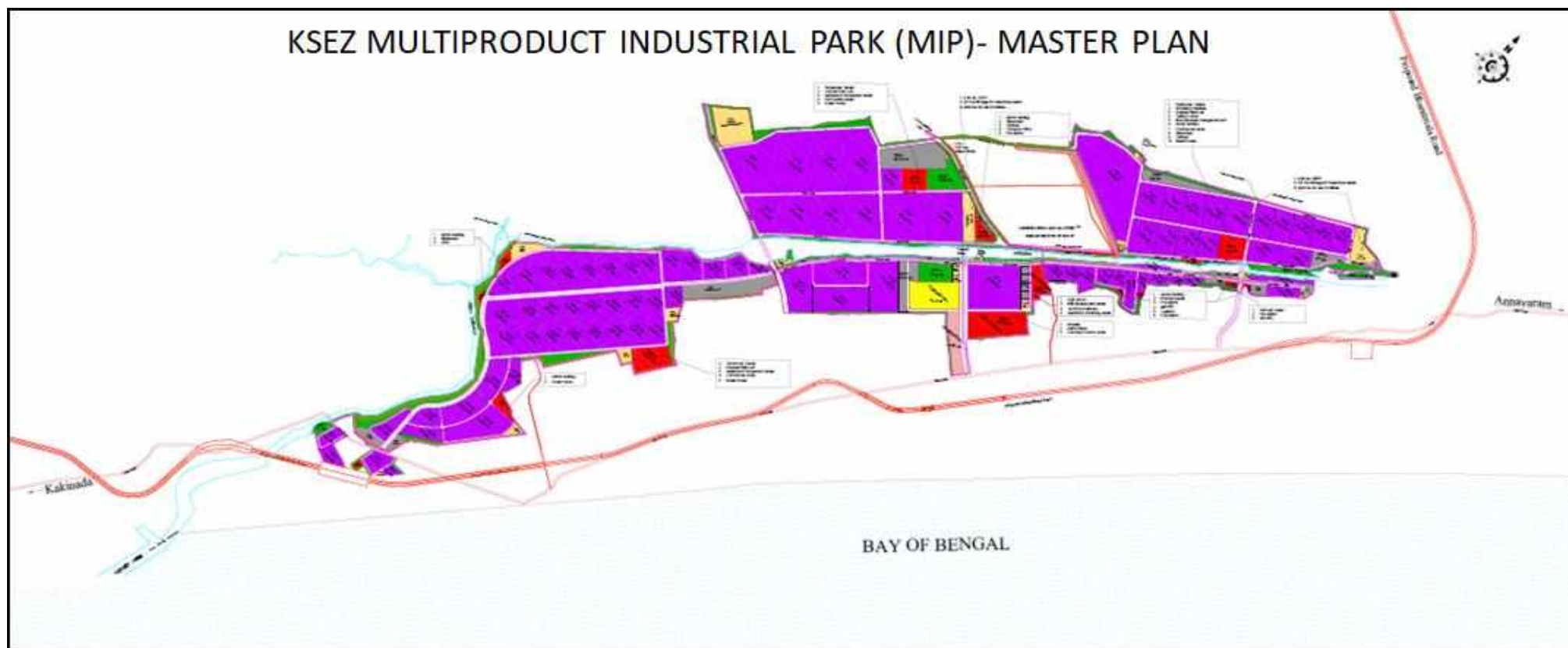


Figure A.2 Layout of KSEZ MIP

Site Alternatives

Proposed Multiproduct Industrial Park (KSEZ MIP) project site is located at Ponnada and Ramanakkapeta Villages, U. Kothapalli Mandal; and A.V. Nagaram and Thondangi Villages, Thondangi Mandal, Kakinada District, Andhra Pradesh. The site is located at a distance about ~210 km from Amaravathi, the state capital; ~100 km from Visakhapatnam; and ~15 km to the Kakinada District Headquarters. The site location is shown in [Figure A-3](#).

Details of Alternative Sites

KSEZ envisaged this Multiproduct Industrial Park considering the potential for industrial growth in the coastal region and giving due importance to the following factors within the Visakhapatnam-Kakinada belt falling under Petroleum, Chemical and Petrochemical Investment Region (PCPIR) and Visakhapatnam-Chennai Industrial Corridor (VCIC) development program.

- Size and availability of land
- Excellent location and connectivity
- Nature of industries and the economic structure
- Building strong backward linkages
- Building forward linkages
- Infrastructure facilities
- Proximity to port
- Dedicated water and power allocation

Criteria for Site Evaluation

The site was identified after evaluating four different locations for development of industrial parks within the Visakhapatnam- Kakinada belt by the promoters of Kakinada SEZ Limited in the year 2002. The extract of site selection criteria and the evaluation of various locations is presented in the following tables (updated with latest developments). A comparative analysis of these four sites (**Figure** using the below specified criteria resulted in identifying the area of choice.

- Parvada area

- Atchuthapuram-Rambilli belt
- Peddapuram and the nearby area
- Area north of Kakinada coast.

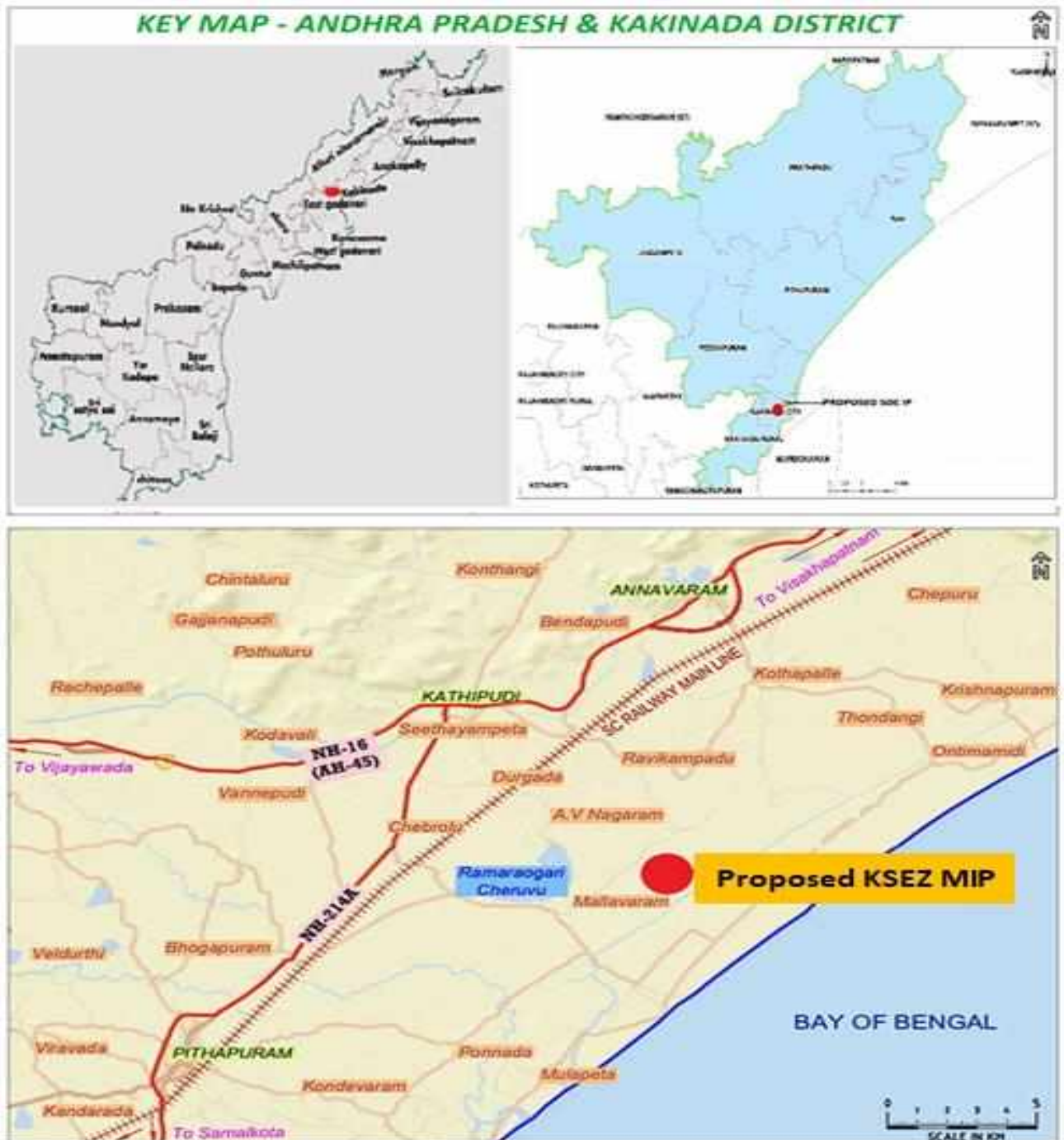


Figure A-3 Location of KSEZ MIP site

The following criteria were considered for assessing the suitability of an area for the Industrial Park:

- Minimal adverse environmental impacts;

- Minimal developmental cost
- Relatively small rehabilitation and resettlement;
- Suitability for private infrastructure developers
- Suitability for occupant industries;
- Suitability for phased and integrated development
- Scope for future development;
- Existing and proposed infrastructure
- Closer access to growing trade markets in South-east Asia and China

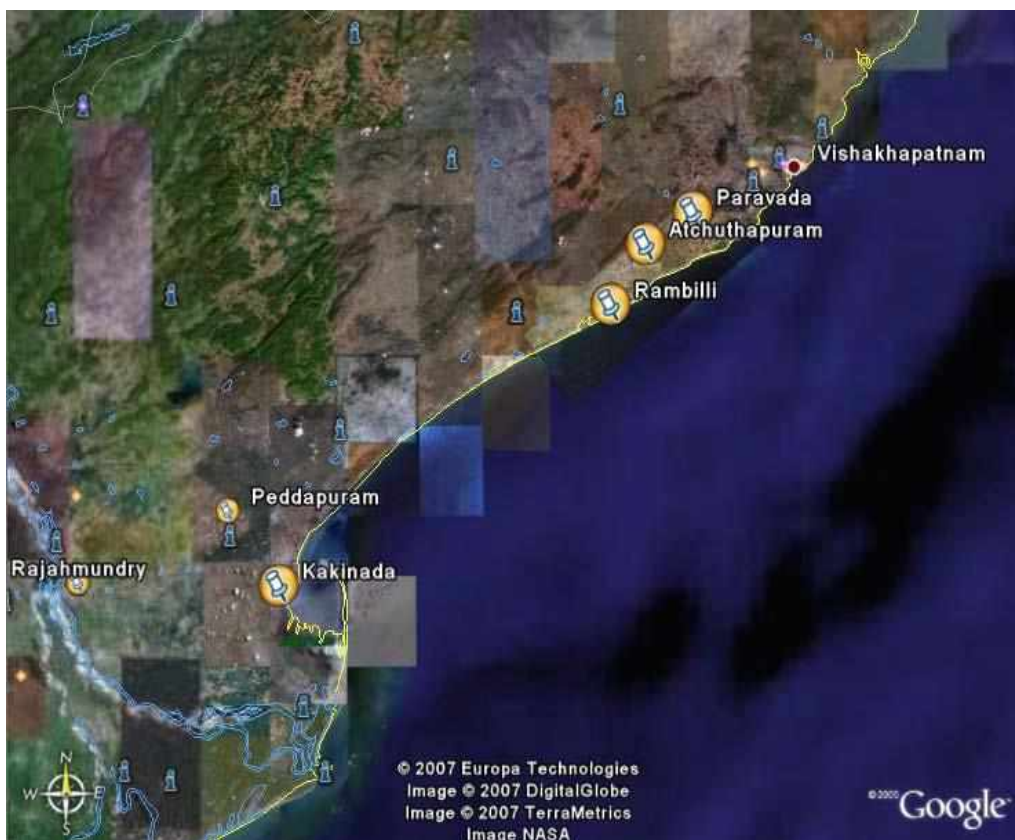


Figure A-4 Location of Identified Alternative Sites
Analysis of Alternative Sites

Based on the above-specified criteria, each of the location options has been evaluated. Detailed advantages and disadvantages of each site from the viewpoint of establishing the Multiproduct Industrial Park are discussed in the following table. The salient features of the sites, evaluated for various environmental attributes are presented in [Table A.2](#).

Table A.2 Site Assessment for the proposed Plant

S. No.	Criteria	Paravada area	Atchuthapuram-Rambilli belt	Peddapuram and nearby area	Area north of Kakinada coast
1	Land availability	About 2400 acres of land has already been acquired in Parvada. Pharma City has been developed. Further, clear land of about 10,000 acres has already been identified which can be acquired. As there is no major habitation or agricultural activity in the nearby areas, additional land for future development will also be available in the nearby areas, even though such lands may not be contiguous.	Clear land of about 9,200 acres has already been identified which can be easily acquired. APSEZ has been developed. As there is no major habitation or agricultural activity in the nearby areas, additional land for future development will also be available in the nearby areas.	While major part of the acquired land has already been earmarked for industrial activity, there is scope for acquisition of about 4,500 acres in the region.	Large tract of land of approximately 10,000 acres is available which can be developed as an industrial area.
2	Time and Costs	As the identified land area does not have major habitation or agriculture (only single crop), the land can be acquired within a relatively short period of time. Further, as this option does not involve acquisition of very large piece of land upfront, it will not involve upfront cost outlays.	As the identified land areas do not have major habitation or agriculture (only single crop), the land can be acquired within a relatively short period of time. Further, as this option does not involve acquisition of very large piece of land upfront, it will not involve upfront cost outlays.	As the identified land areas do not have major habitation or agriculture (only single crop); the land can be acquired within a relatively short period of time. Further, as this option does not involve acquisition of very large piece of land upfront, it will not involve upfront cost outlays.	With GoAP support, land has already been acquired and R&R has been carried out, only 2 acres of land handover is under process.
3	Proximity to port	This belt is close to the Gangavaram port. Hence, Gangavaram Port should take the requirement of the industrial parks into account.	The site is bounded by sea on east side and close to the proposed Muthyalampalem port. A dedicated road along the coast connecting Muthyalampalem port to the site can be examined. This site is also close to the Gangavaram Port.	Kakinada Deep Water Port is 10 km from site. Port access would involve construction of greenfield road or expansion of existing road, which would increase development cost of the project.	Greenfield KSEZ Port is under construction in addition to existing Kakinada Deep Water Port.

S. No.	Criteria	Paravada area	Atchuthapuram-Rambilli belt	Peddapuram and nearby area	Area north of Kakinada coast
4	Connectivity	The site is 2 km from NH-5 and 0.5 km from Chennai – Howrah south central rail line. This would reduce initial cost for infrastructure Development.	As compared to other sites, Atchutapuram – Rambilli is located away from the road and rail linkages. It is 4 km from NH 15 and 20 km from Chennai- Howrah rail line. Construction of linkages to NH 16 and rail line would increase developmental cost.	The site is located on the ADB road connecting Kakinada to NH 5 and 6 km from the Chennai – Howrah rail line. This would provide good access to the site. As the villages in this region are located on either side of the ADB road, it will not be possible to develop a large piece of contiguous land unless an alternative road is provided for public access. This would involve acquiring new ROW for the affected part of the ADB road and realigning the existing ADB road.	The belt has existing infrastructure such as the South-Central Railway, National Highway 16 and ancillary road network, Kakinada Deep Water Port, Rajahmundry Airport and Visakhapatnam airport. NH-16 runs along the Visakhapatnam- Kakinada belt. A two-way rail line connecting Howrah and Chennai also passes along this belt. From Vakalapudi, site can be accessed through SH-162 which in turn connects NH-16.
5	Power	A 33 KV substation with 220 KV and 132 KV power supply is available at Parvada.	A 33 KV substation is available at Atchutapuram.	A 33 kV sub station is available near peddapuram	A 400 KV Sub-Station is proposed in KSEZ premises.
6	Water	Water from Godavari River can be augmented and transported through Yeluru Canal to the site.	Water from Yeluru canal can be made available at site. There is also potential for augmenting Sarada river water using Kondakarla Ava tank as storage reservoir. A viable option can be worked out after undertaking a detailed feasibility study.	Samalkot Canal drawing water from river Godavari is the major source of water supply for agriculture as well as industries in this region.	Samalkot Canal drawing water from river Godavari is the major source of water supply for agriculture as well as industries in this region. Desalination Plants can be planned as site is near to Bay of Bengal.
7	Administration	As the land area under this option would be manageable, there will be	The site can be easily isolated and bonded thereby easing	As the land area under this option would be manageable,	The administrative machinery has to be suitably augmented

S. No.	Criteria	Paravada area	Atchuthapuram-Rambilli belt	Peddapuram and nearby area	Area north of Kakinada coast
		ease of administration in terms of monitoring and controlling the Industrial Park operations.	zone administration.	there will be ease of administration in terms of monitoring and controlling the Industrial Park operations.	for the resident population and existing industrial base.
8	Presence of existing industrial units	Land has already been allocated to several industrial units in Parvada. Pharma City is operational.	There are industrial areas in various stages of operation and commissioning. APSEZ is operational.	There are a number of major and small-scale industries located at Peddapuram. 235 MW GVK Power plant, Spectrum Power Plant and Gautami Power Plant are existing. In addition, there are many small-scale industries in this area. Relocation or change of status of these industries would not only be difficult but also increase development cost of the project.	There are a number of major and small-scale industries located near Kakinada. The areas identified are devoid of industrial areas.
9	Physical contiguity and linkages	The areas at Parvada are not contiguous, and there are a few villages and settlements in between these two areas. These areas are at present connected by Gajuwaka-Yelamanchili bypass road and other district and village roads. Thus, bonding the entire area would also require bonding the connecting roads. As industries and locals are using the existing roads, it would not be possible to bond the existing roads. Thus, under this option there would be a need to develop alternative bonded roads that would entail right of way issues.	The parcels has contiguity and has linkage with state highway and nearest rail line is available	Parcel doesn't have contiguity and linkage to road and rail is available	The corridor would require connectivity with south-central railway, NH 16 and other roads as these are the major conduits for domestic goods and population in eastern coast.
10	Rehabilitati	The site involves rehabilitation of 7	There will be rehabilitation	Acquisition of additional land	The land is in complete

S. No.	Criteria	Paravada area	Atchuthapuram-Rambilli belt	Peddapuram and nearby area	Area north of Kakinada coast
	on and resettlement	villages having a total population of 16102 inhabitants (1991). Resettling such a large population might result in delay, increase the cost of compensation and increase administrative difficulty.	of 15 villages with 17183 inhabitants (1991). Site 'A' having 5700 acres of land has 9 villages with 11719 inhabitants. Site 'B' has 3500 acres of land, six villages with 5464 inhabitants.	will require rehabilitation of 7 villages having 25921 population, the highest compared to the other two sites. The proposed site has prime agricultural land having two crops. This would make land acquisition not only difficult but also costly.	possession of KSEZ. Ramaraghavapuram hamlet will be rehabilitated as per R&R plan.
12	Environmentally sensitive area in proximity	Kambalakonda Wildlife sanctuary	There are no environmentally sensitive areas / zones or place of archeological importance in the vicinity of site	The Coringa wildlife sanctuary is located in the extreme southeast side of the site. The area in and around the sanctuary has large mangrove forests.	The Coringa wildlife sanctuary is located towards south, which is beyond 15 km from the site
	Recommendation	Not recommended	Not recommended	Not recommended	Recommended due to land availability, less R&R and availability of coastal front for setting up desalination plant

Advantages of Selected Site

Table presents the suitability of the KSEZ site with respect to site selection criteria mentioned earlier in this section.

Table A.3 Suitability of selected site

S. No.	Criteria	Importance	Suitability
1.	Availability of land	Land availability	The proposed site is spread over an area of 4100 acres and has already been acquired.
2.	Rail Connectivity	Rail connectivity is important for transportation of goods and movement of people from/ to the MIP to the hinterland. Further, connectivity to mainline is desirable as it provides cost effective and efficient transportation solutions for longer routes.	A broad gauge two lane electrified rail line (Chennai-Howrah) runs parallel to the coastal belt and provides an immediate connectivity to the MIP. A proposal for connecting KSEZ port through rail linkage to connect Chennai- Howrah main line at Annavaram is approved and will also serve the proposed MIP.
3.	Road Connectivity	Road connectivity is important for transportation of goods and movement of people from/ to the MIP to the hinterland. Further, connectivity to national highways is desirable for providing cost effective and efficient transportation solutions for providing cost effective and efficient transportation solutions for longer route.	The KSEZ MIP has direct access to the SH 162, which leads to Tuni and the existing Kakinada port. National Highway 16 runs parallel to the coastal belt and provides access to MIP.
4.	Proximity to seaport and connectivity	Proximity to seaport with excellent connectivity is important to provide an access to international markets of the occupant industries in terms of import and export of goods from/ to the MIP. It is important that the port provides sufficient container and break-bulk cargo handling facilities with	Kakinada Gateway Port Limited (KGPL), is constructing a seaport near KSEZ lands. Existing Kakinada Deep Water Port towards South, Gangavaram and Visakhapatnam Ports towards North will also provide export/import facility for industries coming up in MIP.

S. No.	Criteria	Importance	Suitability
		sufficient back up storage space, and has capacity to handle the cargo emanating from the MIP.	
5.	Proximity to airport	Proximity to airport is important for import and export of sir borne cargo and movement of people. It is desirable to have an international airport with cargo handling facilities within a reasonable reach and good connectivity.	The nearest airport to MIP is Rajahmundry Airport. The Visakhapatnam Airport is the nearest international airport. International air connectivity is also possible through the Hyderabad Airport.
6.	Availability of water	Good quality and sufficient quantity of water is essential for meeting the needs of the industrial units and the township.	10 Million Gallons per Day (MGD) water allocation from Samalkota canal is available to KSEZ lands. 4 x 50 MLD Desalination Plant is also proposed to meet the water requirements of the industries and KSEZ Port.
7.	Availability of power	Power is one of the basic requirements of units. It is essential that a reliable source of power is available for supply of uninterrupted and balance voltage power to the units	A 400 KV Sub-Station is proposed in KSEZ premises.
8.	Suitability of land	The land should not be environmentally sensitive and should not involve major displacements.	The site under consideration does not include any environmentally sensitive zones.
9.	Proximity to domestic markets	As the units will also be procuring / selling goods and services from / to local markets, it is important to provide the units with easy access to domestic markets.	Kakinada, being a port based industrial centre, provides good domestic markets.
10.	Labour	As MIP will have various industrial and other units, it is important that adequate skilled manpower is available in the near vicinity.	Kakinada is home to a considerable number of engineering and other professional colleges, JNTU being significant among them. The labour scenario in this belt is also generally peaceful.

S. No.	Criteria	Importance	Suitability
11.	Industrial atmosphere	The presence of industrial atmosphere in the nearby region where MIP is proposed to be located is important.	Major industries at Kakinada include Nagarjuna fertilizers, Godavari fertilizers, Coromandal fertilisers, GVK industries, Spectrum power generation, etc., This provides the basic economic nucleus that the proposed MIP can leverage upon.

Given the above advantages, KSEZ proposed to develop Multiproduct Industrial Park in an area of 1648.14 ha (4072.63 acres) at U. Kothapalli and Thondangi mandals of Kakinada District (formerly part of East Godavari district), Andhra Pradesh.

Industrial Sector Categorisation as per EIA Notification

Proposed industries with respect to Environmental Impact Assessment (EIA) Notification, 2006 (as amended) and its pollution potential index as per Central Pollution Control Board (CPCB) categorization of Industries¹ is given in [Table A.4](#).

Table A.4 Industries and its Categorisation

Focus Sector	Anticipated Types of industries/activities	Categorisation of industry as per EIA notification, 2006	Categorisation as per CPCB	Pollution Potential Index
Petroleum products and petro-chemical based processing	Ethylene, Propylene, Butadiene, Benzene, Toulene and Xylene produced	5 (e) Category B (Project located inside the notified industrial area/estate)	Red	W11, W2, A1B, A2F1, HW1
Synthetic Organic Chemicals	Bulk drugs and intermediates	5 (f) Category A	Red	W11, A1B, HW1
	Synthetic rubbers	Category B (Project located inside the notified industrial area/ estate); Small units: with water consumption, <25m ³ /day, fuel consumption <25TPD	Orange	W13, A1C, HW2
	Basic organic chemicals	Category B (Project located inside the notified industrial area/estate)	Oraange	W13, A1C, HW2
	Other synthetic organic chemicals and chemical intermediates.		Red & Orange	W11, W13, A1B, A1C, HW1, HW2
Chlor-alkali	-	4(d) Category B (Project located inside the notified industrial	Red	W11, W2, A1C, A2F1, HW3

¹ EIA Notification, 2006 and its amendments and Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (February 29, 2016) published by CPCB

Focus Sector	Anticipated Types of industries/activities	Categorisation of industry as per EIA notification, 2006	Categorisation as per CPCB	Pollution Potential Index
		area/estate		
Pesticides industry and pesticide specific intermediates	Technical grade pesticides/agro chemicals	5(b) Category A	Red	W11,A1B,HW1
Integrated Paints	-	5(h) Category B	Red	W11, A1B, HW2
Inorganic chemical	-	Not Applicable	Red	W11, HW4
Secondary Metallurgy (ferrous and non-ferrous)	Secondary metallurgical processing industry <ul style="list-style-type: none"> • Ferrous • Non-Ferrous 	3(a) Category B	Red	W11,W2, A1C,A2F1, HW1
			Orange	W-10, A-20, H-10 W17, A1C, HW3
Chemical fertilizers	-	5 (a) Category A & B	Red	W11, W2, A1C,A2F1, HW1
			Orange	W-0, A-20, H-0, A1C
Manmade fibres manufacturing	Cellulosic and Non -cellulosic	5 (d) Category A & B	Red	W11, W2, A1B,A2F1, HW3
Solar PV cell manufacturing	Manufacturing silica, Poly silica manufacturing, ingot, cell and module manufacturing	Not Applicable		W113, A1C
Solar wafer manufacturing - ingot/slicing/etching		Not Applicable	Red	A1C, HW1
Lithium-ion battery		Not Applicable	Red Orange	

Focus Sector	Anticipated Types of industries/activities	Categorisation of industry as per EIA notification, 2006	Categorisation as per CPCB	Pollution Potential Index
manufacturing				
Glass, ceramic and sanitary ware		Not Applicable	Red	A1C, HW1
			Orange	A1C
Others	Drug Formulations	Not Applicable	Orange	W13, A1C, HW2
	Pesticide Formulation of active ingredients (usually mixing and grinding processes)	Not Applicable	Red & Orange	
	Fertiliser Formulation	Not Applicable	Red	A1C, HW1
	Research and Development facilities	Not Applicable	Red/Orange	W13, A1C, HW2
	Assembly units	Not Applicable	Green/White	

(Source: EIA Notification, 2006 (as amended) and as per CPCB classification of industries dated February 29, 2016)

The proposed land use is presented in **Table A.5**.

Table A.5 Land Use

Proposed Land Use of KSEZ MIP

S.No	Land use	Area (Ha)	%
1	Industrial Area	986.24	59.84%
2	Roads	209.02	12.68%
3	Parking and Logistics	82.5	5.01%
4	Green Area and Greenbelt	173.05	10.50%
5	Utilities	55.44	3.36%
6	Amenities	111.25	6.75%
7	Residential	20.05	1.22%
8	Commercial	10.59	0.64%
	Total	1648.14	100.00%

Common Utilities

S. No	Utility	Capacity
1	Coal fired boilers	2 x 75 TPH
2	DG sets	20 x 1050 kVA
3	Common Effluent Treatment Plants	63.5 MLD (Multiple Modules)
4	Sewage Treatment Plants	4.3 MLD (Multiple Modules)

ANNEXURE - II**Water Balance**

Water is required for the proposed project during construction and operation phases. Water requirement during construction stage is 1 MLD, which shall be drawn from ground water/ Desalination Plant to be developed at KSEZ Port premises towards South of KSEZ MIP. The estimated water demand for the proposed KSEZ IP is 138.41 MLD, by considering reuse of 3.44 MLD, net water demand is about 135 MLD. It is proposed to source the freshwater requirement from the Desalination Plant to be developed at KSEZ port premises i.e., south of KSEZ IP and other sources are Samalkot canal and ground water. The effluents are segregated at individual industrial units and separately transferred by a dedicated pipe line to the CETP. Total water requirement is presented in **Table A.6.**

Table A.6 Estimated total water requirement

S.No	Land use	Water Demand (KLD)				
		Process Water	Cooling water	Horticulture	Domestic water	Total
1	Industrial Area	82104.28	29629.25	8543.61	2799.96	123077.10
2	Amenities	-	-	445.67	324.57	770.24
3	Parking	-	-	985.66	0.00	985.66
4	Green area and greenbelt	-	-	2655.90	0.00	2655.90
5	Utilities	-	-	342.52	249.45	591.98
6	Roads	-	-	1549.82	0.00	1549.82
7	Commercial			65.44	196.99	262.43
8	Residential			123.88	1799.88	1923.76
	Sub-Total	82104	29629	14713	5371	131817
	Loss (5%)	4105	1481	736	269	6591
	Total (KLD)	86209	31111	15448	5639	138408
	Total (MLD)	86.21	31.11	15.45	5.64	138.41

ANNEXURE - III**Wastewater Treatment Facilities**

Sewage in the order of 4.3 MLD is estimated to be generated from industrial, amenities and utilities. At park level about 2.0 MLD of STP in a modular manner development is proposed and individual industries in the order of 2.30 MLD will be treated in their premises and reused for greenbelt application. Treated sewage from park level STP also will be reused for greenbelt/green areas application.

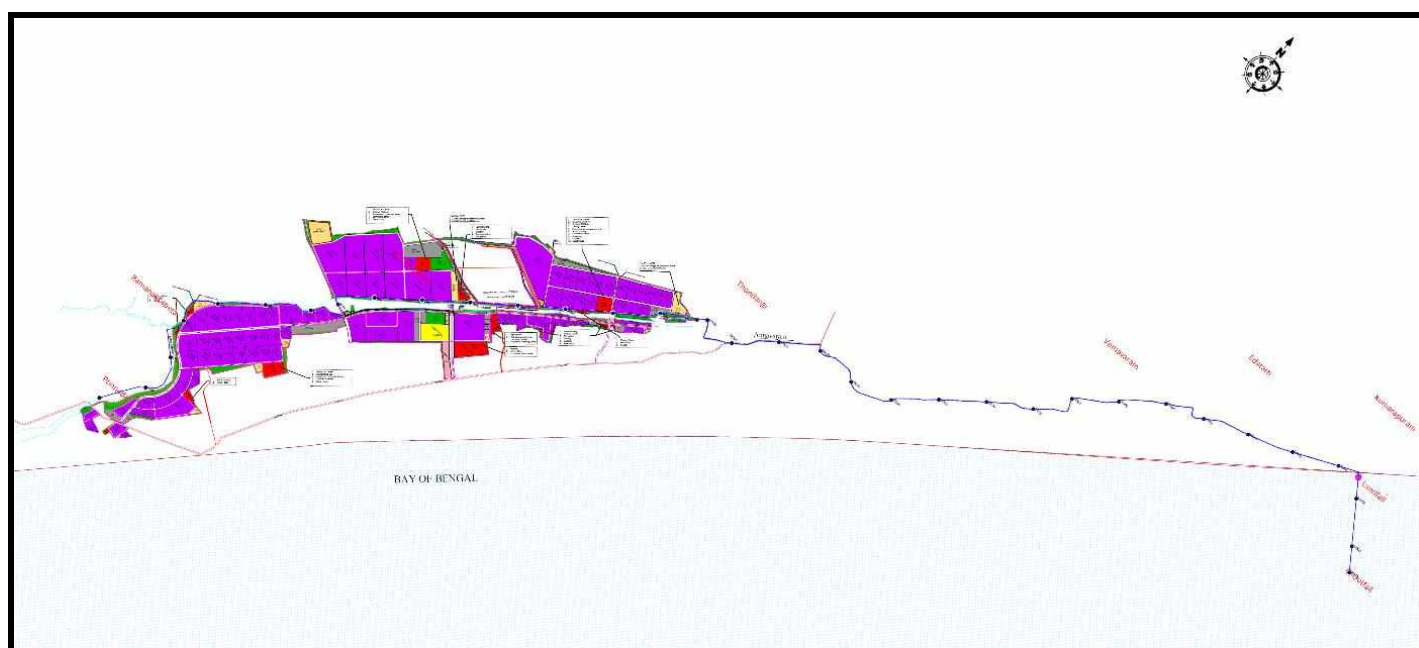
Common Effluent Treatment Plant (CETP) of capacity ~63.50 MLD is proposed with secondary treatment followed by tertiary treatment. Treated wastewater in the order of 63.50 MLD will be sent to Common Treated wastewater conveyance system along with a marine outfall proposed to be developed by Government of Andhra Pradesh (GoAP). In order to avoid multiple outfalls along the Kakinada coast, GoAP has nominated Andhra Pradesh Industrial Infrastructure Corporation (APIIC) to develop the common treated water conveyance line and the marine outfall system. Common marine outfall is proposed to cater KSEZ industrial land parcels including Lyfius Pharma, Qule pharma and Divi's pharma industry located at 2 km from KSEZ MIP and it will cater nearly 135 MLD from all these industries.

The marine outfall location is identified north of Addaripeta village. The proposed location is around 16 Km from the northern boundary of the KSEZ. The location has been identified considering the KSEZ socio-economic conditions in the region. The location of KSEZ MIP and proposed marine outfall location is shown in [Figure A.5](#).

As the marine outfall system CRZ clearance is being taken up by APIIC to cater the requirements of industries coming up in KSEZ lands and its surroundings, proposed KSEZ MIP requirement of marine outfall disposal is covered in APIIC common marine outfall study and CRZ clearance. Hence, KSEZ MIP is not applying separately for CRZ Clearance for marine outfall.

Table A.7 Quantity of effluent generated and mode of treatment

Description	Mode of Treatment and Remarks
High TDS Effluent	Effluent is stripped in a steam stripper to remove organics and then concentrated in Multiple Effect Evaporators (MEE) followed by drying in Agitated Thin Film Dryer (ATFD). Stripper condensate will be sent to cement plants for Co-Incineration. Salt from ATFD is sent to TSDF. Distillate from MEE and ATFD is sent for further treatment in biological treatment plant followed by Guard ponds and Marine outfall system after conducting bioassay test and achieving marine disposal standards.
Low TDS Effluent	Sent to biological treatment plant followed by Guard ponds and Marine outfall system after conducting bioassay test and achieving marine disposal standards.
Domestic	Sent to Sewage Treatment Plant and treated wastewater is used for on land irrigation for greenbelt development

**Figure A-5 Proposed Marine Outfall**

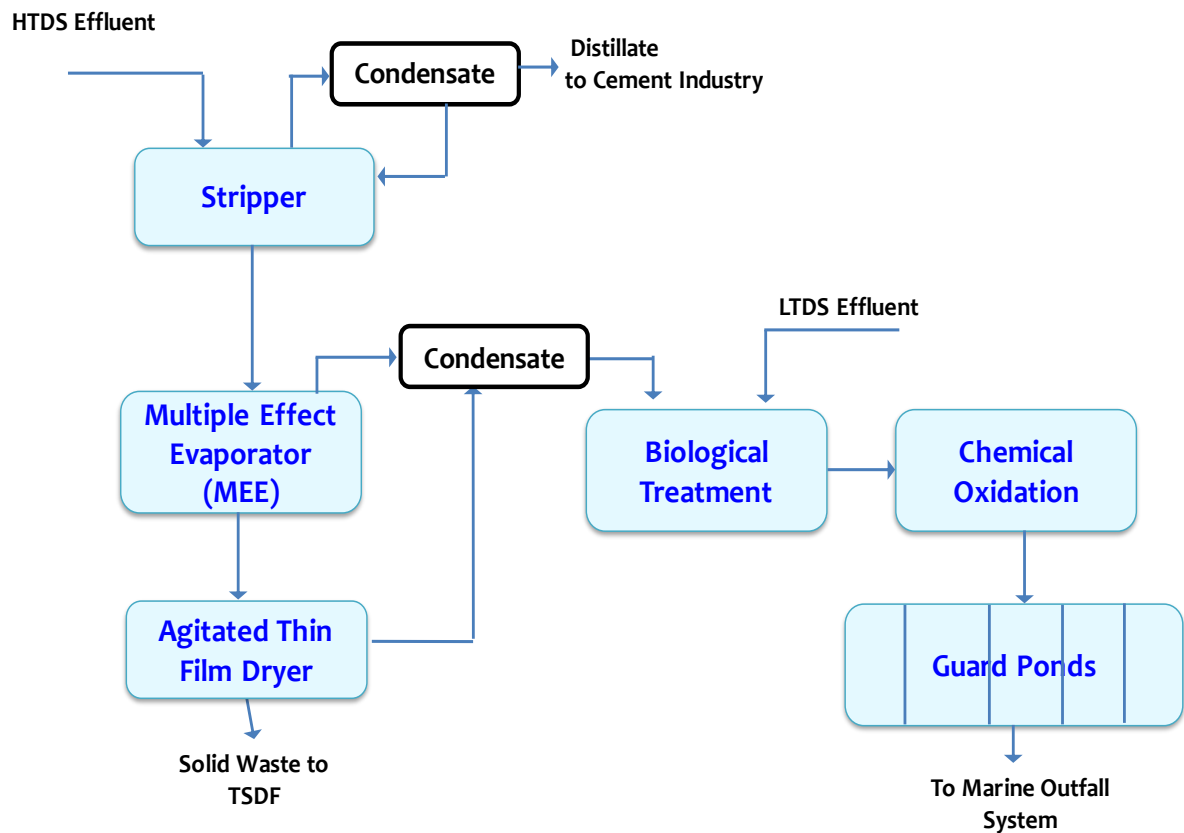


Figure A-6 Schematic Diagram of Common Effluent Treatment System

ANNEXURE - IV:**Solid Waste**

The proposed common facilities and amenities generate the following Hazardous waste, Stripper distillate, evaporation salts, ETP sludge from CETP, STP sludge, waste oil, used batteries. Ash from coal fired boilers shall be sent to brick manufacturers during operation stage.

Individual plot unit shall also generate the following hazardous waste, organic residue, inorganic residue, and spent carbon, catalyst and filter media. The quantity mentioned for individual units is tentative. Total solid waste generated and mode of disposal from common facilities and amenities individual plots is presented in [Table A.8](#).

Table A.8 Estimated total Solid Waste Generated and Mode of Disposal

Type of Solid Waste	Units	Quantity	Remarks (Recycle / reuse / sale as new products)
Organic Residue	TPD	265.2	Sent to Cement Plants
Solvent Residue	TPD	202.4	Sent to Cement Plants
Process Waste	TPD	12	Sent to Cement Plants
Inorganic Residue	TPD	79.2	Sent to TSDF
Spent Carbon	TPD	26.1	Sent to Cement Plants
Hyflow	TPD	3.9	Sent to TSDF
Catalyst	TPD	24.7	Sent to TSDF
Slag	TPD	12.0	Sent to Cement Plants/ Sinter Plants
Mill Scale	TPD	2.4	Reused in process
Plastic scrap	TPD	27.0	Sent to authorized recyclers
Copper scrap	TPD	4.1	Sent to end users
Rejected batteries	TPD	12.8	Sent to authorized recyclers
Waste Silicon	TPD	0.4	Sent to end-users
Chemical Sludge	TPD	7.9	Sent to TSDF
Glass Waste	TPD	12.0	Sent to authorized recyclers
Poly Vinyl	TPD	1.2	Sent to authorized recyclers
Evaporation Salts	TPD	422	Sent to TSDF
ETP Sludge	TPD	64	Sent to TSDF
Ash	TPD	51.1	Sent to Cement Plants
Used Batteries	Nos/year	500	Sent to authorized recyclers
Used Oil	KLPA	50	Sent to authorized recyclers

ANNEXURE - V:**Stack Emissions Details**

The sources of air pollution are proposed 2 x 75 TPH Coal Fired Boiler and standby 20 x 1050 KVA DG Sets*. The proposed air pollution control equipment for coal fired boiler is Bag filter/ESP. DG sets shall be provided with stack heights based on the CPCB formula for effective stack height. Stack emission details are presented **Table A.9**.

Table A.9 Stack Emission Details

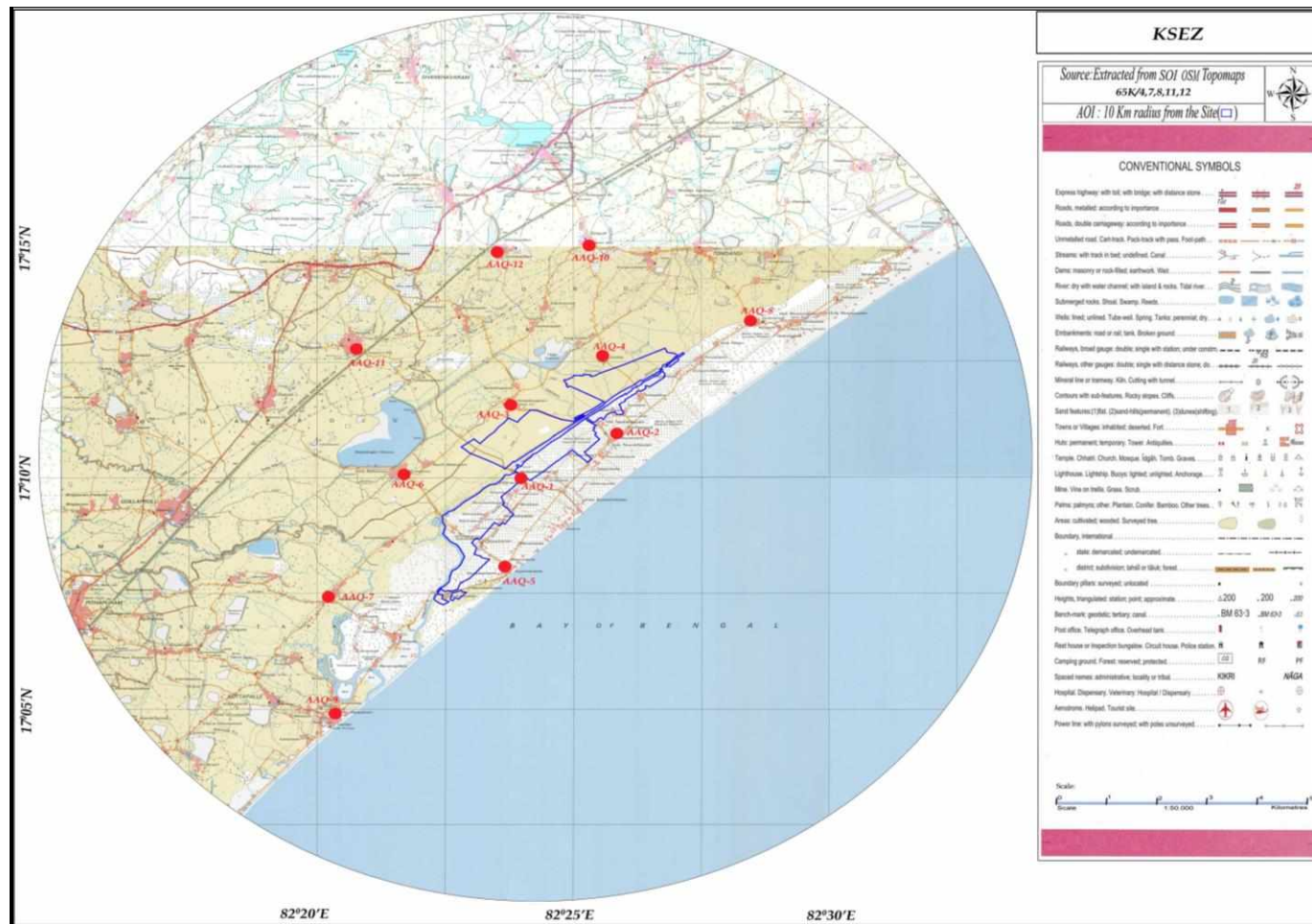
Stack Connected to	Stack Height, m	Dia of stack at top, m	Temp. of exhaust gases at top of stack, °C	Exit Velocity, m/sec	Pollutant Emission Rate, mg/Nm ³		
					PM	SO ₂	NO _x
2 x 75 TPH Coal Fired Boiler	55	2.2	180	20	115	200	400

* DG sets will be used during power shutdown period.

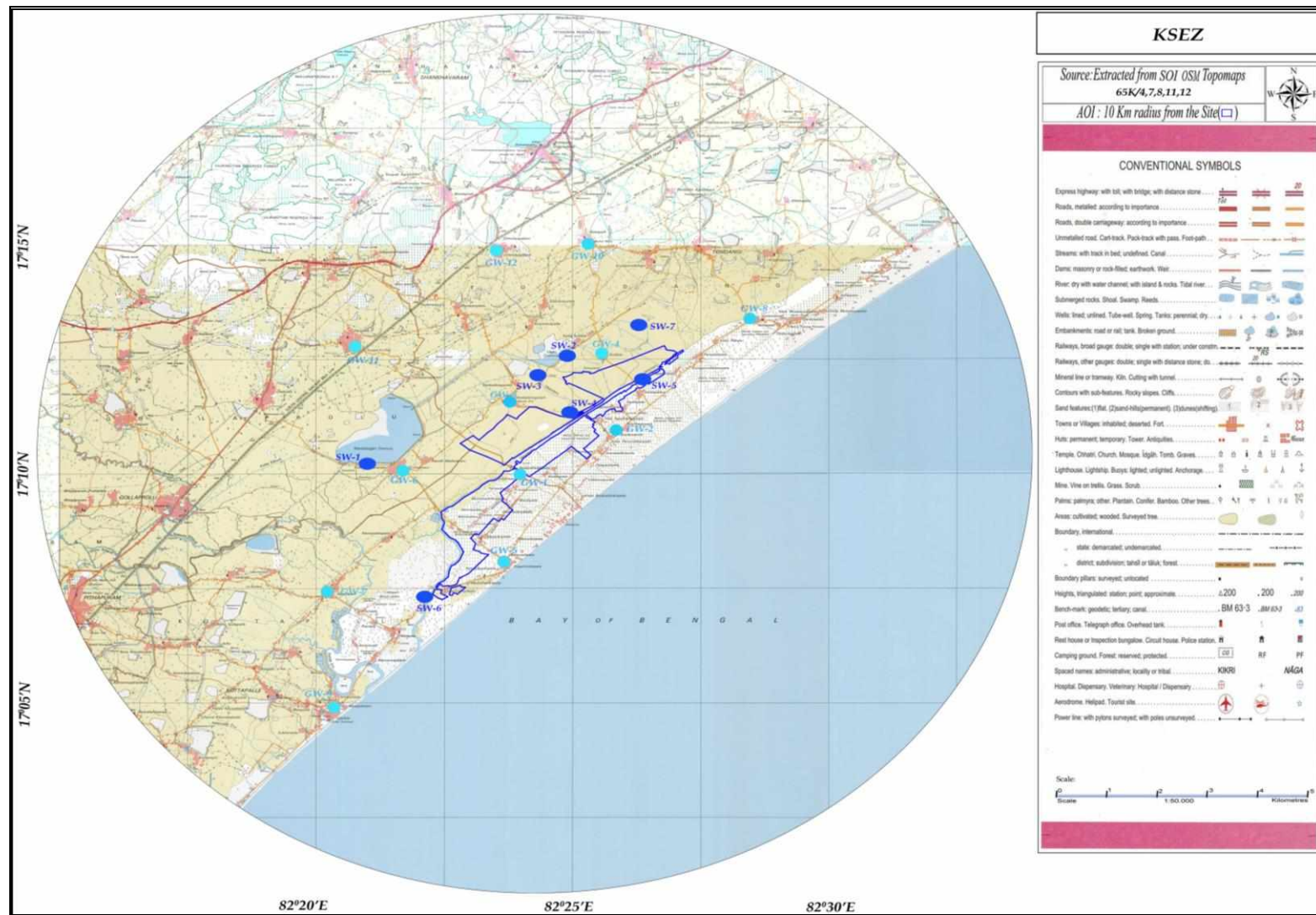
The sources of air emissions during operation are fuel combustion in DG sets and boilers in the common facilities and individual industrial units. Process, diffuse and fugitive emissions are anticipated from industries, while diffuse and fugitive emissions are anticipated from Common Effluent Treatment Plant (CETP) and Sewage Treatment Plant (STP).

The control and mitigation measures for process and diffusive emissions from individual units are scrubbers for process emissions and condensers to mitigate/control diffuse emissions.

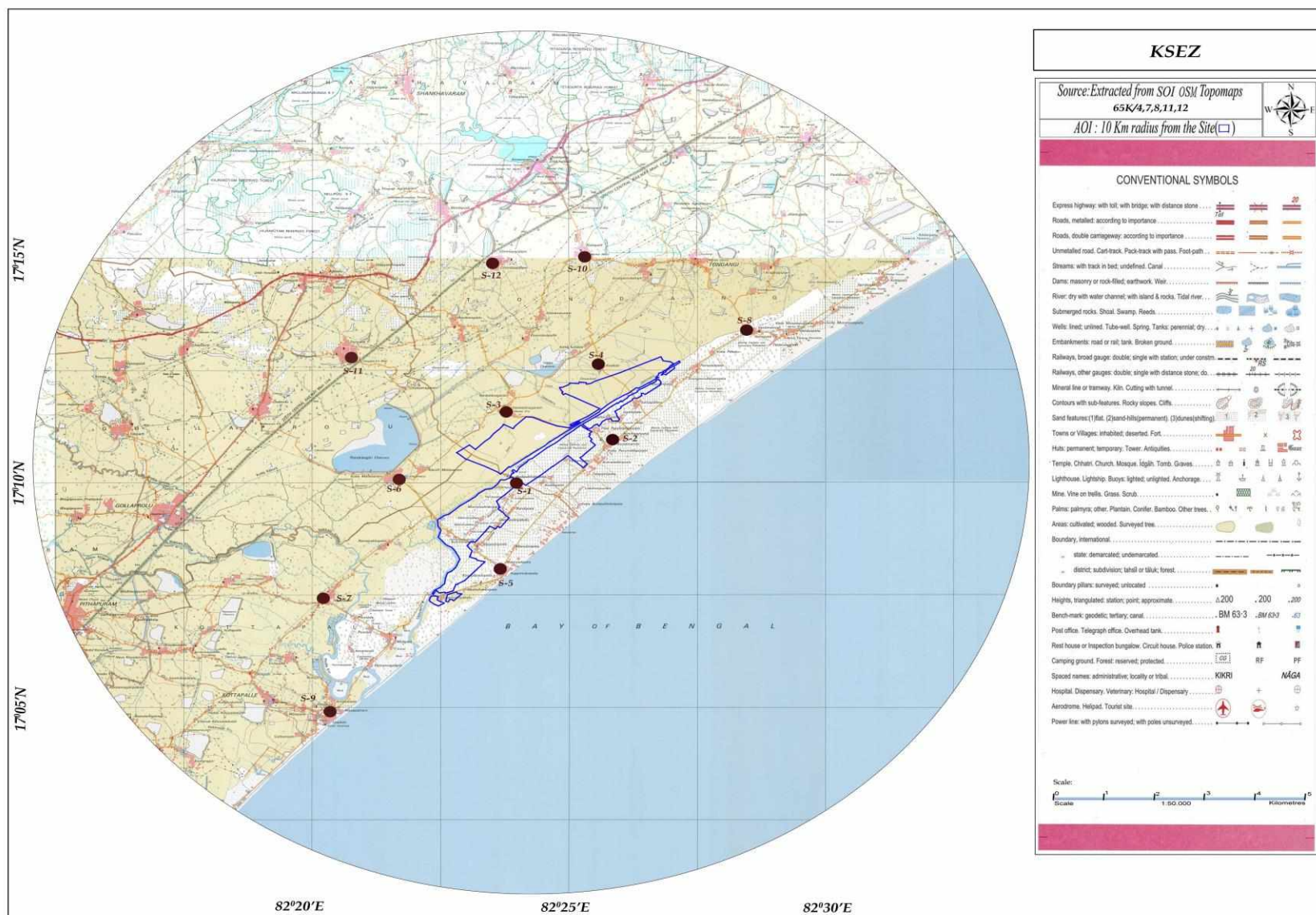
Sampling Locations



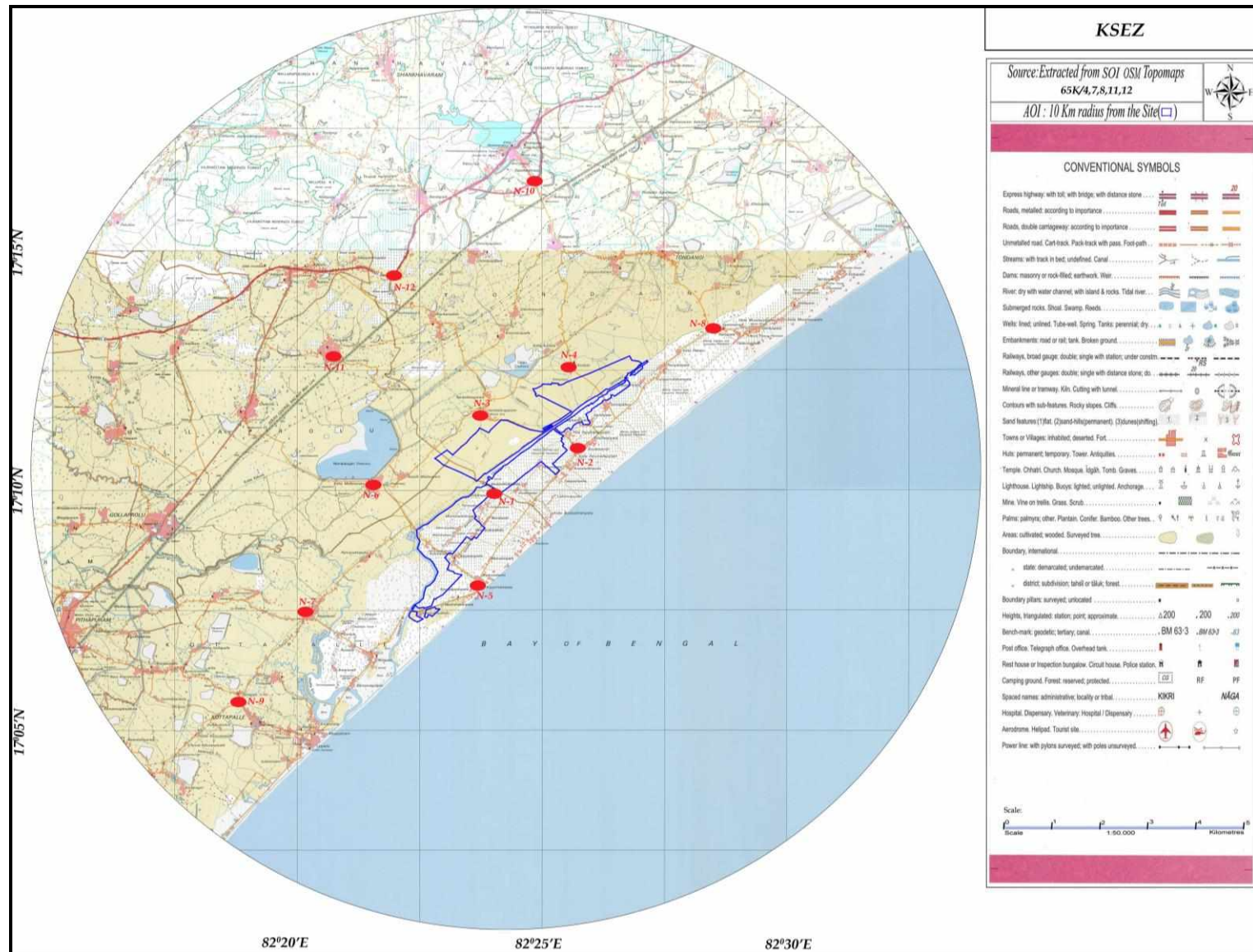
Ambient Air Quality Monitoring Locations



Water Sampling Monitoring Locations (Ground and Surface water)



Soil sampling Locations



Noise Monitoring Locations

Survey Numbers falling under KSEZ MIP**Ponnada Village, U. Kothapalli Mandal:**

215/1, 215/2, 216/1, 216/2, 216/3, 216/4, 216/5, 216/6, 217,218/1, 218/2, 218/3, 222, 223, 225, 226, 236, 239, 240, 241, 242/1, 242/2, 243, 244/1, 244/2, 287, 288, 289, 290, 291/1, 291/4, 291/5, 291/6, 291/7, 295/1, 295/2, 296/1, 296/2, 297/1, 297/4, 297/5, 297/6, 297/7, 297/8, 297/9, 298/1, 298/3, 331/1, 331/2, 331/3, 331/4, 332, 333/1, 333/10, 333/1, 333/10, 333/11, 333/2, 333/3, 333/4, 333/5, 333/6, 333/7, 333/8, 333/9, 334, 335/1, 335/2, 336, 338, 339, 341/1, 341/2

Ramanakkapeta Village, U. Kothapalli Mandal:

15, 16, 17/1, 17/2, 17/3, 17/4, 17/5, 17/6, 17/7, 17/8, 17/9, 17/10, 17/11, 17/12, 17/13, 18/1, 18/2, 18/3, 18/4, 18/5, 18/6, 19/1, 19/2, 20/1, 20/2, 20/3, 21/1, 21/2, 22, 23/1, 23/2, 23/3, 23/4, 23/5, 23/6, 23/7, 23/8, 24/1, 24/2, 24/3, 24/4, 25/1, 25/2, 25/3, 26/1, 26/10, 26/11, 26/12, 26/2, 26/3, 26/4, 26/5, 26/6, 26/7, 26/8, 26/9, 27/1, 27/2, 27/3, 27/4, 28/1, 28/2, 28/3, 28/4, 28/5, 28/6, 28/7, 28/8, 28/9, 28/10, 28/11, 29/1, 29/2, 29/3, 29/4, 30/1, 30/2, 31/1, 31/2, 31/3, 31/4, 31/5, 31/6, 31/7, 31/8, 31/9, 32/1, 32/2, 32/3, 32/4, 33/1, 93, 99/10, 99/11, 100/5, 104/1, 104/2, 104/3, 105, 106, 106/3, 107, 108, 109, 110, 111, 112, 113, 114/1, 114/2, 115, 116, 117, 118/1, 118/2, 118/3, 118/4, 119/1, 119/2, 119/3, 119/4, 119/5, 119/6, 119/7, 120, 121, 122/1, 122/2, 122/3, 123, 124/1, 124/2, 124/3, 125/1, 125/2, 125/3, 126, 127/1, 127/2, 127/3, 127/4, 127/5, 128/1, 128/2, 128/3, 128/4, 128/5, 128/6, 129, 130, 131, 132, 133, 134/1, 134/2, 134/3, 135/1, 138/1, 138/2, 138/3, 139, 140/1, 140/2, 141/1, 141/2, 142/1, 142/2, 142/3, 142/4, 142/5, 143, 144, 145/1, 145/2, 145/3, 145/4, 146, 147, 148, 149, 150, 151/1, 151/2, 152, 152/1, 152/2, 153, 154, 155, 156, 157/1, 157/2, 157/3, 157/4, 157/5, 157/6, 157/7, 158/1, 158/2, 159/1, 159/2, 159/3, 159/4, 160/1, 160/2, 160/3, 160/4, 160/5, 160/6, 477, 478, 479, 480, 511

A.V. Nagaram Village, Thondangi Mandal:

266/1, 266/2, 266/3, 266/4, 266/5, 266/6, 266/7, 266/8, 266/9, 266/10, 266/11, 266/12, 267, 268/1, 268/2, 268/3, 270/4, 270/5, 284, 295/18, 295/19, 295/25, 296/1, 296/2, 297/1, 297/2, 297/3, 298/2, 298/3, 347/1, 347/2, 347/3, 347/4, 347/6, 347/7, 347/8, 347/9, 347/10, 347/11, 347/12, 348/3, 348/5, 350, 351/1, 351/2, 351/3, 351/4, 351/5, 357/1, 357/4, 358/10, 358/11, 358/12, 358/13, 358/14, 358/15, 358/8, 358/9, 359, 360, 361, 368, 369, 375, 378, 384/1, 384/2, 384/3, 384/4, 384/5, 384/6, 385, 386, 388, 389, 390, 391/1, 391/2, 391/3, 391/4, 391/5, 391/6, 391/7, 391/8, 391/9, 391/10, 391/11, 391/12, 391/13, 391/14, 392/1, 392/2, 392/3, 392/4, 392/5, 392/6, 392/7, 392/8, 392/9, 392/10, 392/11, 392/12, 393/1, 393/2, 393/3, 393/4, 393/5, 393/6, 394/1, 394/2, 394/3, 394/4, 394/5, 394/6, 394/7, 395, 396, 397, 398, 399, 400, 401, 402, 403/1, 403/2, 404/1, 404/2, 405, 406, 407, 408/1, 408/2, 408/3, 409, 410/1, 410/2, 410/3, 411/1, 411/2, 411/3, 412/1, 412/2, 412/3, 413/1, 413/2, 413/3, 414/1, 414/2, 414/3, 414/4, 414/5 A, 414/5 B, 415, 416, 417, 418, 419, 420, 421, 422, 423/1, 423/2, 424, 425, 426, 427, 428, 429, 430, 431, 432/1, 432/2, 432/3, 432/4, 432/5, 433, 434/1, 434/2, 434/3, 434/4, 434/5, 434/6, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446/1, 446/2, 447, 448, 449, 450, 451, 452, 453, 454/1, 454/2, 455, 456/1, 456/2, 456/3, 457/1, 457/2, 457/3, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469/1, 469/2, 469/2, 470, 471/1, 471/2, 471/2, 471/3, 471/4, 472/1, 472/2, 473, 474, 475, 477, 478, 480/1, 480/2, 482, 483, 484, 485, 486, 487, 488, 490/1, 490/2, 491, 492, 494, 495, 496, 497, 499, 499/1, 499/2, 500/1, 500/2, 500/3, 502/1, 502/2, 502/3, 503, 504, 505, 506, 506/1, 506/2, 507/1, 507/2, 507/3, 507/4, 508/1, 508/2, 508/3, 510/1, 510/2, 511, 512, 513/1, 513/10, 513/11, 513/12, 513/2, 513/3, 513/4, 513/5, 513/6, 513/7, 513/8, 513/9, 515/1, 515/2, 516/1, 516/2, 518, 519/1, 519/2, 519/3, 519/4, 519/5, 519/6, 519/7, 520/1, 520/2, 520/3, 520/4, 520/5, 521/1, 521/2, 521/3, 521/4, 521/5, 521/6, 521/7, 521/8, 521/9, 522/1, 522/2, 522/3, 522/4, 522/5, 522/6, 522/7, 522/8, 523/10, 523/1, 523/11, 523/2, 523/3, 523/4, 523/5, 523/6, 523/7, 523/8, 523/9, 526, 527, 528, 529/1, 529/2, 529/3, 529/4, 529/5, 530/1, 530/10, 530/11, 530/12, 530/13, 530/14, 530/2, 530/3, 530/4, 530/5, 530/6, 530/7, 530/8, 530/9, 531/1, 531/2, 531/3, 532, 535/1, 535/2, 535/3, 535/4, 535/5, 536/1, 536/2, 536/3, 536/4, 536/5, 536/6,

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Thondangi Village, Thondangi Mandal:

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VISAKHAPATNAM - KAKINADA PETROLEUM, CHEMICAL & PETROCHEMICAL INVESTMENT REGION SPECIAL DEVELOPMENT AUTHORITY

VUDA Building, 3rd Floor, Udyog Bhavan Complex, Siripuram Junction, VISAKHAPATNAM - 530 003

NOTIFICATION

RC.No. 724 / 07 / L3

Dated : 23- 06-2008

Sub: Visakhapatnam - Kakinada PCPIR Special Development Authority (VK PCPIR SDA) constituted - Functioning of Visakhapatnam-Kakinada PCPIR SDA office in the office of VUDA, Udyog Bhavan Complex, Siripuram Junction, Visakhapatnam - Notification Issued.

Ref: G.O.Ms No.373 of Municipal Administration & Urban Development (HI) Department, dated 24th May 2008.

* * *

Government of India recently announced the policy for Petroleum, Chemical and Petrochemical Investment Region (PCPIR) and identified certain areas as PCPIR which would be exclusive hubs for chemicals and petrochemical activities attracting large scale foreign investments.

In Andhra Pradesh, the area between Visakhapatnam and Kakinada is one amongst such identified PCPIR by the Government of India. Further, it has appointed A.P. Industrial Infrastructure Corporation Limited as the Nodal Agency for the development of PCPIR in Andhra Pradesh.

The Public are hereby informed that the Government of Andhra Pradesh have constituted Visakhapatnam - Kakinada PCPIR Special Development Authority for Petroleum, Chemical and Petro-chemical Investment Region (PCPIR) for the development of exclusive hubs for chemical and petrochemical activities, attracting large-scale foreign investments. The area of operation will be 603.58 Sq.Kms comprising of 110 Revenue Villages in 10 (Ten) Mandals of Visakhapatnam and East Godavari Districts (stretching from Visakhapatnam to Kakinada).

The functions of the Visakhapatnam - Kakinada PCPIR SDA are development activities relating to PCPIR and to address the concomitant issues of Land use Control, Preparation of Master Plan, Enforcement and Regulatory functions besides promoting and improving circulation network in surrounding areas and various other activities like developing the social infrastructure, housing, impact on the livelihood of the people in the area and quality of life, environmental issues on account of PCPIR. Further, the Visakhapatnam-Kakinada PCPIR, SDA Office shall function from the Office of the VUDA, Visakhapatnam. Action on the preparation of the Master Plan for the entire Visakhapatnam - Kakinada PCPIR, SDA shall be undertaken in close coordination with APIIC integrating with the VUDA Master Plan, circulation network, balancing industrialization with social and environmental concerns and harmonizing the overall developmental needs of the area.

The following List of Villages have been included in the Visakhapatnam -Kakinada PCPIR SDA jurisdiction.

1. Pedagantyada Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	4	Nellimuku
		5	Nadupuru
		6	Siddeswaram
1	Pedagantyada	7	Appikonda
2	Balacheruvu	8	Devada
3	Kurada		

4. Rambilli Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	9	Ch.V. Kondra
		10	Jirayathi Chintuva
1	Anandapuram	11	Gorapudi
2	Chatimetta	12	Panchadarla
3	Krishnampalem	13	Seetapalem
4	Moturupalem	14	Chintuva
5	Pudi	15	Rajala Agraharam
6	Lalamkoduru	16	Marripalem
7	Gurajapalem	17	Velupuguntapalem
8	Nakkapalem	18	Dibbapalem
		19	Vijayaram

7. Payakaraopeta Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	3	Keshavaram
		4	Rajavaram
1	Pentakota	5	Srirampuram
2	Kumarapuram	6	Idatam

10. Kakinada Rural Mandal, East Godavari District

Sl.No	Name of the Revenue village	2	Tammavaram
1	Nemam	3	Vakalpudi

2. Parawada Mandal, Visakhapatnam District

Sl.No	Name of the Revenue Village	8	Kalpaka
		9	Swayambhuvaram
1	Lemarthi	10	Ravada
2	E. Bonangi	11	Parawada
3	Jagannathapuram	12	Desapatrunipalem
4	Ponnuru Agraharam	13	Payakarao Bonangi
5	Pinamadaka	14	Chipurupalli
6	Thadi	15	Edulapaka Bonangi
7	Pentaseema Bonangi	16	Lankelapalem

5. S.Rayavaram Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	2	Chinnaupalem
		3	Peddaupalem
1	Vakapadu	4	Gudivada

8. U. Kothapalli Mandal, East Godavari District

Sl.No	Name of the Revenue village	6	Endapalli
		7	Ramannapalem
1	Komaragiri	8	Aminubada
2	Ramanakkapeta	9	Uppada
3	Kuppirinaipeta	10	Peddakalva Doddi
4	Nagulapalli	11	Subbampeta
5	Mulapeta		

3. Atchutapuram Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	13	Tantadi
		14	Nunaparathi
1	Tallapalem	15	Pillavanipalem
2	Dibbapalem	16	Gangamamba
3	Pudimadaka		Agraharam
4	Uddapalem	17	Nadimpalli
5	Maruturu	18	Dopperla
6	Maduturu	19	Somavaram
7	Janguluru	20	Ravipalem
8	Duppituru	21	Chimalapalli
9	Dosuru	22	Jagannadhapuram
10	Chippada		Agraharam
11	Atchutapuram	23	Chodapalli
12	Veduruwada	24	Bhogapuram

6. Nakkapalli Mandal, Visakhapatnam District

Sl.No	Name of the Revenue village	6	Rajayyapeta
		7	Peda Tenarla
1	Lakshmipuram	8	Dondavaka
2	Donivanilaxmi Puram	9	Gunupudi
3	Nellipudi	10	Vempadu
4	Amalapuram	11	Upmaka
5	Chandanada	12	Narsapuram

9. Thondangi Mandal, East Godavari District

Sl.No	Name of the Revenue village	4	Venkata Nagaram
		5	Vantimamidi
1	Vemavaram	6	Addripeta
2	Vada Musalayyapeta	7	Lakshmipuram
3	Avulamanda		

In view of the above, the Public are hereby informed that under section 3 of A.P Urban Areas (Development) Act, 1975, the Govt of A.P. have constituted Visakhapatnam, - Kakinada, PCPIR SDA vide GO.Ms.No: 373 MA, Dt: 24.05.2008 consisting of 603.58 Sq.Kms area covering 110 villages of Visakhapatnam and East Godavari Districts, and the public are hereby informed that for any development in this development area, permission has to be obtained from PCPIR SDA in writing under the provisions of the Act and further informed not to purchase any plot /land in the jurisdiction of Visakhapatnam - Kakinada PCPIR SDA without the approval of the PCPIR SDA competent authorities

The District Panchayat Officers, Regional Dy Director of Municipal Administration, Visakhapatnam, Kakinada and Regional Deputy Director of Town Planning, Visakhapatnam and Kakinada are informed not to recommend or approve any Layouts / Building Applications proposals in Visakhapatnam -Kakinada PCPIR SDA Region.

The office of the Kakinada -Visakhapatnam Petroleum, Chemical and Petrochemical investment Region Special Development Authority (VK PCPIR SDA) is functioning from the office of Urban Development Authority, Visakhapatnam situated in the 3rd floor of Udyog Bhavan Complex, Siripuram, Visakhapatnam. Contact persons : Sri S.B. Bhuyan Planning Officer, VUDA, Visakhapatnam Mobile No: 98660-76916 and Sri V. Dhanabal, Asst Planning Officer, Mobile No: 98660-76925. The phone No/Fax No is 0891-2754189.

Hence the Public are hereby informed to take note of the above and extend cooperation for the development of the Visakhapatnam - Kakinada PCPIR SDA area in a planned manner.

Sd/- V.N. VISHNU, I.A.S.
VICE CHAIRMAN VK PCPIR SDA
VISAKHAPATNAM - 3.

VISAKHAPATNAM - KAKINADA PETROLEUM, CHEMICAL & PETROCHEMICAL INVESTMENT REGION
SPECIAL DEVELOPMENT AUTHORITY
VUDA Building, 3rd Floor, Udyog Bhavan Complex, Siripuram Junction, VISAKHAPATNAM - 530 003

CORRIGENDUM

Rc. No.724/07/L3

Date : 28-6-2008

It is hereby notified for the general Information of the public that the word "**purchase**" appeared in the line 4 of para 6 of the Notification issued under Rc.No.724/07/L3, dated 23-06-2008 on 25-06-08 may be read as "**develop**". The other things in the said Notification remain unchanged.

VICE CHAIRMAN

RC.No. 723/2007/L6, Dt 03-08-2013

**VISAKHAPATNAM-KAKINADA PETROLEUM, CHEMICAL & PETRO -CHEMICAL
INVESTMENT REGION SPECIAL DEVELOPMENT AUTHORITY**

9th Floor, Udyog Bhavan Complex, Siripuram Junction, Visakhapatnam-03.

FORM - I NOTICE

The Draft Master Plan for VK-PCPIR, SDA, i.e., Visakhapatnam –Kakinada Petroleum, Chemical and Petrochemical Investment Region, Special Development Authority area and Draft zonal Development Plans for Visakhapatnam, Nakkpalli and Kakinada zones in Visakhapatnam and East Godavari District covered by 97 Revenue Villages in 10 Mandals with an area of 640.00 Sq.kms are proposed under section 12 of AP Urban Areas (Development) Act., 1975 and the same have been approved by VK PCPIR SDA Special Development Authority in its resolution No 5, Dated 20-10-2012.

- (1) The Draft Land Use Map prepared by the Visakhapatnam –Kakinada Petroleum, Chemical and Petrochemical Investment Region, Special Development Authority, Visakhapatnam, a copy of which is attached hereto for the area described in schedule below, is hereby published, under Rule 12(4) of A.P.U.D.A. (Hyderabad) Rules 1977.
- (2) The Map depicting various Land Uses May be inspected without charge during office hours 10.30 a.m to 5.00 p.m. at the office of the VKPCPIR, Special Development Authority, VUDA building, 3rd floor, Visakhapatnam.

Any person affected by the Land Use Map may communicate in writing to the Vice-Chairman, VKPCPIR, SDA, Visakhapatnam, the objections relating there to.

SCHEDULE

Schedule of the Revenue Villages (Mandal wise), Visakhapatnam –Kakinada Petroleum, Chemical and Petrochemical Investment Region, Special Development Authority Area.				
Sl. No	District	Mandal	Village / Hamlet	Final Area (Considered) ha.
1	Visakhapatnam	Pedagantyada	Kurada	62.7
2	Visakhapatnam	Pedagantyada	Nellimukku (includes Balacheruvu hamlet)	1901.57
3	Visakhapatnam	Pedagantyada	Nadupuru	2124.2
4	Visakhapatnam	Pedagantyada	Siddeswaram	584.43
5	Visakhapatnam	Pedagantyada	Appikonda	973.04
6	Visakhapatnam	Pedagantyada	Devada	2161.77
7	Visakhapatnam	Parawada	LcmarthiAgraharam (Lcmarthi)	316.07
8	Visakhapatnam	Parawada	JagannadhapuramAgraharam (Jagannadhapuram)	118.3
9	Visakhapatnam	Parawada	Ponnuruagracharam (Ponnuru)	50.9

10	Visakhapatnam	Parawada	Thadi	787.19
11	Visakhapatnam	Parawada	Kalapaka	517.55
12	Visakhapatnam	Parawada	Swayambhuvaram	359.13
13	Visakhapatnam	Parawada	Ravada	1485.12
14	Visakhapatnam	Parawada	Paravada	778.61
15	Visakhapatnam	Parawada	EdulapakaBonangi (E.Bonangi)	1003.22
16	Visakhapatnam	Parawada	PayakaraoBonangi	
17	Visakhapatnam	Parawada	Tanam	445.74
18	Visakhapatnam	Parawada	Cheepurupalle West (Chipurupalli)	1729.4
19	Visakhapatnam	Parawada	Cheepurupalle East (Chipurupalli)	1141
20	Visakhapatnam	Atchutapuram	Dibbapalem	193.2
21	Visakhapatnam	Atchutapuram	Pudimadaka	784.03
22	Visakhapatnam	Atchutapuram	Maruturu	261.45
23	Visakhapatnam	Atchutapuram	Maduthuru	986.83
24	Visakhapatnam	Atchutapuram	Janguluru	279.09
25	Visakhapatnam	Atchutapuram	Duppituru (including Atchutapuram hamlet)	884.93
26	Visakhapatnam	Atchutapuram	Dosuru	964.16
27	Visakhapatnam	Atchutapuram	Chippada	724.42
28	Visakhapatnam	Atchutapuram	Jogannapalem	
29	Visakhapatnam	Atchutapuram	Tallapalem	
30	Visakhapatnam	Atchutapuram	Uddapalem	
31	Visakhapatnam	Atchutapuram	Tantadi	596.63
32	Visakhapatnam	Atchutapuram	Nadimpalli	281.79
33	Visakhapatnam	Atchutapuram	Veduruvada	883.91
34	Visakhapatnam	Atchutapuram	Nunaparathi	407.92
35	Visakhapatnam	Atchutapuram	GangamambapuramAgraharam	31.36
36	Visakhapatnam	Atchutapuram	Dopperla	628.71
37	Visakhapatnam	Atchutapuram	Somavaram (including Pillavanipalem hamlet)	512.09
38	Visakhapatnam	Atchutapuram	Ravipalem	231.43
39	Visakhapatnam	Atchutapuram	Cheemalapalle	450.51
40	Visakhapatnam	Atchutapuram	JagannadhapuramAgraharam	52.85
41	Visakhapatnam	Atchutapuram	Chodapalli	801.73
42	Visakhapatnam	Atchutapuram	Bhogapuram	208.49
43	Visakhapatnam	Rambilli	Krishnampalem	491.2
44	Visakhapatnam	Rambilli	Anandapuram	
45	Visakhapatnam	Rambilli	Vijayarampuram	
46	Visakhapatnam	Rambilli	Lalamkoduru	1180.17
47	Visakhapatnam	Rambilli	Chatimetta	
48	Visakhapatnam	Rambilli	Pudi	940.84
49	Visakhapatnam	Rambilli	Moturupalem	

50	Visakhapatnam	Rambilli	Gurajapalem	
51	Visakhapatnam	Rambilli	Nakkapalem	
52	Visakhapatnam	Rambilli	Ch.V.Kondra	
53	Visakhapatnam	Rambilli	JirayatiChintuva	838.41
54	Visakhapatnam	Rambilli	Seetapalem	
55	Visakhapatnam	Rambilli	Chintuva (manyapuchintuva)	
56	Visakhapatnam	Rambilli	Gorapudi	274.37
57	Visakhapatnam	Rambilli	RajalaAgraharam	716.15
58	Visakhapatnam	Rambilli	Marripalem	643.42
59	Visakhapatnam	Rambilli	Rambilli	754.23
60	Visakhapatnam	Rambilli	Rajakoduru	505.9
61	Visakhapatnam	Rambilli	Haripuram	400.73
62	Visakhapatnam	S Rayavaram	Vakapadu	149.11
63	Visakhapatnam	S Rayavaram	Chinnauppalem	648.56
64	Visakhapatnam	S Rayavaram	Peddauppalem	1188.87
65	Visakhapatnam	S Rayavaram	Gudivada	1373.24
66	Visakhapatnam	Nakkapalli	ChukalavariLakshmipuram	725.83
67	Visakhapatnam	Nakkapalli	Donivanilakshmipuram	1065.09
68	Visakhapatnam	Nakkapalli	Nellipudi	1323.61
69	Visakhapatnam	Nakkapalli	Chandanada	650.12
70	Visakhapatnam	Nakkapalli	Rajayyapeta	1228.33
71	Visakhapatnam	Nakkapalli	N.Narasapuram	
72	Visakhapatnam	Nakkapalli	Nallamattipalem	
73	Visakhapatnam	Nakkapalli	Buchchirajupeta	
74	Visakhapatnam	Nakkapalli	Pedateenarla (including Dondavaka hamlet)	888.19
75	Visakhapatnam	Nakkapalli	Gunupudi	990.68
76	Visakhapatnam	Nakkapalli	Vempadu (including Amalapuram hamlet)	1396.4
77	Visakhapatnam	Payakaraopeta	Pentakota	715.49
78	Visakhapatnam	Payakaraopeta	Kumarapuram	858.05
79	Visakhapatnam	Payakaraopeta	Keshavaram	383.37
80	Visakhapatnam	Payakaraopeta	Rajavaram	497.63
81	Visakhapatnam	Payakaraopeta	Srirampuram	815.05
82	Visakhapatnam	Payakaraopeta	Idatam	922.49
83	East Godavari	U Kothapalli	Komaragiri	1777
84	East Godavari	U Kothapalli	Ramanakkapeta	1689.42
85	East Godavari	U Kothapalli	Mulapeta (including Ramannapalem hamlet)	539.43
86	East Godavari	U Kothapalli	Aminabada	74
87	East Godavari	U Kothapalli	Uppada	338.63
88	East Godavari	U Kothapalli	Subbampeta	91.73
89	East Godavari	U Kothapalli	Kothapalle	405
90	East Godavari	U Kothapalli	Ponnada (Kupirinaipeta)	1617
91	East Godavari	U Kothapalli	Amaravalli (including	491.62

			Ramannapalem hamlet)	
92	East Godavari	Thondangi	A.V.Nagaram (AllaVenkatanagaram)	2545.34
93	East Godavari	Thondangi	Thondangi (including Vantimamidi hamlet)	2195.27
94	East Godavari	Thondangi	Kona (including hamlets of Vadamusalayyapeta, Avulamanda, Addripeta, Lakshmipuram)	2203.68
95	East Godavari	Kakinada Rural	Neman	200.71
96	East Godavari	Kakinada Rural	Thammavaram	383.79
97	East Godavari	Kakinada Rural	Vakalapudi	176.38
VK-PCPIR Final Boundary contains				64000
10 Mandals, 97 Villages				
				640Sq. Kms.

The Draft Master Plan and Zonal Development Plan for VK PCPIR together with Draft report can be viewed on VUDA Website www.vuda.gov.in from 05-08-2013 and objections and suggestions may also be emailed to vkpcpirsda.vizag@gmail.com. As per Rule 12(4) of A.P.U.D.A. (Hyderabad) Rules 1977, any person residing or owning property within the inspected area or local Authority operating within the affected area will be entitled to represent in writing to the Authority any objections and suggestions which they may have in regard to the Land Use Map or the Draft Master Plan. All objections shall be addressed to Vice-Chairman, VK PCPIR SDA, VUDA Udayogabhavan Complex, 9th Floor, Siripuram Junction, Visakhapatnam-530003, and shall reach on or before 04-11-2013.

//t.c.f.b.o.//

CHIEF URBAN PLANNER

Sd/- Dr.N.YUVARAJ, I.A.S
VICE CHAIRMAN
VKPCPIR SDA

Place: Visakhapatnam
Date: 03-08-2013.

**M/s. Kakinada SEZ Limited,
PONNADA AND RAMANAKKAPETA VILLAGES, U. KOTHAPALLI
MANDAL; AND A.V. NAGARAM AND THONDANGI VILLAGES IN
THONDANGI MANDAL, KAKINADA DISTRICT (FORMERLY PART OF
EAST GODAVARI DISTRICT), ANDHRA PRADESH**

STUDIES AND DOCUMENTATION BY

TEAM Labs and Consultants

QCI: MoEF&CC, S.No.147, Rev. 23, May 09, 2022

(An ISO 9001:2015, ISO 14001:2015 and ISO 14005:2018 Certified Organization)

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