



**Telangana State Industrial Infrastructure  
Corporation Limited**  
(A Govt. of Telangana Undertaking)

# **Development of NIMZ Near Zaheerabad, Telangana**



## **Pre-Feasibility Report**

December 2017



L&T Infrastructure Engineering Limited

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## 1 Preface

Government of India (GoI) has announced a National Manufacturing Policy (NMP), 2011, with the objective of enhancing the share of manufacturing in Gross Domestic Product (GDP) to 25% within a decade and creating 100 million jobs by 2022 in the manufacturing sector. The policy is the first of its kind for the manufacturing sector as it addresses areas of regulation, infrastructure, skill development, technology, availability of finance, exit mechanism and other pertinent factors related to the growth of the sector.

The policy also outlines the creation of National Investment and Manufacturing Zones (NIMZ) with minimum size of 5,000 Hectares as giant industrial Greenfield townships to promote world-class manufacturing activities. The focus sectors would be

- Capital goods industries like machine tools, heavy electrical equipment, heavy transport, earthmoving & mining equipment.
- Employment-intensive industries like textiles and garments, leather and footwear, gems and jewellery and food processing industries.
- Industries with strategic significance like aerospace, shipping, IT hardware & electronics, telecommunication equipment, defence equipment and solar energy.
- Industries where India enjoys a competitive advantage such as automobiles, pharmaceuticals & medical equipment.
- Small & medium enterprises.
- Public sector enterprise

In pursuit to the National Manufacturing Policy of Government of India, proposals were submitted to Department of Industry and Policy Promotion (DIPP) for establishment of National Investment and Manufacturing Zone near Zaheerabad, in an area of 12,635 acres North of Zaheerabad by the erstwhile Government of Andhra Pradesh. DIPP has in principle approved the establishment of NIMZ near Zaheerabad in January 2013 and subsequently issued the Final Approval in December 2015 based on the Final application and Techno-economic Feasibility Report (TEFR) submitted by Telangana State Industrial Infrastructure Corporation Limited (TSIIC), Government of Telangana.

As a first step towards implementation, TSIIC formed a SPV "Zaheerabad NIMZ Limited" as per the NIMZ Guidelines to develop and operate the NIMZ. Since Environmental Clearance is mandatory for commencing the development, the SPV has now initiated the process for seeking the environmental clearance. The current document forms the **Pre-Feasibility Report** which is prepared as per the Guidelines issued by the Ministry of Environment and Forests (**Guidelines for preparation of Pre-Feasibility report for obtaining prior Environmental Clearance in terms of the provisions of EIA Notification, 2006**) dated December 30, 2010. In accordance with the guidelines, this report is structured into the following sections<sup>1</sup>:

- Executive Summary
- Project Introduction/ Background Information
- Project Description including Site Analysis
- Planning Brief
- Proposed Infrastructure
- Rehabilitation and Resettlement Plan

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<sup>1</sup> The subsections under each section have also been structured as per the Guidelines as applicable to the current project.

- Project Schedule and Cost Estimates
- Analysis of Proposal

## 2 Executive Summary

Telangana State Industrial Infrastructure Corporation Limited proposed to establish National Investment and Manufacturing Zone near Zaheerabad, Nyalkal and Jharasangam mandals in Sangareddy District of Telangana in an area of **12,635 acres** (5,113 ha) in pursuit of National Manufacturing Policy of Department of Industry and Policy Promotion of Government of India. As per the guidelines of NIMZ, TSIIIC formed a SPV “Zaheerabad NIMZ Limited “to develop and operate the NIMZ.

The infrastructure development being proposed includes water supply, water distribution, internal roads, storm water drains, electrical distribution network, internal street lighting, wastewater and waste management facilities, technical and support buildings, housing along with allied facilities.

The total area of the proposed NIMZ is around 12,635 acres for various manufacturing industrial sectors. Apart from industrial area there will be technical infrastructure facilities, amenities & utilities, township and logistics facilities. The processing area includes manufacturing zone for different manufacturing industries and service industry selected based on the market and demand assessment study undertaken.

The ultimate raw water demand is estimated around 110 MLD and the demand will be met from the Singur project which is located 13 km NE of the site and option of utilizing Narinja Reservoir (1.5 km south) is being explored. The Overall Power load demand is estimated as 551 MVA and proposed to have feeder mains from the nearest 400/220kV substation for uninterrupted power supply (Nearest 220/132 kV substation located at Sadasivpet and 400 kV substation (SS) at Shankarapally).

The estimated wastewater generation from NIMZ will be about 65 MLD which includes industrial effluent and sewage. These will be treated to tertiary level within the NIMZ project area. A STP of 24 MLD capacity and a CETP of 41 MLD are proposed for the treatment of wastewater generated in the NIMZ. Total municipal solid waste generation is estimated as 102 TPD for NIMZ which includes both biodegradable and Non – bio Degradable/Recyclable waste. Industrial waste is estimated to be 162 TPD which includes both non-hazardous (120 TPD) and Hazardous Wastes (42 TPD).

Presently the NIMZ project site is accessible through SH-14 which starts from NH-65 near Zaheerabad. SH-16 also passes through the project site. As part of the project, TSIIIC is also assessing to have dedicated Greenfield connectivity to the nearest National Highway (NH-65) near Ranjoli to NIMZ eastern part near Bardipur. South-Central Railways Vikarabad-Parli Vajinath branch line is passing through the western part of the project site. It is also propose to provide rail siding to the NIMZ area from this nearest rail line near Basantpur.

Proposed NIMZ is likely to generate employment close to 2.44 lakhs (Direct and Indirect employment). The proposed NIMZ is estimated to bring around Rs. 37,740 crores of total investment by manufacturing industries at the ultimate phase with Rs. 96,778 crores of estimated industrial output by 2040. There will be improvement in living standards. General welfare will improve in the area as per capita income will go up in the post project period.

### 3 Project Introduction/ Background Information

TSIIC propose to develop NIMZ near Zaheerabad in an area of 12,635 acres (5113 ha) on Work, Live and Learn concept. Project site is located in Nyalkal and Jharasangam Mandal, Sangareddy District. The proposed project will pave way for rapid consolidation of industrialisation in Sangareddy District and Telangana.

#### 3.1 Project Developer

Telangana State Industrial Infrastructure Corporation Limited (TSIIC), a wholly owned subsidiary of Government of Telangana State (GoTS), has a mandate to develop industrial areas across the state. As per the NIMZ guidelines, TSIIC formed a SPV 'Zaheerabad NIMZ Limited' to develop and operate the Zaheerabad NIMZ

#### 3.2 Project Site Location

The project site is located in Nyalkal and Jharasangam Mandals of Sangareddy District, Telangana.

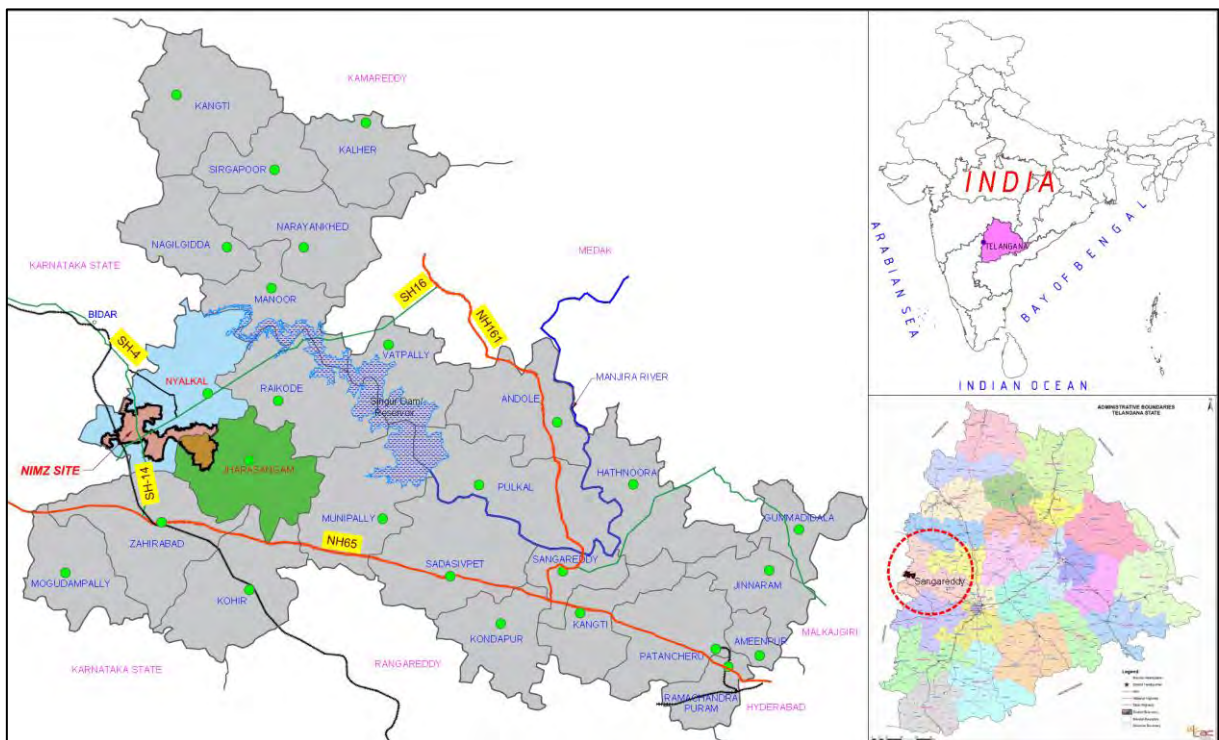
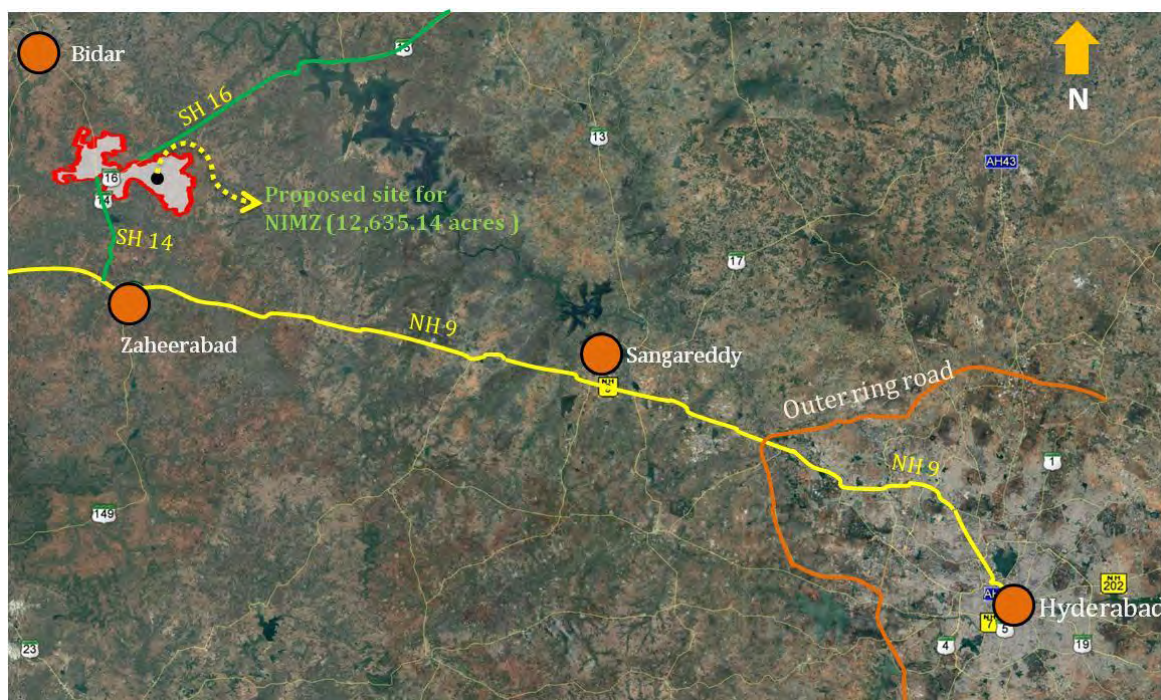


Figure 3-1: Location Map



**Figure 3-2: Location Map showing major connectivity**

The site is located at a distance of about 80 km north west of the state capital, Hyderabad; 65 km to the Hyderabad Outer Ring Road (ORR); 50 km to Sangareddy; and 10 km north of Zaheerabad, a major commercial centre of the district. Bidar City is located 10km northwest of the site.

### 3.3 Brief Description of Nature of Project

The Proposed NIMZ of 12,635 Acres comprising of manufacturing area along with open space/green belt, utilities, roads and commercial area. The manufacturing area comprise of multisector industries defined below.

**Table 3-1: Focus Sectors for Investment Envisaged in NIMZ Zaheerabad**

S No	Sector	Industry
<b>Set A- Traditional &amp; Sunrise sectors</b>		
1	Electrical equipment	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus (includes electric motors, generators and motor generator sets, switchgear and switchboard apparatus etc.)
		Manufacture of batteries and accumulators (includes batteries, rechargeable batteries, etc.)
		Manufacture of wiring and wiring devices (includes wires for live transmission, optical cables )
2	Metals	Manufacture of basic iron and steel (Ferro alloys, wire of steel by cold drawing, tube and tube fittings etc.)
		Manufacture of basic precious and other non-ferrous metals (includes manufacture of copper from ore, lead etc.)
		Casting of metals (includes manufacture of tubes, pipes and hollow

S No	Sector	Industry
		profiles, casting of non-ferrous metals)
		Manufacture of weapons and ammunition
3	Food and Agro Processing	<p>Processing and preserving of meat (includes production, processing and preserving of meat and meat) products</p> <p>Manufacture of dairy products (includes manufacturing of milk, milk powder, ice cream etc.)</p> <p>Manufacture of grain mill products, starches and starch products (includes flour milling, rice milling, milling of other grains)</p> <p>Manufacture of other food products (includes manufacture of bakery products, noodles, Processing of edible nuts etc.)</p> <p>Manufacture of vegetable and animal oils and fats (includes manufacture of edible oil, vegetable oils etc.)</p> <p>Manufacture of prepared animal feeds (manufacture of cattle feed, poultry feed, feed for pets etc.)</p>
4	Non-metallic minerals (except Glass)	<p>Manufacture of non-metallic mineral products etc..</p> <p>(Includes manufacture of refractory products, clay building materials, ceramic products etc.)</p>
<b>Set B - Sunrise sectors</b>		
5	Automobile	<p>Manufacture of motor vehicles (such as manufacturing of Tractors, Buses etc.)</p> <p>Manufacture of parts and accessories for motor vehicles (includes parts such as brakes, gearboxes, axles, seats, tyres, rubber products etc.)</p>
6	Machinery	<p>Manufacture of general purpose machinery (includes manufacture of hydraulic and pneumatic components, pumps, compressors, taps, valves, lifts, etc.)</p> <p>Manufacture of special-purpose machinery (includes manufacture of agriculture implants, machine tools for drilling, milling, industrial machinery etc.)</p>
7	Electronics	<p>Manufacture of domestic appliances (includes consumer electronics such as refrigerators, washing machines, ovens, fans etc.)</p> <p>Manufacture of communication devices (Telephone sets, incl. telephones for cellular networks or for other wireless networks; others)</p> <p>Manufacture of instruments used for medicinal purposes (includes Instruments and appliances used in medical, surgical, dental or veterinary sciences)</p>
8	Transport equipment	<p>Manufacture of Railway locomotives and rolling stock</p> <p>Manufacture of Military fighting vehicles</p>

Apart from the manufacturing zones, green/open areas, amenities and utility space, technical and commercial infrastructure to accommodate training centre, R&D centre, commercial buildings like bank and ATMs, offices, traders, shopping, maintenance and repair shops, etc. and residential zone.

Utilities are planned and zoned across the project site. It will include water supply system, sewage network and wastewater treatment facility, waste management facilities, power sub-station and distribution network, fire station, cold storage facility, raw material bank, etc. which are discussed in detail in the subsequent sections. Based on the requirement, these facilities are spread across the project site. Logistic hub will include warehousing, storage facility, container terminal, truck parking facility, workshops, railway siding infrastructure, weigh bridge, etc.

For residential zone, housing and allied infrastructure like educational facility, health care facility, crèche, recreational facilities, cultural facilities, playgrounds and community facilities, etc. are proposed.

### **3.4 Need for the Project:**

Government of India (GoI) has announced a National Manufacturing Policy (NMP), 2011, with the objective of enhancing the share of manufacturing in Gross Domestic Product (GDP) to 25% within a decade and creating 100 million jobs by 2022 in the manufacturing sector. The policy is the first of its kind for the manufacturing sector as it addresses areas of regulation, infrastructure, skill development, technology, availability of finance, exit mechanism and other pertinent factors related to the growth of the sector.

The policy also outlines the creation of National Investment and Manufacturing Zones (NIMZ) with minimum size of 5,000 Hectares as giant industrial Greenfield townships to promote world-class manufacturing activities

In pursuit of taking forward the GoI initiative, the erstwhile Government of Andhra Pradesh (GoAP) submitted an Application for In-Principle Approval to Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industry, for setting up an NIMZ in Sangareddy (formerly Medak) District. For which, GoAP received the In-Principle Approval from DIPP for setting up the NIMZ.

- Below are some of the factors based on which there is an enormous need of developing the NIMZ at this strategic location. The project site is lies about 80 km NW of Hyderabad.
- Hyderabad is experiencing lot of demand for the industries, land being the constraint, NIMZ provide opportunity for the expansion of existing industries in proposed NIMZ which will provide world class infrastructure.
- The strategic location of site with good transport facility offers comfortable access to site and other cities of India.
- The site is located near to NH-65 which connects east and west coast ports of India, thus providing excellent connectivity.
- Major crops cultivated in the Influence Zone of NIMZ Zaheerabad are Turmeric, Sugarcane, Onions, Cotton and Mangoes. Other important crops cultivated are Cashew nut and Chillies. The region being rich in agriculture depicts the scope of setting up of food processing units. Cotton being one of the major crops in the influence area opens channel to establish textile and support industries.

- Well established Industries like Mahindra and Mahindra Ltd. (Tractor manufacturing plant), MRF Tyres Ltd., Aurobindo Pharma Ltd., Sparsh Pharma Ltd., Cauvery Iron and steel Ltd., BHEL, Ordinance Factory Medak (OFM), Bharath Dynamics Ltd. (BDL), Trident Sugars Ltd., are present in the influence zone of proposed NIMZ site, which offers scope for their expansion and set base for ancillary units to come up in the region.
- Availability of water and power aids the development of industries in the NIMZ.

### 3.5 Economic Impact of the Project

The total investment in processing zone is estimated at **Rs. 37,739 Crores**. The total estimated manufacturing industry output from NIMZ Zaheerabad once the complete industrial plotted land is absorbed, and all the industrial units commence production, is about **Rs. 96,779 Crores**. The direct & indirect employment potential of NIMZ when fully operational will be close to **2.44 lakhs**.

### 3.6 Location Advantage/Justification

The site is located at a distance of about 80 km west of the state capital, Hyderabad; 65 km to the Hyderabad Outer Ring Road (ORR); 50 km to Sangareddy; and 10 km north of Zaheerabad, a major commercial centre of the district. Bidar is located 10 km northwest of the site.

Telangana is rich in labour pool, with large base of skilled labour, making it an ideal destination for knowledge-intensive sectors. The state also has well developed physical infrastructure in the form of Airports and Railway network. The state is now aggressively promoting industrial development.

The influence zone also has strong talent pool availability across education segments which will help in catalysing industrialization. There are 25 Special Economic Zones in the state. The influence area is to house few of the major industrial establishments like Mahindra and Mahindra Ltd., MRF Tyres Ltd., Aurobindo Pharma Ltd., Sparsh Pharma Ltd., Cauvery Iron and steel Ltd., BHEL, Ordinance Factory Medak (OFM), Bharath Dynamics Ltd. (BDL), Trident Sugars Ltd., etc. This shows the potential for investment in industrial sector of the region.

*A study of the critical and high parameters indicate that Telangana has a very high ranking among various states for attracting investments in the field of manufacturing due to following advantages:*

- Relatively lower land cost.
- Power Availability.
- Availability of Engineering and Technical Manpower.
- Proximity to Hyderabad – major end user market.
- Linkage to Supply chains.
- Visionary government with Regulatory Scenario and Policies for manufacturing Industry.

#### 3.6.1 Salient Features of the Project Site

Some of the important features of the Site making it suitable for NIMZ are presented

- The project site is strategically placed in terms of connectivity to the hinterland markets when compared with similar NIMZ being developed in other parts of India.

- **Road Connectivity:** The project site is strategically placed in terms of connectivity to National Highway (NH). NH-65 (Pune – Machilipatnam) is located 10km south of the site. Currently NH-65 is being upgraded to 4 lane standards till Sangareddy and is expected to be completed by end of year 2017. SH-14 is the main access road to the site from NH-65. SH-14 takes off west of Zaheerabad and travels northwards towards Bidar. SH-16 takes off from Metalkunta, travels eastwards and connects NH-161 (Sangareddy – Nanded Road). The section of SH-16 passing through the NIMZ area is around 5km.
- **Railway Station:** The Vikarabad – Parli Vajinath Rail line (South Central Railway) abuts the NIMZ area on the west near Basantpur village. The nearest railway stations are Metalkunta (2 km) & Zaheerabad (14 km) and Bidar (16 km).
- **Seaport:** Through NH-65 the site connects to ports located on east coast and west coast of India i.e. Krishnpatnam Port and Jawaharlal Port Trust (JNPT). Both these ports area are equidistant i.e 600km from NIMZ Zaheerabad.
- **Airport Connectivity:** The nearest airport to the NIMZ is Rajiv Gandhi International Airport (RGIA) at Shamshabad, Hyderabad. It is located to the southeast of the site at a distance of 125 km by road (105 km aerial distance). Bidar Airport is located at 17 km by road from the NIMZ site and is currently under Indian Air Force Station.
- **Water Source:** Nearest water source is Singur Reservoir located at a distance of 13 km NE of the site.
- **Power Supply Source:** Nearest 220kV substation is located at a distance of 40 km, at Sadasivapet while the nearest 400kV substation is located at Shankarpalli near Hyderabad.
- **Environmental Sensitive Areas (ESA):** No ESA are observed within 10.0 km of NIMZ project site boundary such as Protected Areas as notified under the Wild Life (Protection) Act, 1972 (53 of 1972), Critically Polluted areas as notified by the Central Pollution Control Board and Eco-sensitive areas as notified under sub-section (2) of section 3 of the Environment (Protection) Act, 1986.

The site meets the requirement of all critical factors that are important for success of development of an industrial project in the state and could be a pre-eminent location.

### 3.7 Employment Generation

The total employment generation due to the proposed project is expected to generate employment of approximately 2.44 lakhs (direct and indirect) respectively.

## 4 Project Description

### 4.1 Type of Project

The proposed NIMZ Zaheerabad attracts activity **7 (c) i.e. Industrial Estates/Parks/ Complexes/ Areas** of EIA Notification, 2006 (as amended). Proposed development is planned in an area of ~12,635 acres (~5113 Ha) and falling under Category A of EIA Notification.

### 4.2 Site Location

Site location has been discussed in *Section 3.2*. The general project location in the state with regard to the major connectivity features is shown in the Figure 3-1.

### 4.3 Details of Alternative Sites

Keeping in view the requirements as per the GOI's National Manufacturing Policy for NIMZs and future industrial requirements for the newly carved state of Telangana, TSIC had identified three locations for development of NIMZ in the state and analysed to select the most suitable site location for development. The identified land parcels were preliminarily evaluated based on the following parameters.

The following important factors were also considered in site evaluation:

- As per the NIMZ policy, minimum size of land area shall not be less than 5000 acres.
- Minimise adverse environmental impacts
- Suitability of land in terms of topographical and geological aspects.
- As much as possible, Land shall be free from habitation, forest land agricultural activity, and archaeological/historical monuments
- Minimum Rehabilitation and Resettlement (R&R)
- Suitability for phased and integrated development
- Scope for future development
- Site slope and drainage pattern
- Connectivity:
  - **Road:** Transportation of goods and movement of people from/to the NIMZ to the hinterland. Further, connectivity to nearby State/ National Highways is desirable to provide cost effective and efficient transportation solutions.
  - **Seaport:** To provide an access to international markets in terms of import and export. Seaports providing dry bulk and break bulk cargo handling facilities with ample storage facilities to handle the cargo movement required for NIMZ.
  - **Rail:** Transportation of goods and movement of people from/to the NIMZ to the hinterland. Further, connectivity to nearby main railway line is desirable to provide cost effective and efficient transportation solutions.
  - **Airport:** Import and export of airborne cargo and movement of people.
- Availability of water and power
- Proximity to domestic markets: As the units in NIMZ will avail/provide goods from/to Domestic Tariff Area, it is important to consider easy access to domestic markets.
- Distance from Eco-sensitive areas: Site shall be devoid of eco-sensitive areas like wild life sanctuaries, national parks, biosphere reserves, etc., and shall be far away as much as possible.

Evaluation in accordance with project objectives and compliance with country laws, policies and legal requirements

**Table 4-1: Evaluation of Alternative Sites**

Detail	Alternative Site 1 (Siddipet Dist.)	Alternative Site 2 (Nalgonda Dist.)	Alternative Site 3 (Sangareddy Dist.)
<b>Location</b>	Komaravalli and other (9) villages in Cheriya mandal and Kondapak and other (6) villages in Kondapak Mandal	Vinjamur, Anaboinapalli, Ramanapadu, Muddapalli, Warukalu, Mallepalli, Ailapur, Kurmapalli of Chintapalli Mandal	14 villages of Nyalkal and Jharasangam Mandal
<b>Latitude</b>	17°57'12.00"N	16°51'25.00"N	17°47'24.00"N
<b>Longitude</b>	78°55'26.00"E	78°48'43.00"E	77°39'1.00"E
<b>Land Availability (acres)</b>	~13,500 acres	Initially 3,200 identified and further extents need identification	~12,000 acres
<b>Land Use</b>	Agricultural Fallow land, Agricultural Crop land	Agricultural Fallow land, Agricultural Crop land	Agricultural Fallow & Barren/Uncultivable/Waste land
<b>R&amp;R Issues</b>	Land acquisition and R&R (More) is envisaged	Land acquisition and R&R (Less) is envisaged	Land acquisition and R&R (Moderate) is envisaged
<b>Road</b>	<ul style="list-style-type: none"> <li>• SH 1: ~3.4 km</li> <li>• SH 9: ~0.4km</li> <li>• NH-202: ~ 39 km</li> </ul>	<ul style="list-style-type: none"> <li>• SH 19: Adjacent Hyderabad Outer Ring Road: ~52km</li> <li>NH 65 : ~64 km</li> </ul>	<ul style="list-style-type: none"> <li>• SH-14: Adjacent/passing through</li> <li>• SH-16: Adjacent/passing through</li> <li>• NH-65: ~10 km from Hyderabad Outer Ring Road: ~80km</li> </ul>
<b>Railway Line (in km)</b>	<ul style="list-style-type: none"> <li>• Nearest SCR line: ~37 km,</li> <li>• Nearest Station: ~35 km (Janagaon)</li> </ul>	<ul style="list-style-type: none"> <li>• Nearest Station: Jadcherla ~117 km</li> </ul>	<ul style="list-style-type: none"> <li>• Passing through the site.</li> <li>• Nearest Station: Metalkunta ~1.6 km</li> </ul>
<b>Seaports (in km) (Aerial distance)</b>	<ul style="list-style-type: none"> <li>• Machilipatnam Port: ~312km</li> <li>• Krishnapatanm Port: ~426km</li> <li>• Mumbai Port: ~645Km</li> <li>• Mangaluru Port: ~710Km</li> </ul>	<ul style="list-style-type: none"> <li>• Machilipatnam: ~263km</li> <li>• Krishnapatnam: ~316</li> <li>• Site2 to Mumbai ~665</li> <li>• Site2 to Mangaluru ~610</li> </ul>	<ul style="list-style-type: none"> <li>• Machilipatnam: ~420 km</li> <li>• Krishnapatnam: ~465 km</li> <li>• Site3 to Mumbai ~510km</li> <li>• Site3 to Mangaluru ~612km</li> </ul>
<b>Airports (in km) (Aerial distance)</b>	Hyderabad (~94 km)	Hyderabad (~53 km)	Hyderabad (~100 km)
<b>Sensitive Areas such as National Parks/Wildlife Sanctuaries/Biospheres within 10 km</b>	Nil	Nil	Nil

Detail	Alternative Site 1 (Siddipet Dist.)	Alternative Site 2 (Nalgonda Dist.)	Alternative Site 3 (Sangareddy Dist.)
Radius			
Nearby Settlement distances	Siddepet~18km, Cherial ~5 km	Devarakonda ~20 km	Zaheerabad ~10km Bidar ~10km

**Considering the sufficient Land availability, Minimal R&R, Involvement of Barren Barren/Uncultivable/Waste land, Better connectivity and without ESA, Site 3 (Near Zaheerabad) has been selected for the Development of NIMZ.**

#### 4.4 Size or Magnitude

The proposed NIMZ is planned in an area of ~12,635 acres (~5113 Ha). The total investment in processing zone is estimated at Rs. 37,739 Crores. The total estimated manufacturing industry output is about Rs. 96,779 Crores and direct & indirect employment potential of NIMZ when fully operational will be close to 2.44 lakhs.

#### 4.5 Resources Availability and Optimisation

##### 4.5.1 Water Availability & Source

The water demand for the proposed NIMZ will be met from the Singur Reservoir which is about 13 km NE of the NIMZ site. Government of Telangana has proposals to allocate 10% of water from Singur Reservoir i.e around 3 TMC for meeting the industrial needs in the project region. Given the estimated water demand for the NIMZ, Singur source is adequate to meet the water requirements of NIMZ. However, the option of utilizing the excess water from Narinja Reservoir is also being explored. The details of the water supply scheme shall be provided in the EIA Report.

##### 4.5.2 Energy/Power & Source

The power demand is proposed to be met from the nearest 220/132 kV substation located at Sadasivpet and 400 kV substation (SS) at Shankarapally.

##### 4.5.3 Wastewater Treatment and Reuse

The estimated wastewater generation from NIMZ will be about 65 MLD which includes industrial effluent and sewage. These will be treated to tertiary level within the NIMZ project area. A STP of 24 MLD capacity and a CETP of 41 MLD are proposed for the treatment of wastewater generated in the NIMZ. Reuse of treated wastewater in the order of 53 MLD will be reused in the system and freshwater requirement will be reduced from 110 MLD to 57 MLD (considering the conveyance losses).

##### 4.5.4 Solid Waste Management

Total municipal solid waste generation is estimated as 102 TPD for NIMZ which includes both biodegradable and Non-bio Degradable/Recyclable waste. Industrial waste is estimated to be 162 TPD which includes both non-hazardous and hazardous wastes.

Wastes generated shall be segregated into industrial (hazardous & non-hazardous) and MSW (bio-degradable, recyclable and inert wastes). The Environmental Management Plan will be proposed for the park envisages a comprehensive waste management system comprising collection & segregation, reuse/ recycling, temporary storage and disposal. A

solid Waste Treatment facility at NIMZ or use of existing Solid waste Management facility is being explored.

#### 4.6 Site Information

The project site location is discussed in *Section 3.2*. The site analysis is summarised in the following and explained in the following subsections.

**Table 4-2: Site Information Summary:**

S. No	Details	Description																					
1.	Location	Nyalkal & Jharasangam mandals near Zaheerabad																					
2.	District	Sanga Reddy																					
3.	State	Telangana																					
4.	Topography	Flat terrain with levels varying from 605m to 660m																					
5.	Temperature <sup>2</sup>	Mean Daily Maximum: 31.6° C Mean Daily Minimum: 20.7° C																					
6.	Wind Speed	The predominant wind direction is south-west																					
7.	Rainfall	Annual rainfall: 904.9 mm																					
8.	Relative Humidity	Maximum: 66% Minimum: 49%																					
9.	Present Land use	The site is mostly comprised of barren and vacant lands. Few pockets of farmlands are also located within the site																					
10.	Seismicity	The study area falls in Seismic Zone II (Least Active zone) <sup>3</sup>																					
11.	Nearest Road Connectivity	SH-14 and SH-16 -passes through site. NH-65 (Pune – Machilipatnam Road) - 10km south																					
12.	Nearest Rail Connectivity	Metalkunta (1.4 km) Zaheerabad (10 km)																					
13.	Nearest Seaport	JNPT (600 km) on west coast Krishnapatnam Port (465 km) on east coast																					
14.	Nearest Airport	The nearest airport is Rajiv Gandhi International Airport (RGIA) at Shamshabad, Hyderabad. It is located to the southeast of the site at a distance of 125 km by road (105 km aerial distance). Bidar Airport is located at 17 km by road from the NIMZ site and is currently under Indian Air Force Station.																					
15.	Nearest Town/ Village	<table border="1"> <thead> <tr> <th colspan="3">Nearest villages</th> </tr> </thead> <tbody> <tr> <td>Ganeshpur</td> <td>Hadnoor</td> <td>Gangwar</td> </tr> <tr> <td>Husselli</td> <td>Namtabad</td> <td>Rejinthal</td> </tr> <tr> <td>Ganjoti</td> <td>Mamidgi</td> <td>Malkanpahad</td> </tr> <tr> <td>Mungi</td> <td>Kalbemal</td> <td>Chilepalle</td> </tr> <tr> <td>Rukmapur</td> <td>Basanthpur</td> <td>Yelgoi</td> </tr> <tr> <td>Metalkunta</td> <td>Bardipur</td> <td></td> </tr> </tbody> </table>	Nearest villages			Ganeshpur	Hadnoor	Gangwar	Husselli	Namtabad	Rejinthal	Ganjoti	Mamidgi	Malkanpahad	Mungi	Kalbemal	Chilepalle	Rukmapur	Basanthpur	Yelgoi	Metalkunta	Bardipur	
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Mungi	Kalbemal	Chilepalle																					
Rukmapur	Basanthpur	Yelgoi																					
Metalkunta	Bardipur																						

<sup>2</sup> Source for Temperature, Wind Speed, Rainfall and Relative Humidity Data: IMD station, Bidar

<sup>3</sup> Project site falls in seismic zone II (Least Active Zone). During the design stage, the effects from natural disasters will be considered as per IS:1893 (Part-1):2002 and necessary precautionary measures would be built-in/ implemented.

S. No	Details	Description		
		Zaheerabad (TS) - 9 km, S Bidar (KA)- 6 km, NE		
<b>Ecological Features within 10 km radius</b>				
16.	Hills/Valleys	Nil		
17.	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No protected monuments under international conventions. However, the following important structures are within 15 km radius: <ul style="list-style-type: none"> <li>Shia Saint Khalil Allah Tomb: 8.7 km, N</li> <li>Bidar Fort: 9.6 km, NW</li> </ul>		
18.	National Parks/ Wild Life Sanctuaries	Nil		
19.	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	<b>Reserve Forests (RF)</b>		
		Shamshalapur R.F (TS)	Adjacent, N	
		Rajola R.F	1.1 km, W	
		Kalbewal RF	Adjacent, W	
		Sahapur R.F (TS)	1.5 km, N	
		Godepalli R.F (KA)	2.8 km, W	
		Didgi R.F (TS)	2.8 km, S	
		Digwal R.F (TS)	4.7 km, SE	
		Zahirabad R.F (TS)	4.9 km, S	
		Chitta R.F (KA)	6.1 km, W	
		Tadapalli R.F (KA)	7 km, SW	
		Honnadi R.F (KA)	9.5 km, SW	
		Bagdal R.F (KA)	10.6 km, SW	
		Gopanpalli R.F (TS)	12.3 km, SW	
		Sekhampur R.F (TS)	12.4 km, S	
		Kamthana R.F (KA)	12.5 km, NW	
Honnikere R.F (KA)	14.3 km, NW			
		Hadnuri RF	Adjacent, S	
		Badripur RF	0.1 km, SE	
20.	Defence Installations	Airforce Station at Bidar, Karnataka		
21.	State, National boundaries	Telangana – Karnataka State Boundary adjacent to project site		
22.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Major habitations within 15 km radius of project site include Zaheerabad and Bidar. In addition, the 15 km radius from project site has several smaller settlements/villages, which include:		
		<b>In Karnataka</b>		
		Shahapur	Manhalli	
		Gadgi	Rajgera	
		<b>In Telangana</b>		
		Satwar	Madgi	Gopanpally
		Barur	Mirzapur	Kothur
		Ranjol	Jharasangam	Yelgoi
		Motalkunta	Basanthpur	Kalbemal

S. No	Details	Description		
		Gangwar	Ganeshpur	Gunjeti
		Husselli	Namtabad	Hadnur
		Malkanpahad	Rejinthal	Rukmapur
		Mungi	Bardipur	Raikode
		Nayalkal	Ratnapur	Mariyampur
		Chalki	Kushnoor	Nagwar
		Hulgera	Chimnapur	Jamalpur
		Shapur	Jamga khurd	Tekur
		Kappad	Tummanpalle	Rampur
		Islampur	Giniyarpalle	Bidekanna
		Ananthasagar	Edulapalle	Medpally
		Krishnapur	Machnoor	Raipalle
		Pastapur	Tamadpalle	Digwal
		Madri	Hothi	Gurujwada
		Several of these settlements/villages have health care facilities, schools, places of worships, community facilities, etc.		

#### 4.6.1 Topography

The majority of the project site falls on ridge line and the elevations are varying overall from 605m to 660 m. It is also observed that region near SH-16 (north of Malkanpahad) is having the lowest levels while the eastern portion is having the highest elevation. The levels east of SH-14 are varying around 660m.

#### 4.6.2 Existing Connectivity

The proposed project is well connected by the road, rail, port and airports in the region. The information on the existing connectivity is provided in the **Table 4-2** and also discussed above in **Section 3.6.1**.

#### 4.6.3 Land Ownership

TSIIC is in the possession of 2,884.33 acres. The balance land is under progress of acquisition as per prevalent Land Acquisition Act/ Rules in the state and country.

#### 4.6.4 Existing Land use Pattern

The site is mostly comprised of barren and vacant lands. Few pockets of farmlands are also located within the site.

#### 4.6.5 Social Infrastructure

Zaheerabad (with a population of 100,532 as per census 2011) is the major habitation in the project vicinity. There are 17 villages within the project region, spread over in Nyalakal and Jharasangam mandals of Sangareddy District. Primary schools are available in all the villages. Government middle and secondary schools are available in few of the villages. Nearest senior secondary school and arts and science degree colleges is only available at Zaheerabad. Nearest engineering and medical college is available at Sangareddy. Only Yelgoi has Government PHC whereas few villages have Government Sub-PHCs.

## 5 Planning Brief

### 5.1 Planning Concept

The core principles for evolving the project is based on the overall vision laid out for NIMZs in the National Manufacturing Policy, 2011. They are briefly described below

**Sustainable Development Plan for Work, Live and Learn:** The development of the entire NIMZ is envisaged around the basic principles for having synergy between industries, environment and community. The site master plan is prepared to integrate these aspects – work (industrial zone), live (Housing, education, health, recreation, cultural) and learn (training institute, vocational institute, etc.)

**Inclusive Planning:** The proposed NIMZ is envisaged to be developed not only keeping in mind the population living and working in NIMZ but also the surrounding population. This will be achieved by providing/improving the road links between the surroundings, improvement and provision of social infrastructure, technical infrastructure benefitting the local population, etc. These parameters in a longer run would help in achieving inclusive regional development which would limit any out migration for better employment from the region.

**Cluster approach to industrial zoning:** The master plan is prepared based on the eco-industrial concept wherein the industries with similar infrastructure needs or industries with mutual requirements are zoned together. This will result in segment/cluster specific requirements addressed collectively to leverage benefits.

**Eco-friendly integration of national features and cultural spaces:** Existing site features that are identified to be protected shall be effectively integrated in to the master plan in an environmental-friendly manner.

**Disaster-Risk Consideration:** The probable risk related to industrial disasters, and the large land spread of the project, multiple evacuation points are planned. The zoning of the non-processing area is planned in Upwind direction of processing zone with adequate green buffers and lung space.

**Conservation of resources:** NIMZ is planned with water recycling, waste management, rain water harvesting, use of non-renewable energy like solar powered street lights, etc. for efficient use of resources.

**Green Space/Lung Space:** NIMZ is planned with green spaces based on the need of the particular zone. They are planned to be meaningful spaces serving the very purpose and avoiding being unattended spaces.

### 5.2 Land use Planning

Based on the spread and shape of the site, regional linkages, wind direction, the zoning is done as indicated below.

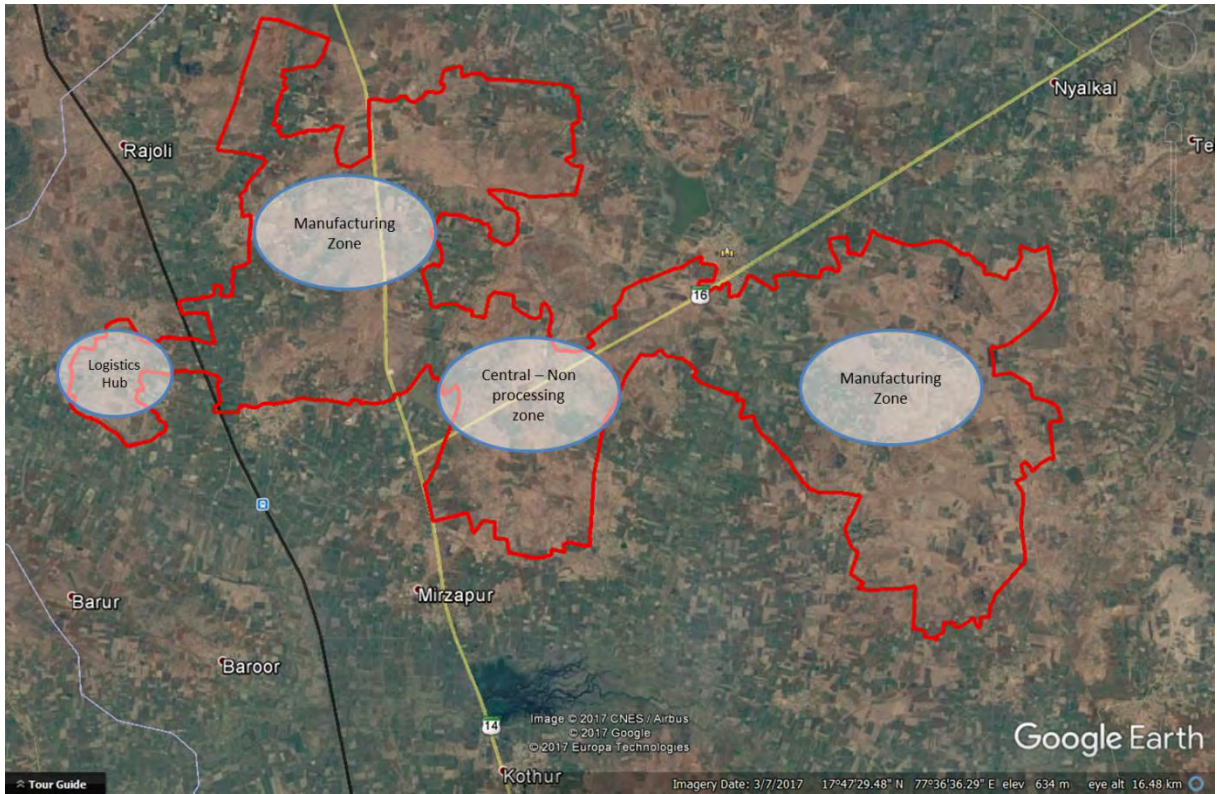


Figure 5-1: Zoning Concept

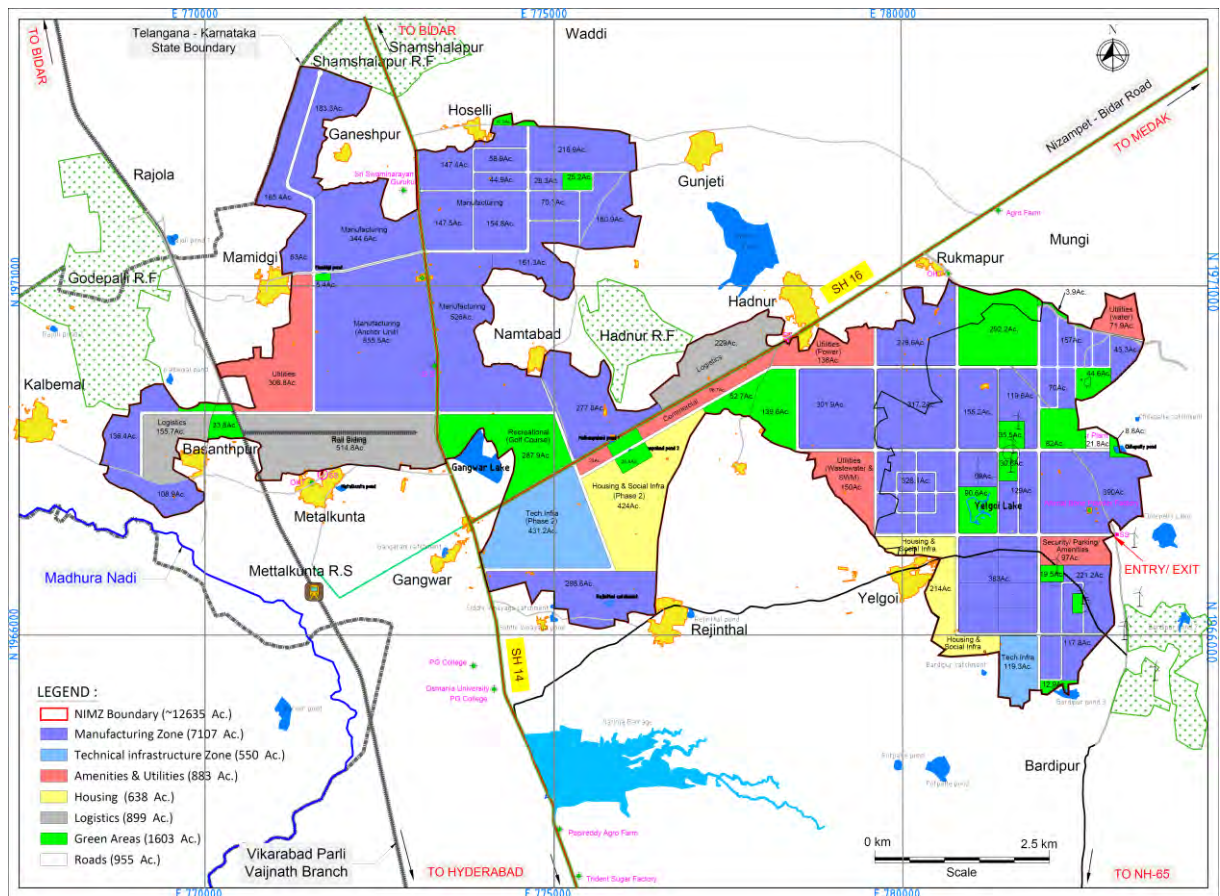


Figure 5-2: Conceptual Landuse Plan

***The zoning presented above is conceptualised based on the land boundary identified as a part of the TEFR studies which has been submitted to DIPP for approval. TSIIIC has appointed consultants for preparation of detailed master plan and studies are under progress. The changes in project boundary post completion of master plan studies will be included in the Draft EIA Report along with the final master plan***

The zoning of the NIMZ is proposed as per National Manufacturing Policy. The zoning proposed includes manufacturing, integrated physical and social infrastructure, housing and technical infrastructure. Manufacturing zone is planned in the eastern and western large parcels of land whereas the integrated physical & social infrastructure, housing and technical infrastructure is planned in the central region giving adequate access to the entire site. Meteorological conditions have been taken into consideration during the zoning exercise.

**Table 5-1: Proposed Landuse breakup in NIMZ Zaheerabad**

Landuse (Zones) <sup>4</sup>	Area in Acres
Manufacturing	7107
Technical Infrastructure	550
Amenities and Utilities	883
Housing	638
Logistics	899
Green Areas	1603
Roads	955
<b>Total</b>	<b>12635</b>

### **5.2.1 Manufacturing**

The manufacturing zone is planned in the eastern and western part of the project site. It will include plotted industrial area, internal roads, tertiary amenities and utilities along with green spaces.

### **5.2.2 Technical Infrastructure**

The area will include institutes for vocational and professional education, R&D centres, certification and testing facilities, product design and validation centre, skill development centre, etc. to support the overall NIMZ development.

### **5.2.3 Amenities & Utilities**

The zone will include business centre, hotels, trade facilitation centres, commercial space, office and administrative block, space for service providers, food courts, restaurants, socio-cultural facilities, fire station, police station, etc. as amenities whereas it also include central utilities like power sub-station, water supply facilities, wastewater treatment facilities, waste management facilities, cold storage, raw material bank, etc.

### **5.2.4 Housing**

Housing and allied infrastructure to include educational and health care facilities, crèche, recreational facilities, commercial and shopping, internal roads, green /open spaces, general distribution services to support the population.

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<sup>4</sup> The land use breakup is as per the conceptual master plan. Detailed master plan is under preparation, final master plan will be submitted in EIA report.

### **5.2.5 Logistics Zone**

It will include warehousing and storage facilities, container terminal, truck terminal with support amenities, auto workshops, Weigh Bridge, railway siding infrastructure, office space for service providers, food courts, fuel station, etc.

### **5.2.6 Green Areas**

Adequate green peripheral buffers are provided all along the project boundary and along state highways. Adequate buffers is provided near settlements, water bodies, etc. landscaped green spaces will be provide will serve as lung space for the NIMZ. In overall NIMZ area, 12.36% of area is allotted for Green areas.

### **5.2.7 Entry/Exit**

The spread of the NIMZ is over 12,635 acres and is covering large distance in each direction. In order to have proper traffic management and from disaster management aspect it is proposed to have multiple entry/exit points for the NIMZ Zaheerabad. Apart from multiple entry /exit points the internal roads are planned in such a manner to link to the surrounding existing road network to provide access to the surrounding settlement. This is also in the tune with the basic fabric of NIMZ to have inclusive development.

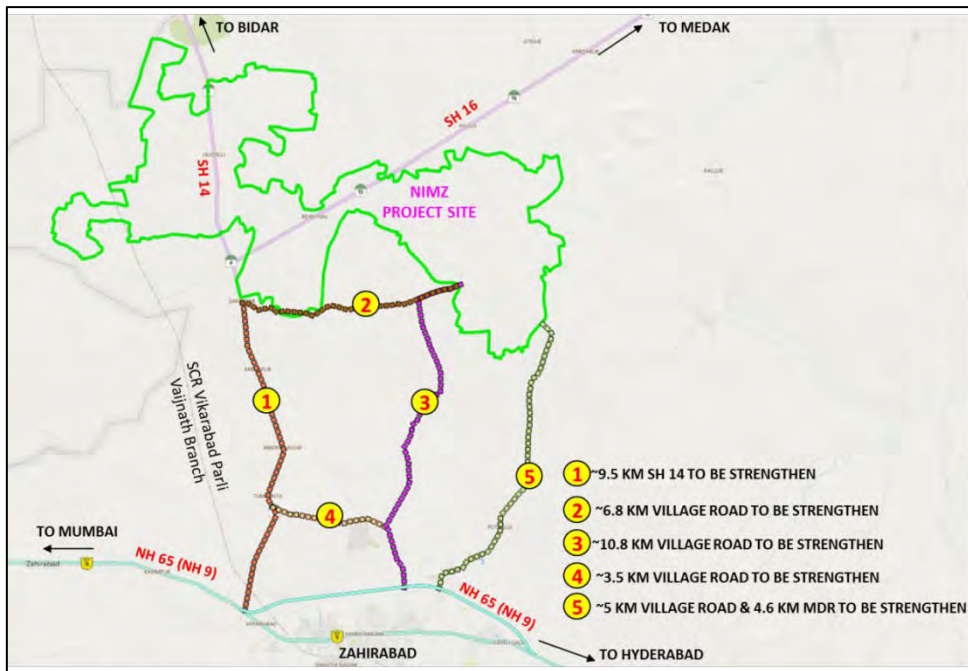
### **5.2.8 Internal roads network**

The main internal roads are proposed to be of 60m RoW having thorough east-west and north-south connectivity within NIMZ. These primary internal roads will be connecting all the zones. The next hierarchy of roads from the primary internal roads will be of 45m and 30m RoW. The internal roads will include all the primary utility pipelines and cables along them.

## **6 Proposed Infrastructure**

### **6.1.1 Approach Road**

Presently the site is accessible through SH-14/SH-16 from NH-65. Apart from this various options for access to the project is shown in the figure below.



**Figure 6-1: Approach road options to NIMZ**

### 6.1.2 Water Supply

The net water demand for proposed NIMZ is estimated as 57 MLD (excluding onetime firefighting demand of 2.0 ML) for different purposes specifically industrial, commercial, institutional, domestic and green area maintenance. A summary of all the aforementioned component demands arrives the total water demand for NIMZ Zaheerabad is mentioned in the table below. Water infrastructure facilities such as bulk water arrangement, water storage and treatment facility, pumping infrastructure, distribution network, etc. are proposed to provide uninterrupted water supply. The proposed source of water for NIMZ Zaheerabad is Singur Reservoir which located towards NE of project site. The option of utilizing the Narinja Reservoir water is also being explored.

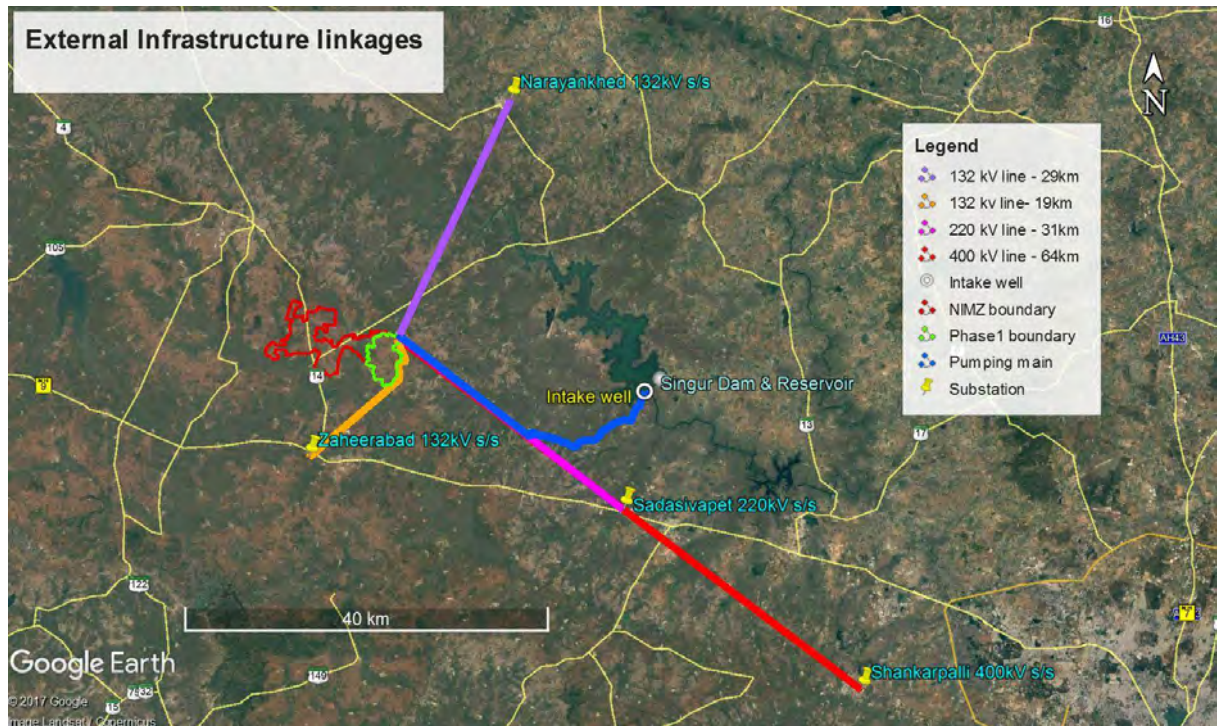
Component	Water Demand (MLD)
Industrial Water Demand	77.422
Domestic Water Demand	18.209
Water Demand for Green Area Maintenance, cleaning and toilet flushing	11.7
<b>Total Water Demand</b>	<b>107.331</b>
	<b>~110</b>
<b>Recycle/Reuse Water from treatment plants</b>	<b>~53</b>
<b>Net Water Demand</b> (after considering recycle/reuse for non-potable purpose)	<b>~57</b>

It is proposed to treat the wastewater generated to tertiary level (discussed in subsequent section) thus enabling its reuse and recycle at the site for non-potable water demand. Hence the total net fresh water demand has been reduced from 110 MLD to 57 MLD (potable water demand).

### 6.1.3 Power Supply

The total power demand for proposed NIMZ project is estimated as 551 MVA. Initially, it is proposed to have captive 220/132 KV substation from nearby 400/220 kV sub-station at

Shankarpally, transmission line will be taken till the proposed substations at site. Later for the complete development, dedicated 400/220 kV SS is proposed to be developed within the NIMZ area and then the supply from the existing SS will be discontinued.



**Figure 6-2: External linkages and preliminary proposed alignments – Water & Power**

#### 6.1.4 Wastewater Management

The estimated wastewater generation from NIMZ will be about 65 MLD which includes industrial effluent and sewage from both processing and non-processing areas. These will be treated to tertiary level within the NIMZ project area. A STP of 24 MLD capacity and a CETP of 41 MLD are proposed for the treatment of wastewater generated in the NIMZ.

#### 6.1.5 Storm water Management

The ground level is varying between 605 to 660m as per the site contour map. Largely the project site has a slope of less than 10m per km. relatively the central region is having the low levels. Rain water harvesting structures will be provided at individual levels to meet part of water demand for secondary purpose. Apart from this storm water drains along the roads will be provided which will be discharging as per the natural terrain.

#### 6.1.6 Solid waste Management

Total municipal solid waste generation is estimated as 102 TPD for NIMZ which includes both biodegradable and Non-bio Degradable/Recyclable waste. Industrial waste is estimated to be 162 TPD which includes both non-hazardous and hazardous wastes.

Wastes generated shall be segregated into industrial (hazardous & non-hazardous) and MSW (bio-degradable, recyclable and inert wastes). The Environmental Management Plan will be proposed for the park envisages a comprehensive waste management system comprising collection & segregation, reuse/ recycling, temporary storage and disposal. A solid Waste Treatment facility at NIMZ or use of existing Solid waste Management facility is being explored.

### **6.1.7 Logistics Zone**

For NIMZ to be attractive and efficient a logistic zone is planned within the NIMZ. It will include all the logistic facility along with its necessary utilities, amenities and services. Logistic facility will include railway siding infrastructure, container terminal, warehousing and storage, truck terminal, automobile workshops and service stations, office block for various users, driver dormitories/ restroom, food courts, fuel station, weigh bridge, etc.

## **7 Rehabilitation and Resettlement Plan**

There are 17 village settlements around the NIMZ boundary of the proposed site. The existing villages, water bodies (tanks), sensitive areas such as Hills, Reserved Forests have been excluded from the NIMZ area. There is an existence of scattered dwellings within the NIMZ area and they are planned to be integrated in the overall planning perspective to minimise the R&R issues. Presently 2,884.33 acres of land out of the total 12,635 acres is in possession of TSIIC.

The balance land is under process of acquisition as per “The Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement Act , 2013 (Central Act No 30 of 2013)- Amendment by Telangana Amendment Act , 2016(Act no 21 of 2017 in its Application to the State of Telangana - The Telangana State land Acquisition (Consent Award, Voluntary Acquisition and Lump sum Payment towards Rehabilitation and Resettlement) Rules, 2017”.

## **8 Project Schedule and Cost Estimates**

It is estimated that it would cost about Rs. 4,500 Crores for development of the internal infrastructure in Zaheerabad NIMZ. This cost would include site development, internal road network, internal water supply system (storage and distribution), internal power supply network (transformers and cabling), wastewater conveyance network, storm water drainage network, firefighting system, development of green belt and green areas, street lighting and common buildings (common amenity, utility and services).

The total cost for external linkages is estimated at Rs. 6,100 Crores. This cost is exclusive of technical infrastructure and township (housing and allied social infrastructure) development proposed within the NIMZ.

It is proposed to develop the project in various phases commensurate to the market demand. The first phase is likely to be developed by 2020 and to be completed by 2030.

## **9 Analysis of Proposal**

Project site faces no significant environmental or social issues. Master Plan for the project has been conceptualised in such a manner so as to reduce environmental impacts of the project on the surrounding settlements.

The project shall bring in major investments to the region covering a wide range of sectors – connectivity, industry, social infrastructure.

The project will bring direct and indirect employment potential of about 2.44 lakhs respectively, thereby opening up employment opportunities for the youth in the catchment region. Additionally, the induced development due to the proposed NIMZ near Zaheerabad is

definitely bound to bring in more benefits to the local population and the overall region. The proposed project will therefore immensely add to the social economic value of the region.



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