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

Development of NIMZ Near Zaheerabad, Telangana



Executive Summary

December, 2020

L&T Infra Engineering

QCI, NABET Accredited: L&T Infrastructure Engineering Limited

C1171308
RP003, Rev.A

L&T Infra Engineering

L&T Infrastructure Engineering Ltd.

Client: **Telangana State Industrial Infrastructure Corporation Limited**
TSIIC

Project: Development of NIMZ Near Zaheerabad, Telangana	**Project No.:** C1171308	
Title: Executive Summary	**Document No.:** RP003	**Rev.:** A

This document is the property of ***L&T Infrastructure Engineering Ltd.*** and must not be passed on to any person or body not authorised by us to receive it nor be copied or otherwise made use of either in full or in part by such person or body without our prior permission in writing.

File path:
I:\ports\2017\c1171308 - esia for zaheerabad nimz\working\reports\rp003-executive summary\english\rp004-executive summary - 10.12.2020.docx

Notes:

1.

Revision Details:

Rev.	Date	Details	Prepared Init.	Prepared Sign.	Checked Init.	Checked Sign.	Approved Init.	Approved Sign.
A	10.12.2020	Second Submission	SNV MRU		SAP BRT		TKSS	
0	11.03.2020	First Submission	SNV MRU	Sd/-	SAP BRT	Sd/-	TKSS	Sd/-

Table of Contents

TABLE OF CONTENTS

1 Introduction 2

1.1 Preamble 2
1.2 Project Site 2
1.3 Need/Justification of Project Development 2

2 Project Description 3

2.1 Proposed Project 3
2.2 Focus Sectors for NIMZ 4
2.3 Details of Zaheerabad NIMZ Master Plan 4
2.3.1 Site Master Plan 4
2.3.2 Common Amenities/Industry Related Facilities 5
2.4 Infrastructure Services and Facilities 6
2.4.1 Water Supply 6
2.4.2 Wastewater Management 6
2.4.3 Solid Waste Management 6
2.4.4 Power Supply 7
2.5 Project Cost and Implementation Schedule 7

3 Description of Environment 7

3.1.1 Terrestrial Environment 7
3.1.2 Socio-economic Conditions 8

4 Anticipated Environmental Impacts with Mitigation Measures 8

5 Analysis of Alternatives 9

5.1 Site Alternatives 9
5.2 Conceptual Master Plan 9

6 Environmental Monitoring Programme 9

7 Additional studies 9

7.1.1 Risk Analysis 9
7.2 Disaster Management Plan 10
7.3 Traffic and Transportation Management Plan 10
7.4 Social Impact Assessment 10

8 Project Benefits 11

8.1 Corporate Social Responsibility (CSR) 11

9 Environment Management Plan 12

9.1 Budgetary Estimate for Environmental Management 12

10 Conclusion 12

LIST OF FIGURES

Figure FD0101: Project Location
Figure FD0102: NIMZ Master Plan
Figure FD0103: Study Area and sampling locations

LIST OF TABLES

Table 1: Salient Features of Project Site 3
Table 2: Final Short-listed Sectors and Industries for NIMZ Zaheerabad 4
Table 3: Proposed land use for Project Site 5

1 Introduction

1.1 Preamble

The Indian government's "**Make in India**" initiative is a growth strategy based upon development of economic corridors whereby policy initiatives to spur manufacturing and overall growth are coordinated with transport corridors linking both developed and backward regions.

In order to promote manufacturing in India, Government of India (GoI) has announced a National Manufacturing Policy (NMP), 2011. Telangana State Industrial Infrastructure Corporation Limited (TSIIC) proposed to establish National Investment and Manufacturing Zones (NIMZ) at Nyalkal and Jharasangam mandals near Zaheerabad in Sangareddy District of Telangana in an area of ~**12,635 acres** (Acres 12,635.14 guntas, 5,113 ha) in pursuit of NMP of Department of Industry and Policy Promotion (DIPP) of Government of India.

TSIIC intends to provide world class eco system for manufacturing industries and proposes to establish infrastructure facilities for the proposed NIMZ. The processing area includes manufacturing zone for different manufacturing industries and service industry selected based on the market and demand assessment study undertaken.

1.2 Project Site

The project site is located in Nyalkal and Jharasangam Mandals of Sangareddy District, Telangana. This Project site falls between Latitude 17°47'24.00"N and Longitude 77°39'1.00"E with almost flat terrain with levels varying from 605m to 660m. The project location is given as **Figure FD0101**.

1.3 Need/Justification of Project Development

NIMZs have been conceptualized as important instruments under the Policy to realize the objectives of the NMP. 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 proposed NIMZ would provide infrastructure support and other incentives for the growth of most lucrative businesses in Telangana State.

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.

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.

2 Project Description

2.1 Proposed Project

The project site is having is a flat terrain with varying levels. The salient features of project site are given in **Table 1**.

Table 1: Salient Features of Project Site[1]

S. No	Details	Description
1.	Location	Nyalkal & Jharasangam mandals near Zaheerabad
2.	District	Sanga Reddy
3.	State	Telangana
4.	Topography	Almost Flat terrain with levels varying from 605m to 660m
5.	Present Land use	The site is mostly comprised of barren and vacant lands. Few pockets of farmlands are also located within the site
6.	Seismicity	Seismic Zone II (Least Active zone)[2]
7.	Nearest Road Connectivity	• SH-14 and SH-16 -passes through site. • NH-65 (Pune – Machilipatnam Road) - 10km south
8.	Nearest Rail Connectivity	• Metalkunta (1.4 km)- railway station • Zaheerabad (10 km) railway station
9.	Nearest Seaport	• JNPT (600 km) on west coast • Krishnapatnam Port (465 km) on east coast
10.	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.
11.	Nearest Town/ Village	Nearest villages: Ganeshpur, Hadnoor, Gangwar; Husselli, Namtabad, Rejinthal; Ganjoti, Mamidgi, Malkanpahad; Mungi, Kalbemal, Chilepalle; Rukmapur, Basanthpur, Yelgoi; Metalkunta, Bardipur • Zaheerabad (TS) - 9 km, S • Bidar (KA)- 8 km, NW
Ecological Features within 10 km radius		
12.	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 10 km radius: • Shia Saint Khalil Allah Tomb: 8.7 km, N • Bidar Fort: 9.6 km, NW
13.	National Parks/ Wild Life Sanctuaries	Nil
14.	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	**Reserve Forests (RF)** 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

[1] *Distances mentioned are from project boundary*

[2] *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	
		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
		Hadnuri RF	Adjacent, S
		Badripur RF	0.1 km, SE
15.	Defence Installations	Airforce Station at Bidar, Karnataka	
16.	State, National boundaries	Telangana – Karnataka State Boundary adjacent to project site	

2.2 Focus Sectors for NIMZ

Combining the traditionally strong sectors and the sunrise sectors the following are the focus sectors for Telangana State. The industries from the shortlisted sectors are given in **Table 2**.

Table 2: Final Short-listed Sectors and Industries for NIMZ Zaheerabad

Sector	Industry
Electrical Machinery	Manufacture of electric motors, generators, transformers
	Manufacture of batteries and accumulators
	Manufacture of wiring and wiring devices
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 profiles, casting of non-ferrous metals)
Food Processing	Processing and preserving of meat (includes production, processing and preserving of meat and meat) products
	Manufacture of dairy products (includes manufacturing of milk, milk powder, ice cream etc.)
	Manufacture of grain mill products, starches and starch products (includes flour milling, rice milling, milling of other grains)
	Manufacture of other food products (includes manufacture of bakery products, noodles, Processing of edible nuts etc.)
	Manufacture of prepared animal feeds (manufacture of cattle feed, poultry feed, feed for pets etc.)
Non-metallic minerals	Manufacture of non-metallic mineral products (includes manufacture of refractory products, clay building materials, ceramic products etc.)
Automobiles	Manufacture of motor vehicles (such as manufacturing of Tractors, Buses etc.)
Machinery	Manufacture of general purpose machinery (includes manufacture of hydraulic and pneumatic components, pumps, compressors, taps, valves, lifts, etc.)
	Manufacture of special-purpose machinery (includes manufacture of agriculture implants, machine tools for drilling, milling, industrial machinery etc.)
Transport equipment	Manufacture of Railway locomotives and rolling stock
	Manufacture of Military fighting vehicles

Source: Master Plan for NIMZ Zaheerabad

2.3 Details of Zaheerabad NIMZ Master Plan

2.3.1 Site Master Plan

The layout for NIMZ is prepared based on the planning considerations with primary parameters in siting the various industries being Compatibility, Safety and Environmental safeguards. The detailed Master Plan Layout is given as **Figure FD0102**. Based on the zoning concept, the proposed land use is given in

Table 3.

Table 3: Proposed land use for Project Site

S. No.	Land Use	Area (Ac.)	%
1	**Industrial Zone**	**6434.3**	**50.9**
A	Automobile	2718.4	21.5
B	Electrical Equipment	311.8	2.5
C	Transport Equipment	160.5	1.3
D	Food Processing	1410.6	11.2
E	Machinery	501.4	4.0
F	Metals	855.0	6.8
G	Non-metallic mineral	476.6	3.8
2	**Logistics Zone**	**658.4**	**5.2**
A	Rail/Helipad	510.8	4.0
B	Warehousing	66.0	0.5
C	Parking	81.6	0.6
3	**Green Zone**	**1974.4**	**15.6**
A	Green Belt/ Traffic Rotaries	308.4	2.4
B	Green Buffer	1184.1	9.4
C	Green Space/ Open Space	481.9	3.8
4	**Residential Zone**	**771.6**	**6.1**
5	**Technical Infrastructure**	**383.7**	**3.0**
6	**Utilities & Amenities**	**578.9**	**4.6**
7	**Commercial Zone**	**460.7**	**3.6**
A	Retail shopping	210.2	1.7
B	Hospitality	22.5	0.2
C	Service Sector	228.0	1.8
8	**Social Zone**	**92.4**	**0.7**
A	Cultural	14.6	0.1
B	Educational	44.1	0.3
C	Health	33.7	0.3
9	**Roads**	**1280.6**	**10.1**
	Total (Sum of 1 to 9)	**12635.0**	**100**

2.3.2 Common Amenities/Industry Related Facilities

The Common amenities, social infrastructure and support facilities planned for the complete NIMZ development are

For Industrial Zones: Administrative building, information centre, facilitation centre, marketing office, disaster management centre, Training & incubation centre, hostel, certification lab and QA &QC lab Restaurant cum hotel, Banks, ATMs, Customs, security, police outposts, temporary truck holding, weigh bridge, driver facilities, OHT / UGS / WTP, MRSS, Solid waste management plant, Common effluent treatment plant, Distribution sub-station, Zone specific utility, Fuel station, repair sheds, Warehouse & trans-shipment yard, Railway logistics etc.

For Social & Residential Zones:

Residential blocks – 1BHK, 2 BHK, 3BHK & 4 BHK apartments, Clubhouse, Sports field, stadium, golf course & gymnasium, Market and retail space, Fire station & ambulance centre, School, day care centre & technical institution, Community hall, exhibition hall / convention centre, Police station, post office, utility office & telephone exchange, Hospitals and a Multi-specialty hospital, Playground, Library, Bus stand and ISBT, Restaurant and ATMs, Commercial space etc.

2.4 Infrastructure Services and Facilities

2.4.1 Water Supply

2.4.1.1 Water demand estimation

Total water (one time) requirement for the proposed development is estimated as 119.34 MLD and 2.5 ML of fire water demand.

2.4.1.2 Reuse of Treated Wastewater

The total sewage generation of 43.64 MLD and total effluent generation of ~27.3 MLD are estimated from proposed NIMZ. It is proposed to reuse the treated wastewater into the system which will be in the order of 61.64 MLD. ***Thus the net water demand for the proposed NIMZ is 57.71 MLD***.

2.4.1.3 Water Source

The fresh water will be sourced from the Singur reservoir located at about 25 km from the project site.

2.4.2 Wastewater Management

2.4.2.1 Effluent Treatment

Member industry shall carry out primary treatment and shall discharge to CETP after meeting the inlet characteristics of CETP. Multiple modules of CETP will be developed and overall capacity of CETP will be in the order of 27.3 MLD. The treated wastewater will be reused within the system for non-potable water requirement.

2.4.2.2 Sewage Treatment

The total estimated STP capacity for overall development area is 44 MLD and planned to be made in modular manner. It is proposed to provide separate water distribution network for non-potable water supply.

2.4.3 Solid Waste Management

The solid waste likely to be generated from NIMZ site can be broadly categorized into two groups namely:

- Municipal solid waste from non-Industrial occupants
- Industrial waste
- E-waste
- Biomedical waste

Municipal Solid waste generation of 154.37 TPD at 100% occupancy is estimated to be generated. Out of this, biodegradable waste constitutes to 123.5 TPD and the non-biodegradable waste constitutes to 30.87 TPD. Integrated solid waste management facility is proposed for handling of MSW generated.

Initially, nearest municipal solid waste compost yard and dumping site is at Zaheerabad town under Zaheerabad Municipality (presently 5.04 acres of land) for handling of municipal waste can be used.

Industrial solid waste is estimated as 423 TPD which includes 85 TPD of hazardous waste and 338 TPD of non-hazardous waste. It has been estimated that about 13.2 tonnes of

sludge will be generated daily (@300kg/ MLD) from the proposed STPs and about 8.2 tonnes/ day of sludge from the CETPs.

Hazardous waste will be sent to nearest Hazardous waste management facility is located at Dundigal (78km from project site) near Hyderabad ORR. Non-hazardous waste will be given to TSPCB approved recyclers/vendors for further treatment and disposal. Industries shall have a temporary storage facility for 90 days detention for hazardous waste which will be designed as per the requirement. Wastes shall be periodically disposed to nearby TSDF by the member industry. Industries shall follow all the latest waste management rules

2.4.4 Power Supply

The overall power requirement for the proposed NIMZ is 678.63 mVA. The nearest 220 kV supply tapping point is Sadhashivpet 220/132 kV substation will be utilised initially.

2.5 Project Cost and Implementation Schedule

The project block cost estimate is Rs. 3095 Crores

3 Description of Environment

Project Influence Area (PIA)/Study Area: An area covering 10 km radius from project boundary has been earmarked for the study as the PIA/study area. Study area and sampling locations are given as **Figure FD103**.

Study Period: The baseline terrestrial environmental surveys were carried out during winter season (December 2017-February 2018).

3.1.1 Terrestrial Environment

- Ecologically sensitive areas like Biosphere Reserves, National Parks, Wildlife Sanctuaries protected sites as per Ramsar convention and other protected areas (PA) are not found within 10 km radius of the project site.
- Elevation in the proposed site varies from 605m to 660m MSL. The general land slopes towards South West.
- Proposed NIMZ site falls under Seismic Zone II (Least Active Zone) as per IS 1893 (Part I).
- The total area considered for land use study is 71299.702 Ha (~10 km radius). Out of which, Agriculture: Crop Land 62.62%, Barren: Scrub Land 16.75%, Agriculture: Fallow 9.8%, Forest: Scrub 3.01%, Forest: Plantation 1.89%, Built-up: Urban 1.7%, Built-up: Rural 1.59%, Water bodies: Lakes 0.74%, Forest: Deciduous 0.71%, Barren: Rocky 0.59%, Agriculture: Plantation 0.53 and Water bodies: Streams 0.08%.. Although during site visit, the project site was observed to be mostly fallow with scanty crop area (including Plantation).
- As per the Project site specific meteorological data, the predominant wind direction is from West South West (WSW) followed by South West (SW) and West (W);
- Soil types are clay, loam clay, sand clay, silty clay and sandy clay and soil of area is predominantly red laterite. The soil samples are neutral to slightly alkaline nature.
- Groundwater samples are within the limits specified for drinking water quality standards as per IS: 10500 (2012) except Iron values where it exceeded the desirable limits this is probably due to laterite soils in the PIA
- Surface water samples are within the permissible limits as per ISI-IS2296-1982 (Tolerance Limits for Inland Surface Waters - Outdoor bathing) Class – B.
- Ambient air quality parameters were found to be within limits prescribed by NAAQS.

- PM_{10} ranged between 51.4 µg/m^3 to 70.4 µg/m^3. NAAQ stipulated standard for PM_{10} for 24 hr. average is 100 µg/m^3.
- $PM_{2.5}$ values varied from 20.6 µg/m^3 to 33.5 µg/m^3. NAAQ stipulated standard for $PM_{2.5}$ for 24 hr. average is 60 µg/m^3.
- SO_2 ranged between 12.4 µg/m^3 and 20.5 µg/m^3. NAAQ stipulated standard for SO_2 for 24 hr. average is 80 µg/m^3.
- NO_2 ranged between 15.6 µg/m^3 to 28.5 µg/m^3. NAAQ stipulated standard for NO_2 for 24 hr. average is 80 µg/m^3.
- O_3 ranged between 19.2 µg/m^3 to 26.2 µg/m^3. NAAQ stipulated standard for O_3 for 8 hr. average is 100 µg/m^3.
- CO, NH_3, Pb, C_6H_6, BaP, As, and Ni were observed below detectable limits.

- Noise levels were monitored as per CPCB guidelines and are found to be well within the limits.
  - Day equivalent noise levels (Ld) ranged between 50.38 dB(A) to 53.05 dB (A) for Residential areas
  - Night equivalent noise levels (Ln) ranged between 41.19 dB(A) to 42.45 dB (A) for Residential areas
  - Day equivalent noise levels (Ld) recorded as 54.12 dB (A) for commercial areas
  - Night equivalent noise levels (Ln) recorded as 43.18 dB (A) for commercial areas
- The land use of site is mostly barren, partly open scrub and some plantations. The site is habituated with all types of ecosystems predominantly terrestrial. Most of the region is open forest and under agricultural practice. There are certain thorny scrub patches and grassland. The common native species such as *Vitex negundo, Prosopis juliflora, Azadirachta indica, Borassus flabellifer, Tamarindus indica* and *Acacia nilotica* are observed as predominant species.
- None of the plant species recorded either from the core area or Project influence area belongs to the Rare/Endangered/Endemic/Threatened category. However a few specimens of *Decalepsis hamiltonii* an endangered plant as per IUCN is present in small numbers in the buffer area; especially in the reserve forest regions.

3.1.2 Socio-economic Conditions

In the study area 110 census villages are falling in the study area. The total population of the study area is 479268 of which male population constitutes of 51.13% and females population constitute of 48.87% with respect to the total population. The sex ratio of the study area is 956 of females over 1,000 males.

4 Anticipated Environmental Impacts with Mitigation Measures

Anticipated impacts on the environmental and social attributes, which are likely to arise due to construction and operation of proposed project have been identified, predicted and evaluated and are presented in draft EIA report.

- Natural drains are observed in the site. The development shall be carried out in such a way to ensure proper drainage by providing surface drainage systems including storm water network, etc.
- The wastewater generated in industries will be treated in STP/CETP reused for greenbelt and various non-potable water applications. Discharge of wastewater on land is not permitted.
- Water requirement will be met from Singur reservoir. No abstraction from Ground water or surface water sources is proposed for industrial purpose.

- Construction camps will be provided with self-sufficient infrastructure to minimise impact/strain on the existing infrastructure.
- All the necessary Air pollution control measures will be adopted by industries.
- The impact on air environment due to the stack emissions, vehicular emissions, DG sets was carried out. The 1st highest 24 Hour average and Annual Average incremental concentrations of NO_X, PM_{10}, $PM_{2.5}$ and SO_2 at all receptor locations are found to be well within the National Ambient Air Quality Standards (NAAQS), 2009.
- Construction phase solid waste will be re-used within project site. Hazardous waste shall be disposed through approved TSPCB vendors or industries to nearest TSDF at Dindigual.

5 Analysis of Alternatives

5.1 Site Alternatives

TSIIC had identified three locations for development of NIMZ in the state and analysed to select the most suitable site location for development. The three alternatives considered were:

- Site 1: Siddipet District
- Site 2: Nalgonda District
- Site 3: Sangareddy District

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

5.2 Conceptual Master Plan

Based on the spread and shape of the project site, regional linkages, proposed entry exit points, wind directions, terrain, and existing features in and around the project site. The master plan options are discussed in detailed, compared and evaluated to arrive at the best suitable master plan for NIMZ Zaheerabad.

6 Environmental Monitoring Programme

Environmental monitoring programme has been formulated and the same will be implemented. The effective implementation and close supervision of the environmental management to mitigate the environmental impacts, which are likely to arise due to the construction and operation phases of the project could be achieved through a suitable institutional mechanism.

7 Additional studies

7.1.1 Risk Analysis

Risk analysis study was carried out to assess risks associated with the construction and operation of the proposed NIMZ by considering the hazards associated with handling of chemicals. A systematic risk analysis will help in identification of the hazards and associated risk. The risk assessment thus carried out also provides inputs for formulating the onsite Disaster Management Plan (DMP).

The Risk Analysis can be broadly divided into three basic steps.

- Hazard Identification
- Failure Frequency
- Consequence or Effect and Damage calculations

7.2 Disaster Management Plan

The Disaster Management Plan (DMP) is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of DMP, it should be widely circulated and a personnel training is to be provided through rehearsals/drills. To tackle the consequences of a major emergency inside the industry or immediate vicinity of the industry, a DMP has to be formulated.

A broad framework for DMP was prepared to minimise damages in the event of a disaster. An On-Site Emergency Preparedness Plan and Off-Site Emergency Preparedness Plan were broadly prepared to deal with emergencies and prevent disasters.

An institutional framework with clear assignment of roles and responsibilities was broadly prepared with which location of Emergency Control Centre and Assembly Points will be identified. Communication system and alarm systems for effective communication in the event of a disaster are broadly identified. DMP for natural hazards such as cyclones was broadly prepared. Mutual aid scheme, composition of District Level Emergency Committee and aspects relating to community involvement for dealing with off-site disasters were broadly prepared.

7.3 Traffic and Transportation Management Plan

The primary roads in NIMZ are SH-14 and SH-16. The total future traffic on these roads will include the generated traffic from NIMZ and the forecasted existing traffic. Based on the primary traffic survey, traffic management plan is prepared to assess the adequacy of the circulation network (both internal and external) of the NIMZ. The trips generated from NIMZ are estimated considering the industrial product mix of the NIMZ. Commercial traffic and passenger traffic has been estimated separately & the total generated traffic is presented in terms of passenger car units (PCUs). The management plan covers estimation of Trip Generation of the NIMZ (from commercial as well as passenger traffic), followed by estimation of Peak Hour Trips and assumptions taken on Trip Distribution. Based on this, Lane Adequacy checks are presented for the existing and proposed road network within and around the NIMZ. The analysis of critical junctions in the study area is also presented along with appropriate recommendations for each junction. Recommendation for traffic management for NIMZ is also covered. The generated traffic from NIMZ will join NH-65 through SH-14 and through Jharasangam Road. Some of the traffic will move towards northern side through SH-16.

7.4 Social Impact Assessment

This assessment is specifically addressing the potential impacts which will be generated as a result of proposed development.

- Land Acquisition: The NIMZ in Zaheerabad is proposed to be developed in an area of about **~12,635 acres** (Ac. 12635.14 guntas). An area of Ac 2,924.38 gts. is under possession of TSIIC, out of which patta/private land is Ac.1311.38 gts of and government land is Ac. 1613

- The impact on nearby settlements during construction phase will be due to air pollution and the noise generating activities. However, the activities are limited to the construction phase and will cease upon completion of the construction. Necessary mitigation measures are proposed to be adopted.
- Construction of NIMZ requires large work force. To ensure that there is no strain on the existing infrastructure, worker camps will be self-sufficient and would not relay on local resource.

8 Project Benefits

The development of the NIMZ is being envisaged by TSIIC taking into consideration the overall development of Industries in the state. Similar such initiatives are undertaken across the state. The Nation, the State and the region will have impetuous benefits from such development, such as:

- Skill development and Training to the local population
- Localizing the global/domestic value chain
- Foreign Direct Investment;Improved working condition
- Shifting of manpower resources from low productivity to high productive activities
- Augmentation of existing clusters;Diversifying the local industrial base
- Shifting activities from unorganized to organized sector; Convergence of population and thereby enhanced local consumption and spending
- Project development will also attract hotel business, banking sector, small eateries, construction, transport and other supply services
- Better quality of educational and medical facilities to the local people
- Improved Local Infrastructure and socio-economic conditions
- Health; education facilities
- Employment Opportunities
- Revenue Generation

During the operation phase the NIMZ is expected to bring a direct and indirect employment of 2.66 lakh persons approximately.

8.1 Corporate Social Responsibility (CSR)

The following are the areas/activities considered under Corporate Social Responsibility.

- Support for Female Literacy
- Support to Swach Bharat Abhiyan
- Skill development training programmes
- Support to Enhancing the School and Collage Lab and Library facilities
- Promotion of Sports among youth
- Support to Solid waste Management Programmes
- Support to Forest Department for wildlife conservation plan
- Support to refurbishment of medical facilities construction of ward in the hospital
- Support to development of infrastructure facilities for educational institutes, medical facilities, purchasing of ambulance
- Training /Awareness to farmers in the nearby Areas to increase Crop Yield
- Contribution to Disaster Management Fund
- Support to improvement of roads to villages
- Support to drinking water facilities and supply network in the project villages

The above identified activities may be revised based on the consultations during the public hearing according to its merits and priority. The activities and budget will be allocated as per

district administration directives. The CSR activities will be taken up in a phased manner as per project development activities.

9 Environment Management Plan

The main objectives of Environmental Management are to:

- Identify key environmental issues envisaged to be encountered during construction and operation phases of the project.
- Provide guidelines for appropriate mitigation measures; Establish systems and procedures for implementing mitigation measures
- Ensure the mitigation measures are being implemented; Monitor the effectiveness of mitigation measures
- Institutional framework includes the responsibilities for environment management as well as responsibility for implementing environmental measures
- Take necessary prompt action when unforeseen impacts occur

Based on the above objectives in mind, the following specific environmental management plan/measures are provided

- Administrative and Technical Setup for Environmental Management
- Greenbelt development; Solar power harnessing
- Rainwater harvesting; Occupational health and safety: Occupational health & safety needs attention both during construction, erection, operation and maintenance phases.
- Institutional arrangements/framework for environmental management.

9.1 Budgetary Estimate for Environmental Management

The budgetary estimate (Capital Cost) for Environmental Management is ***Rs. ~3000 Million (Rs.300 Crores)*** and the annual recurring cost is ***Rs. 297 Million (Rs.29.7 Crores)***.

10 Conclusion

In order to meet the growing needs of the industrial sector, it is necessary to identify new sites for industrial development. On the basis of the market analysis, area strengths and likely investment proposals in pipeline, it has been proposed to have all high market potential and high growth areas of Electrical Machinery, Metals, Food Processing, Non-metallic minerals, Automobiles, Machinery and Transport equipment sectors. Proposed development will not envisage any resettlement.

Typically any developmental projects also trigger a set of environmental and social impacts. These environmental and social impacts (proposed development will not envisage any resettlement) due to infrastructure development projects occur in different forms. An Environmental Impact Assessment has been carried out to study the potential environmental and social impacts due to the proposed NIMZ. Potential environmental and social impacts due to the proposed development on attributes like air quality, noise, water quality, soil, flora, socio-economic, etc. have been assessed as part of this EIA study. Appropriate mitigation measures to help minimize/avoid impacts from the development have been recommended. The measures include avoidance measures, mitigation measures and environmental enhancement measures.

Anticipated project impacts and prevailing environmental issues are manageable and can be avoided or mitigated or minimized to acceptable standards. Potential impacts have been identified attributable to the proposed project and most of which are localized and temporary

in nature and can be mitigated with minor to negligible residual impacts. The effective implementation and close supervision of environmental management to mitigate the environmental impacts could be achieved through a suitable institutional mechanism proposed.

The proposed ***NIMZ near Zaheerabad is strategically located in one of the most promising manufacturing and trading centres of India*** and will be developed as world class destination for attracting the major investors. Based on the region's/state's and country's strengths, a number of activities can be planned. In fact the strengths provide the flexibility of getting into wide array of manufacturing activities and products.

The vision is to develop the NIMZ with integrated well planned infrastructure and an efficient management structure which shall ensure continual global competitiveness. The proposed NIMZ shall emerge as a benchmark in the State and the Country both in terms of market relevance and in terms of environmental sustainability.

Figures

KAMAREDDY

KANGTI

KALHER

SIRGAPOOR

NARAYANKHED

NAGILGIDDA

KARNATAKA STATE

MEDAK

MANOOR

BIDAR

SH16

NH161

SH-4

VATPALLY

MANJIRA RIVER

NYALKAL

RAIKODE

Singur Dam/
Reservoir

ANDOLE

NIMZ SITE

JHARASANGAM

SH-14

HATHNOORA

PULKAL

MUNIPALLY

GUMMADIDALA

NH65

ZAHIRABAD

SADASIVPET

SANGAREDDY

JINNARAM

MOGUDAMPALLY

KOHIR

KANGTI

KONDAPUR

AMEENPUR

MALKAJGIRI

PATANCHERU

KARNATAKA STATE

RANGAREDDY

RAMACHANDRA
PURAM

HYDERABAD

KEY MAP INDIA

INDIA

TELANGANA

ARABIAN SEA

BAY OF BENGAL

INDIAN OCEAN

KEY MAP TELANGANA

TO NAGPUR

MAHARASHTRA

ADILABAD

KOMARAMBHEEM

NIRMAL

MANCHERIAL

NIZAMABAD

JAGITIAL

PEDDAPALLE

RAJANNA
SIRICILLA

KARIMNAGAR

JAYA SHANKAR

CHATTISGADH

KAMAREDDY

SIDDIPET

WARANGAL
URBAN

WARANGAL
RURAL

BHADRADRI
KOTHAGUDEM

TO RAIPUR

TO MUMBAI

Sangareddy

JANAGAON

MAHABUBABAD

KARNATAKA

MEDCHAL

HYDERABAD

YADADRI
BHUVANAGIRI

VIKARABAD

KHAMMAM

RANGAREDDY

SURYAPET

MAHABUBNAGAR

NALGONDA

TO MACHILIPATNAM

WANAPARTHY

NAGARKURNOOL

ANDHRA PRADESH

JOGULAMBA
GADWL

TO BENGALURU

This drawing is the property of L&T Infrastructure Engineering Ltd. and must not be passed on to any person or body not authorised by us to receive it nor be copied or otherwise made use of either in full or in part by such person or body without our prior permission in writing.

PATH: REFER BOTTOM LEFT CORNER OF THE DRAWING

PROJECT: DEVELOPMENT OF NIMZ NEAR ZAHEERABAD, SANGAREDDY DIST., TELANGANA STATE

PROJECT NO: C1171308

TITLE: PROJECT LOCATION MAP

DATE: 11/03/2020

MADE: VSU

L&T Infra Engineering

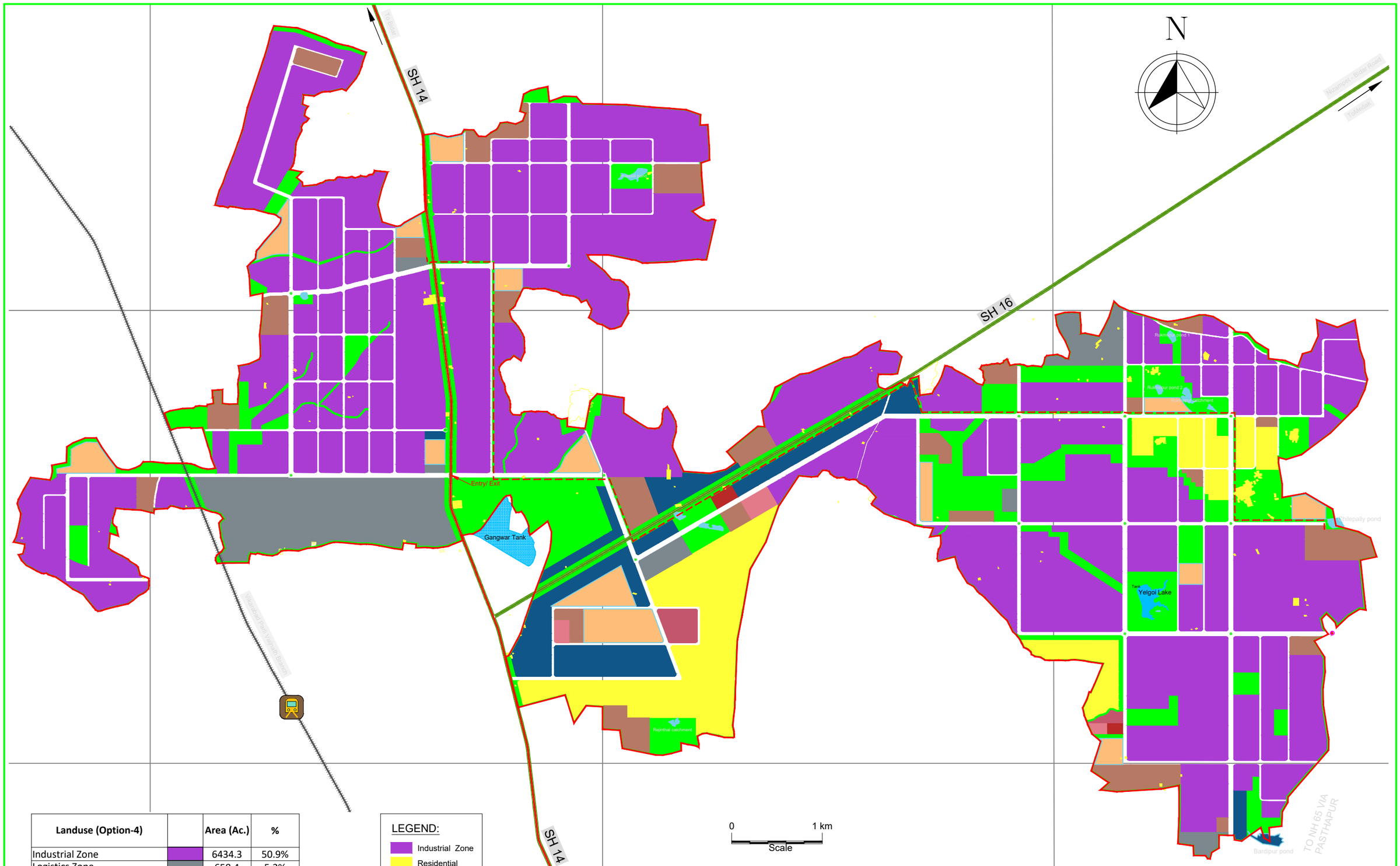
L&T Infrastructure Engineering Ltd.

FIGURE NO: FD0101

REV: 0

AUTO PATH: L:\PORTS\2017\C1171308 - ESIA FOR ZAHEERABAD NIMZ\WORKING\DRAWINGS\EX.SUMMARY\FD0101-LOCATION MAP.DWG

TBA



Landuse (Option-4)		Area (Ac.)	%
Industrial Zone		6434.3	50.9%
Logistics Zone		658.4	5.2%
Green Zone		1974.4	15.6%
Residential		771.6	6.1%
Tech Infrastructure		383.7	3.0%
Utilities & Amenities		578.9	4.6%
Commercial Zone		460.7	3.6%
Social Zone		92.4	0.7%
Roads		1280.6	10.1%
		12635.0	100.0

LEGEND:
- Industrial Zone
- Residential
- Green Zone
- Waterbody
- Utilities
- Logistics
- Commercial
- Social Zone

This drawing is the property of L&T Infrastructure Engineering Ltd. and must not be passed on to any person or body not authorised by us to receive it nor be copied or otherwise made use of either in full or in part by such person or body without our prior permission in writing.

PATH: REFER BOTTOM LEFT CORNER OF THE DRAWING

PROJECT: DEVELOPMENT OF NIMZ NEAR ZAHEERABAD, SANGAREDDY DIST., TELANGANA STATE

PROJECT NO: C1171308

TITLE: CONCEPTUAL MASTER PLAN

DATE: 11/03/2020

MADE: VSU

L&T Infra Engineering

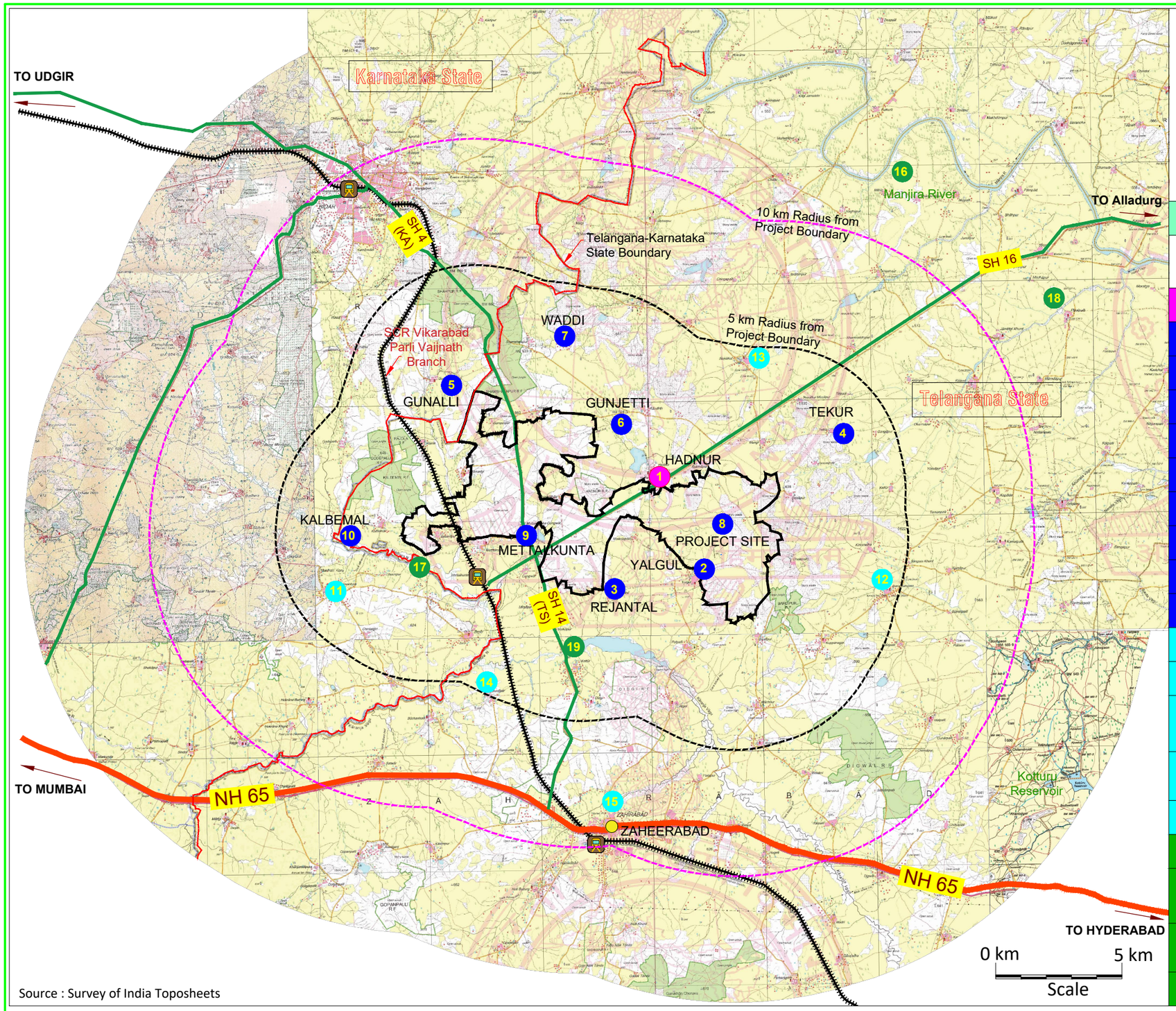
L&T Infrastructure Engineering Ltd.

FIGURE NO: FD0102

REV: 0

AUTO PATH: L:\PORTS\2017\C1171308 - ESIA FOR ZAHEERABAD NIMZ\WORKING\DRAWINGS\EX SUMMARY\FD0102-CONCEPTUAL MASTER PLAN.DWG

TBA



LEGEND:

- NIMZ PROJECT SITE
- 10 KM RADIUS FROM BOUNDARY
- SAMPLING LOCATION-AIR, NOISE, GROUND WATER , SURFACE WATER & SOIL
- SAMPLING LOCATION- AIR,NOISE,GROUND WATER & SOIL
- SAMPLING LOCATION- AIR, NOISE & SOIL
- SAMPLING LOCATION- SURFACE WATER

N

Sampling Locations Details from NIMZ Boundary

Location	Village	Distance(km)	Direction
1	Handur	0.3	N
2	Yalgul	Adjacent	W
3	Rejantal	0.4	E
4	Tekur	2.8	NNE
5	Gunalli	1.7	W
6	Gunjetti	0.9	E
7	Waddi	2.6	N
8	Project Site	-	-
9	Mettalkunta	Adjacent	S
10	Kalbemal	0.8	W
11	Manhalli	3.3	SSW
12	Jhara Sangam	4.3	E
13	Nyalkal	4.4	N
14	Burdipar	4.9	S
15	Zaheerabad	9.3	S
16	Manjeera River	12.5	NE
17	Madhura Nadi near Mettlakunta R.S	0.6	S
18	Singur Reservoir	13	NE
19	Narinja Reservoir	1.9	S

This drawing is the property of L&T Infrastructure Engineering Ltd. and must not be passed on to any person or body not authorised by us to receive it nor be copied or otherwise made use of either in full or in part by such person or body without our prior permission in writing.

PATH: REFER BOTTOM LEFT CORNER OF THE DRAWING

PROJECT: DEVELOPMENT OF NIMZ NEAR ZAHEERABAD, SANGAREDDY DIST., TELANGANA STATE

TITLE: STUDY AREA & SAMPLING LOCATIONS MAP

L&T Infra Engineering

L&T Infrastructure Engineering Ltd.

PROJECT NO: C1171308

DATE: 11/03/2020

MADE: VSU

FIGURE NO: FD0103

REV: 0

AUTO PATH: L:\PORTS\2017\C1171308 - ESIA FOR ZAHEERABAD NIMZ\WORKING\DRAWINGS\EX.SUMMARY\FD0103-SAMPLING LOCATIONS.DWG

TBA

L&T Infra Engineering

L&T Infrastructure Engineering Limited

6-3-1192/1/1, 5th Floor, Block No.3,
White House, Kundan Bagh, Begumpet, Hyderabad – 500 016
Ph: 91-040-40354444; Fax: 91-040-40354430