

<b>Consultancy services for the “GIS Based Digital Information System (DIS) for Industrial Parks in West Bengal”</b>	<b>Project number/ cost centre: PN: 2018.2074.5- 001.00</b>
<b>0. List of abbreviations.....</b>	<b>2</b>
<b>1. Context .....</b>	<b>3</b>
<b>1.1 Background.....</b>	<b>3</b>
<b>1.2 Context .....</b>	<b>4</b>
<b>1.3 Scope of services of the consultant .....</b>	<b>7</b>
<b>2. Tasks to be performed by the contractor.....</b>	<b>7</b>
<b>3. Concept .....</b>	<b>10</b>
Technical-methodological concept .....	11
<b>4. Personnel Concept.....</b>	<b>12</b>
Team Leader.....	12
Expert 1 .....	12
Expert 2.....	13
Commercial Eligibility Assessment .....	13
Technical Eligibility Assessment .....	14
Technical Experience .....	14
Regional Experience.....	14
<b>5. Costing requirements.....</b>	<b>14</b>
<b>Assignment of personnel.....</b>	<b>14</b>
Travel.....	14
Other costs .....	15
<b>Specification of inputs .....</b>	<b>15</b>
<b>6. Inputs of GIZ or other actors .....</b>	<b>16</b>
<b>7. Requirements on the format of the bid.....</b>	<b>16</b>
<b>8. Annexes.....</b>	<b>16</b>

### 0. List of abbreviations

AVB	General Terms and Conditions of Contract (AVB) for supplying services and work 2018
DIS	Digital Information System
DSI IDC	Delhi State Industrial and Infrastructure Development Corporation
IIE	Integrated Industrial Estate
MoEFCC	Ministry of Environment, Forest and Climate Change, Government of India
SEIP II	Sustainable and Environment-friendly Industrial Production II
SIIDCUL	State Infrastructure and Industrial Development Corporation
SIDC	State Industrial Development Corporation
SPCB	State Pollution Control Board
ToR	Terms of reference
WBIDC	West Bengal Industrial Development Corporation
WBIIDC	West Bengal Industrial Infrastructure Development Corporation
WBSIDC	West Bengal Small Industries Development Corporation
WBEIDC	West Bengal Electronics Industry Development Corporation
WBPCB	West Bengal Pollution Control Board

## 1. Context

### 1.1 Background

GIZ is engaged in the field of international cooperation for sustainable development and international education work, dedicated to shaping a future worth living around the world. GIZ has over 50 years of experience in a wide variety of areas, including economic development and employment promotion, energy and the environment, and peace and security. GIZ's main commissioning party is the German Federal Ministry for Economic Cooperation and Development (BMZ). As a federal enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development in more than 120 countries worldwide.

Under the Indo German Development Cooperation, a project on “Sustainable and Environment-friendly Industrial Production II” (SEIP II) is being implemented from March 2019 to February 2022 with a focus on abatement of industrial wastewater pollution and strengthening of framework conditions. The Ministry of Environment, Forest and Climate Change (MoEFCC) of the Government of India is the main implementing partner at national level. The project is working at national level with MoEFCC and the Central Pollution Control board (CPCB) and at the State level in West Bengal, Bihar and West Bengal with the environmental agencies and the industrial development agencies. For details on SEIP II project, ref. to <http://seip.urban-industrial.in/>.

The objective of the SEIP phase 2 project is, “The strategic and operational governance structures of the Indian Government to effectively combat water pollution from industrial wastewater are strengthened.” The SEIP II phase works on the following main outputs:

- Output 1: Strengthening of the Legal Framework
- Output 2: Strengthening of Organisational Procedures and Processes
- Output 3: Strengthening of Incentive Mechanisms
- Output 4: Guidelines/e-portals/reference documents
- Output 5: Resource efficiency (RE) and Sustainable Consumption & Production (SCP)

One of the activities taken up under SEIP II project for the State Industrial Development Corporation (SIDCs) and the State Pollution Control Board (SPCBs) towards Output 2 on “Strengthening of Organisational Procedures and Processes” is to develop a systematic Digital Information System to capture, store, analyse, manage, and present all types of spatial and attribute data for all the industrial estates of the respective States on one single platform. Managing infrastructure & services in the industrial areas to ensure ease of business for the industries, while taking of pollution control and environmental protection, is important for sustenance of the industrial activity in West Bengal. To achieve this, information management is crucial for providing proper back up as decision support system. Digitalisation tools can be helpful towards building decisions support systems and helping in overall capacity development of the involved organisations.

The digital system is required to be a storehouse of digital data/information on layout, plot-wise details (allottee, area, approval, fees etc.) and infrastructure etc. which will help the user

organisations in monitoring the status of infrastructure and services and identify troubleshoots along with retrofit planning or identifying actions for adding/modifying infrastructure /services etc. from perspective of SIDC, while the system for SPCB will store house of digital data/information of industry level including category, sector, resource consumption, waste generation, production details, manpower, green area, year of operation, CTE/CTO status etc.). The digital information system will have to be hosted on web for display and use by the relevant stakeholders, while will also being updated by SIDC and SPCB time to time through open source GIS software.

## 1.2 Context

GIZ has developed Sustainability Standards for Industrial Parks (refer [Link](#)) that help in assessing the adequacies of various provisions in the industrial parks and managing the industrial parks in a better way. Leveraging the standards and criteria highlighted in the Sustainability Standards, (refer table below) GIZ has already designed and developed GIS based Digital Information System (DIS) in Delhi and Uttarakhand.

Standards	Criteria	Key Parameters for Output Generation
<b>Economic quality</b>	18 criteria	<ul style="list-style-type: none"> <li>• Total investment,</li> <li>• Revenues generated from infrastructure and services,</li> <li>• Employment generation,</li> <li>• Nature of employment,</li> <li>• Employment of women</li> <li>• Local employment</li> </ul>
<b>Environmental quality</b>	31 criteria	<ul style="list-style-type: none"> <li>• Cleaner production process,</li> <li>• Hazardous waste management, Wastewater management,</li> <li>• Water preservation,</li> <li>• Storm water management,</li> <li>• Emission &amp; Air pollution control,</li> <li>• Climate Change mitigation and adaptations,</li> <li>• Disaster risk management</li> </ul>
<b>Social quality</b>	13 criteria	<ul style="list-style-type: none"> <li>• Grievance and OH&amp;S Management System,</li> <li>• Social infrastructure,</li> <li>• Gender equity promotion,</li> <li>• Safety &amp; security,</li> <li>• Local community well-being</li> <li>• Community outreach etc.</li> </ul>
<b>Infrastructure services quality</b>	& 15 criteria	<ul style="list-style-type: none"> <li>• Logistics provisioning,</li> <li>• Design quality,</li> <li>• Green buildings and building standards,</li> <li>• Mobility,</li> <li>• Energy systems,</li> <li>• Plantations, landscaping etc.</li> </ul>

<b>Management quality</b>	5 criteria	<ul style="list-style-type: none"> <li>• Industrial park operation and management systems,</li> <li>• Quality Assurance and Monitoring,</li> <li>• Certification/standards,</li> <li>• Marketing etc.</li> </ul>
<b>Legal compliance quality</b>	4 criteria	<ul style="list-style-type: none"> <li>• Compliance with national and local laws</li> <li>• Compliance with international commitment etc.</li> </ul>

### GIS Information System in Delhi

In Delhi, GIZ has supported Delhi State Industrial and Infrastructure Development Corporation (DSIIDC) in generating digital outputs<sup>1</sup> for Patparganj Industrial Area, Lawrence Road Industrial Area and Mayapuri Industrial Area as part of pilot work. Besides, GIZ supported DSIIDC in setting up Delhi Industrial Estates Digital Information Systems Lab at DSIIDC and provides training on DIS for DSIIDC staffs. The DSIIDC staffs subsequently used pilot project as a base for the preparation of new maps for other industrial parks of DSIIDC.

### GIS Information System in Uttarakhand

In Uttarakhand, GIZ has established an Industrial Estate Digital Information System (DIS) facility at State Infrastructure and Industrial Development Corporation of Uttarakhand (SIIDCUL). GIZ procured following hardware and software for setting up DIS cell in SIIDCUL:

- 3 nos. Computer Desktop
- 1 no. A0 size plotter printer scanner copier
- 1 no. GPS handheld device
- GIS software [QGIS Open Source]
- CAD software [AutoCAD 2019 for 3 nos. Users]

As part of pilot DIS preparation, IIE Pantnagar and IIE Sitarganj were selected for developing digital outputs in alignment with sustainability standards. DIS is now available for 5 industrial parks of SIIDCUL, viz. IIE Kotdwar, IIE Pantnagar, IIE Sitarganj, IIE PharmacySelaqui, IIE IT Park Dehradun. GIZ has also assisted with extensive training on GIS to staff of SIIDCUL. Presently, DIS is being developed for all 27 industrial parks of the State.

---

<sup>1</sup><http://seip.urban-industrial.in/content/e62771/live/hrdpmp/hrdpmaster/igep/content/e62771/e64465/e64820/e69292/DIS.pdf?preview=preview>

### GIS Information System Requirements for West Bengal

West Bengal has more than 200 industrial parks/ estates/ growth centres admeasuring around 20,000 acres of land, spread over six industrial regions (Haldia, Kolkata, Asansol-Durgapur, Kharagpur, Howrah and Siliguri) of the state. The industrial parks/ estates/ growth centres are either multiproduct or product specific like exclusive centres for electronics, software technology, Apparel & Garments, Textiles etc. The state has number of nodal agencies under administrative control of Government of West Bengal, which are responsible for development, management and maintenance of industrial parks/ estates/ growth centres in the state. They are West Bengal Industrial Development Corporation (WBIDC), West Bengal Industrial Infrastructure Development Corporation (WBIIIDC), West Bengal Small Industries Development Corporation (WBSIDC), West Bengal Electronics Industry Development Corporation (WBEIDC). Besides, there exists number of private entities who have their industrial parks in the strategic locations of the state. Government of West Bengal has also supported more than 430 SME clusters in the State that include MSME, Handloom and Khadi clusters. One of the significant initiatives taken up is development of 5 mega clusters (Leather, Carpet, Powerloom, Garment and Aroma) which have high potential to grow and capacity to generate huge employment.

Under the ongoing Indo German Development Cooperation project on SEIP II, GIZ will be supporting West Bengal in developing GIS based Digital Information System for industrial parks in West Bengal.

In West Bengal, the state alreadyhas a dedicated Single Window Cell “SilpaSathi” set up in the West Bengal Industrial Development Corporation (WBIDC) to facilitate investors in obtaining services required for setting up and operating business in the State in smooth and time bound manner. SilpaSathi portal has an interactive GIS based DISon:

- Location, connectivity status and Industrial character (Sector specific or multi-products) of industrial parks (refer <http://eodb.indiaqis.org/eodb/gmap/map.jsp>)
- Land availability status, Lease Rate, Permissible Pollution Category for each IPs/IEs ( refer [https://silpasathi.in/home/page/land\\_bank](https://silpasathi.in/home/page/land_bank))

GIZ is proposing to redesign and redevelop the GIS based DIS at WBIDC to include following parameters and criteria mentioned in Sustainability Standards prescribed by GIZ.

- Basic information
- Economic quality information
- Environmental quality information
- Social quality information
- Infrastructure & services information
- Management systems information
- Legal compliance information

Given this background, GIZ wishes to engage a national consultant as per Terms of Reference given below.

### 1.3 Scope of services of the consultant

The objective of the consultancy services is to develop a cloud-based GIS based Digital Information System along with a decision support system for upto 5 selected industrial parks in West Bengal catering to the requirements of WBPCB and WBIDC and placing of selected information on webplatforms of WBIDC and WBPCB for public access.

The scope of the services of the consultant includes tasks related to:

- a) Design and generate GIS based digital information system (spatial and attribute) for the selected industrial parks(upto 5 nos) in West Bengal.
  - » Basic information
  - » Economic quality information
  - » Environmental quality information
  - » Social quality information
  - » Infrastructure & services information
  - » Management systems information
  - » Legal compliance information
- b) Five industrial parks to be selected by the consultant in consultation with WBPCB, WBIDC and GIZ.
- c) The GIS based information system should cater to both WBIDC and WBPCB.
- d) Use a cloud-based system for storing and accessing data.
- e) Make provisions in the existing web sites of WBIDC and WBPCB for placing relevant information accessible to the public.
- f) Support WBPCB and WBIDC staff in maintenance of the DIS and web platforms.
- g) The tasks to be performed are:
  - Developing DIS templates and information collection
  - Development of GIS based information system for the selected industrial parks
  - DIS on web platforms for public access - making industrial park information accessible to public through web sites of WBIDC and WBPCB
  - Support and maintenance of the GIS based information system

## 2. Tasks to be performed by the contractor

### Tasks

The contractor is responsible for providing the following services given in the table below.

<b>Main Task 1:</b> Developing DIS	<b>Sub-task 1:</b> Undertake a needs assessment for fulfilling the objectives by consulting with the relevant stakeholders, primarily
---------------------------------------	---

templates and information collection	<p>WBPCB and WBIDC. <i>Finalise the <b>5 industrial parks</b> to be covered for GIS based DIS in consultation with WBPCB, WBIDC and GIZ.</i></p> <p>Prepare a needs assessment report and finalise in consultation with WBIDC and WBPCB.</p> <p><b>Sub-task 2:</b> Review the data (spatial and attribute) needs for the GIS based DIS (digital information system) based on the Sustainability Standards (<a href="#">Link</a>) [suggestive template is given in in Annexure 1] and the needs assessment as in Sub-task 1 above.</p> <p><i>Note: As an example, partially developed digital output of IIE Pantnagar in Uttarakhand is provided in Annexure 2.</i></p> <p><b>Sub-task 3:</b> Review the existing GIS hardware and software in use at WBIDC for customising the DIS templates for the industrial parks in West Bengal.</p> <p><b>Sub-task 4:</b> Further refine the existing standard database template for spatial and attribute (Annexure1) for generating GIS based DIS (digital information system) for the industrial parks catering to the requirements of WBIDC and WBPCB. Finalise the template in consultation with WBPCB and WBIDC.</p> <p><b>Sub-task 5:</b> For the five selected industrial parks, collect the existing spatial and attribute data available with WBIDC and WBPCB and from other secondary sources such as the Forest Survey of India, Remotesensing Centres, Directorate of Industries, District Industries Centre etc. for all the industrial parks.</p> <p><b>Sub-task 6:</b> Data review and plausibility checking for all the collected data.</p>
<b>Main Task 2:</b> Development of GIS based digital information system for the selected industrial parks	<p><b>Sub-task 1:</b> Develop a GIS based digital information system for the selected 5 industrial parks of WBIDC with spatial and attribute data as per the developed templates (Ref. Main task 1, Sub-task 4).</p> <ul style="list-style-type: none"> <li>» Consultant to use own hardware.</li> <li>» Consultant to use an existing GIS software of WBIDC or WBPCB if available or use an open source GIS.</li> <li>» Query system and information retrieval to be customised</li> </ul>



	<p>separately for WBPCB and WBIDC.</p> <p>» Information system<sup>2</sup> to cover:</p> <ul style="list-style-type: none"> <li>- Basic information(layout, plots, roads, drainage, land use etc.)</li> <li>- Economic quality information</li> <li>- Environmental quality information(industry-wise pollution data, water pollution, air pollution, waste management etc.)</li> <li>- Social quality information</li> <li>- Infrastructure &amp; services information(sewerage network, drainage network, electricity, water supply, parking, signage etc.)</li> <li>- Management systems information</li> <li>- Legal compliance information</li> </ul> <p><b>Sub-task 2:</b> Undertake ground-truthing as maybe necessary in the industrial estates for verification of the generated maps.</p> <p><b>Sub-task 3:</b> Verification of GIS based database with WBIDC and WBPCB and making changes as may be necessary and finalisation accordingly.</p> <p><b>Sub-task 4:</b> Develop a decision support system onto the GIS based DIS for catering to each of the two organisations, viz WBPCB and WBIDC to support them in their day to day decisions making processes.</p>
<b>Main Task 3: DIS on web platforms for public access</b>	<p><b>Sub-task 1:</b> Assess the requirements of placing GIS based DIS onto web sites/platforms for public access by consulting with WBIDC and WBPCB.</p> <p><b>Sub-task 2:</b> Review the existing web sites/platforms of WBIDC and WBPCB.</p> <p><b>Sub-task 3:</b> Put up information on to the webplatforms of WBPCB and WBIDC as per the requirements (ref. above Sub-task 1).</p>

---

<sup>2</sup><http://seip.urban-industrial.in/content/e62771/live/hrdpmp/hrdpmaster/igep/content/e62771/e64465/e64820/e68134/Sustainability-Final.pdf?preview=preview>

<b>Main Task 4: Support and maintenance</b>	<p><b>Sub-task 1:</b> Provide technical support, including hands-on-training to the staff of WBPCB and WBIDC for upto 3 months on using, updating and managing the developed GIS based DIS for the all the industrial parks.</p> <p><b>Sub-task 2:</b> Provide maintenance support for GIS based DIS and the decision support system for upto 3 months.</p>
---	---

### Deliverables

Certain milestones/deliverables, as laid out in the table below, are to be achieved by certain dates during the contract term, and at particular locations:

<b>Milestone/deliverable</b>	<b>Deadline/place/person responsible</b>
<u>Report on Main Task 1:</u> Needs assessment report, DIS templates and information collection	December 2020
<u>Report on Main Task 2:</u> Cloud-based GIS based DIS (digital information system) with decision support system for the selected 5 industrial parks in West Bengal	April 2021
<u>Report on Main Task 3:</u> DIS on web platforms of WBIDC and WBPCB for public access	May 2021
<u>Report on Main Task 4:</u> Report on training provided and support & maintenance taken up	September 2021
<u>Report on the consultancy services provided</u>	September 2021

### Period of assignment

From 1<sup>st</sup> December 2020 until 30 September 2021

### 3. Concept

The bidder is required to **submit a Technical-methodological concept** covering the following aspects to enable GIZ judge the technical competency of the bidder (ref. to attached assessment matrix). If no information is provided, the bidders will not be given any score against that parameter.

### Technical-methodological concept

- **Strategy:** The bidder is required to understand the objectives given in the ToR and do critical examination of the tasks. The bidder is required to elaborate a strategy/approach for delivering the services put out to tender. The evaluation parameters are:
  - » Interpretation of the objectives in the ToRs, critical examination of tasks
  - » Description and justification of the contractor's strategy for delivering the services put out to tender.
- **Cooperation:** The bidder is required to interact with relevant actors for successful implementation of the contract. Therefore, a clear strategy for establishing cooperation and then cooperating with the relevant actors needs to be detailed out in line with the ToR requirements. The evaluation parameters are:
  - » Presentation and interaction between the relevant actors in the contractor's area of responsibility.
  - » Strategy for establishing cooperation and then cooperating with the relevant actors.
- **Steering Structure:** The bidder is required to outline the approach and procedure for steering the measures with the project partners for effectively and efficiently fulfilling various tasks, viz. needs gathering, seeking approvals, comments to the draft outputs etc. The evaluation parameters are:
  - » Approach and procedure for steering the measures with the project partners
  - » Description of contractor's contribution to results monitoring and the associated challenges
- **Processes:** The bidder should include in the technical proposal an explanation of the implementation plan: work steps, milestones, schedule. The description of the key processes which it intends to follow for delivering the services so that the partners contributions/inputs are well integrated. The evaluation parameters are:
  - » Presentation and explanation of the implementation plan: work steps, milestones, schedule
  - » Presentation and explanation of the integration of the partner contributions
- **Learning and Innovation:** The bidder should include in the technical proposal an explanation of how they would be able to contribute to the knowledge management at WBIDC and at GIZ. The bidder should also include a presentation and explanation of the measures that they would undertake to promote scaling-up effects. The evaluation parameters are:
  - » Contractor's contribution to knowledge management at the partner and at GIZ
  - » Presentation and explanation of the measures undertaken by the contractor to promote scaling-up effectsProject
- **Management:** The bidder is required to prepare and submit:
  - » Approach and procedure for coordination with/in GIZ project;
  - » Personnel assignment plan (who, when, what work steps) incl. explanation and specification of expert months; and
  - » Backstopping strategy (incl. CVs of the technical and administrative backstopper)

#### 4. Personnel Concept

The bidder is required to provide personnel who are suited to filling the positions described, based on their CVs, the range of tasks involved and the required qualifications. The bidder must provide a clear overview of all proposed experts and their individual qualifications in the attached CV format.

The below specified qualifications represent the requirements to reach the maximum number of points. The numbers given in brackets refer to the respective lines in the document “Grid for the technical assessment of bids”.

Details of responsibilities and qualification requirements of various experts are given below.

##### **Team Leader**

###### Tasks of Team Leader

- Work planning, overseeing execution, quality assurance of all deliverables.
- Key contact to GIZ.
- Development of templates and data/information collection.
- Undertaking field visits/surveys, ground-truthing, data/information validation.
- Development of GIS based DIS for industrial parks including mapping and developing spatial and attribute database.
- Resource person in trainings, workshops/meetings, stakeholder consultations, providing maintenance support.

###### Qualifications of the Team Leader

- Education/training (2.1.1): Post Graduate Degree in Remote Sensing & GIS or equivalent
- Language (2.1.2): Excellent writing and communication skills in English
- General Professional Experience (2.1.3): Minimum 5 years' experience in developing and managing GIS based information system
- Specific Professional Experience (2.1.4): Minimum 2 years' experience in developing GIS database for industrial/urban areas and decision support systems
- Leadership/Management Experience (2.1.5): Management/leadership experience as project team leader or manager for one similar project
- Regional experience (2.1.6): Experience in West Bengal in one similar project. Working with government agencies of West Bengal is preferred
- Development Corporation experience (2.1.7): One project with Development Corporation
- Other(2.1.8): N.A.

##### **Expert1**

###### Tasks of the Expert 1

- Development of GIS based DIS for industrial parks including mapping and developing spatial and attribute database.
- Data/information collection.
- Undertaking field visits/surveys, ground-truthing, data/information validation.

- Development of GIS based DIS for all industrial parks including mapping and developing spatial and attribute database.
- Resource person in trainings, workshops/meetings, stakeholder consultations, providing maintenance support.

### Qualifications of the Expert 1

- Education/training (2.2.1): Post Graduate Degree in Remote Sensing & GIS or equivalent
- Language (2.2.2): Excellent writing and communication skills in English
- General professional experience (2.2.3): Minimum 5 years' experience in developing and managing GIS based information system
- Specific professional experience (2.2.4): Minimum 1 years' experience in developing GIS database for industrial/urban areas and decision support systems
- Leadership/ management experience (2.2.5): N.A.
- Regional experience (2.2.6): Experience in West Bengal for one similar project.
- Development Corporation experience (2.2.7): N.A.
- Others (2.2.8): N.A.

### **Expert 2**

#### Tasks of Expert 2

- Data/information collection.
- Design and development of webpages.
- Setup content management system.
- Resource person in trainings, workshops/meetings, stakeholder consultations, providing maintenance support.

### Qualifications of Expert 2

- Education/training (2.3.1): Post Graduate Degree in Remote Sensing & GIS
- Language (2.3.2): Excellent writing and communication skills in English
- General professional experience (2.3.3): Minimum 3 years of professional experience in web GIS development.
- Specific professional experience (2.3.4): Minimum 1 year experience in OSG web services, spatial and non-spatial database design, GUI design, Python based web interface management, web development etc.
- Leadership/ management experience (2.3.5): N.A.
- Regional experience (2.3.6): Experience in West Bengal for one similar project.
- Development Corporation experience (2.3.7): N.A.
- Others (2.3.8): N.A.

### **Eligibility requirements for the bidders / Firms participating in the tender:**

#### **Commercial Eligibility Assessment**

- Please provide the legal status of your firm.
- Average annual turnover of the agency or consortium for the last three financial years: at least Euro 50,000.
- The number of employees of the agency or consortium as at 31.12. of the previous year: at least 5 persons.

### Technical Eligibility Assessment

The bidder shall have reference projects with a minimum commission value of 10,000 EUR:

- At least 1 reference project in India in the field of development of GIS database in industrial/urban areas
- At least 1 reference project in India in conducting surveys and data collection for GIS platform in the last 3 years

### Technical Experience

- Minimum 1 years' experience in developing GIS database for industrial/urban areas
- Minimum 1 years' technical experience in conducting surveys and data collection of industrial areas for GIS platform

### Regional Experience

- Experience in working with Central or state government (preferably West Bengal) agencies in India.

## 5. Costing requirements

### Assignment of personnel

Team Leader: 110 expert days (including 20 nos. travel days)

Expert 2: 110 expert days (including 20 nos. travel days)

Expert 3: 110 expert days (including 10 travel days)

	Team Leader	Expert 1	Expert 2
Main Task 1	50	50	20
Main Task 2	30	30	10
Main task 3	10	10	50
Main task 4	20	20	30
	<b>110 days</b>	<b>110 days</b>	<b>110 days</b>

### Travel

The bidder is required to calculate the travel by the specified experts along with list of the expenses separately by daily allowance, accommodation expenses, flight/train/road costs and other travel expenses. Based on the places of performance stipulated in Section **Error!**

**Unknown switch argument.**, 20 trips within West Bengal limited to maximum 50 days to be made by the experts in total.

### Other costs

- Institutional overheads (if any) for this assignment to be specified by the bidder.

### Specification of inputs

The days of engagement during the contract period, travel days, eligible travel allowances etc. are given below, which can be referred to by the consultant for calculating costs for the financial proposal to be submitted.

Fee days	Number of days up to	Comments
• Preparation/debriefing	1 day	Preparation/debriefing on the assignment by GIZ
• Implementation	329 days	Man-days for taking up the tasks as defined in the TORs. <b>This includes travel days (maximum 50 days)</b>
Travel expenses	Number of days/nights up to	Comments
• Per diem	50	Bidder to quote per diem costs. Note that costs will be reimbursable upto limits as per GIZ rules
• Accommodation	50	Bidder to quote per accommodation costs. Note that costs will be reimbursable upto limits as per GIZ rules.
Other travel expenses		Comments
• Number of local trips (train/road)	20	Travel within West Bengal
• Number of trips abroad	0	
• Local conveyance	Actuals	Bidder to quote local travel for 100 days, which will be reimbursed as per actuals as per GIZ rules
Flights	Number of flights up to	Comments
• International flights	0	
• Domestic flights	0	
Other costs		Comments
Institutional overheads	-	Institutional overheads (please specify if any) for this assignment to be specified by the bidder.

### 6. Inputs of GIZ or other actors

GIZ and/or other actors are expected to make the following available:

- Facilitate working in WBIDC, WBPCB and other offices.
- Facilitate interactions with WBIDC and WBPCB.
- Organisational aspects of the trainings including venue, tea/coffee etc.

### 7. Requirements on the format of the bid

The structure of the bid must correspond to the structure of the ToRs. In particular, the detailed structure of the concept (Chapter 3) is to be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). It must be legible (font size 11 or larger) and clearly formulated. The bid is drawn up in English (language).

The complete bid shall not exceed 30 pages (excluding CVs & other company documents as specified in grid for assessing eligibility of firms).

The CVs of the personnel proposed in accordance with Chapter **Error! Unknown switch argument.** of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages. The CVs must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English (language).

If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment.

Please calculate your price bid based exactly on the aforementioned costing requirements. In the contract the contractor has no claim to fully exhaust the days/travel/workshops/budgets. The number of days/travel/workshops and the budget amount shall be agreed in the contract as 'up to' amounts. The specifications for pricing are defined in the price schedule.

### 8. Annexes

- Data & Information for Industrial Estates
- DIS for IIE Pantnagar

^^^



## Annexure 1

## Data &amp; Information for Industrial Estates

S. No.	Field	Type of Information	Type of Data
Industrial Estate Level Information			
1	Area	Area of the Estate	Number with decimal
		Area of Industrial Plot	Number with decimal
		Percentage of Industrial Plot	Number with decimal
		Area of public-semi public land use	Number with decimal
		Percentage of public-semi public land use	Number with decimal
		Area under road	Number with decimal
		Percentage of area under roads	Number with decimal
		Area under commercial land use	Number with decimal
		Percentage area under commercial land use	Number with decimal
		Area under green land use	Number with decimal
		Percentage area under green land use	Number with decimal
		Area under utility	Number with decimal
		Percentage area under utility	Number with decimal
		Area under residential	Number with decimal
		Percentage area under residential	Number with decimal
2	Cost	Land cost	Number with decimal
		Saleable Cost of Plot (per sq.m.)	Number with decimal
		Lease value of plots (per sq.m.)	Number with decimal
Infrastructure			
3	Water	Source of water	Text
		Timing of water supply	Text
		Reuse water supply	Text (Yes/No)
		RWH water supply	Text (Yes/No)
4	Wastewater	Conveyance system length	Number with decimal
		Conveyance system maintenance agency	Text
		Location of manholes	Text
		Conveyance system type (open/closed)	Text
		Outfall of stormwater location	Text
		Industrial Wastewater Drain length	Number with decimal
		Industrial wastewater drain maintenance agency	Text
		Industrial wastewater drain type (open/closed)	Text
		CETP Location	Text
		Treatment Infrastructure Details	Text
		Treatment Infrastructure Capacity	Number with decimal
		Quantity of treated water discharge	Number with decimal
		Disposal of treated water (location)	Text
		Influent quality to CETP	Text
		Effluent quality from CETP	Text
5	Waste	Solid waste collection	Text (Yes/No)

6	Electricity	Timing of solid waste collection	Text
		Waste recycling infrastructure	Text
		Resource recovery, recycle quantity (tons)	Number with decimal
		Electricity Connection	Text (Yes/No)
		Electricity Supplier	Text
		Back Up Electricity Available	Text (Yes/No)
		Back up electricity Supplier	Text (Yes/No)
		Energy efficiency - LED for exterior lighting	Text (Yes/No)
		Renewable energy- solar, wind, waste to energy, on-site cogeneration power plant	Text (Yes/No)
7	Estate Security	Lighting systems in and around area	Text (Yes/No)
		Fencing around Industrial estate	Text (Yes/No)
		CCTV system	Text (Yes/No)
		Access control system	Text (Yes/No)
		Security offices at main gate and strategic points	Text (Yes/No)
		Street Light maintenance agency	Text
		Greenery Maintenance Agency	Text
		Parking for trucks available	Text (Yes/No)
		Loading-Unloading available	Text (Yes/No)
		Hospital/Clinic	Text (Yes/No)
		Food Court	Text (Yes/No)
8	Others	Resting area	Text (Yes/No)
		Tree Cover, Record of Major Trees , major green areas	Text (Yes/No)
		Biodiversity preservation plan	Text (Yes/No)
		Specialized unit for safety and security exists	Text (Yes/No)
		Disaster Risk Management Plan	Text (Yes/No)
		Mock drills for industrial disaster preparedness	Text (Yes/No)
		Infrastructure for managing disaster (fire brigade, disaster management team, safety equipment, first aid etc.)	Text (Yes/No)
		Emergency plan	Text (Yes/No)
		Risk, accident, incident management	Text
		Clean up drives, health camp, public service activities	Text
		Cost spent on Art/Creativity	Text
		Cost for maintenance of common services	Text
9	Roads	Name of Road	Text
		ROW	Number with decimal
		Type of road (2 lane, four lane, six lane, service road)	Text
		Road cover (bitumen, paved, unpaved etc.)	Text
		Gradient	Number with decimal
		Utility duct available	Text

		On Road Parking available	Text (Yes/No)
		Storm Water Drainage	Text (Yes/No)
		Stormwater drainage maintenance agency	Text
		type of stormwater drain (covered/uncovered)	Text
		Road maintenance agency	Text
Plot Level Information			
10	General	Name of Unit	Text
		Land Use	Text
		Sector Number	Text
		Plot Number	Text
		Number of Plots	Whole number
		Industry Type (Manufacturing/Service)	Text
		Plot Status (Alloted- in production, closed, under construction, vacant; No status, Others)	Text
		Plot Status Date	Number
		Closed Since (if Closed) (Estimated Time in Months or Years and NA in case of not closed)	Text
		Land Cost (per sq.m.)	Number with decimal
		Total Project Cost (in cr.)	Number with decimal
		Proposed Investment (in cr.)	Number with decimal
		Actual Investment Made (in cr.)	Number with decimal
		Area at the time of allotment in Sq. Mtr.	Number with decimal
		Area at the time of Possession in Sq. Mtr.	Number with decimal
		Built up area	Number with decimal
		Date of Allotment	Number
		Lease Deed	Text (Yes/No)
		Lease Deed Date	Number
		Lease Period	Number
		Possession	Text (Yes/No)
		Possession Date	Number
		Date of Production	Number
		Occupancy Certificate	Text (Yes/No)
		Time Extension	Text (Yes/No)
		Time Extension Date	Number
		Time Extension Last	Text (Yes/No)
		Time Extension Last Date	Number
		Contact Number	Number
		Name of contact person	Text
		email ID	Text
		Maintenance cost towards common services (cost paid)	Number
		Ref. No. - Layout Plan Approval from SIDA	Text
		Ref. No.- Building Plan Approval from	Text

		SIDA	
		Clean Production Process	Text
		Measures for Industrial Symbiosis	Text
		Regulatory/Legal/Environmental Problems	Text
		Whether industry is through FDI	Text (Yes/No)
		Registration for SSI / EM1 / EM2 / UAM / IEM / SIA (Please select any one option)	Text
		SSI / EM1 / EM2 / UAM / IEM / SIA Registration Number (Please provide the correct number in the format it is available with no editing)	Text
		Registration Date	Number
		EM Part-II convert to Udyog Aadhar	Text (Yes/No)
		Subsidy From State Govt (Nil in case of No Subsidy) (in cr.)	Text
		Subsidy under Central Govt Schemes ( Nil in case of No Subsidy) (in cr.)	Text
		Policy under which the unit is established	Text
		Provide the name of Other Policy	Text
		NIC 5 Digit Code (as per NIC Code 2008)	Number
11	Ownership Details	Constitution of Organization (Limited Liability Partnership, Partnership, Private Ltd. Co., Proprietorship, Public Ltd. Co.)	Text
		Name of Proprietor	Text
		Category (SC / ST / OBC / GEN / Minority / Ex Serviceman / Others)	Text
		Women Entrepreneur	Text (Yes/No)
		Physically Handicapped	Text (Yes/No)
12	Product Details	Activity Description	Text
		Input Supplies From	Text
		Capacity in Sales Value (in Amount Rs.)	Number with decimal
		Unit of Capacity (Tonnes, Kgs, Pieces, Rs. or others as applicable)	Text
		Whether the unit is Export Oriented	Text (Yes/No)
		PCB Category	Text
13	Employment Details	Proposed Employment at time of allotment	Number
		Actual Employment Provided	Number
		Permanent Male Employees	Number
		Permanent Female Employees	Number
		Permanent Total Employees	Number
		Contractual Male Employees	Number
		Contractual Female Employees	Number
		Contractual Total Employees	Number
		Skilled Male Employees	Number

		Skilled Female Employees	Number
		Skilled Total Employees	Number
		Semi-Skilled Male Employees	Number
		Semi-Skilled Female Employees	Number
		Semi-Skilled Total Employees	Number
		Unskilled Male Employees	Number
		Unskilled Female Employees	Number
		Unskilled Total Employees	Number
		Local Resident Male Employees	Number
		Local Resident Female Employees	Number
		Local Resident Total Employees	Number
		Programme for skill training of employees. (Programme name, number of people trained, Month and Year of training)	Text
14	Environment Information	Type of Pollution (Air/ Water/ Noise/ Land)	Text
		Regulatory Authority	Text
		Pollution Clearance	Text (Yes/No)
		Date of pollution clearance taken by industry	Number
		Date of expiry of pollution clearance	Number
		Type of Emission	Text
		Air pollution- emission quality data	Text
		Reduction of Emission-Measures taken and compliance for air pollution control	Text
		Air pollution monitoring system (online and offline monitoring, lab facilities, data display facilities, data reporting systems )	Text (Yes/No) for each
		Noise pollution data (as per regulatory authority)	Text
		Whether EIA needed and done?	Text (Yes/No)
		ISO Certification	Text (Yes/No)
		Green Building Certification IGBC, BREEA, LEED, DGNB)	Text
		Pre-assessment for Gold Rating	Text (Yes/No)
		Design of building (Passive Design, Building Orientation)	Text (Yes/No) for each
		Record of major trees within plot	Text (Yes/No)
		Any green measures taken up by industry	Text
		Incentives/ grants for greening industry/ resource efficiency etc.	Text
		Any National/ International Certification (Mention Year of Certification)	Text (Yes/No)
15	Revenue Information	Property Tax payable (in Rs.)	Number
		Regulatory Authority(property)	Text
		Environment Tax payable (Rs.)	Number
		Regulatory Authority (water)	Text

		Water Tax payable (Rs.)	Number
		Total Tax payable (Rs.)	Number
		Revenue from Plots (p.a.)(Rs.)	Number
		Expenditure of Industry (p.a.)(Rs.)	Number
16	Water Supply	Water Connection	Text (Yes/No)
		Source of water (Supply/ Borewell/ Any other (mention))	Text
		Quantity required (litres/day) (lpd)	Number
		Water Supply Timings	Number
		Number of borewells present	Number
		NOC from CGWB/CGWA	Text (Yes/No)
		Permitted quantity of water withdrawal (lpd)	Number
		Quantity of water procured from tankers	Number
		Water saving through efficient technology (lpd)	Number
		Rainwater harvesting quantity (liters)	Number
		Water reuse quantity (liters)	Number
		Water recycle quantity (liters)	Number
17	Wastewater	Type of Treatment (Industry/ CETP)	Text
		If treatment by Industry:	
		Treatment Infrastructure Details	Text
		Treatment Infrastructure Capacity	Number
		Quantity of treated water discharge	Number
		Disposal of treated water (location)	Text
		Wastewater Reuse Quantity (litres)	Number
		Treated waste water monitoring (Online and offline monitoring, Lab	
		Facilities, Data Display Facilities, Data Reporting Systems)	Text (Yes/No) for each
		Authority for monitoring	Text
		Water Pollution- Effluent Quality Data	Text
		Zero Liquid Discharge Available	Text (Yes/No)
18	Solid Waste	Type of Waste (Hazardous)	Text (Yes/No)
		Type of Waste (Municipal)	Text (Yes/No)
19	Hazardous waste	Location of Disposal	Text
		Name of agency collecting waste	Text
		Disposal Pick-up time (frequency)	Number
		Quantity of waste generated (Tons)	Number with decimal
		Waste recycling infrastructure	Text
		Resource recovery, recycle quantity (tons)	Number with decimal
20	Municipal Waste	Location of Disposal	Text
		Name of agency collecting waste	Text
		Disposal Pick-up time (frequency)	Number
		Quantity of waste generated (Tons)	Number with decimal
		Waste recycling infrastructure	Text

		Resource recovery, recycle quantity (tons)- paper, plastic, packaging material recycle, drums reuse, construction debris etc.	Number with decimal
		Measures to minimize non-recyclable goods (eg. plastic, thermocol)	Text
21	Transport	Public transport availability for laborer	Text (Yes/No)
		Number of employees using following mode of transport (Own Vehicle, Public Transport)	Number for each
		Parking space within plot (in terms of number of vehicles that can be accommodated) (Cars, Goods vehicles, loading/unloading vehicles)	Number for each
		Provisions for drivers and other staff (Dormitories, Toilets, Canteen)	Text (Yes/No) for each
		Electricity Connection	Text (Yes/No)
		Electricity Supplier	Text
22	Electricity	Energy efficient fixtures	Text (Yes/No)
		Back-up electricity	Text (Yes/No)
		Diesel Generator	Text (Yes/No)
		Energy Management Systems	Text (Yes/No)
		Renewable energy (Solar street lamp, solar panel, solar energy for common areas, Off site renewable energy)	Text (Yes/No)
		OH&S	Text (Yes/No)
		Grievance management Help desk, Hotline, Complaint Box, Other)	Text (Yes/No) for each
23	Others	Harassment Prevention and Redressal (Harassment redressal team, Sexual harassment redressal team, transport provision for women)	Text (Yes/No) for each
		Community Dialogue (Website, Media Release, News Bulletin, Social Media, Other)	Text (Yes/No) for each
		Community services such as drinking water supply, water harvesting, health camps etc.	Text
		Outreach activities: CSR Activities/ Clean up drives, health camp, public service activities etc.	Text

## Annexure 2 DIS for IIE Pantnagar

The Digital Information System (DIS) resource layout for the IIE Pantnagar is shown in Fig. 1. It is the broad layout visible as soon as the DIS is opened. It shows the plot foot prints along with the road layers, vegetation, plot utilities, air quality station locations, ground water collection points, surface water data locations for water quality parameters, electric polls throughout the region along with the electric lines and CETP pipelines information. The surface water body is also visible for the region. The unique ID is generated for each plot so that the data received from the authorities can be easily updated whenever required in the near future.

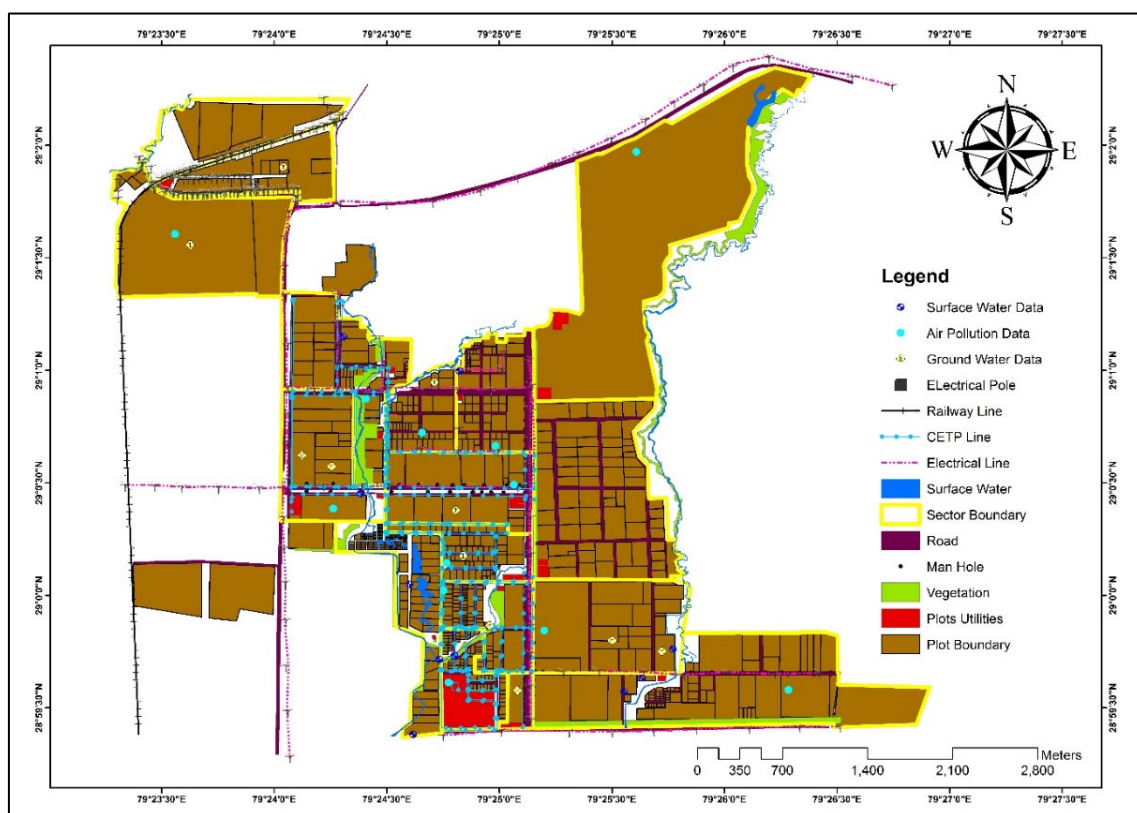


Fig. 1 DIS resource/base layer (IIE Pantnagar)\*

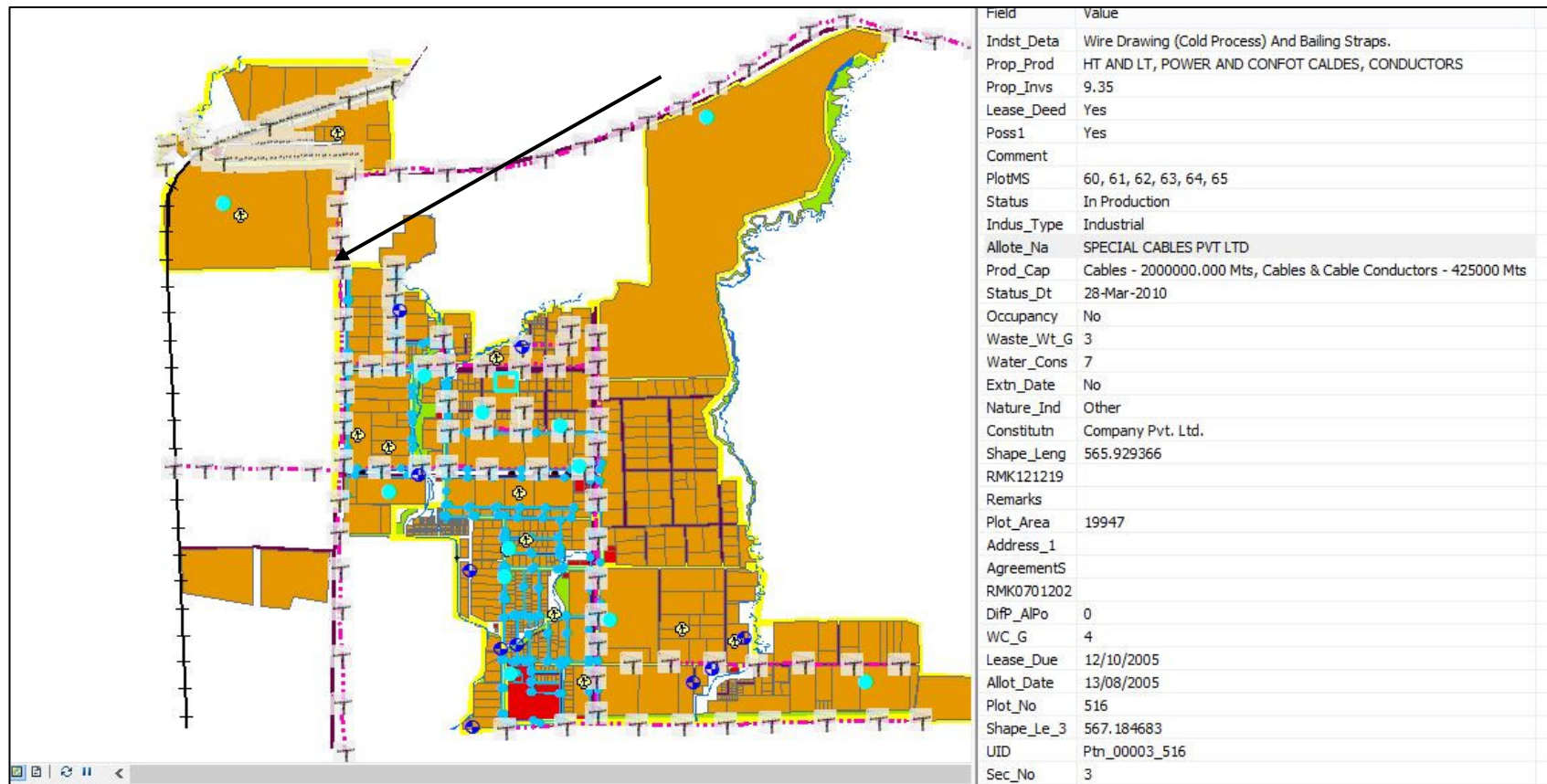
\*The information of the sector 11 is not obtained from government authorities and hence the whole sector is marked as TATA Industries.

### 1. Features of Digital Information System (DIS)

There are several features that are developed for the Digital Information System (DIS) based on the requirements received from the SIIDCUL, UKPCB and also from various government officials involved in need assessment planning phase. Based upon the inputs received and also considering all the guidelines received from the GIZ, the various features developed for the DIS were incorporated



**1.1 First Look – Digital Information System (DIS):** The digital information system contains all the information as obtained from the government authorities and has been updated for each plot of both the Industrial regions viz` IIE Pantnagar. The whole information can be retrieved from the Digital Information System (DIS) with a single click. The **Error! Unknown switch argument.** 2 shows how the information is displayed with a single click of mouse on the concerned plot for the IIE Pantnagar.



**Fig. 2 On Click information of each Industry Unit (IIE Pantnagar).**

# Terms of reference (ToRs) for “Developing GIS Based Digital Information System (DIS) for Industrial Parks in West Bengal”

## 1.2 Plot Information Feature

The plot information for each plot is shown in Fig. 3 for the industrial estate. The attributes contain the name of the allottee, plot no., allotted area, possession area etc. The photographs taken from the field visits are also added along with the dataset and is visible wherever it is uploaded.

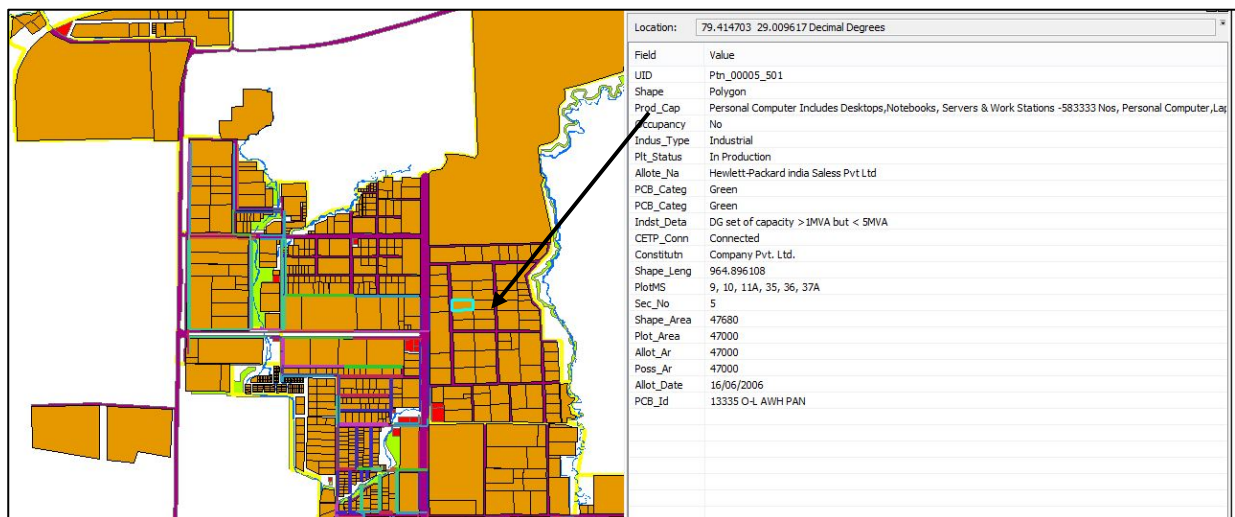


Fig. 3 Plot Information (IIE Pantnagar)

## 1.3 Infrastructure Information Feature

The pipe line network is also updated with the information attained from the officials and can easily be visible as shown in the Fig. 4 for IIE Pantnagar. Additional information can also be added in future as per the need.

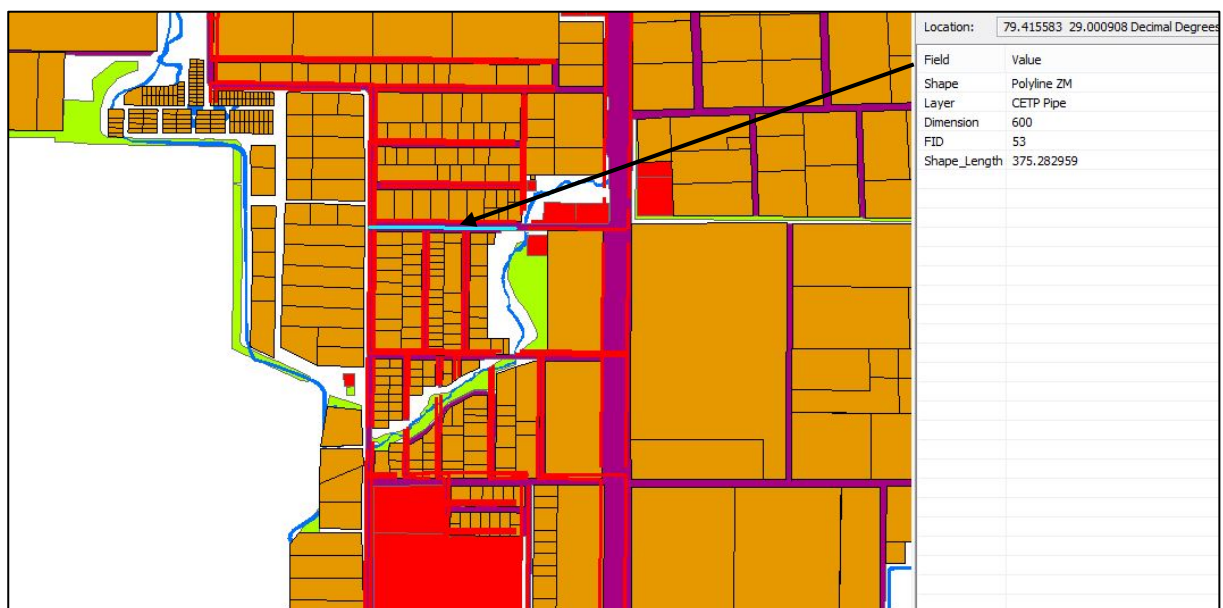


Fig. 4 Infrastructure Information System (IIE Pantnagar)

## 1.4 Contact details Feature

The plots are also updated with the additional information which contains the allottee name along with the mobile number, email addresses etc. The Fig 5 shows how these details can be visualised from the Digital Information System (DIS) for the IIE Pantnagar.

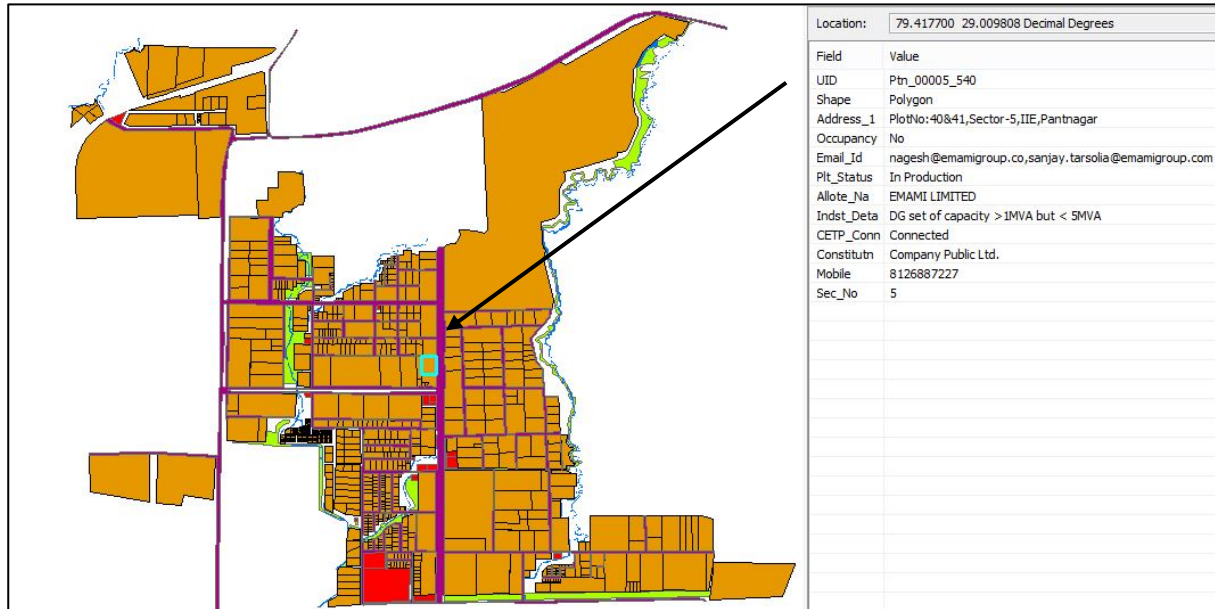


Fig. 5 IIE Pantnagar: Contact details of plot/ Industry unit

## 1.5 Employment Information Feature

Employment Information feature shows the employee details along with the proper categorization of the type and total number of employees present in the industry (enquired upon). The information is provided by the SIIDCUL or from the concerned industry and is liable to change as per time if not monitored regularly. The Fig. 6 shows how this information can be retrieved from the DIS for the Industrial Park.

Note: The field is marked N.A. if information is not obtained from the authorised/ concerned agencies.

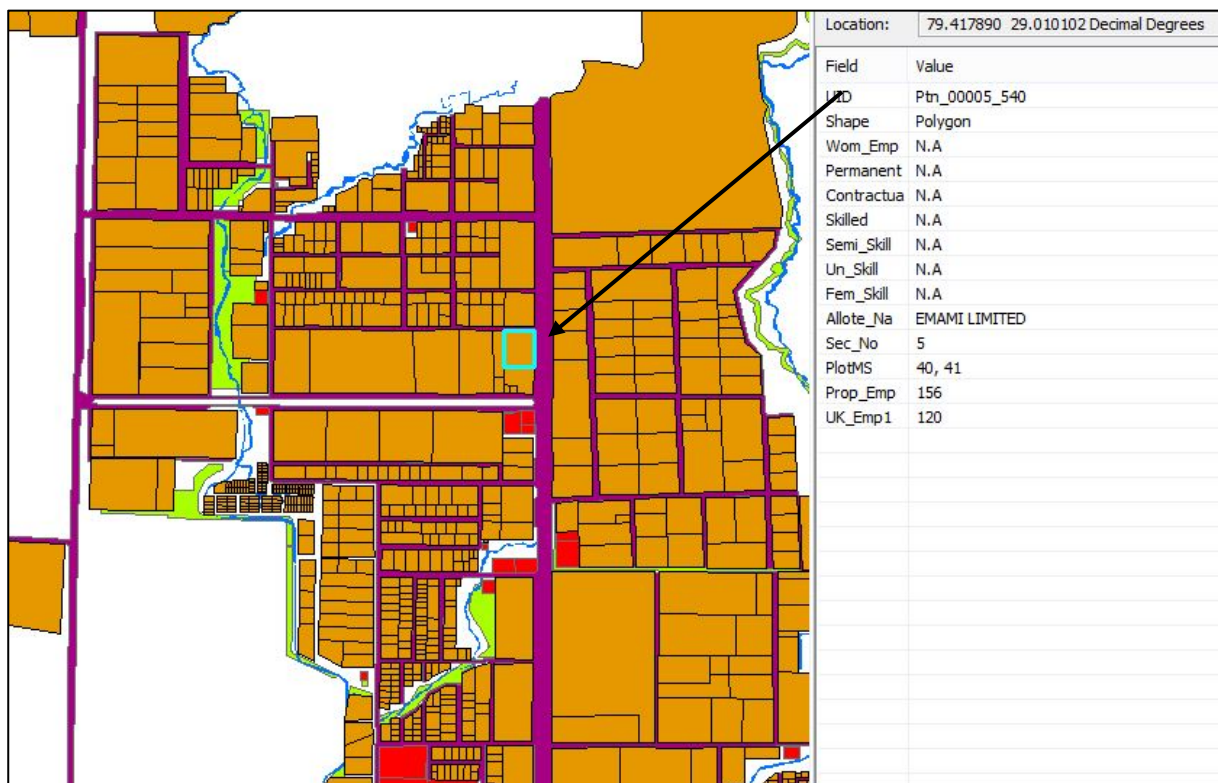


Fig. 6 Employment Information Feature (IIE Pantnagar)

## 1.6 Environmental Information Feature

Environmental information feature contains the information about the waste water generation and consumed by each plot/industry, type of contributing pollution (viz. air, water, hazardous waste pollution). The weightage factor is used in categorising the industries as per their contribution to the pollution. The category utilised are shown in **Error! Unknown switch argument..**

**Table 1 Weightage Categorization basis**

Categories	Factors considered
W1	<ol style="list-style-type: none"> <li>Free available Chlorine , Total residual chlorine, Fluoride (as F), Sulphide (as S), Free Ammonical Nitrogen, Dissolved phosphates (as P), Free ammonia (as NH<sub>3</sub>), Nitrate Nitrogen, Mercury (As Hg), Selenium (as Se), Hexa-valent chromium (as Cr + 6), Lead (as Pb), Tin , Vanadium (as V), Cadmium (as Cd), Manganese (as Mn), Total chromium (as Cr), Copper (as Cu), Iron (as Fe), Nickel (as Ni), Zinc (as Zn), Benzene, Arsenic (as As), Benzo-a-pyrene, Cyanide (as CN), Phenolic compounds (as C<sub>6</sub>H<sub>5</sub>OH) , Adsorbable Organic Halogens (AOX), Boron , Sodium Absorption Ratio (SAR) , Biochemical oxygen demand (3 days at 27oC), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand, Oils &amp; grease, Sodium Absorption Ratio (SAR), Biochemical oxygen demand (3 days at 27oC), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand and Chlorides as Cl, Colour , Total dissolved solids (TDS - Inorganic)</li> <li>BOD strength of waste water</li> </ol>
W2	Industry having overall liquid waste generation of 100 KLD or more including industrial & domestic waste-water.
A1	Cd+Th, Dioxins & Furans, Mercury, Asbestos, HF, Nickel+ Vanadium, HBr, Manganese, Lead, H <sub>2</sub> S, P <sub>2</sub> O <sub>5</sub> as H <sub>3</sub> PO <sub>4</sub> , Chlorine, Pesticide compounds, CH <sub>3</sub> Cl, TOC, Total Fluoride, Hydrocarbons, NH <sub>3</sub> , HCL vapour & Mist, H <sub>2</sub> SO <sub>4</sub> Mist, SO <sub>2</sub> , CO, PM, CO, NO <sub>x</sub> , NO <sub>x</sub> with liquid-fuel, SO <sub>2</sub> with liquid-fuel
A2	<p>Score based on consumption of fuels and technologies required for air pollution control:</p> <ul style="list-style-type: none"> <li>All such industries in which the daily consumption of coal/fuel is more than 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipment's / technology like ESPs, Bag House Filters, High Efficiency chemical wet scrubbers etc</li> <li>All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology.</li> </ul>
H	<p>Types of Hazardous Waste Generated as per Schedule 1 / Schedule 2 of Hazardous Waste (Management, Handling &amp; Trans-boundary Movement) Rules, 2008. Maximum of the following four categories is to be taken</p> <ul style="list-style-type: none"> <li>Land disposable HW which require special care &amp; treatment for stabilization before disposal.</li> <li>Incinerable HW</li> <li>Land disposable HW which doesn't require treatment &amp; stabilization</li> </ul>



Categories	Factors considered
	<p>before disposal.</p> <ul style="list-style-type: none"> <li>High volume low effect wastes such as fly-ash, phosphor-gypsum, red-mud, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects)</li> <li>Recyclable HW, which are easily recyclable with proven technologies.</li> </ul>

The Fig. 7 shows the environmental information feature and its information stored regarding its contribution to the pollution for the industrial estate of IIE Pantnagar.

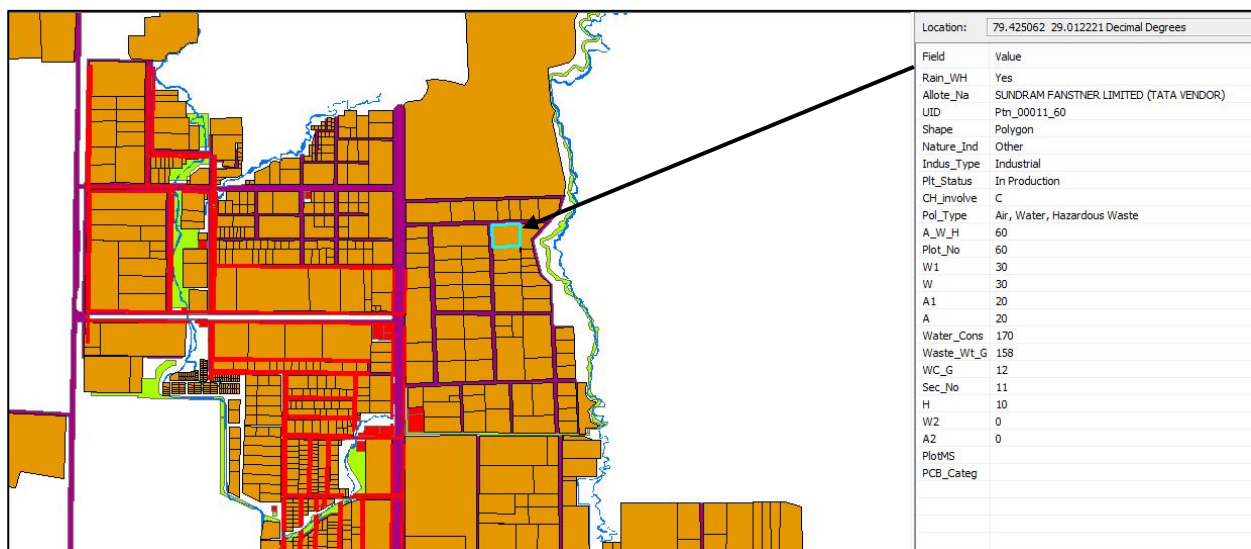


Fig. 7 Environmental Information about Plot/Industry (IIE Pantnagar)

## 1.7 Revenue Information System

Revenue Information feature of the DIS contains the information about the proposed investment, leased deed date and Lease due date for each plot/industry. The Fig. 8 shows the revenue information stored for each plot in the DIS developed for the selected site.

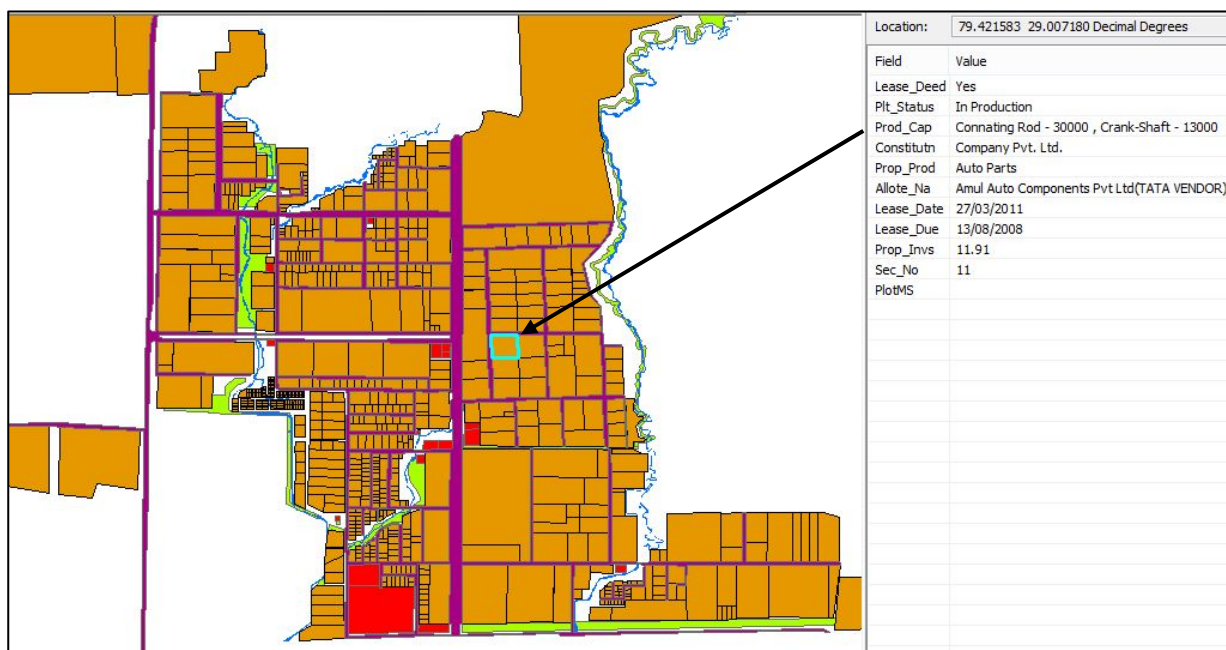


Fig. 8 Revenue information about the plot/industry (IIE Pantnagar)

## 1.8 Air and Water Quality Feature

Air and water Quality feature of the Digital Information System (DIS) contains the information of the in-situ measurements of the air quality parameters at specific sites, surface water quality parameters and ground water quality parameters for the marked locations. The data obtained from the concerned authorities are also included in the DIS. The air quality, ground water quality and surface water quality for the marked locations can be retrieved by clicking on the locations from where the data has been collected as shown in the Fig. 9, 10 & 11.

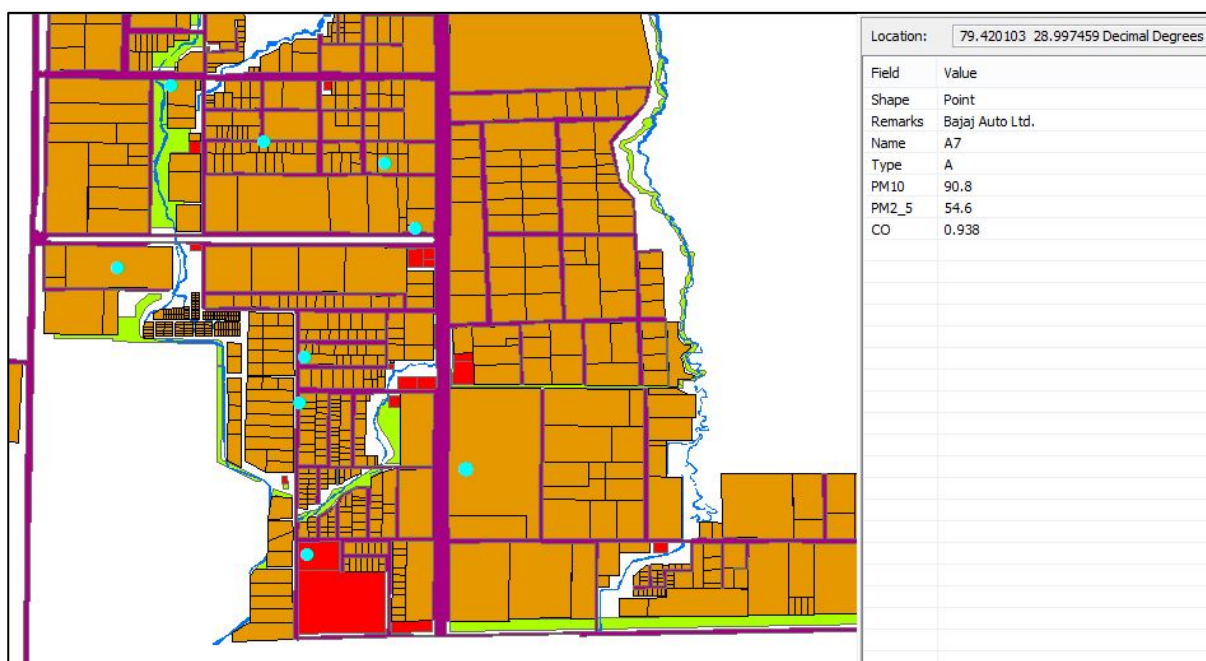


Fig. 9 Air Quality Parameters

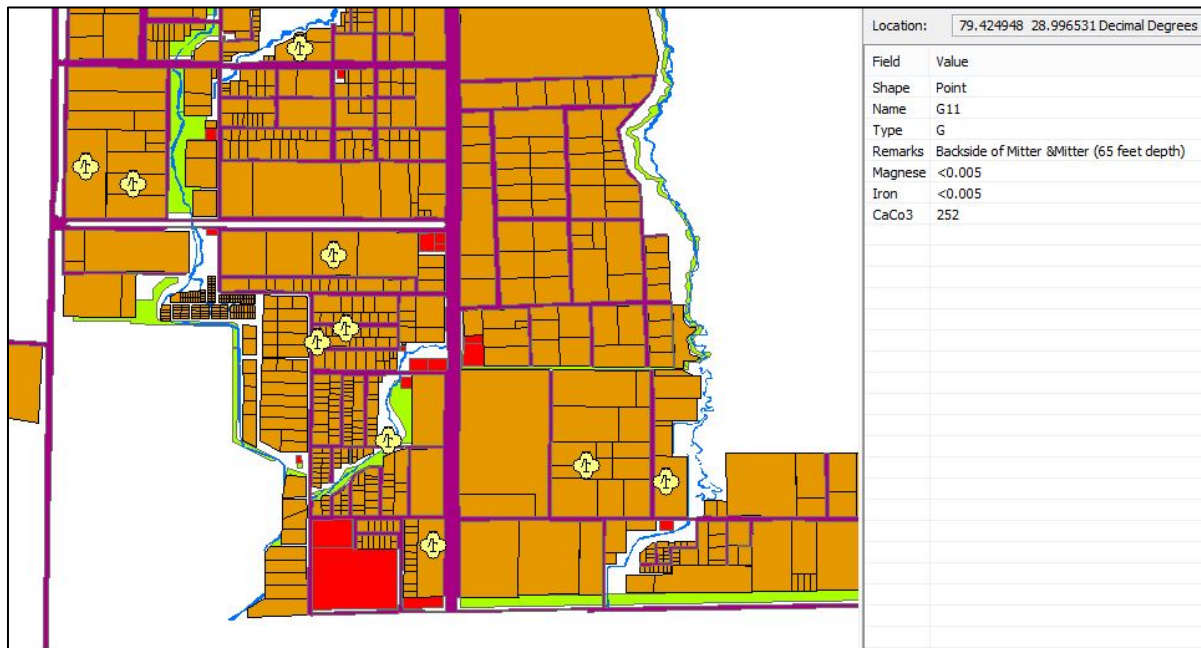


Fig. 10 Ground Water quality Parameters

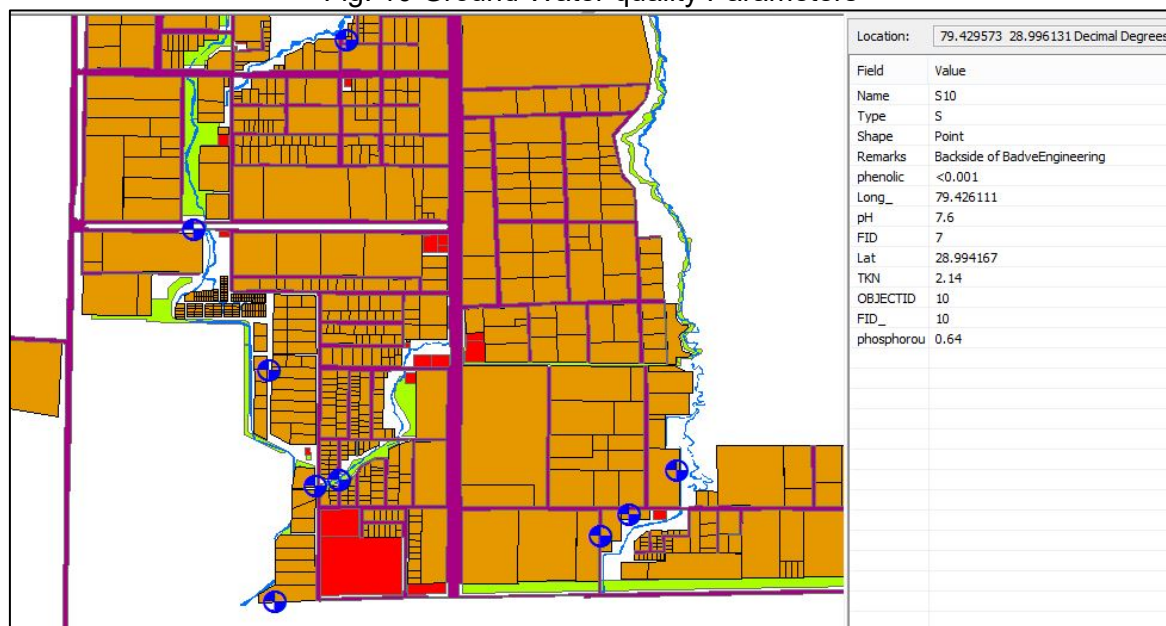


Fig. 11 Surface Water Quality Parameters

### 1.9 Statistical values from the Digital Information System (DIS)

The statistical values from the Digital Information System (DIS) is also obtained from the layers generated. The values obtained for different allotment schemes are shown in the Table 2.

Table 2 Statistical Values of IIE Pantnagar

Land Use	Area (Sq. m.)	%
----------	---------------	---



Industrial	8374525.17	69.64
Commercial	18783.74	0.15
Institutional	285597.11	2.20
Residential	490809.996	3.79
Others/Open	37,83,928.00	29.21
<b>Total</b>	<b>1,29,53,644.10</b>	<b>100.00</b>