USE CASES

Updated on 23rd Jan 2023

A Forest	
B Desert	
C Mountain	
D Factory/ Power	
E Urban/ Cities	
F Mining	
G Port/ Rail/ Infrastructure	
H Rural/ Agriculture	
I Beach/ Tourism	
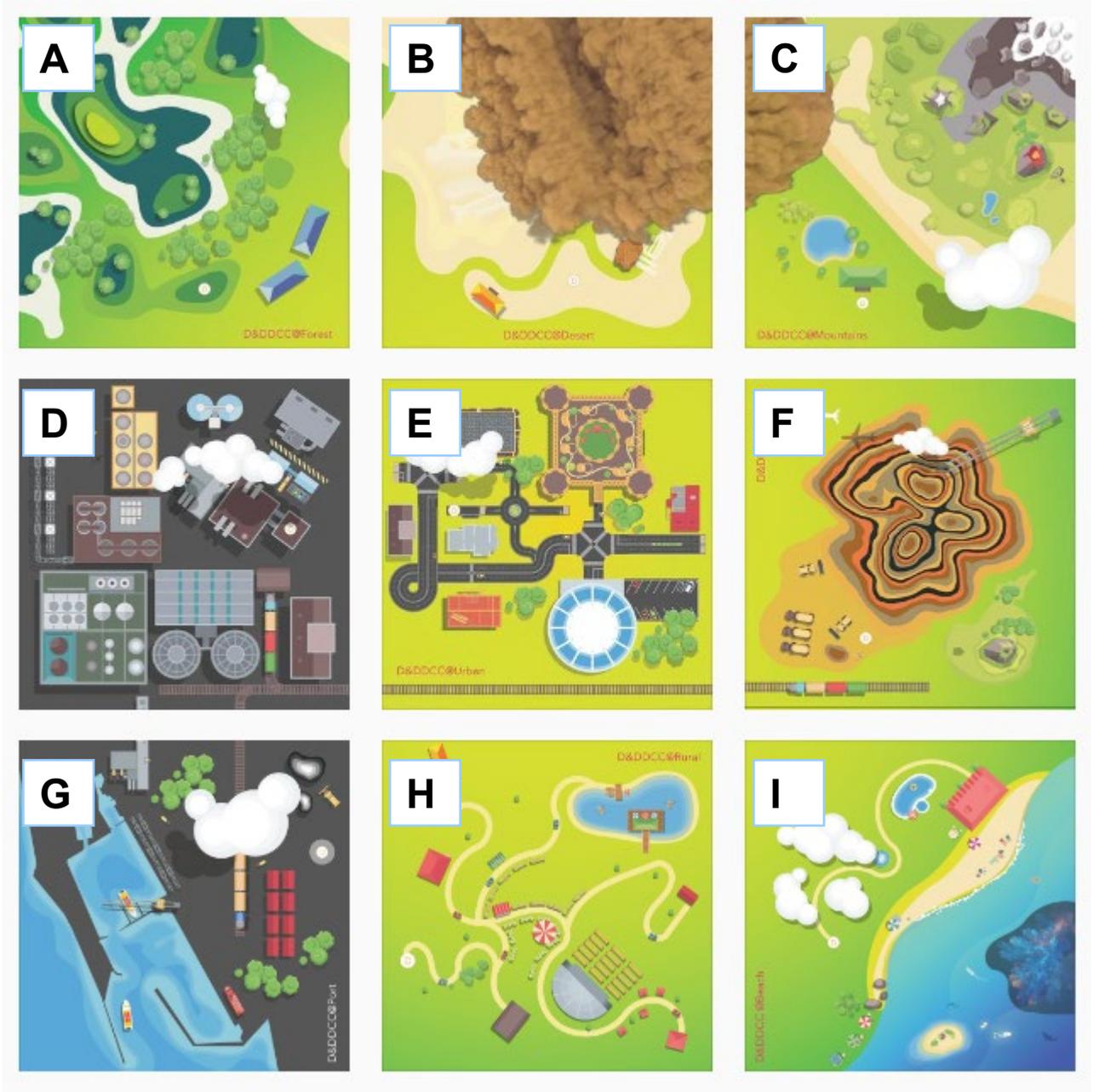
Pictures

Number | Industry

Scope of Work

Customer:
Name of Customer

Location:
Where was the customer located

Problem:

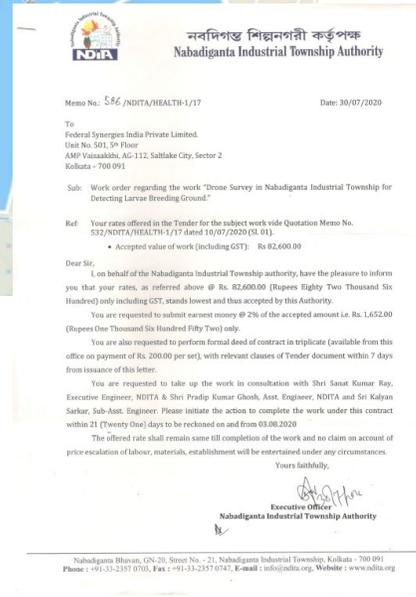**A brief description of the problem**

Solution:

A brief writeup of the solution delivered

Use Cases

Identification of Potential Dengue Mosquito Breeding Grounds

Customer:

NDITA (Nabadiganta Industrial Township Authority)

Location:

Sector 5, Kolkata, West Bengal, India

Problem:

Increase of number of dengue disease lead to wish for identification of potential dengue mosquito breeding grounds.

Solution:

Drone based Orthographic Map was generated and studied in detail (Area of 2 sq km) and preliminary set of locations were identified. Second level of field visit revealed set of 8 Actionable Points based on which authorities took action.

Tree Count of Horticultural Park at Alipore post Cyclone Amphan

Customer:
Agri Horticultural Society of India (AHSI)

Location:
Alipore, Kolkata, West Bengal, India

Problem:
A Super Cyclonic Storm Amphan was an extremely powerful and catastrophic tropical cyclone that caused widespread damage. AHSI Maintains one of Kolkata city's premier parks called the Horticultural Park. It was requested to make an estimate of damaged trees of the Park and the complete condition of the park post the cyclone.

Solution:
Drone based Orthographic Map was generated and shared to various stakeholders on ARU. A Tree Count was generated with the help of an AI Code written by inhouse personnel.

Date: 10.07.2020

Conductor Survey of 220 KV and 132 KV Transmission Towers

Customer:
CESC Ltd (Erstwhile Calcutta Electric Supply Corporation Ltd)
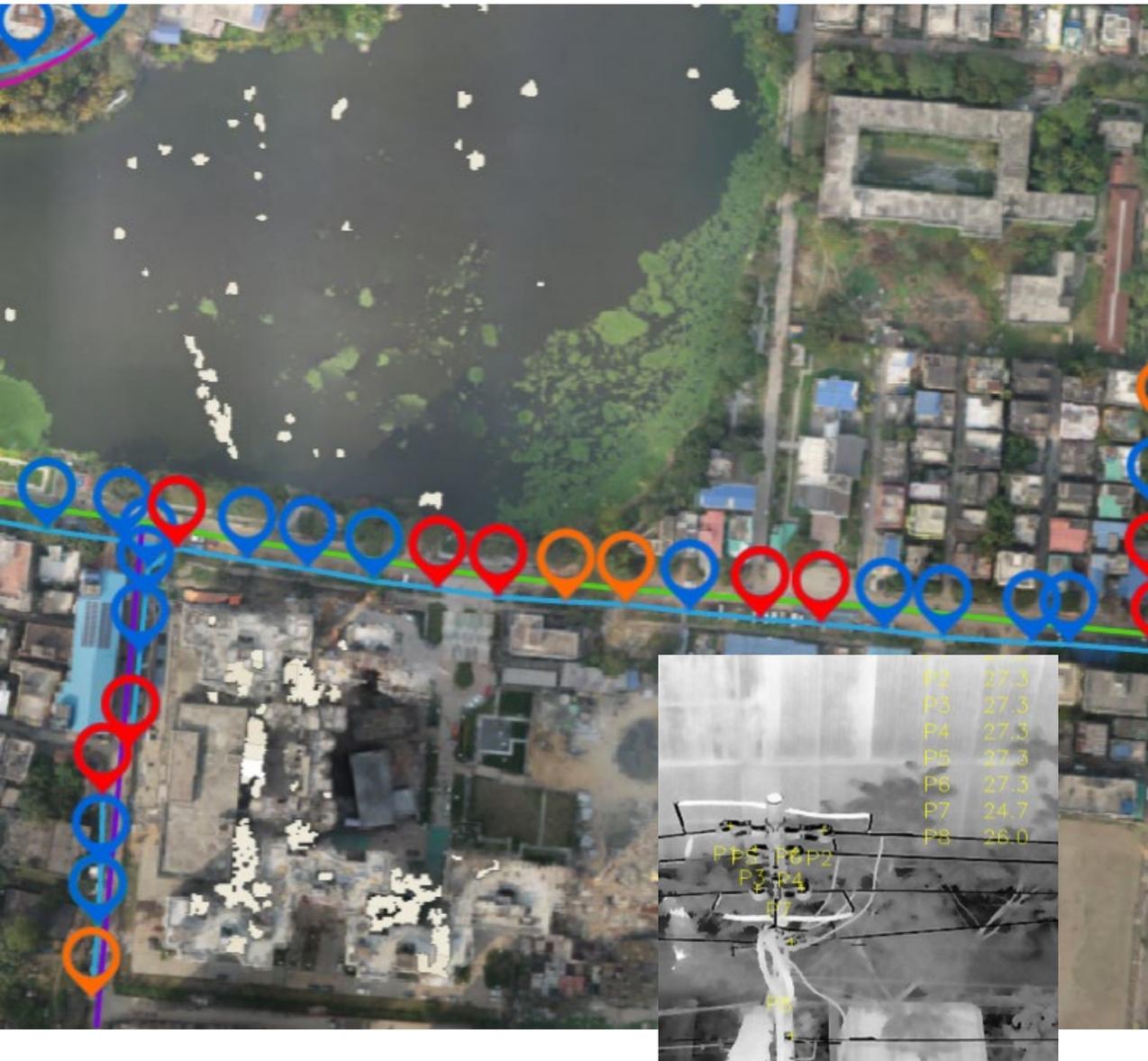
Location:
Various Locations, West Bengal, India

Problem:
Growth of trees, haph hazard construction, decay of faulty nuts and bolts etc are some of the incidents which can lead to downtime of a transmission tower network. Identification in advance is key to proper service.

Solution:
Drone based map creation, GIS Tagging of assets, Photos of Towers, Video of route in a digitsed version shared with various users on ARU for timely maintenance.

04 | LT Network Maintenance

Thermal Camera based Drone Survey, GIS Recording of Overhead LT Network

Customer:
CESC Ltd (Erstwhile Calcutta Electric Supply Corporation Ltd)

Location:
Various Locations, Kolkata, West Bengal, India

Problem:
A Low Tension Power Network generating from a 400 KV Power Transformer is spread over a small area. Details such as Feeder Pillar Boxes, Poles, etc are not properly recorded. There is also a discrepancy on the scope of corrective action to be taken per pole which can lead to an outage, example burning of jumper cable.

Solution:
Post proper GIS Data creation, Thermal Camera based drone survey helps identify potential risks and provides intelligence to management and ground teams to take corrective action.

05 | Infrastructure Survey

Drone Survey of Sections of Adi Ganga (Tolly Nullah) for Area Intelligence

Customer:
Kolkata Municipal Corporation

Location:
Garia, Kolkata, West Bengal, India

Problem:
Encroachment upon Adi Ganga and urbanisation has lead the once accepted tributary of Ganges River into an Open Drain Canal. Area Intelligence is required as a part of estimation for planning rehabilitation.

Solution:
Drone based survey along with videography with GIS Vector layer creation to help understand the exact status of the area.

06 | Factory Survey

Drone Survey of Closed Factory Premises to form understanding of As is Status

Customer:
Calcutta Silk Manufacturing Co. Ltd.

Location:
Khardaha, Kolkata, West Bengal, India

Problem:
Requirement of understanding of exact status of Land and Factory at Premises of Closed Silk Mill for forming strategy on how to use the facility. Master Plan of the Site (Drawings) are not accurately updated and needs revision.

Solution:
Drone based Survey to help create orthomosaic map, and Digital Elevation Map, Superimposition of Autocad Drawings for helping frame a complete as-is-status of the property. Shared by the promoters to architects, bankers and developers onward.

Drone Survey of an under construction Water Treatment Facility

Customer:
West Bengal Public Health Engineering Directorate.

Location:
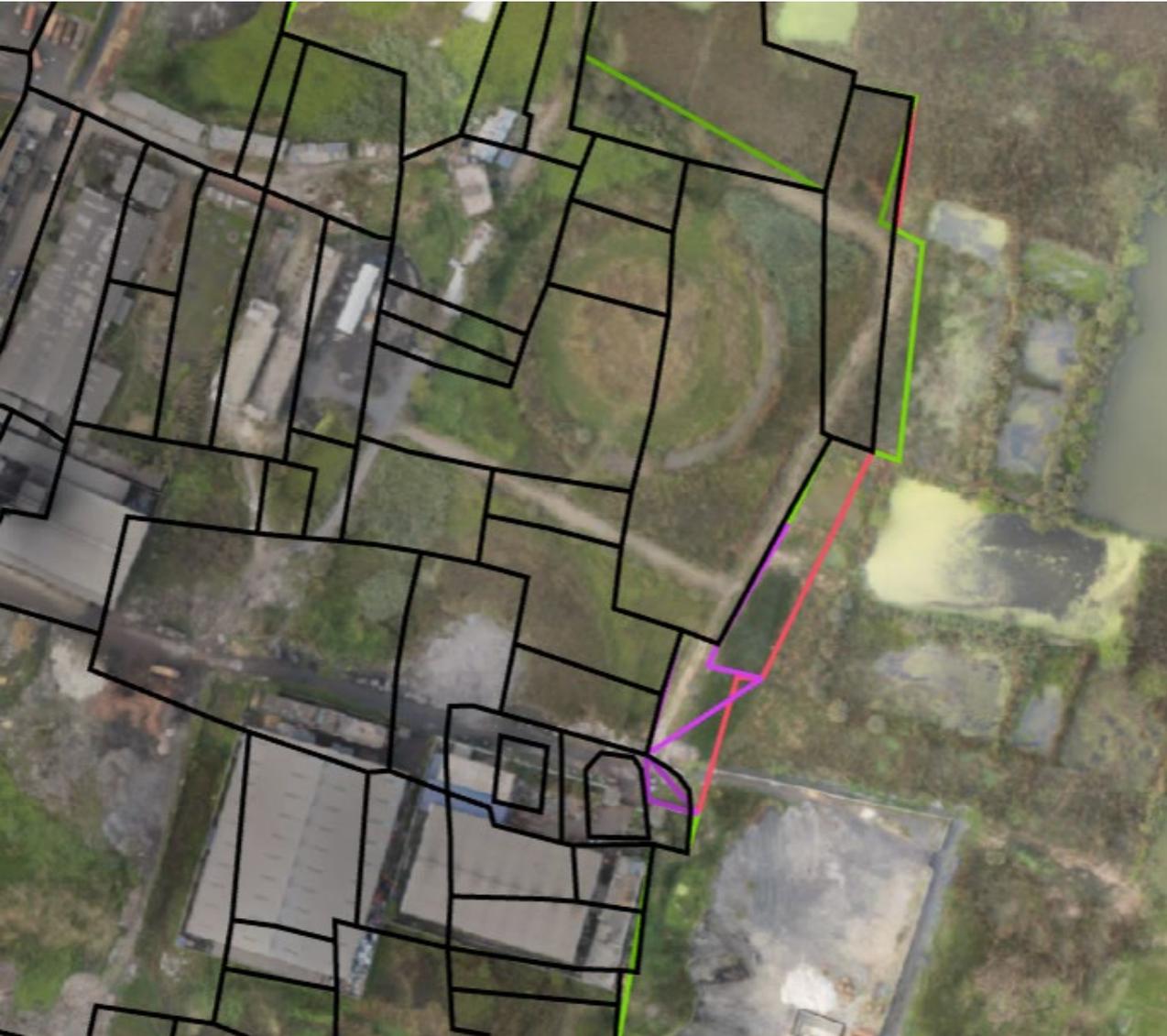Newtown, Kolkata, West Bengal, India

Problem:
Actual Site Status is unknown, multiple field complaints have arisen which need site/ field verification.

Solution:
Drone Based Survey on different time intervals along with an intelligence report on status of construction which is verifiable with primary contractor's invoices.

08 | Land Record Management

Digitization of Mouza Map with the help of Drone based Aerial Maps

Customer:
Private Industry (Indian Oil Dealer)

Location:
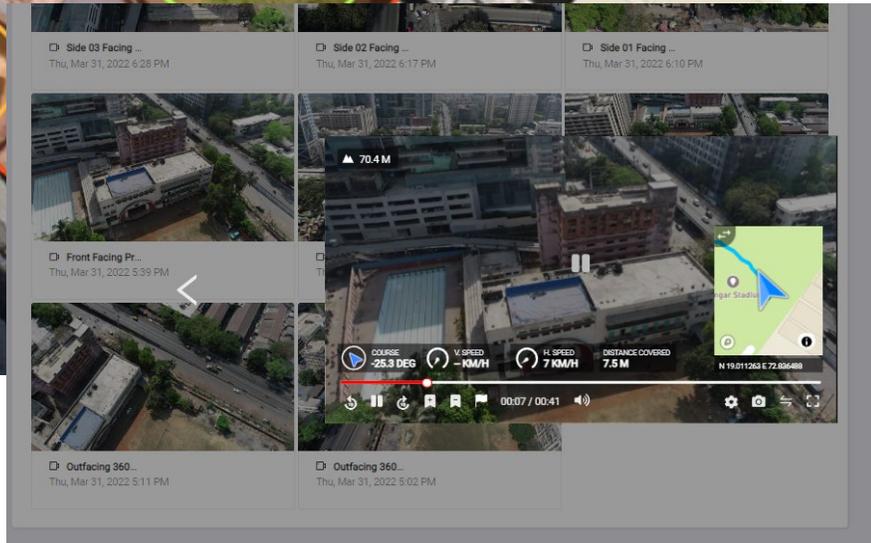Budge Budge Area, South 24 Parganas, West Bengal, India

Problem:
No Digitally available land records lead to a conflict regarding boundary line since 1995.

Solution:
Superimposition of digitised mouza map on the high resolution drone map led to helping understand actual situation of land which paved way for negotiation and closure of a two decade old conflict.

09 | Revenue Enhancement Strategy

Drone Based Inventorisation of 85 Properties along with formation of Revenue Enhancement Strategy

Customer:
Maharashtra Labour Welfare Board

Location:
Various Locations, Maharashtra, India

Problem:
Out of 300+ Properties, 85 properties details were not clearly known – what is the condition of the sites? What can be done on these?

Solution:
Drone Based Survey of each property, detailed videography along with tagging and marking of all assets along with a legal documentation checklist compliance was maintained following which a detailed revenue enhancement strategy document has been formed and submitted for onward action.

10 | Elevation Map of Race Course

Drone Based Survey for Identification of Slope of Race Course in Hilly Terrain
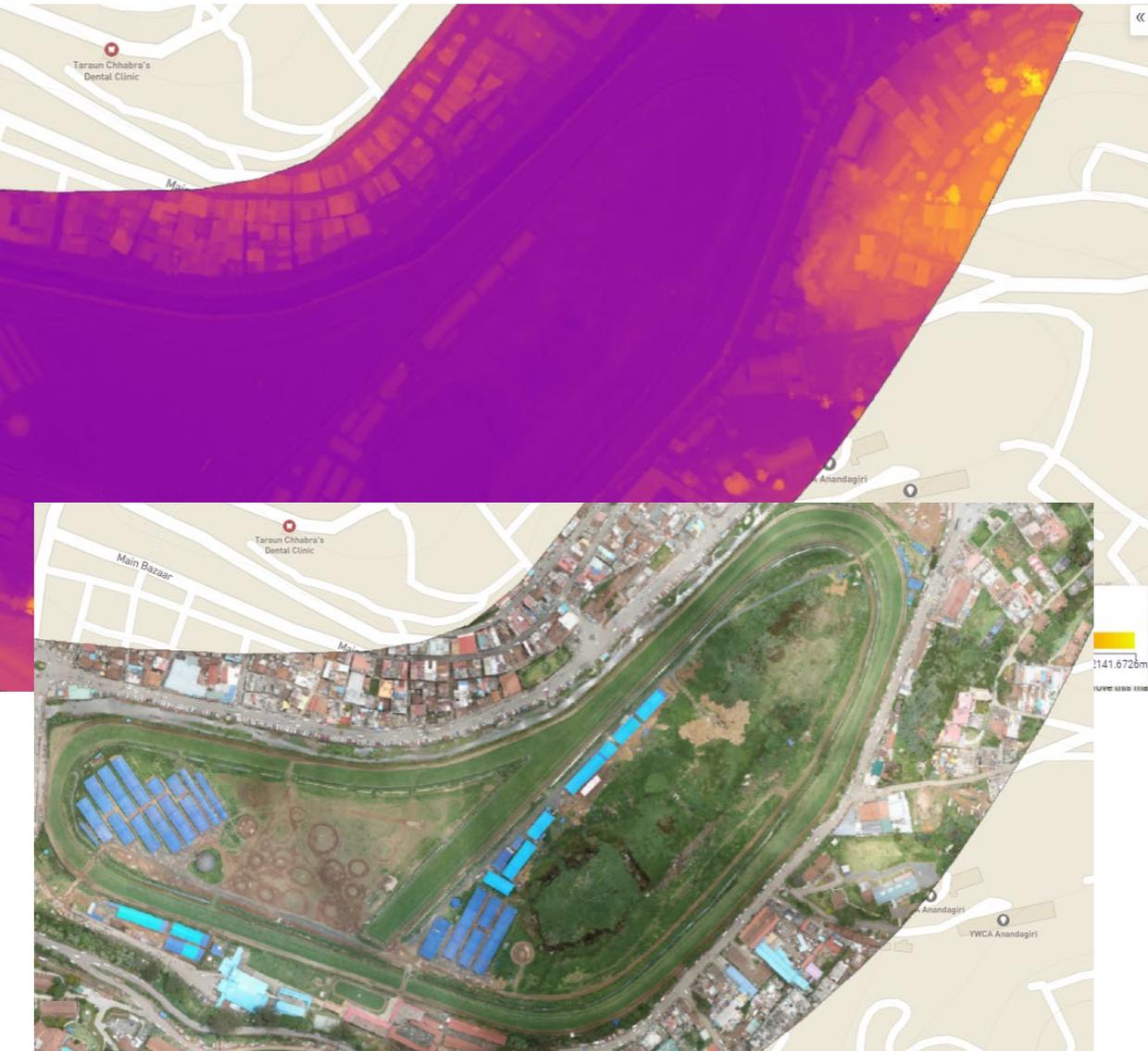
Customer:
District Collector

Location:
Ooty, Tamil Nadu, India

Problem:
It is being possible to accurately obtain an understanding of the slope of the area surrounding the Race Course, as there is some water accumulation during heavy rain on specific times of the year.

Solution:
Drone based DEM, DTM and Orthographic Map help in visualisation and understanding of the slope to frame strategy for corrective action.

Date: 07.11.2022

Drone Based Survey and Tree Count of Afforestation Programme of 25 Hectare Plots

Customer:
Forest Department, Government of West Bengal

Location:
Baghasol, West Bengal, India

Problem:
There is a need to verify the status of an Afforestation Programme – number of trees, height of the trees, volumetric assessment of the area for biomass calculation.

Solution:
Drone based survey provides for an independent and conclusive evidence of the real condition and actual status with a time stamp which can be used for future analysis as well.

12 | Canal Status

Drone Based Survey of Neelgunj Canal for Understanding Actual Condition

Customer:
West Bengal Pollution Control Board

Location:
Howrah, West Bengal, India

Problem:
There is a need to understand the actual condition of a canal in the center of the city to frame strategies for its revitalization and beautification.

Solution:
Drone based survey to generate high resolution orthographic map to help understand the actual status of the canal. Color of Water allows to understand the characteristics of the effluent.

Temperature of Tension Clamp

P1
P2
P3
P4
P5
P6

P1 – 31.7 Deg C
P2 – 31.7 Deg C
P3 – 34.3 Deg C
P4 – 34.3 Deg C
P5 – 33.0 Deg C
P6 – 34.3 Deg C

Ambient temp – 32.0 Deg C

13 | MV & HT Network Maintenance

Thermal Camera based Drone Survey, GIS Recording of Overhead 33KV MV Network

Customer:

CESC Ltd (Erstwhile Calcutta Electric Supply Corporation Ltd)

Location:

Various Locations, Kolkata, West Bengal, India

Problem:
Condition Monitoring of 33KV MV Network with a Handheld Thermal Camera lead to downtime as power had to be switched off.

Solution:
Downtime was reduced to negligible as the drone can take pictures from a distance. Thermal Camera based drone survey helps identify potential risks and provides intelligence to management and ground teams to take corrective action.

Date: 01.08.2022
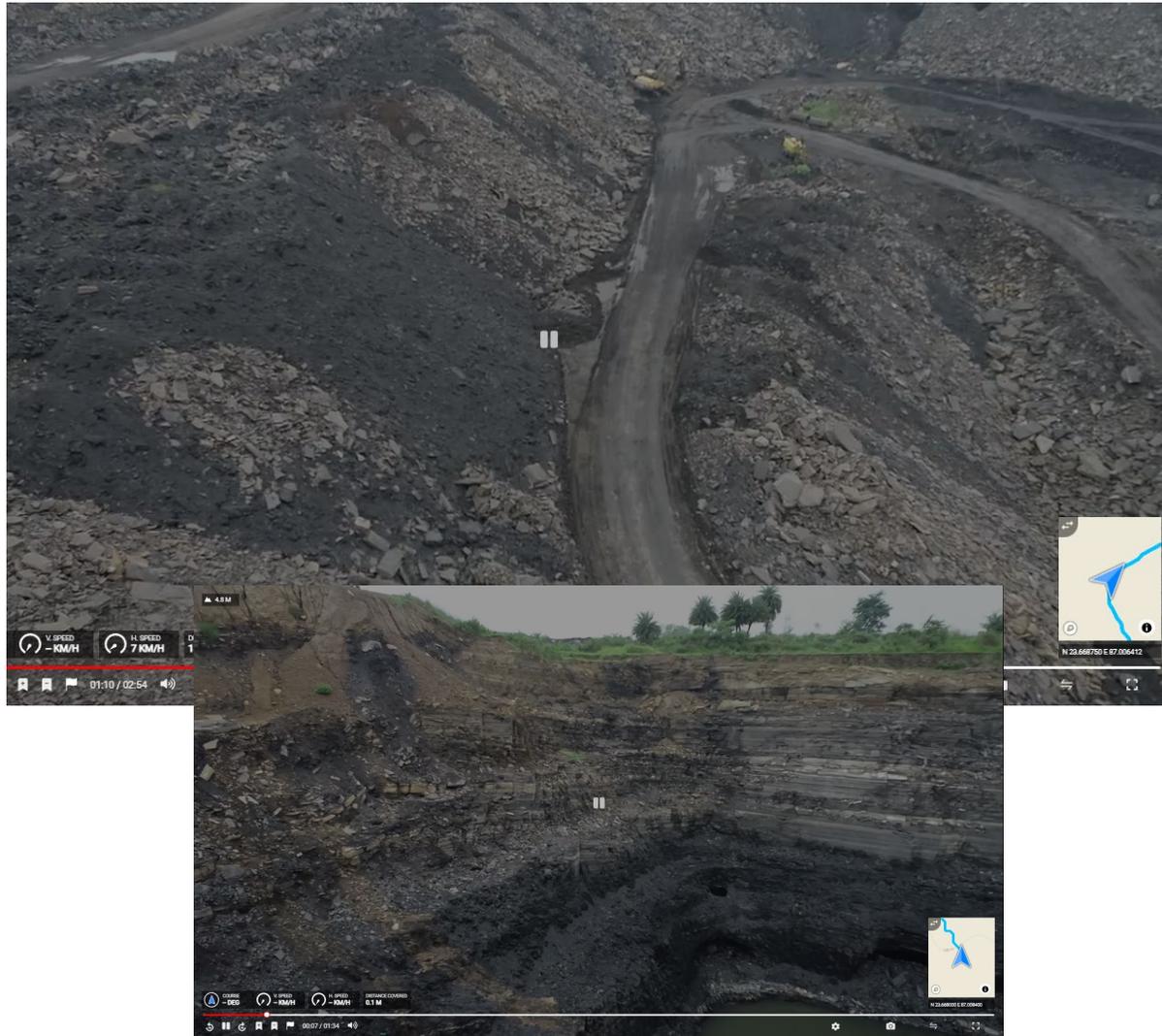
Open Cast Mine – Study of Slopes and Condition of Haulage Road

Customer:
Eastern Coalfields Ltd (Subsidiary of Coal India Limited)

Location:
Kalipahari, Open Cast Mine, West Bengal, India

Problem:
Post rain, there is a need to identify the exact status of the mine site – haulage road, slope of retaining wall and complete area assessment for reduction of any potential safety hazard.

Solution:
Aerial videography helps provide intelligence to various stakeholders for future action and operational decision making.

15 | City Governance

Volumetric Assessment of Waste at Municipal Dumpsite and Legacy Landfill Site

Customer:
Nagpur Municipal Corporation

Location:
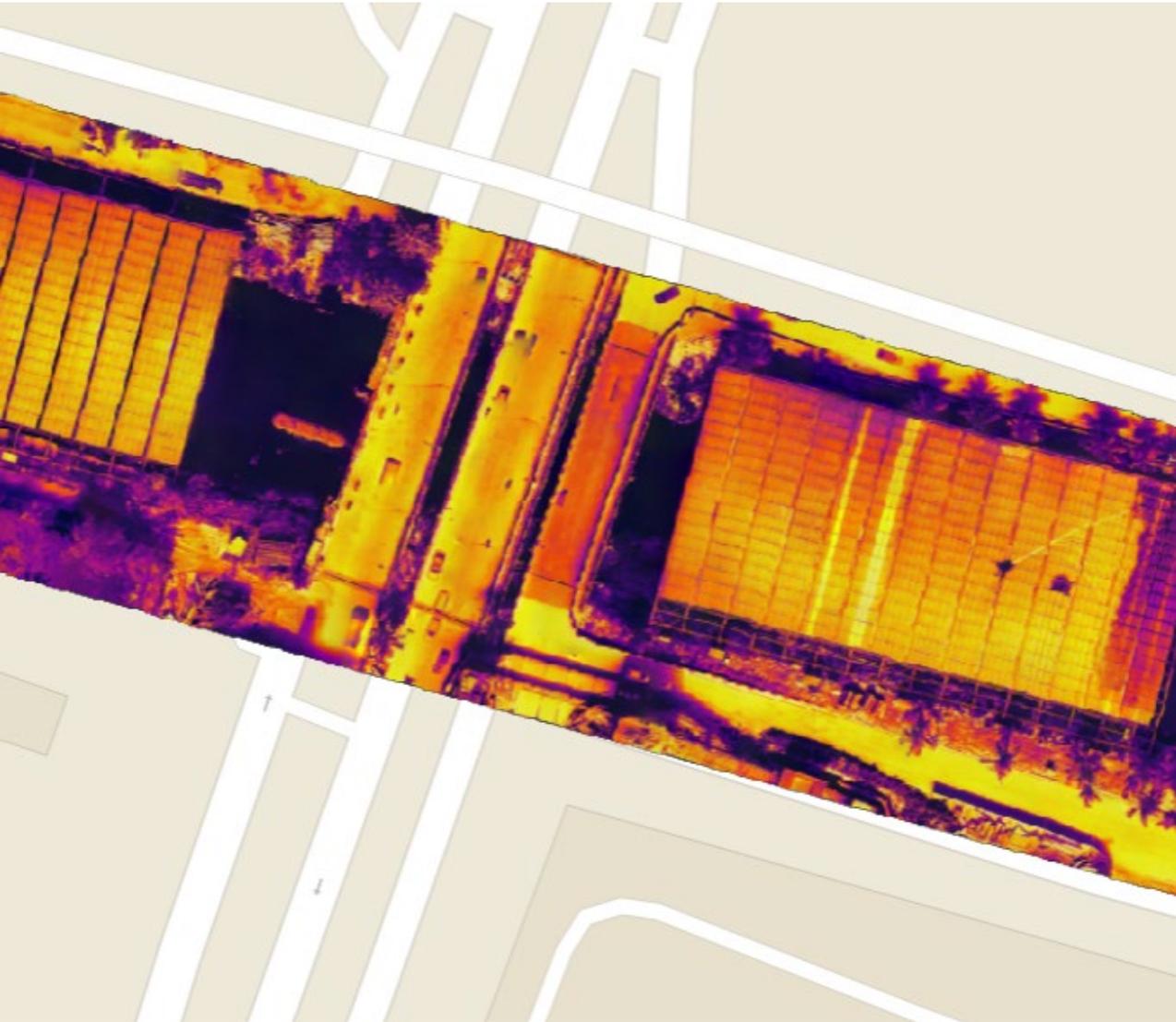Bhandewadi Dumping Ground, Nagpur, Maharashtra, India

Problem:
There is a need to understand what is the volume and weight of waste at Bhandewadi Dumping Ground to frame strategy on the same.

Solution:
Drone data based Survey helps in volumetric assessment which studied with soil condition helps in understanding of nature and weight of soil for onward removal.

16 | Solar Farm Health Study

Hotspot Detection of a Solar Installation

Customer:
Newtown Kolkata Development Authority

Location:
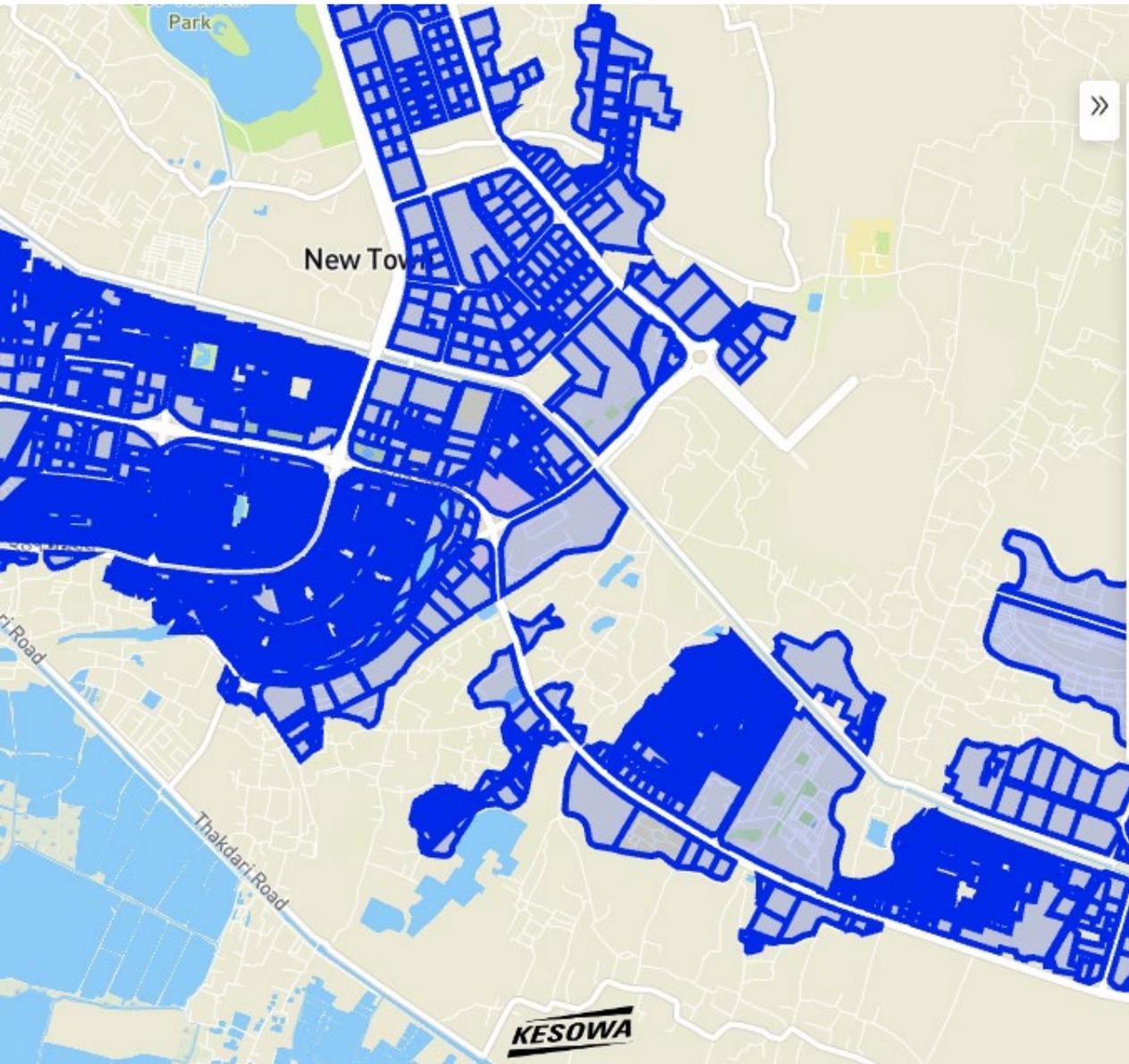Newtown, Kolkata, West Bengal, India

Problem:
There is a Solar Panel set installed on a Canal. There is a need to understand whether if any panels are defective or not working.

Solution:
Thermal Camera mounted on a Drone helps in Assessment of hotspots, set of panels which need corrective action and more insights.

Drone Data Call Center for City of Newtown Kolkata

Customer:
Newtown Kolkata Development Authority

Location:
Newtown, Kolkata, West Bengal, India

Problem:
There is a requirement of aerial intelligence at a regular interval along with analytics to understand the changes at the cityscape – Auditing of contractors, Revenue Tax conflict resolution, strategies on city building.

Solution:
A Dedicated Drone Data based call Centre was setup and is under operation helping provide intelligence in the form of maps, photos, videos and reports catering to a host of requirements.

Date: 20.04.2021

Block Intelligence Report: Analysis of Maps against GIS Data Sets at different time intervals

Customer:
Newtown Kolkata Development Authority

Location:
Newtown, Kolkata, West Bengal, India

Problem:
There is a requirement of aerial intelligence at a regular interval along with analytics to understand the changes at the cityscape – Auditing of contractors, Revenue Tax conflict resolution, strategies on city building.

Solution:
A Dedicated Drone Data based call Centre was setup and is under operation helping provide intelligence in the form of maps, photos, videos and reports catering to a host of requirements.

Wishlist for 2023

➢ Use Cases in Rural and Agriculture

➢ Use Cases in Fintech and Finance - Auction Land Database Creation

➢ Use Cases in Preservation - Dinosaur and Archeological Discovery Sites

➢ Use Case in Real Estate - Island Development/ Large Land Transactions

➢ Use Cases in Tourism - Trekking Route Development, Beach Development, Fort Development, Temple Infrastructure Recording

We are getting started

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