

IERM 2023 Convention
Public Open Spaces

RE-IMAGINED

Community Engagement

13 - 15 September 2023

GIS in the management of public open spaces in Polokwane

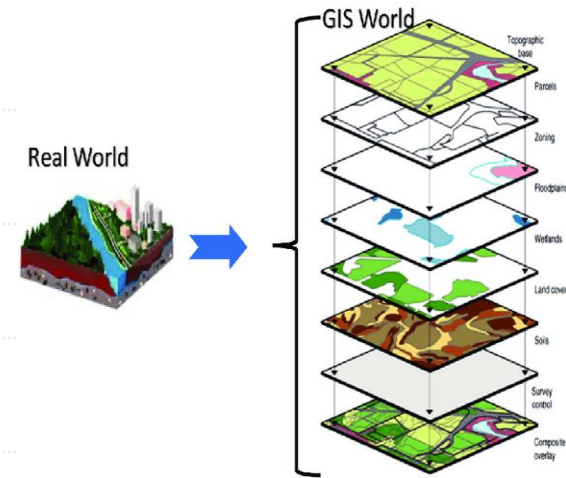
- Ndivhaleni Nevondo
- Polokwane Municipality

Hosted by



Geographic Information System (GIS)

- Designed capture
- Storing, Updating
- Manipulating
- Analysing
- Displaying spatially reference data
- **People** – play a significant role by operating the system and the data that goes into the system





Definition

- The National Department of Environmental Affairs and Tourism, November 1995
- Any vegetated area (green areas) within an urban environment such as: parks, nature reserves, private and public gardens, golf courses and other sports and recreational grounds , cultivated land, derelict and underdeveloped land and even roadsides, rail verges and transmission lines servitude's as well as an open hard3-surface area such as: Shopping malls, plazas and other paved and concrete areas.
- Natural open spaces in urban areas are referred as **GREEN** or **SOFT** spaces and are considered to be in a natural state and includes **Ridges, Water Courses** and **Sports Fields** Hard spaces refer to urban zones such as cities, roads and market squares
- Hard spaces refer to urban zones such as cities, roads and market squares



Passive & Active OS

- Passive open spaces includes conservation areas, riverine, parks, natural areas, and metropolitan open spaces system
- Due to rapid urbanization the passive open spaces are fast diminishing e.g. **ERF 1340** between Grobler and Thabo Mbeki street
- Bull frog colony on portion 10 of krugersburg now Bendor Ext 126 residential township
- Sterk Park Proposed Botanical Gardens on Portion 9 of Krugersburg now Polokwane Ext 136



Active OS

- These include market squares and sports venues such as playing fields, sports centres and stadiums
- Such are in abundance supply in your hard care urban environment e.g.
- Peter Mokaba Stadium/s
- Westenburg stadium
- Nirvana Sports complex
- Ladana sports fields
- Seshego stadium



Public Open Spaces (POS)

- In the context of South Africa is one that is characterised by rapid Urbanization and spatial inequalities due to known historical facts *i.e.* **Apartheid** spatial development settings
- Townships are sterile and severely lacking in POS and recreational facilities
- Generally there is an imbalance in the provision of POS especially for active recreation in the townships and informal settlement areas as compared to hard urban spaces
- In the case of Polokwane Municipality the hard urban area and formal residential zones are well provided and well managed POS
- The provision of POS in surrounding townships are usually the leftover spaces that are not suitable for development or recreational purposes




POS

- Most POS are either been invaded or have deteriorated to littered useless wastelands



Greening Program





CITY OF
Polokwane
NATURALLY PROGRESSIVE

POLOKWANE
MUNICIPALITY:
BODENSTEIN PARKING

Legend

-
-  TREES PLANTED
-  OLD TREES


Reaga
Polokwane

Seshego-E



POLOKWANE
MUNICIPALITY:
SESHEGO-E

Legend
 TREES PLANTED



Peter Mokaba



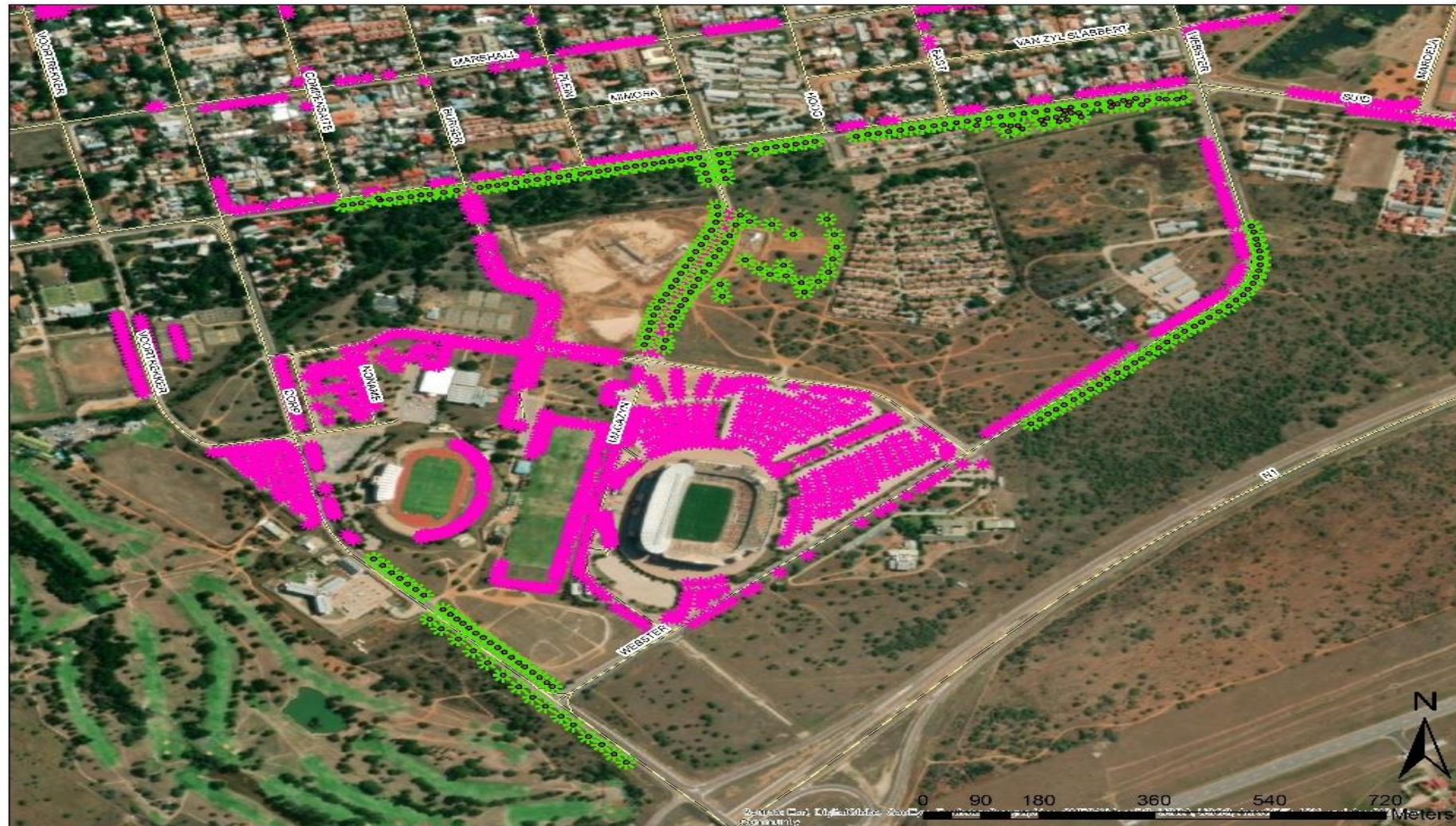
POLOKWANE
MUNICIPALITY:
PETER MOKABA
STADIUM

Legend

-
- * TREES PLANTED



Peter Mokaba Stadium



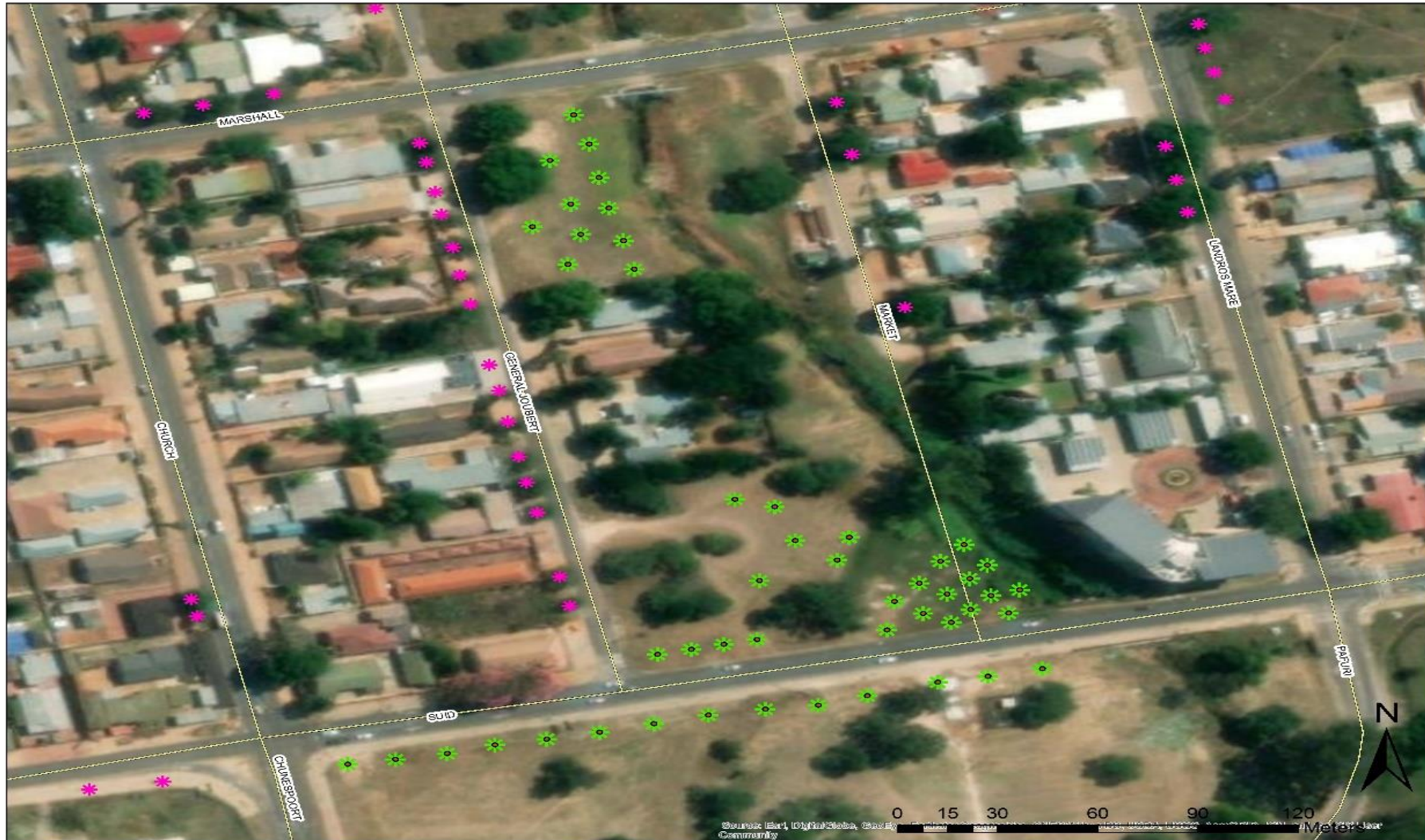
POLOKWANE
MUNICIPALITY:
PETER MOKABA
STADIUM

Legend

-
- ✱ TREES PLANTED
- ✱ OLD TREES



SUID/MARKET



POLOKWANE
MUNICIPALITY:
SUID & MARKET

Legend

-
-  TREES PLANTED
-  OLD TREES



Greenside Mortality



POLOKWANE
MUNICIPALITY:
GREEN SIDE

Legend

- * Mortality
- * TREES PLANTED



SESHEGO-E MORTALITY



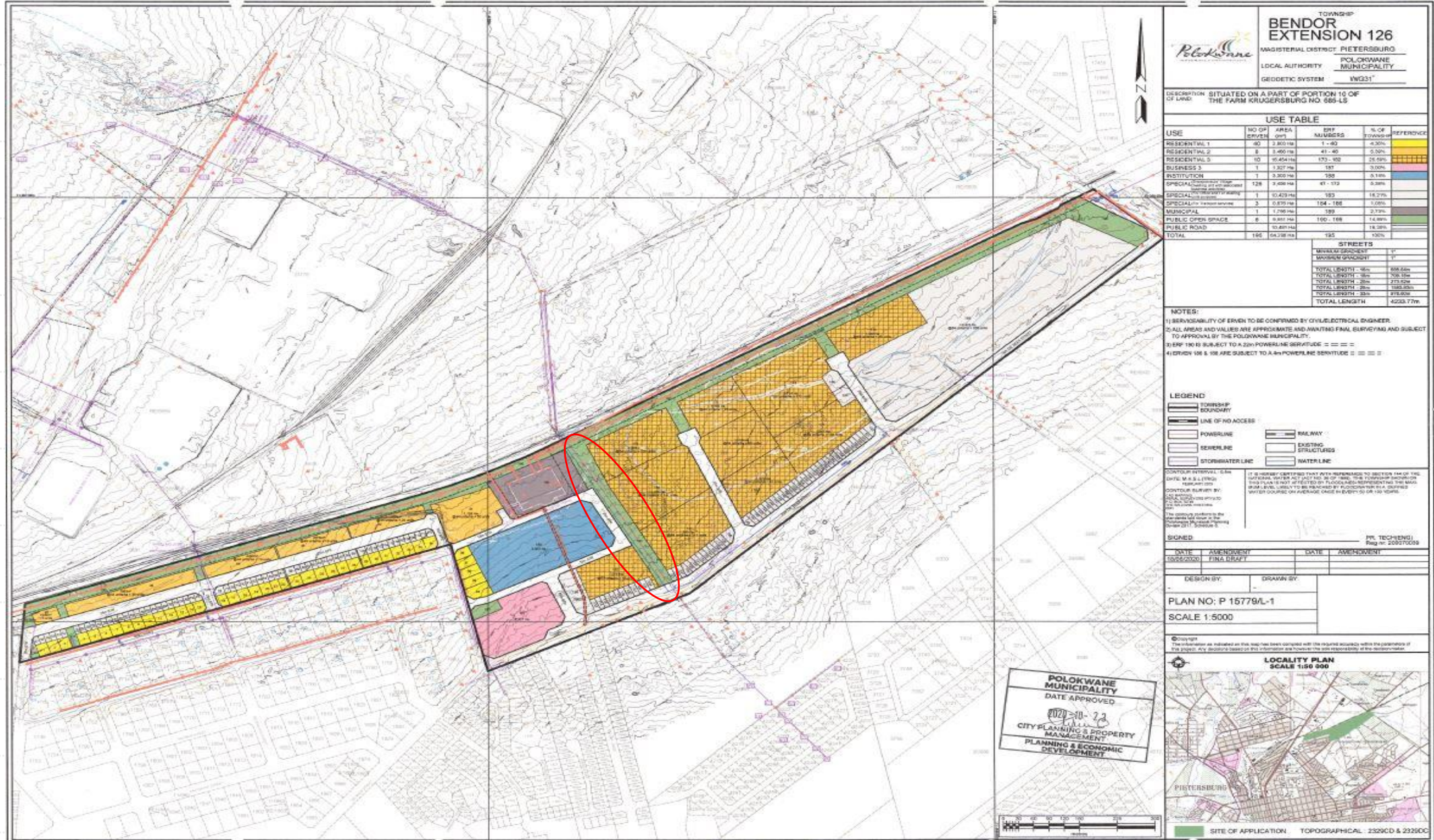
POLOKWANE
MUNICIPALITY:
SESHEGO-E

Legend

- * Mortality
- * TREES PLANTED



BENDOR EXT 136



TOWNSHIP
BENDOR EXTENSION 126
MAGISTERIAL DISTRICT PETERSBURG
LOCAL AUTHORITY POLOKWANE MUNICIPALITY
GEODETIC SYSTEM WGS84

DESCRIPTION: SITUATED ON A PART OF PORTION 10 OF THE FARM KRUGERSBURG NO 565-LS

USE	NO OF ERVEN	AREA (m ²)	DIFF. NUMBER	% OF TOTAL AREA	REFERENCE
RESIDENTIAL 1	40	3 300 m ²	1-40	4,90%	YELLOW
RESIDENTIAL 2	8	3 400 m ²	41-48	5,00%	ORANGE
RESIDENTIAL 3	10	10 454 m ²	49-58	15,50%	GREEN
BUSINESS 3	1	1 327 m ²	59	1,90%	PINK
INSTITUTION	1	3 300 m ²	60	4,80%	BLUE
SPECIAL (Public Open Space)	128	3 400 m ²	61-188	5,00%	GREEN
SPECIAL (Stormwater Retention)	1	10 429 m ²	189	15,20%	BLUE
SPECIAL (Public Open Space)	3	0 870 m ²	194-196	1,20%	ORANGE
MUNICIPAL	1	1 700 m ²	199	2,40%	ORANGE
PUBLIC OPEN SPACE	8	0 800 m ²	200-207	1,10%	ORANGE
PUBLIC ROAD	10 401 m ²	10 401 m ²		14,90%	ORANGE
TOTAL	196	64 738 m ²	195	100%	

STREETS	
MINOR STREET	11'
MAJOR STREET	11'
TOTAL LENGTH - 10'	100,00m
TOTAL LENGTH - 11'	100,00m
TOTAL LENGTH - 12'	273,20m
TOTAL LENGTH - 13'	100,00m
TOTAL LENGTH - 14'	273,20m
TOTAL LENGTH	4226,77m

- NOTES:
- 1) RESPONSIBILITY OF ERVEN TO BE CONFIRMED BY CIVIL/ELECTRICAL ENGINEER.
 - 2) ALL AREAS AND VALUES ARE APPROXIMATE AND AWAITING FINAL SURVEYING AND SUBJECT TO APPROVAL BY THE POLOKWANE MUNICIPALITY.
 - 3) ERP 100 IS SUBJECT TO A 22KV POWERLINE SERVITUDE = - - - - -
 - 4) ERVEN 108 & 109 ARE SUBJECT TO A 4KV POWERLINE SERVITUDE = - - - - -

- LEGEND
- TOWNSHIP BOUNDARY
 - LINE OF NO ACCESS
 - POWERLINE
 - SEWERLINE
 - STORMWATER LINE
 - RAILWAY
 - EXISTING STRUCTURES
 - WATER LINE

CONTOUR INTERVAL: 5m
LEVEL: 1:1000
CORNER SURVEY BY: [Signature]
DATE: [Date]
SCALE: 1:5000

DATE	APPROVED BY	DATE	APPROVED BY
2023-10-23	[Signature]		

DESIGN BY: [Signature] DRAWN BY: [Signature]
PLAN NO: P 15779A-1
SCALE 1:5000

LOCALITY PLAN SCALE 1:50 000



POLOKWANE MUNICIPALITY
DATE APPROVED: 2023-10-23
CITY PLANNING & PROPERTY MANAGEMENT
PLANNING & ECONOMIC DEVELOPMENT



PIETERSBURG
SITE OF APPLICATION TOPOGRAPHICAL: 2329CD & 2329CC

PLANT SPECIES



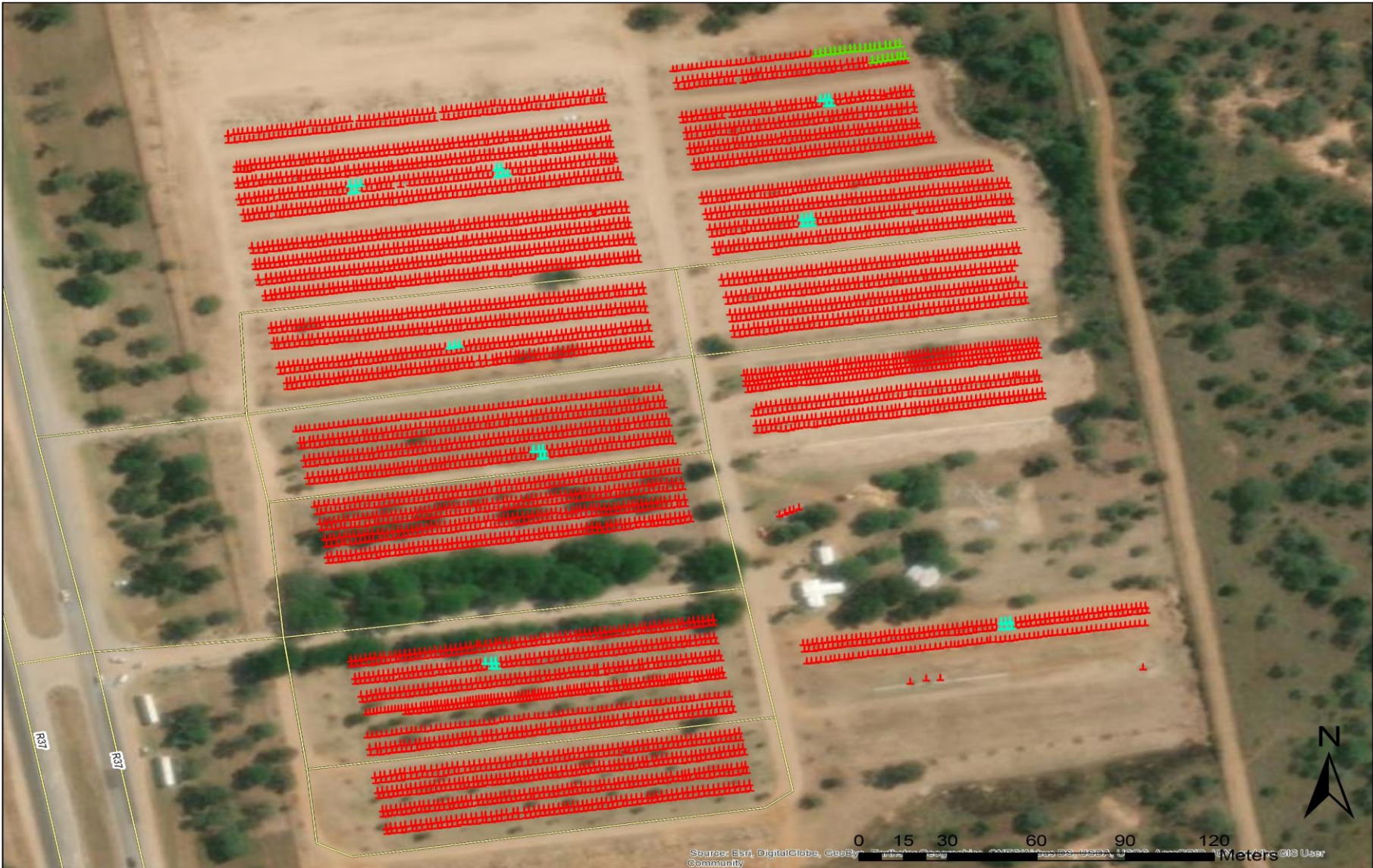
POLOKWANE
MUNICIPALITY:
SUID & MARKET

Legend

- * Hook Thorn
- * Wild Olive
- * MORTALITY



CEMETRY MANAGEMENT



POLOKWANE
MUNICIPALITY:
SILICOM CEMETRY

Legend

- BOOKED GRAVES
- OPEN GRAVES
- GRAVES



Source: Esri, DigitalGlobe, GeoEye, Earthstar, CNES, Airphoto, USDA, etc. GIS User Community



END

• **THANK YOU**