

# MBOMBELA LOCAL MUNICIPALITY



## BEST PRACTICE: REGIONALISATION OF WASTE SERVICES WASTE KHORO 2013

15 OCTOBER 2013

*City of Excellence*





# MUNICIPAL VISION

## VISION

*City of Excellence*

## MISSION

*A high performing and learning municipality that excels in development facilitation and sustainable services delivery through Batho Pele and Sound Corporate Governance Principles*





# PRESENTATION ROADMAP

1. DEMOGRAPHYS AND SERVICE COVERAGE STATISTICS
2. A STRATEGIC APPROACH TO SOLID WASTE MANAGEMENT
3. EXISTING AND PLANNED WASTE MANAGEMENT FACILITIES
4. CENTRAL WASTE DISPOSAL STRATEGY
  - 4.1 PROJECT MILESTONES
  - 4.2 CONCEPTUAL DESIGN AND CONSTRUCTION OF SITE
  - 4.3 SITE COMMISSIONING AND OPERATIONS
  - 4.4 WASTE VOLUMES RECEIVED
  - 4.5 MONITORING AND RECORD MANAGEMENT
5. MPUMALANGA PROVINCIAL GREENING AND HERITAGE PROJECTS
6. CHALLENGES AND CONCLUSION



# DEMOGRAPHS AND SERVICE COVERAGE

ITEM	DESCRIPTION	UNITS
1	Population	588 794
2	Number of Households	161 773
3	Serviced Units	67 284
4	Un Serviced Units	94 489

## Backlogs as per Census 2011 Report

58% Un serviced Household Units.

70% Municipal Area do not receive basic waste collection services.

30% Municipal Area receive basic waste collection services.

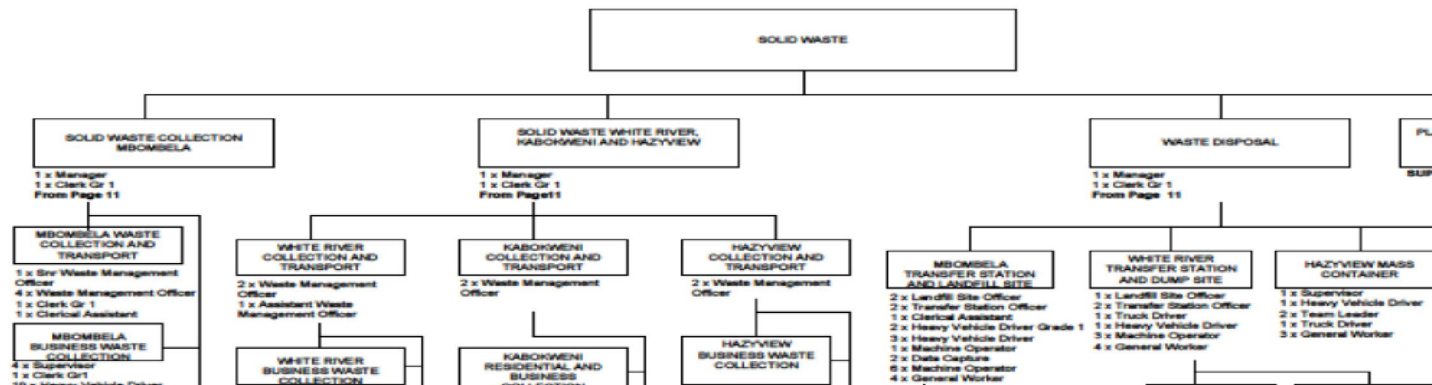


# A STRATEGIC APPROACH TO SOLID WASTE MANAGEMENT

- Mbombela Local Municipality owned and operated waste disposal sites at Nelspruit, White River and Hazyview.
- These sites were inherited risk from Transitional Authorities.
- These sites suffered from short comings in design, air-space capacity, inadequate budgets, operational challenges, and compliance e.t.c.
- Council sought for a financially and environmentally sound resolve; thus to replace these waste disposal sites with a Central Waste Disposal Site.
- Tekwane West Central Waste Disposal Site was approved by Council Resolution A(6) dated 25 October 2004: Land Allocation and Rezoning to “Special” for a Central Waste Disposal Facility”







# A STRATEGIC APPROACH TO SOLID WASTE MANAGEMENT CONT...



# EXISTING AND PLANNED WASTE MANAGEMENT FACILITIES

## LEGEND

-  PLANNED TRANSFER STATION
-  CLOSED WASTE DISPOSAL SITE
-  EXISTING TRANSFER STATION
-  ACTIVE WASTE DISPOSAL SITE



# CENTRAL WASTE DISPOSAL STRATEGY

- The First Generation, Integrated Waste Management Plan recommended a Central Waste Disposal Site.
- The site was to be closer to the source of waste generation, namely Nelspruit, White River, Kanyamazane and Commercial hubs.
- The site is to be supported by Transfer Stations that will temporarily store the waste, sort recyclables, compact the waste prior to long haulage in appropriate vehicles to the Central Waste Disposal Site.
- A number of potential sites were investigated and four sites were identified for Basic assessment, namely White River, Hazyview, Matsulu and Kabokweni; to date White River Transfer Station is licensed while Hazyview is still being considered by the DEDET.
- The land allocation for transfer stations was approved by a Council Resolution in August 2013.





# CENTRAL WASTE DISPOSAL STRATEGY

## CONT...

- The EIA and Permit Application Reports were presented on 3 August 2005 to the interested and affected parties. The reports were finalised with comments received and submitted to DEDET and DWAF respectively for further consideration.
- Delisting of Delta EMD By-product was approved as part of the EIA Report, the delisted material is used as cover material on lined cells.
- Permit was issued on 27 October 2007.
- Construction of the site was completed on 15 December 2010
- Council has appointed a Site Operator: Buhle Besive Waste Management.
- Monitoring Committee was established comprising of Chairperson, Relevant Authorities, Adjacent land owners and Ward Councillor



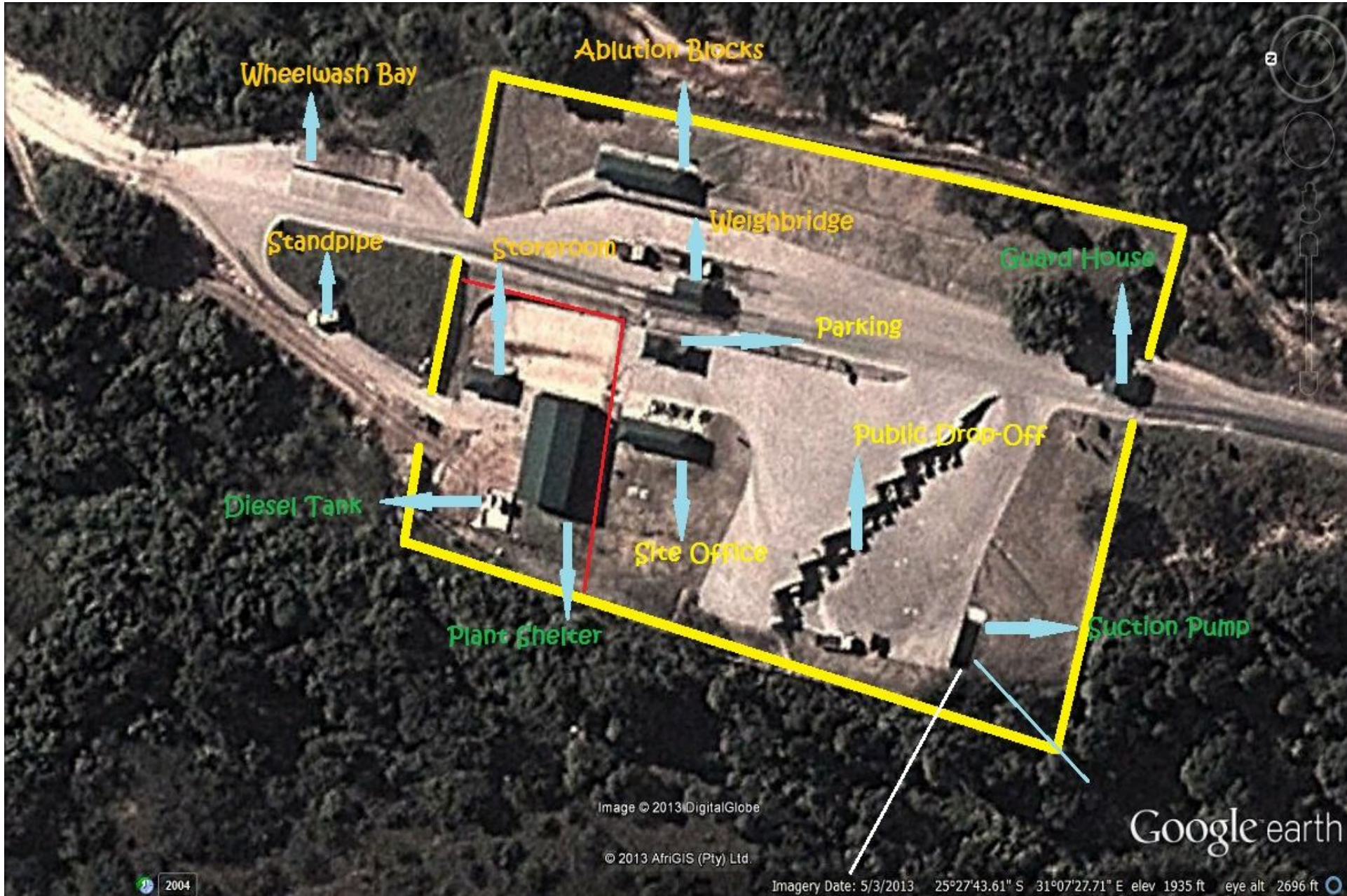
# PROJECT MILESTONES

PROFESSIONAL SERVICES		TIMEFRAMES	COSTS
1.	EIA Report	3.5 Years	R 1 650 889
2.	Permit Application Report		
3.	Consultants: Enpact Environmental Pty Ltd Knight Piesold Engineers Pty Ltd	4 Months	R 1 650 889
CONSTRUCTIONS WORKS		18 Months delay	R 0
1.	Earthworks & Access Roads by Mokoena Projects	5 Months - (2009)	R 4 625 693
2.	Cell 1 and Major Features by Durant Civils	7 Months - (2010)	R 29 625 693
<b>Cost to Delta EMD Pty Ltd</b>			<b>R 5 500 000</b>
<b>Cost to Mbombela Local Municipality</b>			<b>R 25 776 582</b>
<b>Grand Total</b>			<b>R 31 276 582</b>



# TEKWANE WEST CENTRAL WASTE DISPOSAL SITE





Wheelwash Bay

Ablution Blocks

Standpipe

Storeroom

Weighbridge

Guard House

Parking

Public Drop-Off

Diesel Tank

Site Office

Plant Shelter

Suction Pump

Image © 2013 DigitalGlobe

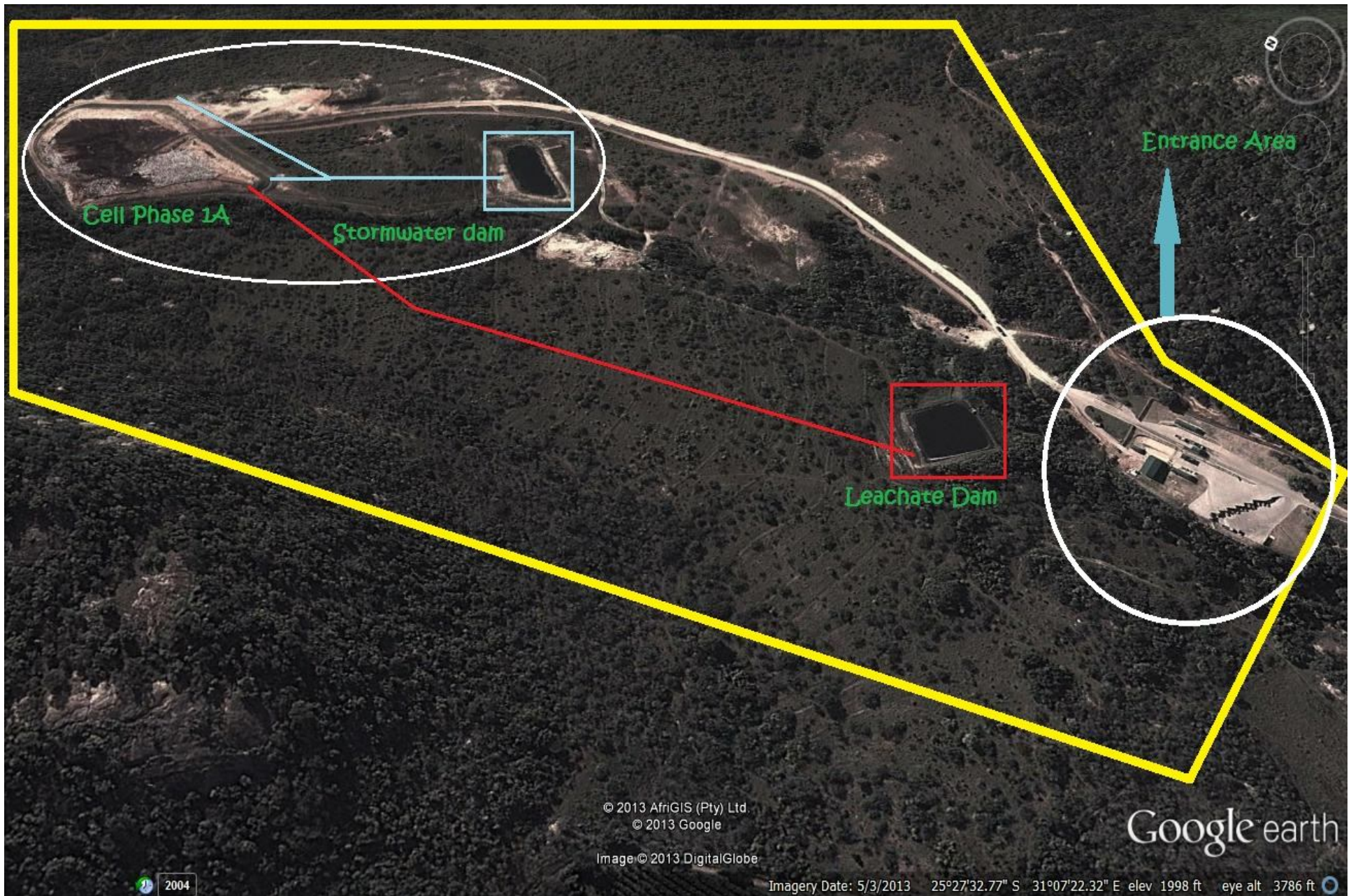
© 2013 AfriGIS (Pty) Ltd.

Google earth

2004

Imagery Date: 5/3/2013 25°27'43.61" S 31°07'27.71" E elev 1935 ft eye alt 2696 ft





# SITE RULES AND REGULATIONS



# ACCESS CONTROL



# WASTE DISPOSAL TARIFFS

**MBOMBELA LOCAL MUNICIPALITY**  
**WASTE DISPOSAL TARIFFS**

	Tariffs Excluding VAT
General waste from Mbombela city residents up to 1000Kg.	Free
Disposal of general and non-hazardous solid waste by Mbombela city residents in excess of 1000 Kg.	R 107.45 per 1000kg or part thereof
Disposal of general non-hazardous solid waste by Mbombela city contractors and businesses.	R 107.45 per 1000 kg or part thereof
Disposal of clean compostable garden refuse by Mbombela city residents and contractors in excess of 1000Kg.	R 214.92 per 1000 kg or part thereof
Disposal of general and non-hazardous solid waste by any person from outside the boundaries of Mbombela city.	R 214.50 per 1000 kg or part thereof
Clean building rubble (less than 300mm in diameter)	Free
Soil usable as cover material (at site supervisor discretion)	Free
Tyres/rim size greater than 40 cm in diameter.	R 16.52 per tyre
Tyres/rim size up to 40 cm in diameter.	R 8.45 per tyre



# PUBLIC DROP-OFF AREA



# WEIGHBRIDGE



# MONTHLY VOLUMES RECEIVED

CATEGORY	TONNAGES	TARIFF CHARGE
1: Domestic Waste	3 888.17	416 034.19
2: Garden Waste	84.90	9 122.51
3: Mixed Rubble	55.47	5 960.25
4: Industrial Waste	93.82	10 080.96
5: Clean Soil	343.15	0.00
6: Building Rubble	247.52	0.00
7: Industrial Bulk Waste	4.40	472.78
8: Safe Disposal (01: Food Condemnation) (02: Animal Carcasses)	33.58	3 608.17
9: Tyres	10.98	1 179.80
10: Public Offloading	43.52	0.00
10: Delta EMD Cover Material	3 243.83	162 191.50
11: Recovered Waste	16.36	0.00



# DUST SUPPRESSION



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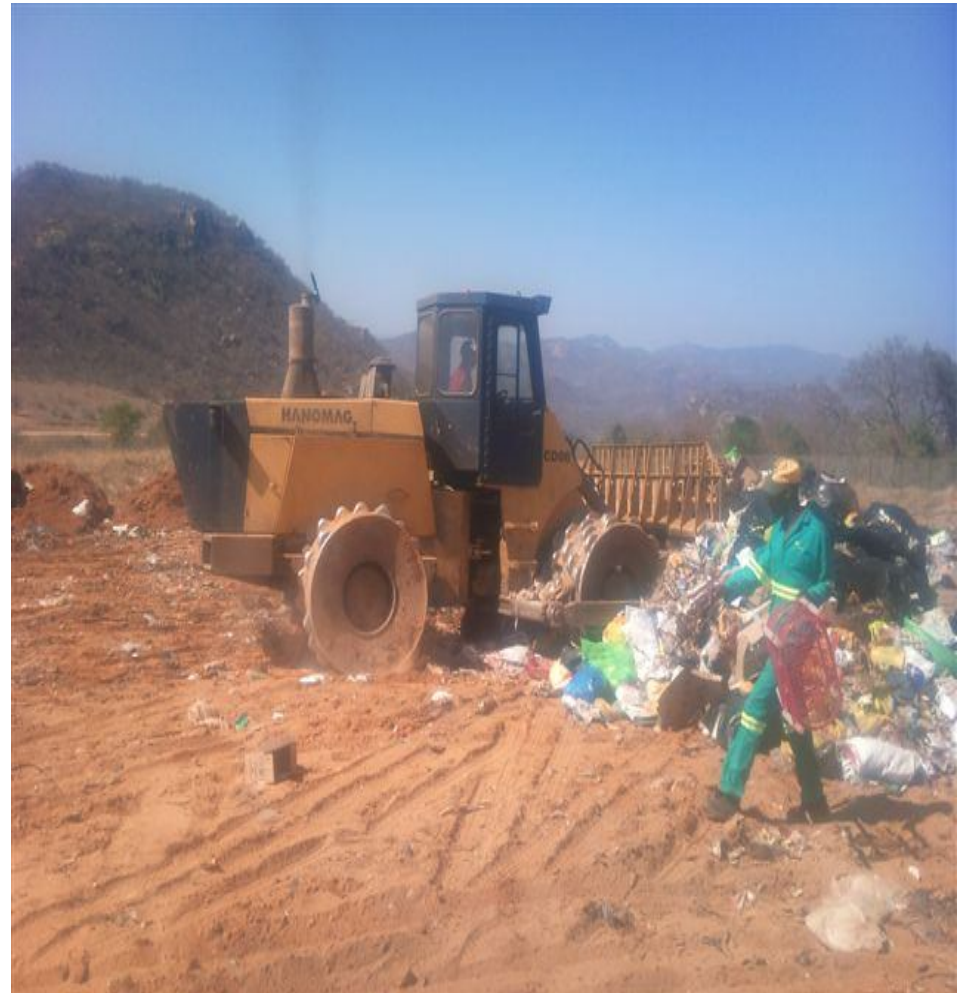


# CELL MANAGEMENT

1-3 Months



> 3 Months









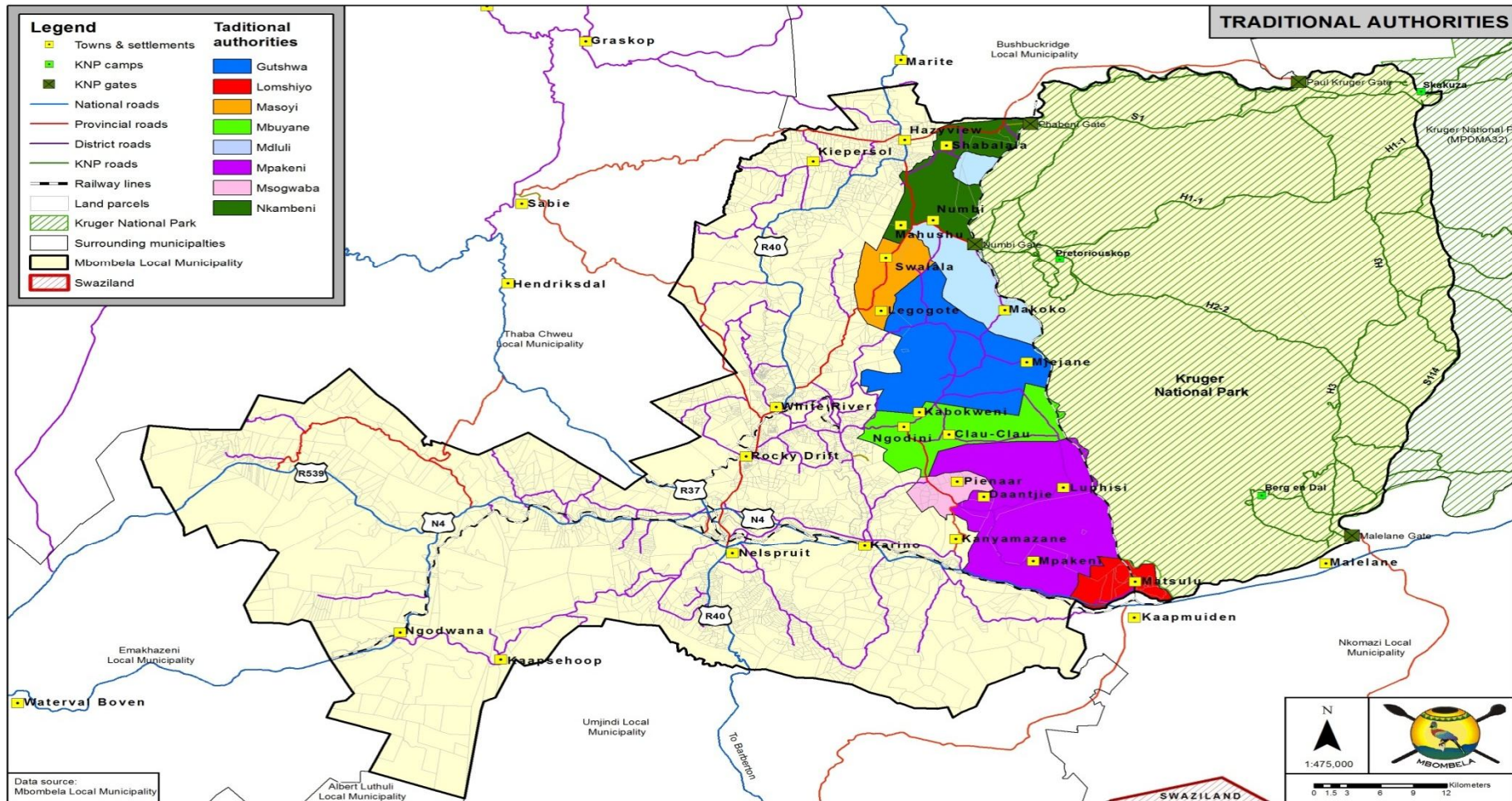
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# TRADITIONAL AUTHORITIES



# OFFICIAL OPENNING



# MPUMALANGA PROVINCIAL GREENING AND HERITAGE PROJECTS

## PHASE 1

- Intersection and 800m Access road from Nelspruit / Kanyamazane Road;
- Weigh bridge and administration facilities;
- Public Drop-off Facility;
- Lined cells for co-waste disposal;
- Leachate management facilities;
- Equipment and plant maintenance facilities;
- Fence around the landfill site (Concrete Palisade and Wire mesh)

## PHASE 2

- Material reclamation facility,
- Composting plant,
- Waste drop-off centre,
- Landfill gas-to-energy generation unit,
- Leachate treatment plant,
- Hazardous waste cell, (including medical and electronic waste)
- Nursery,
- Delisted Ash Material: Sonae Novobord
- SembCorp Silulumanzi WWTW Sludge
- Ozonation Plant

# CHALLENGES

- Airspace capacity depleting fast
- High volume of garden waste, tyres and e-waste
- Delays in MIG Funding
- Unreliable Water supply
- Inconsistent Electricity Supply
- No Billing and Accounts Management Capacity
- Low payment levels
- High volume of Garden waste
- Un-authorized reclaimers
- Animal keeping within 1km radius of the site
- Illegal dumping of waste within 4km radius of the site
- Theft and vandalism of directional signage to site



# CONCLUSION

- Integrated Waste Management Projects is inevitable
- Permit Review (NKP Consulting Engineers) and MIG Business Planning (Knight Piesold Consulting Engineers)
- Waste Separation at Source Project
- Garden Waste Composting Project
- MERF
- Re-use of SembCorp Silulumanzi WWTW Sludge
- Delisted Ash Material from Sonae Novobord
- Cost reflective Tariff Model
- Ring-fencing of Budget
- Landfill Provision for Closure and Rehabilitation of Waste Disposal Sites
- Billing and Accounts Management Committee/ Tariff Policy





# THANK YOU

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