

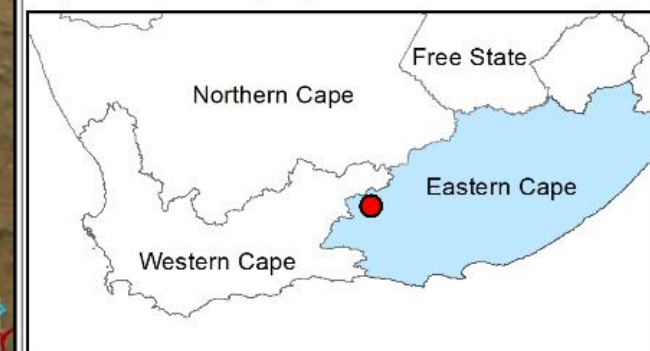
Aberdeen 1 Wind Facility Eastern Cape Province

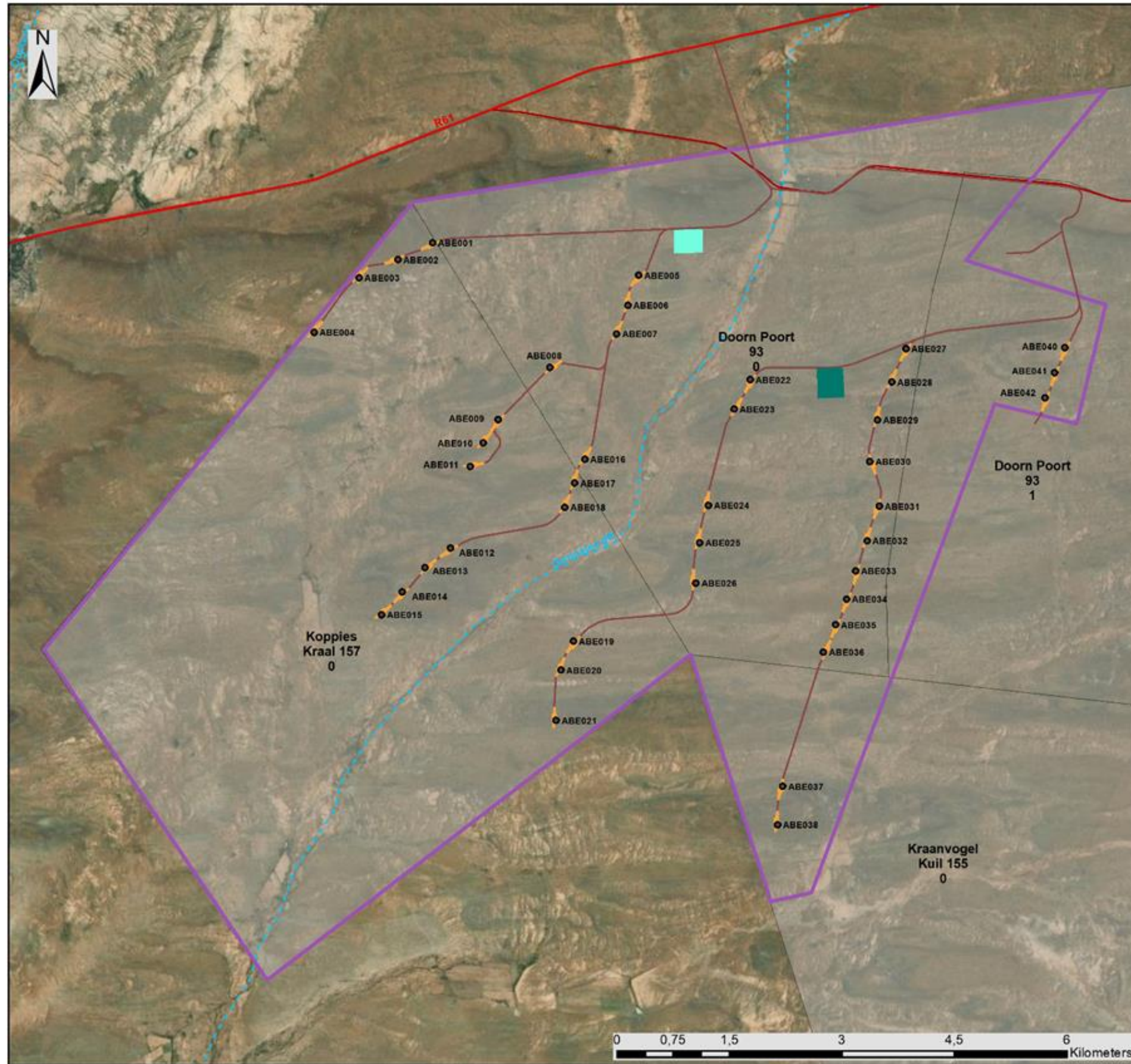
Locality Map

Legend

- Town
- Existing Substation
- · — Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 1 Development Area
- Project Site

Scale: 1:300 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Locality Map





Aberdeen Wind Facility 1 Eastern Cape Province

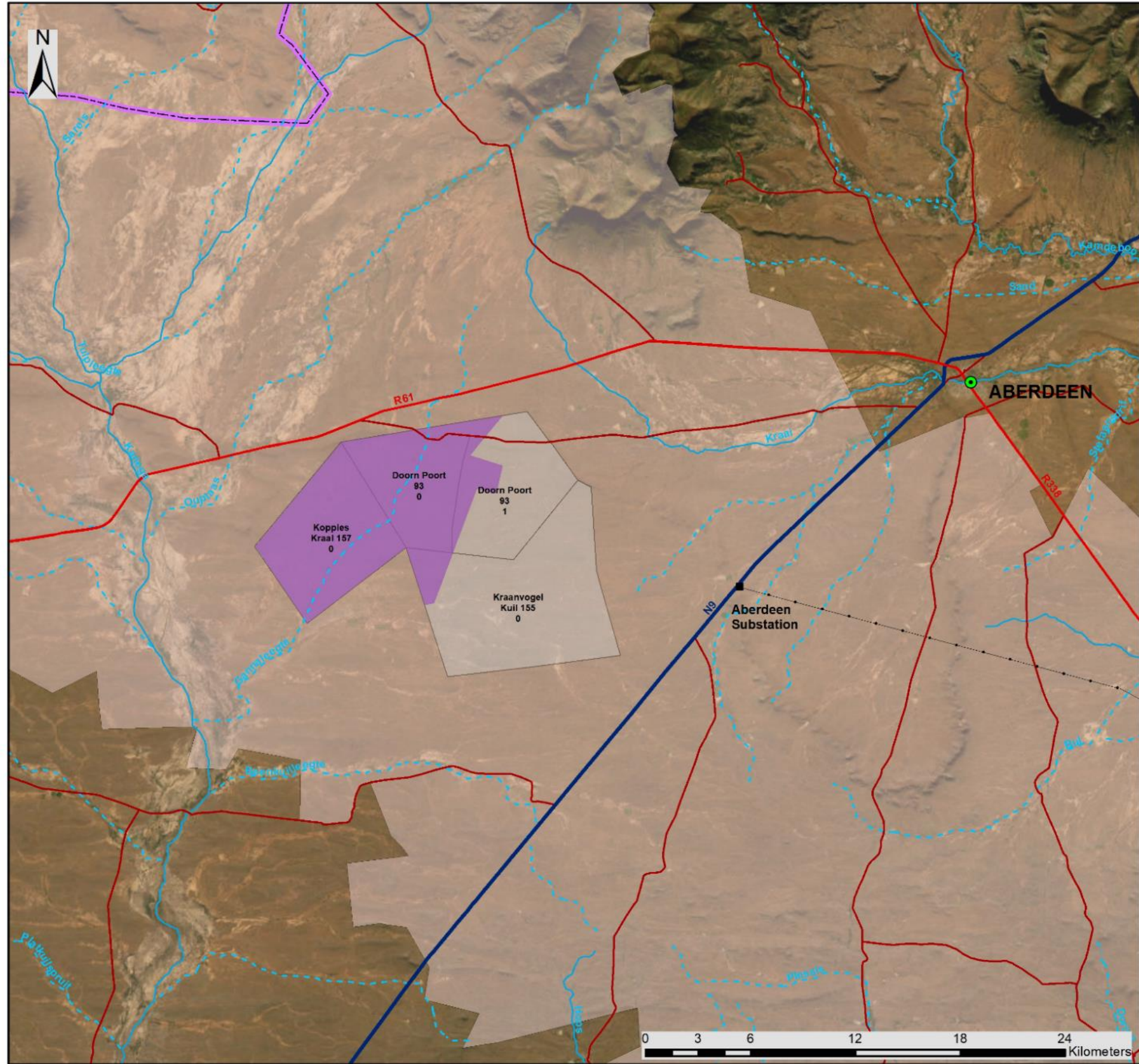
Layout Map

Legend

- Town
 - Regional Road
 - Main Road
 - Perennial River
 - Non Perennial River
 - Affected Farm Properties
- Proposed Development**
- Turbines
 - Turbine Hardstands
 - Access & Internal Roads
 - Substation, BESS and O&M Buildings Hub
 - Warehouse, Laydown Area and Site Camp Hub
 - Aberdeen Wind Facility 1

Scale: 1:70 000
Projection: GCS_WGS_1984
Map Ref: Aberdeen Layout Map





Aberdeen 1 Wind Facility Eastern Cape Province

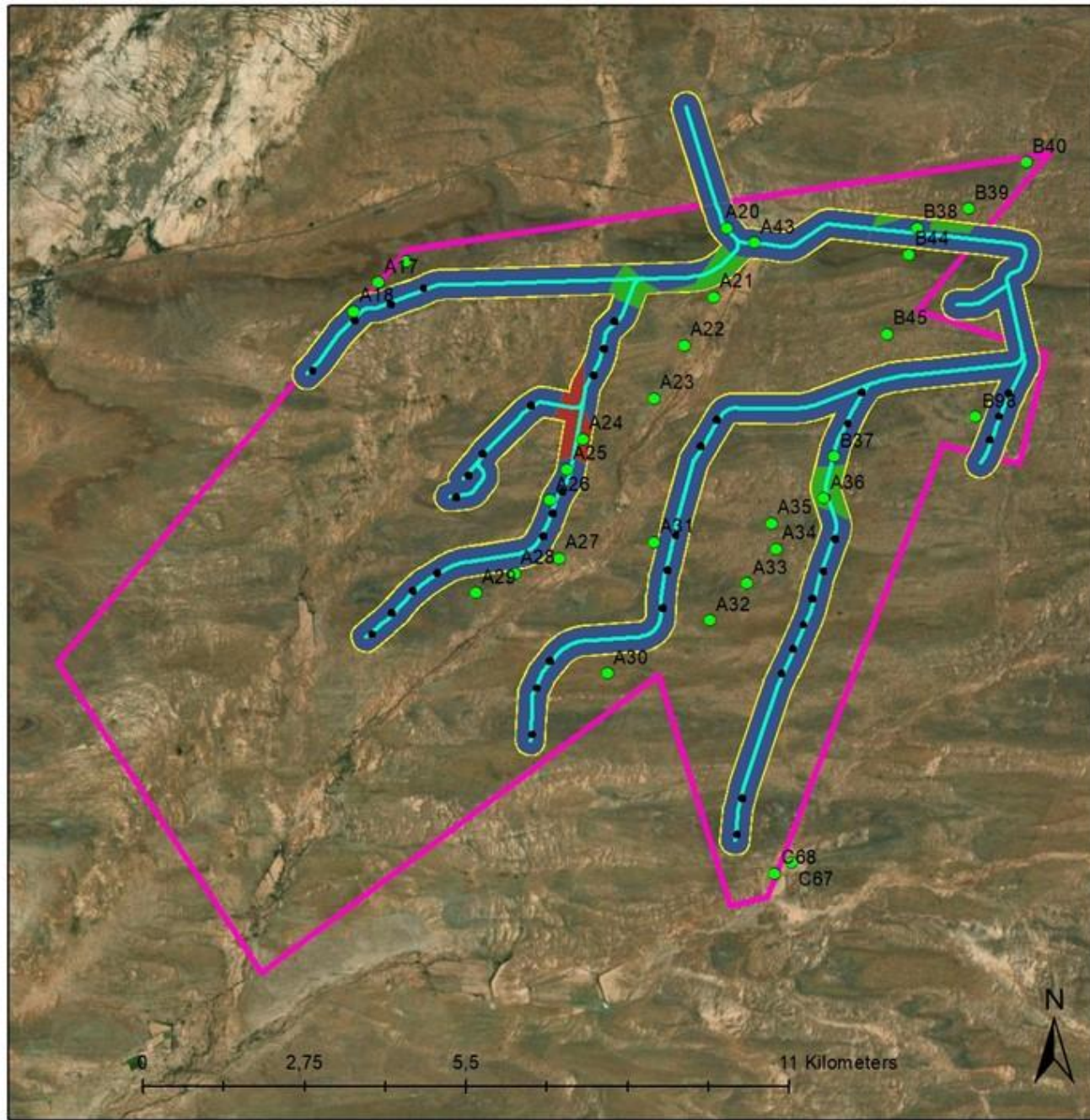
REDZ and Locality Map

Legend

- Town
- Existing Substation
- Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 1 Development Area
- Project Site
- Beaufort West REDZ

Scale: 1:300 000
 Projection: GCS_WGS_1984
 Map Ref: REDZ and Locality Map

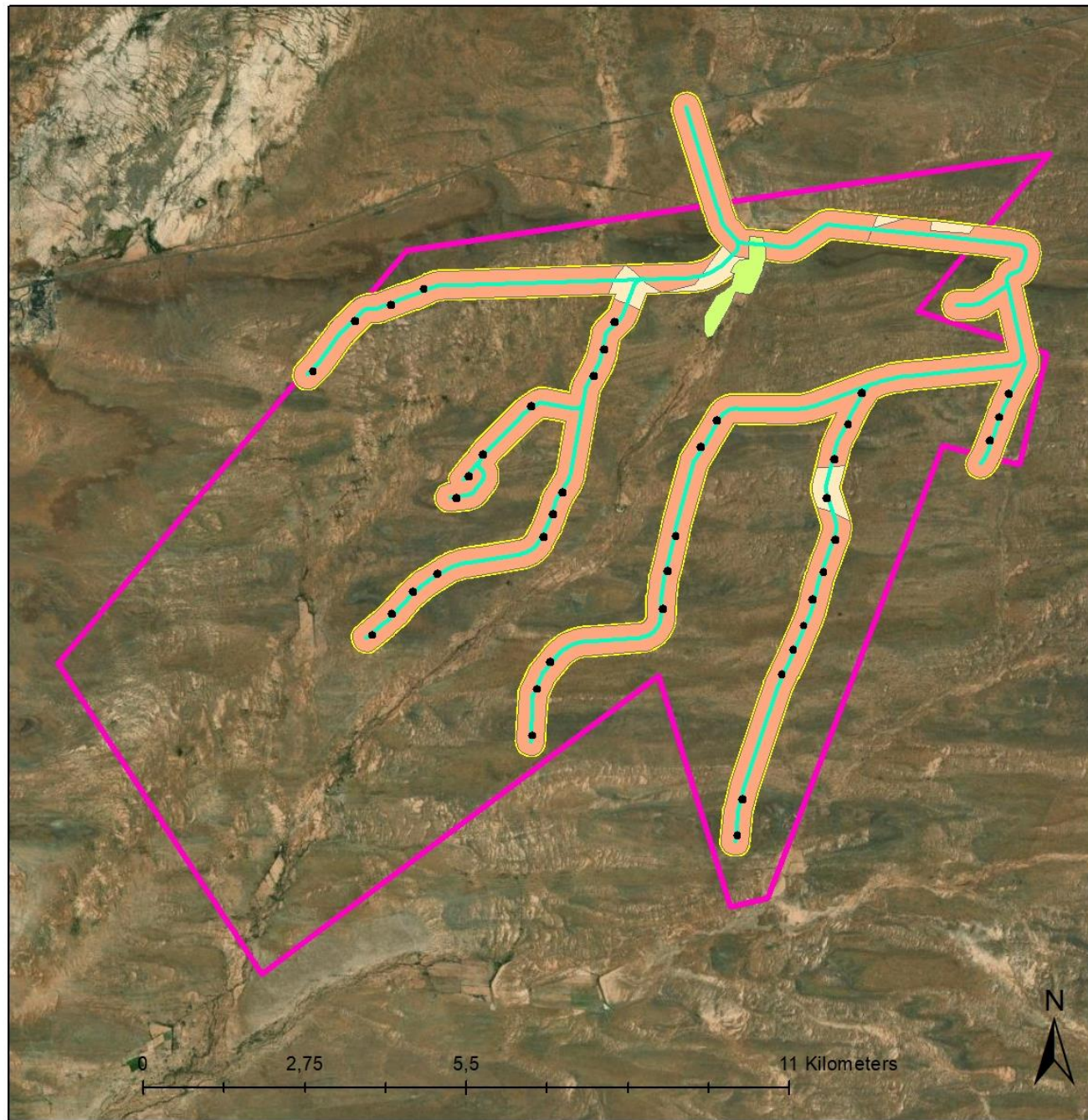











Legend

- | | |
|--|--|
|  Turbines and hardstands | Soil forms |
|  Wind Farm 1 Roads |  Glenrosa-1656.4 ha |
|  Study area-1785 ha |  Nkonkoni-86.3 ha |
|  Development area-9180 ha |  Olienhout-43.1 ha |
|  Observations | |

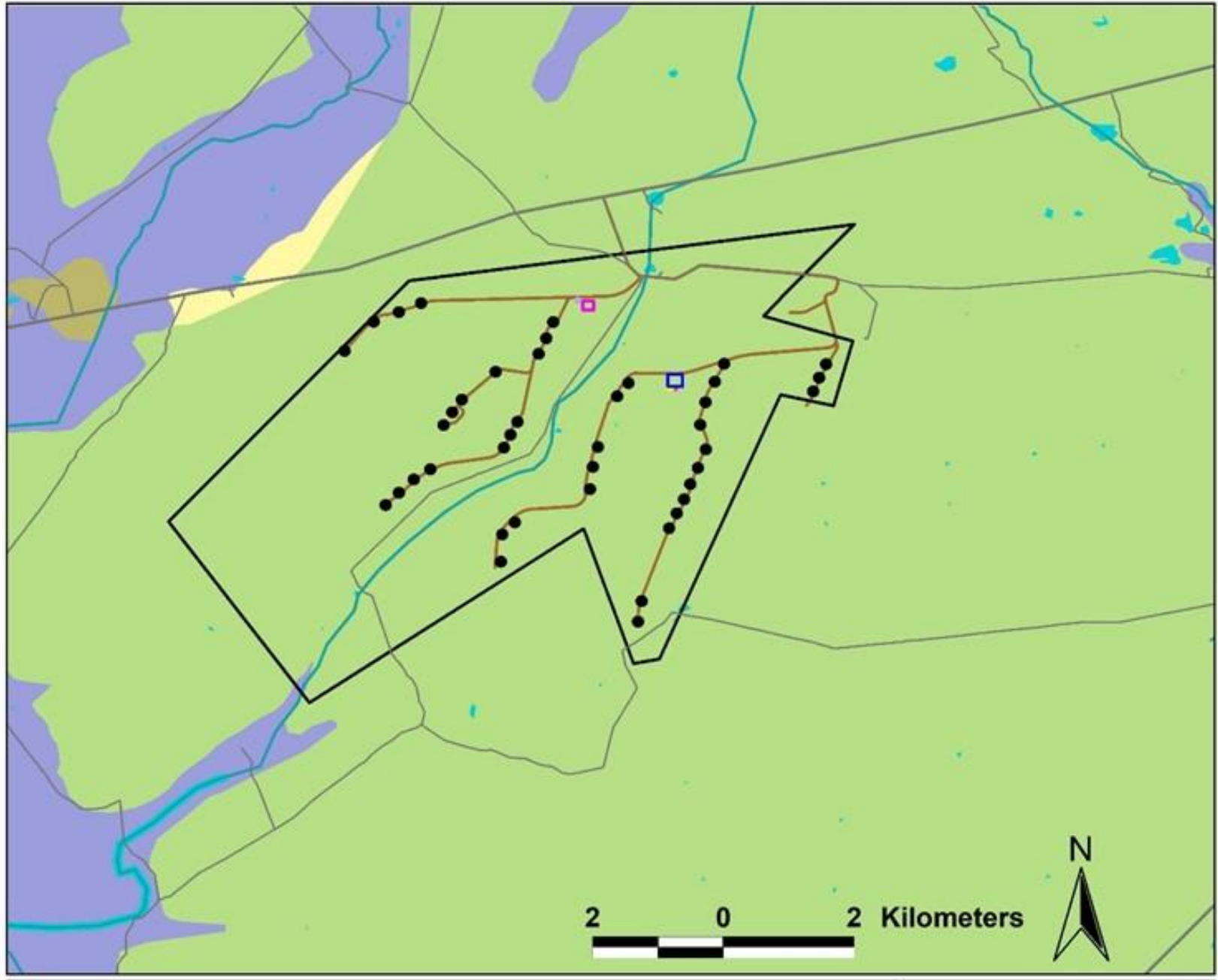




Legend

- | | |
|--|--|
|  Turbines and hardstands | Land capability |
|  Wind Farm 1 Roads |  Low (5)-1699.5 ha |
|  Study area-1785 ha |  Low-Moderate (7)- 44.9 ha |
|  Development area-9180 ha |  Moderate-High (9)- 41.3 ha |





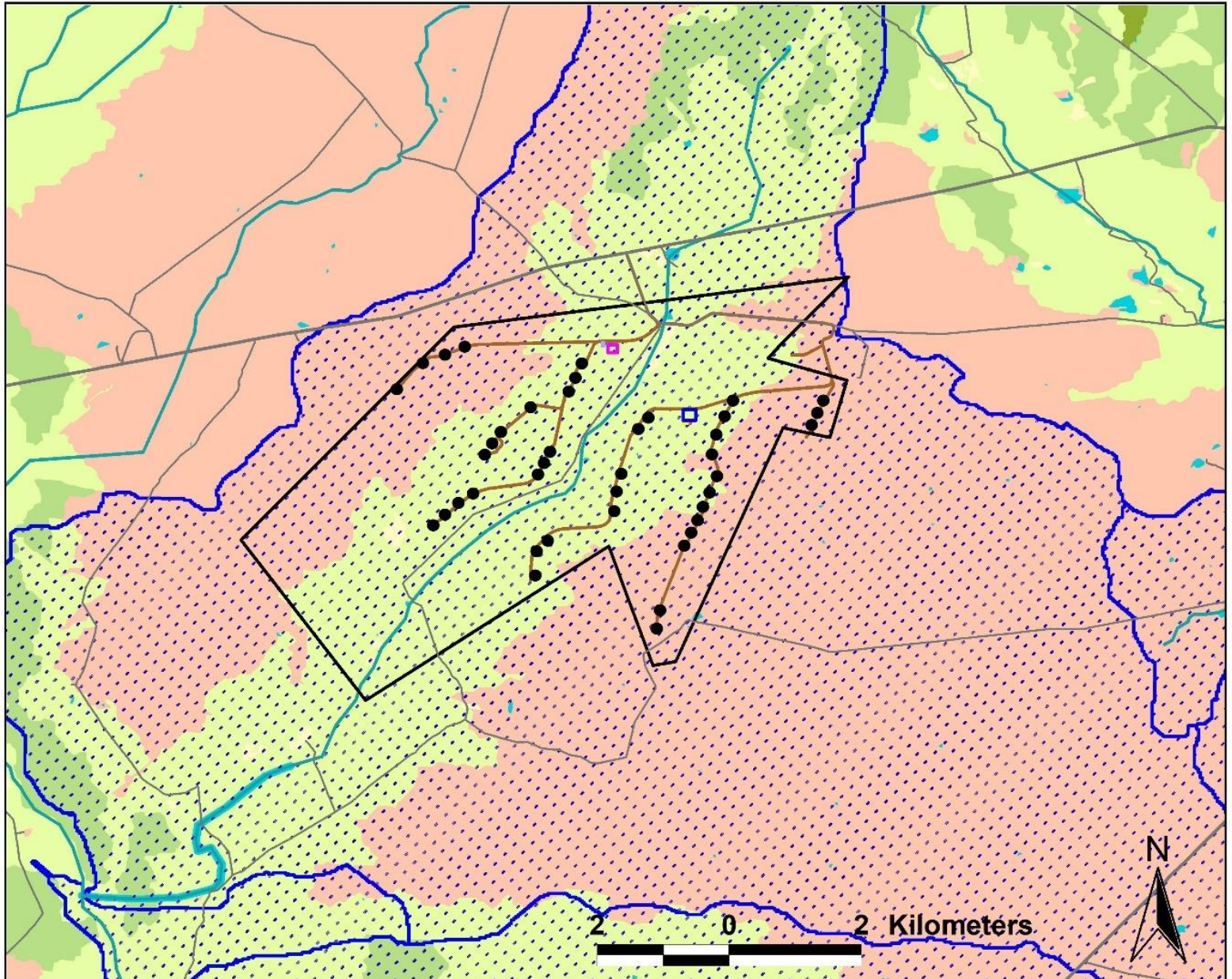
- Aberdeen WEF 1 Boundary
- Aberdeen WEF 1 Turbines
- Aberdeen Roads 1
- Aberdeen WEF 1 Infrastructure**
- BESS
- O&M Buildings
- Construction laydown area
- Site Camp
- Warehouse


- Vegetation Types**
- Eastern Lower Karoo
- Eastern Upper Karoo
- Gamka Karoo
- Southern Karoo Riviere
- NFEPA Rivers
- NFEPA Wetlands
- Major Roads
- Minor Roads

Aberdeen WEF 1

Vegetation Types

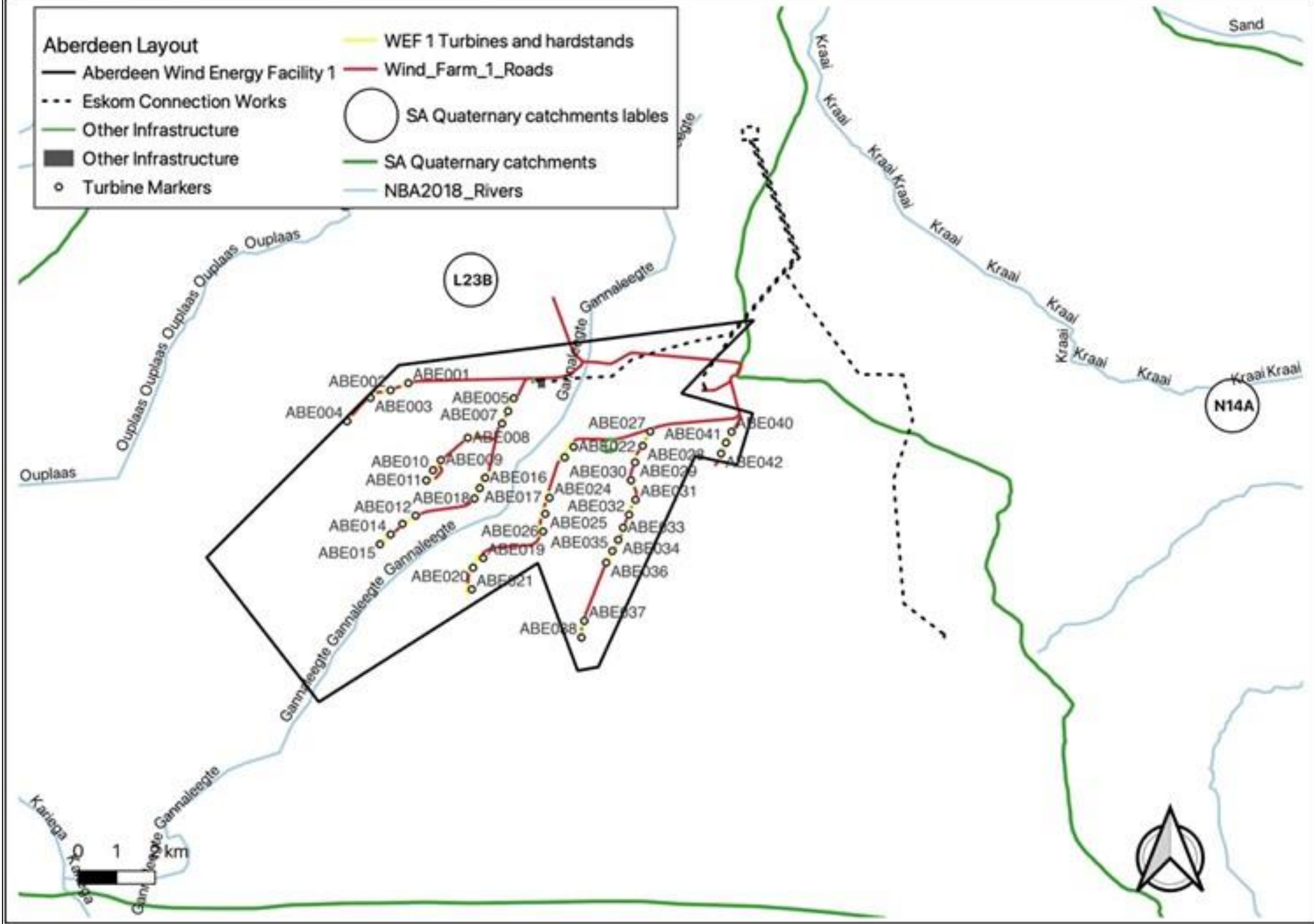
3Foxes Biodiversity Solutions



<ul style="list-style-type: none"> Aberdeen WEF 1 Boundary Aberdeen WEF 1 Turbines Aberdeen Roads 1 	<ul style="list-style-type: none"> EC - CBAs CBA 1 CBA 2 ESA 1 ESA 2 Other Areas 	<p>Aberdeen WEF 1</p> <hr/> <p>Critical Biodiversity Areas</p> <hr/>  <p>3Foxes Biodiversity Solutions</p>
<ul style="list-style-type: none"> Aberdeen WEF 1 Infrastructure BESS O&M Buildings Construction laydown area Site Camp Warehouse 	<ul style="list-style-type: none"> NFEPA Rivers NFEPA Wetlands FEPA Subcatchment 	
<ul style="list-style-type: none"> Major Roads Minor Roads 		

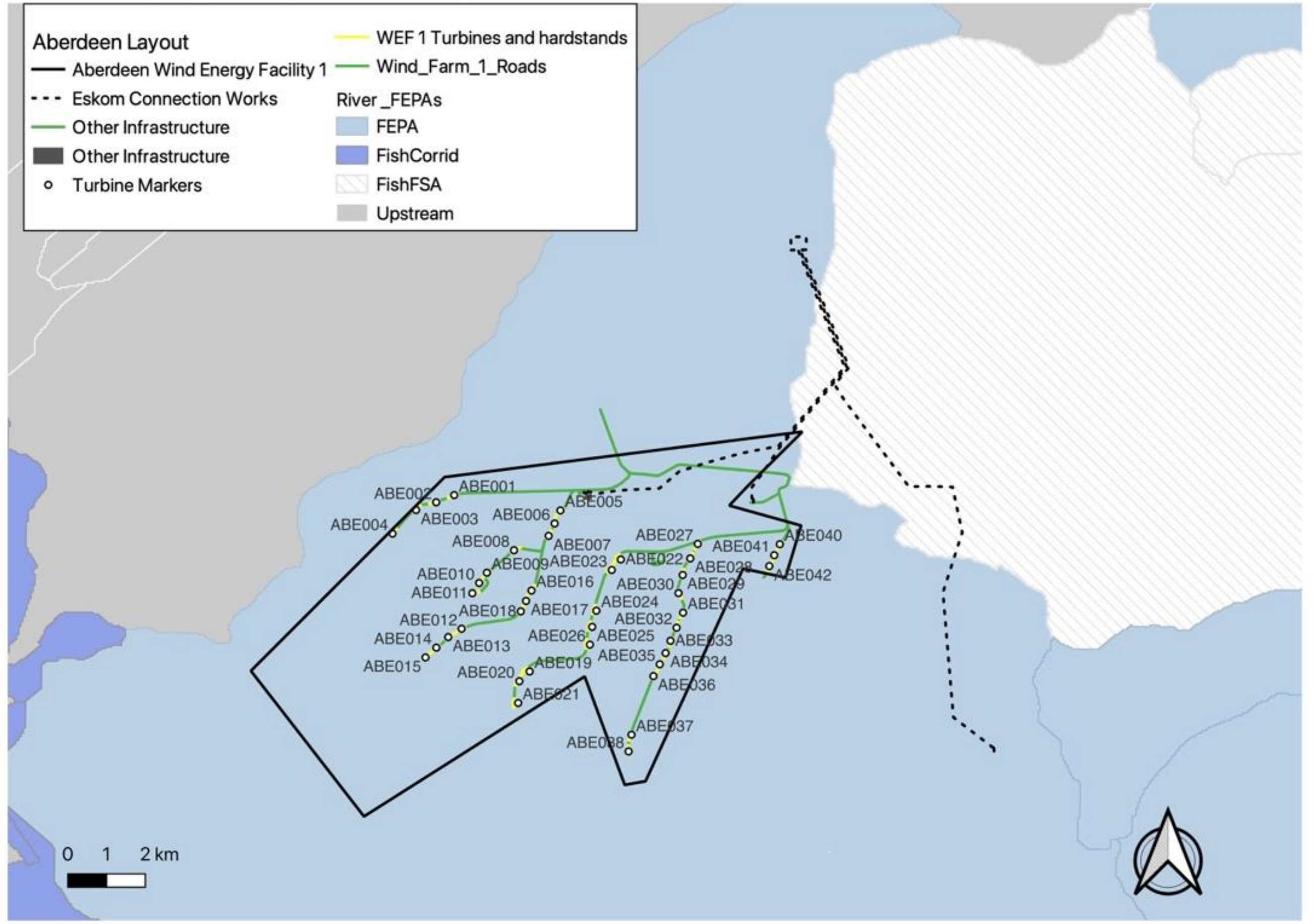
Aberdeen Layout

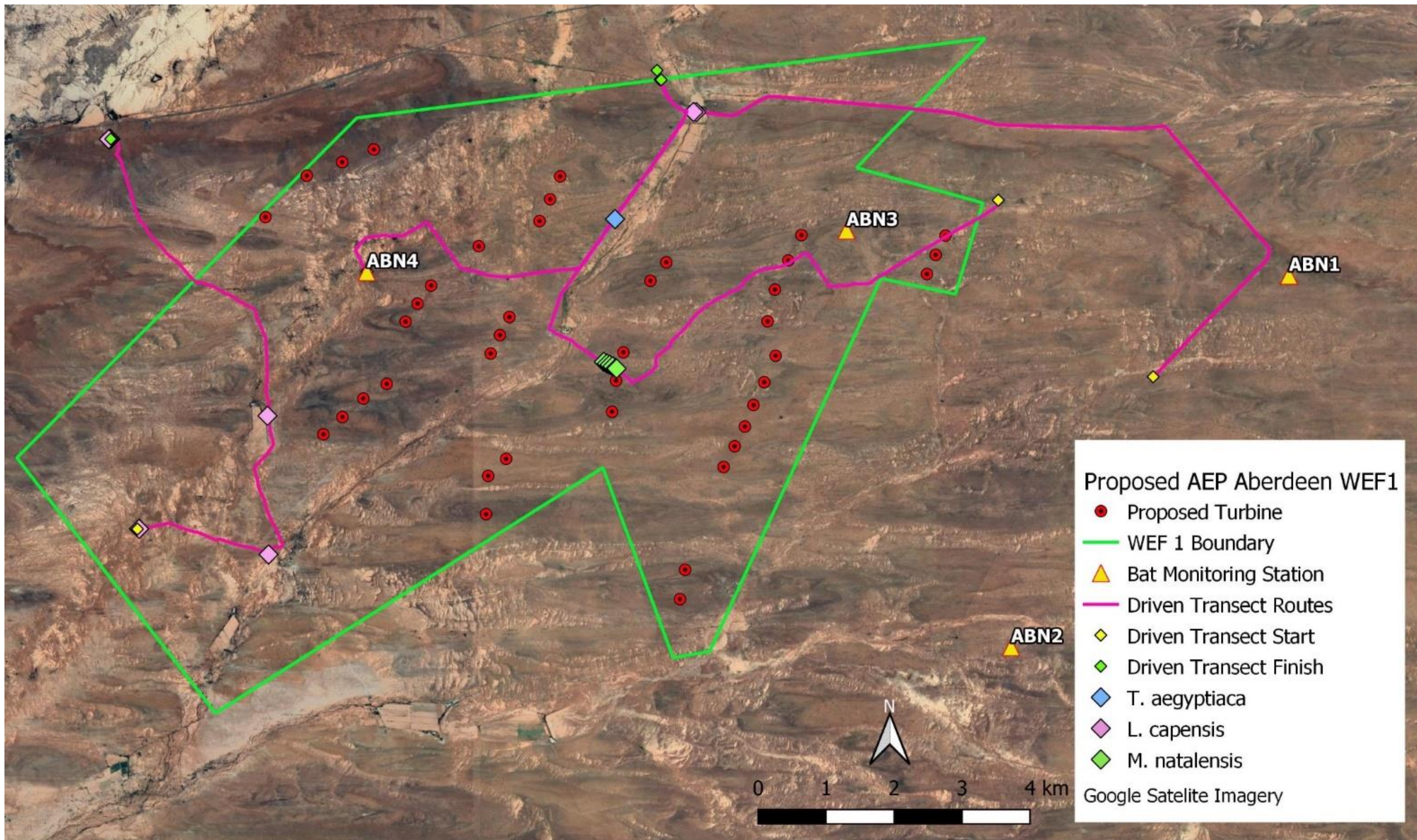
- Aberdeen Wind Energy Facility 1
- Eskom Connection Works
- Other Infrastructure
- Other Infrastructure
- Turbine Markers
- WEF 1 Turbines and hardstands
- Wind_Farm_1_Roads
- SA Quaternary catchments labels
- SA Quaternary catchments
- NBA2018_Rivers

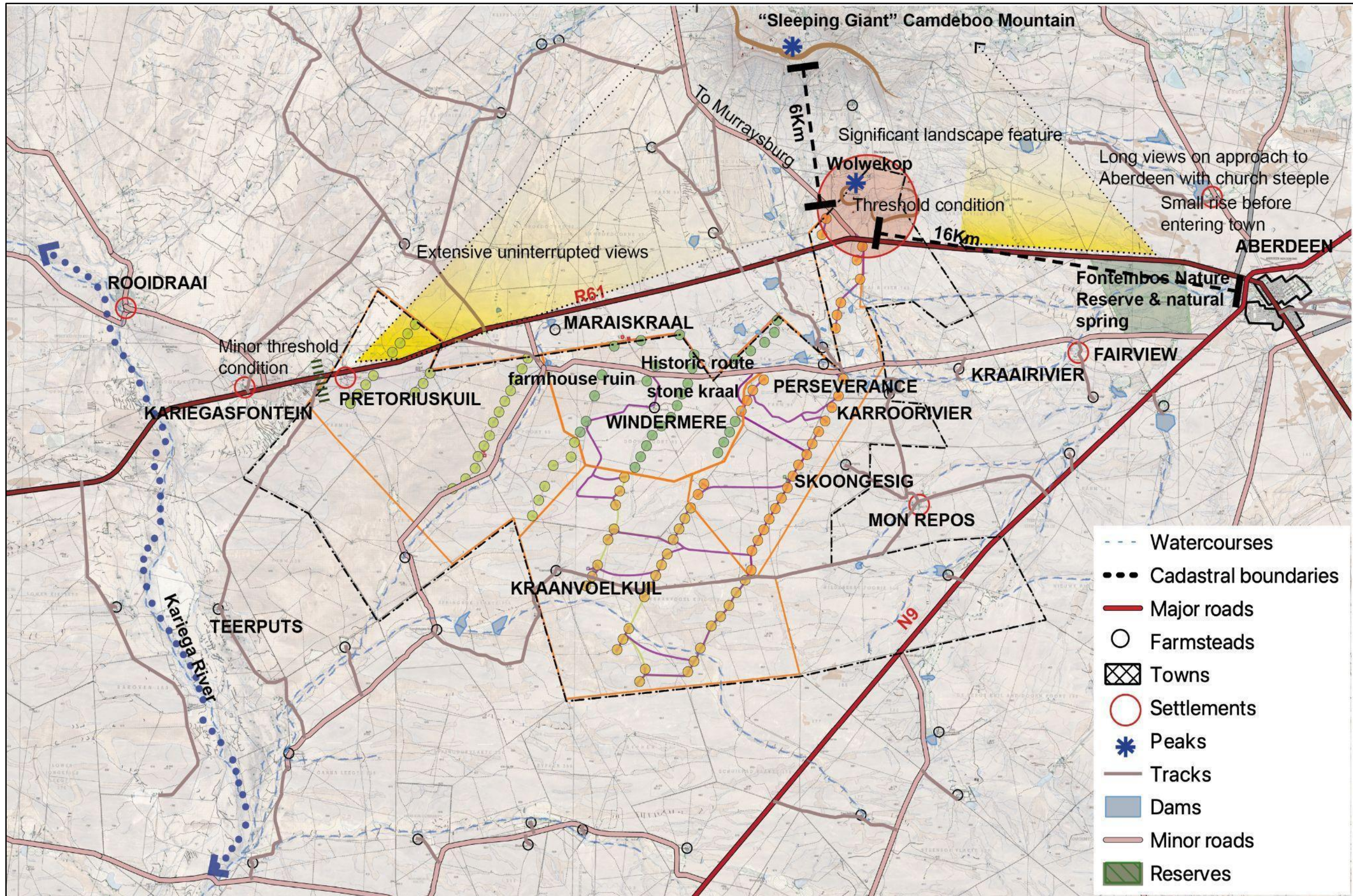


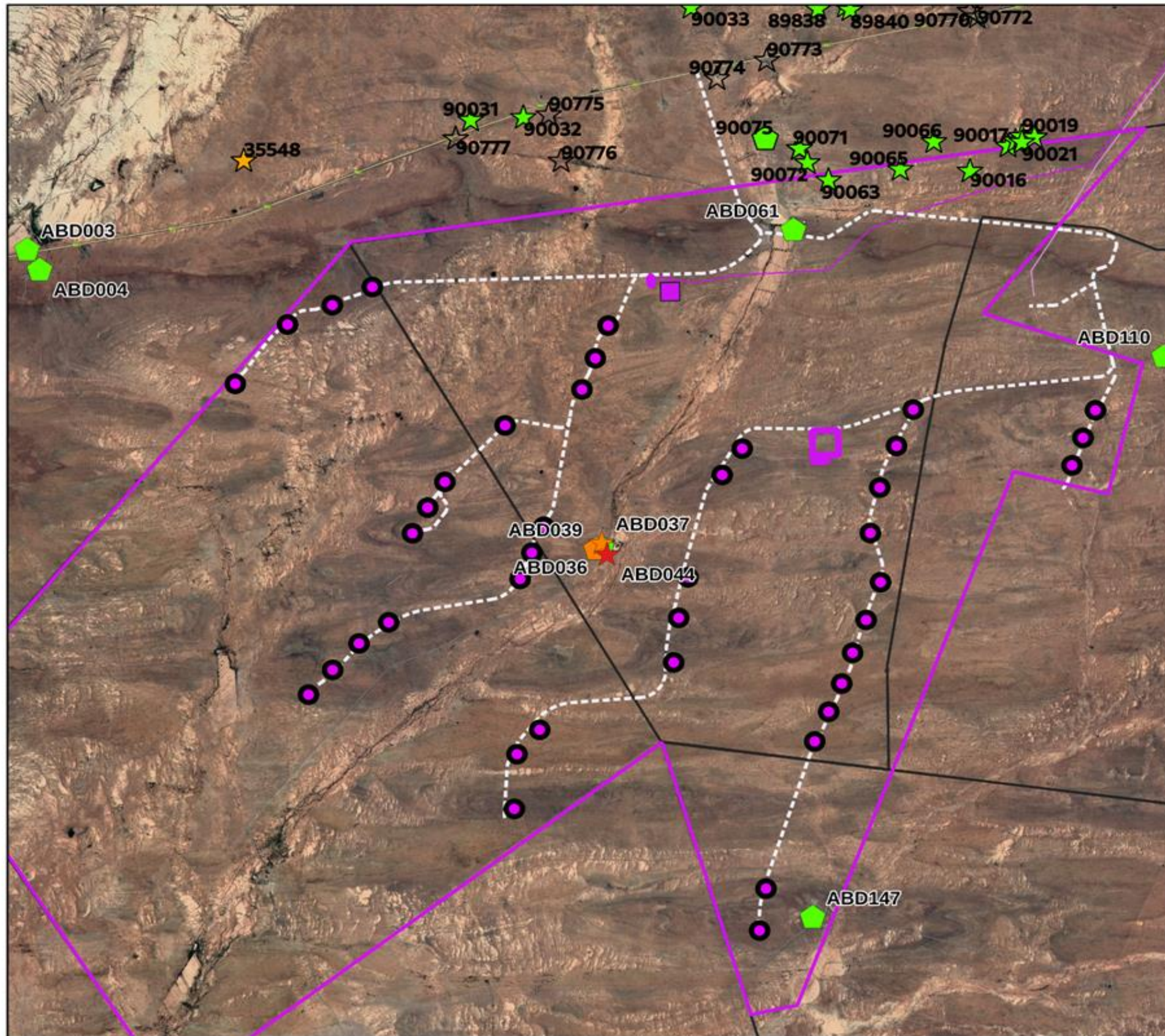
Aberdeen Layout

- Aberdeen Wind Energy Facility 1
- - - Eskom Connection Works
- Other Infrastructure
- Other Infrastructure
- Turbine Markers
- WEF 1 Turbines and hardstands
- Wind_Farm_1_Roads
- River_FEPAs
 - FEPA
 - FishCorrid
 - FishFSA
 - Upstream









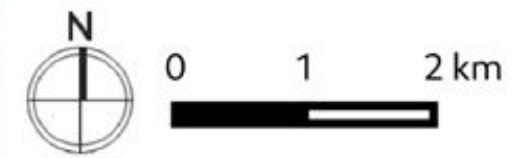
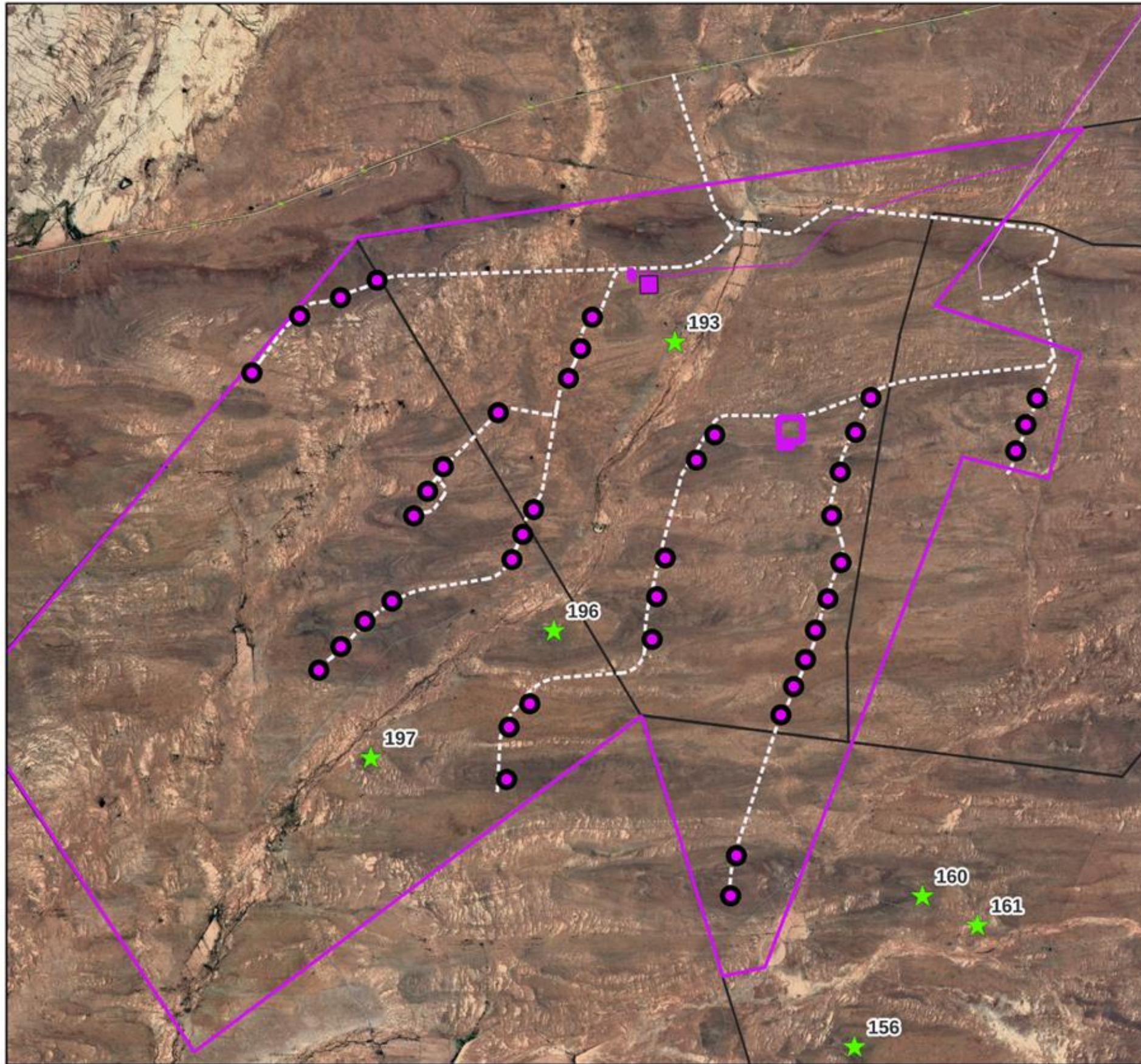
HERITAGE RESOURCES

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties

GRADING

- | | |
|-----------------|--------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| WHITE | NCW |





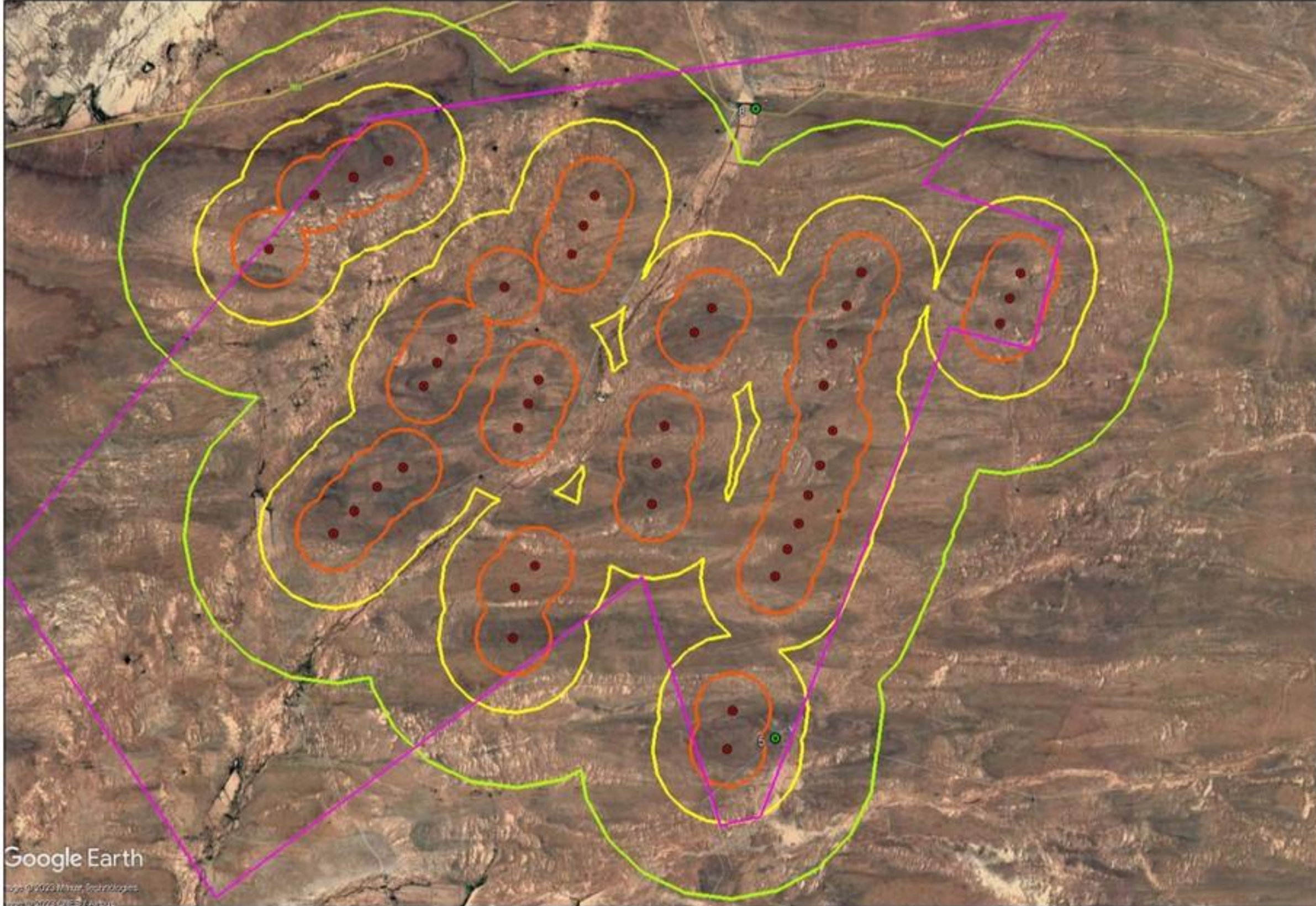
HERITAGE RESOURCES








- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties

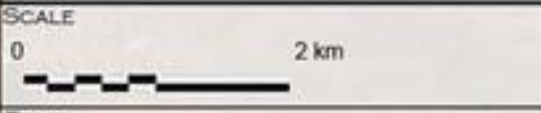
GRADING

- DARK RED** I & II
- RED** IIIa
- ORANGE** IIIb
- GREEN** IIIc
- WHITE** NCW





- LEGEND**
-  - Local roads (Google Earth)
 -  - Proposed Project Boundary
 -  - Potential Noise-sensitive receptors
 -  - Conceptual noise source - WTG
 -  - Buffer: 500 m from WTG
 -  - Buffer: 1,000 m from WTG
 -  - Buffer: 2,000 m from WTG



TITLE
Aberdeen WF 1: Closest identified NSR and buffer areas

CLIENT
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 1 (Pty) Ltd

Enviro-Acoustic Research
 726 Wiedrigh st
 Moreleta Park
 0181
 Tel: 012 004 362
 Fax: 086 621 0292
 email: mome@eares.co.za



REFERENCES AND SOURCES
 Google Earth



Google Earth

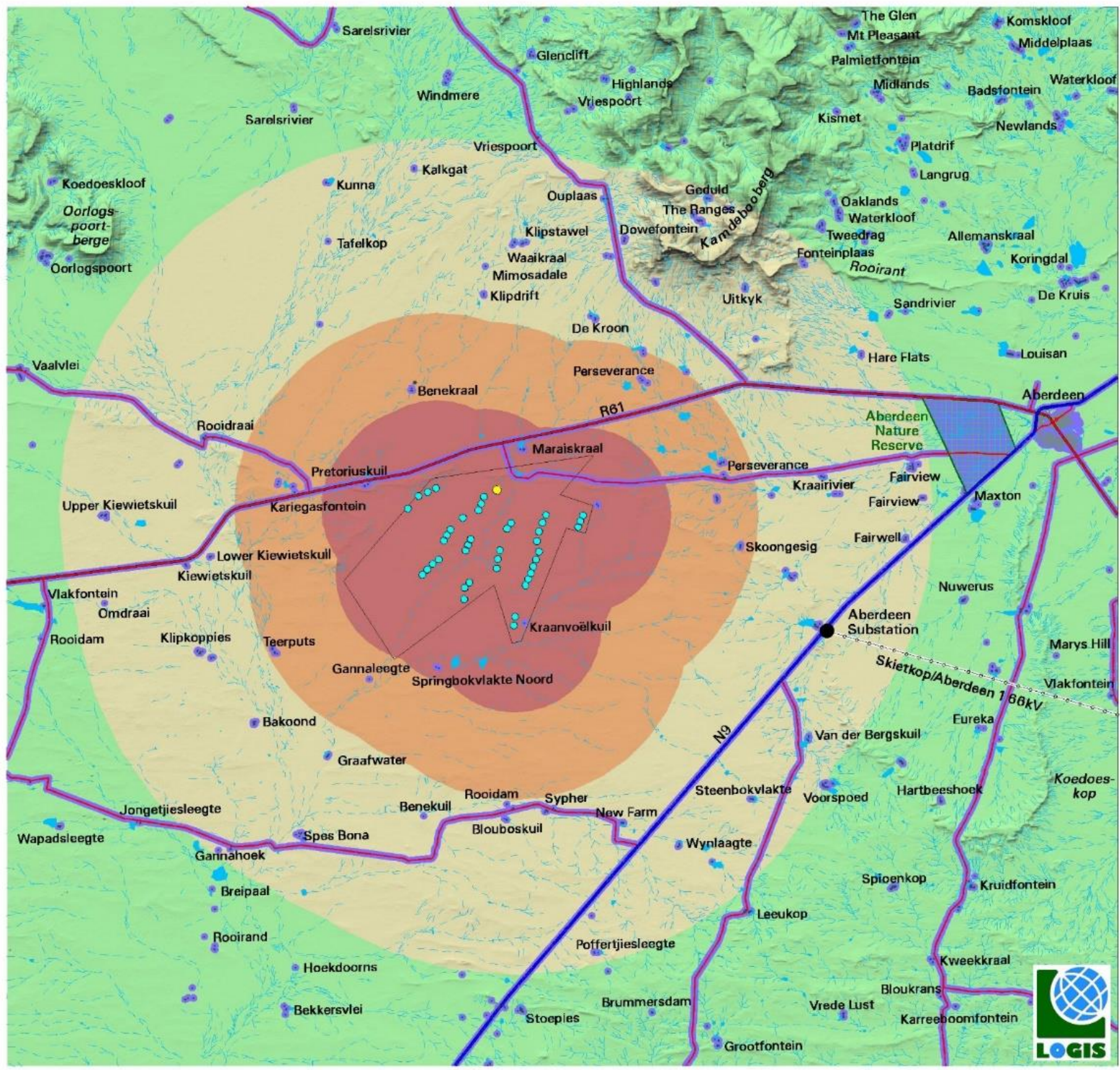
Copyright © 2012 Google
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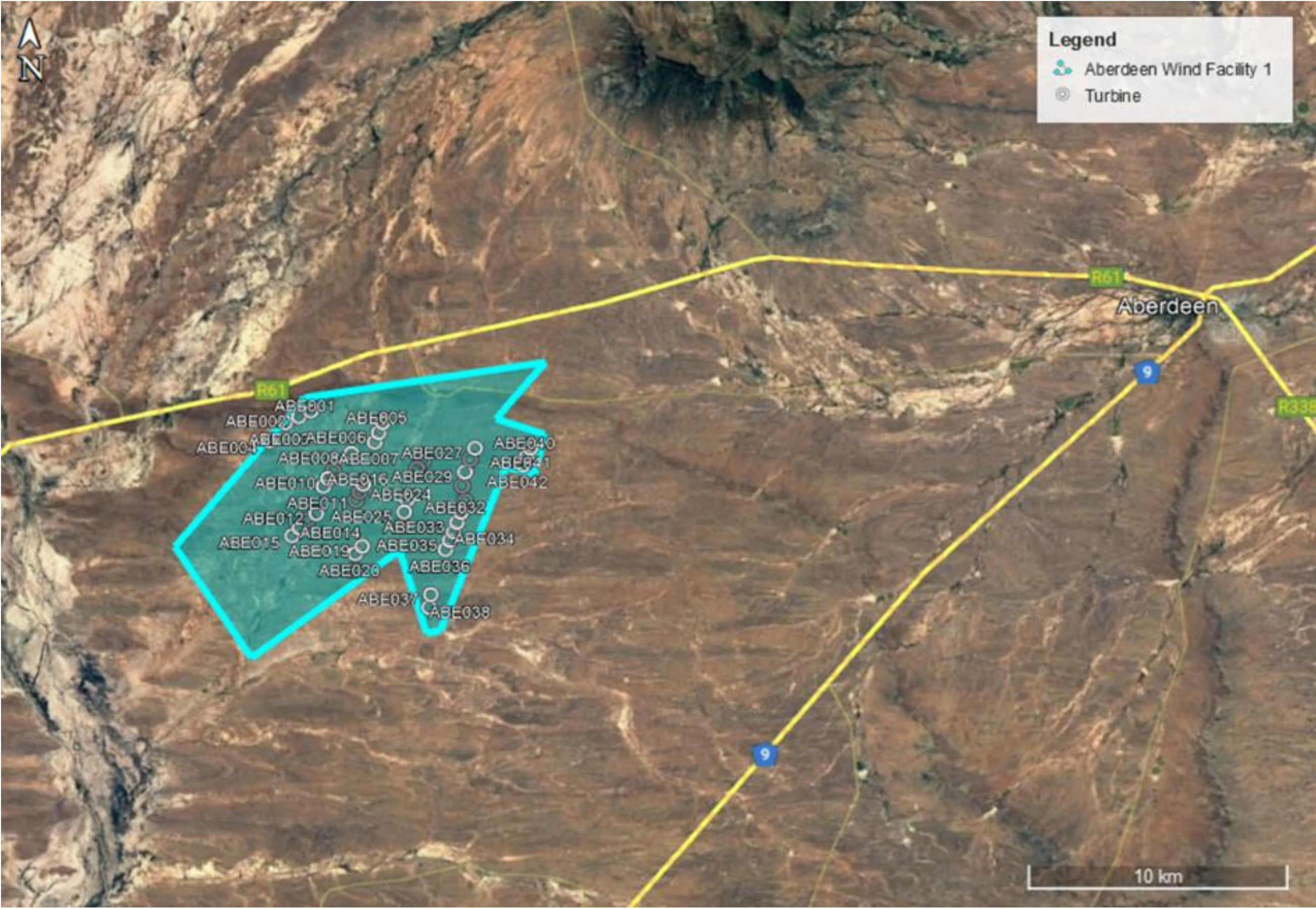
4 km

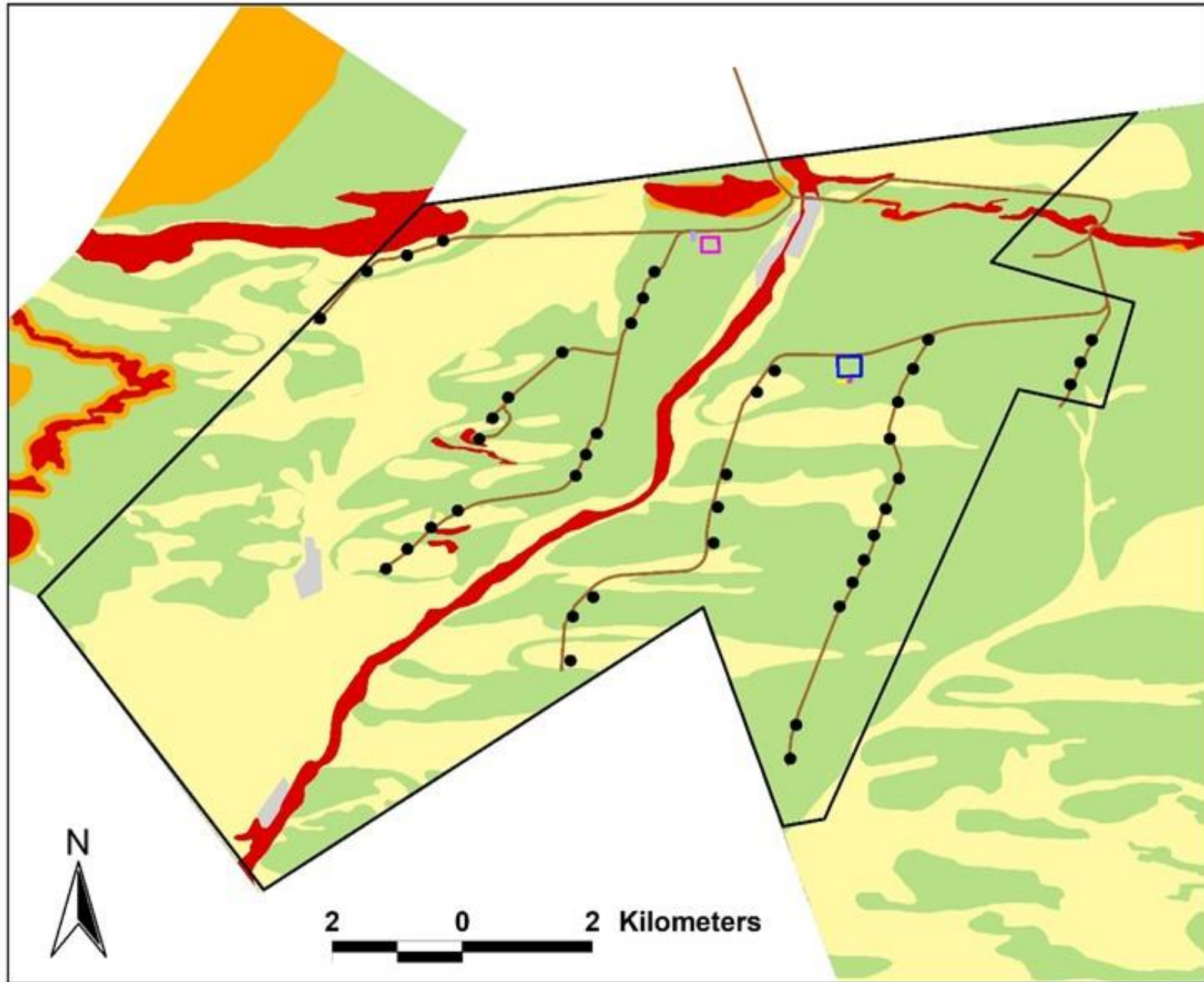
Proposed Aberdeen Wind Energy Facility Cluster

- LEGEND**
- National Road
 - Arterial/Main Road
 - Secondary Road
 - Power Line
 - Substation
 - Dam
 - Non-perennial River
 - Town/Built-up Area
 - Homestead/Farm Dwelling
- Aberdeen WEF Cluster**
- WEF 1 Turbines
 - Battery Energy Storage System (BESS)






- PROXIMITY ANALYSIS (Visual Distance)**
- Short distance (0 - 5km)
 - Medium distance (5 - 10km)
 - Medium to longer distance (10 - 20km)
 - Long distance (> 20km)
- POTENTIAL SENSITIVE VISUAL RECEPTORS**
- Residents of farm dwellings/homesteads
 - Observers travelling along local roads
 - Protected/Conservation Areas







-  Aberdeen WEF 1 Boundary
-  Aberdeen WEF 1 Turbines
-  Aberdeen WEF 1 Roads
- Aberdeen WEF 1 Infrastructure
-  BESS
-  O&M Buildings
-  Construction laydown ar
-  Site Camp
-  Warehouse

- Ecological Sensitivity
-  Very High
 -  High
 -  Medium
 -  Low
 -  Transformed

Aberdeen WEF 1

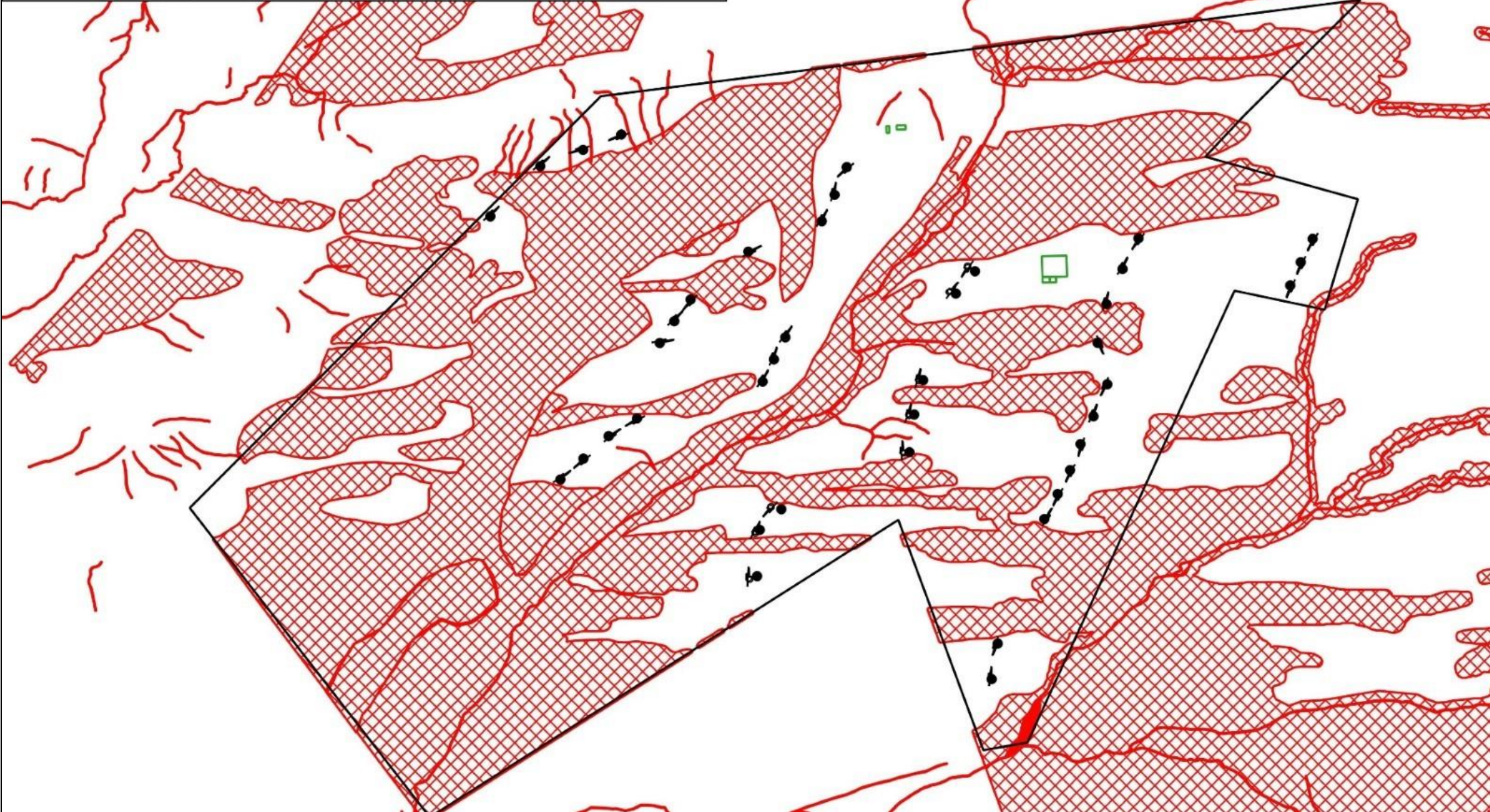
Ecological Sensitivity



3Foxes Biodiversity Solutions

Layout - WTG, Hardstands, Buildings, Substations, BESS

- Site Boundary
- Turbines and hardstands
- ▨ High Sensitive - Major Drainage (inclusive of 25m buffer)
- High Sensitive - Minor Drainage (inclusive of 12m buffer)
- Other Infrastructure (BESS, O&M buildings, site camps, warehouse, laydown)



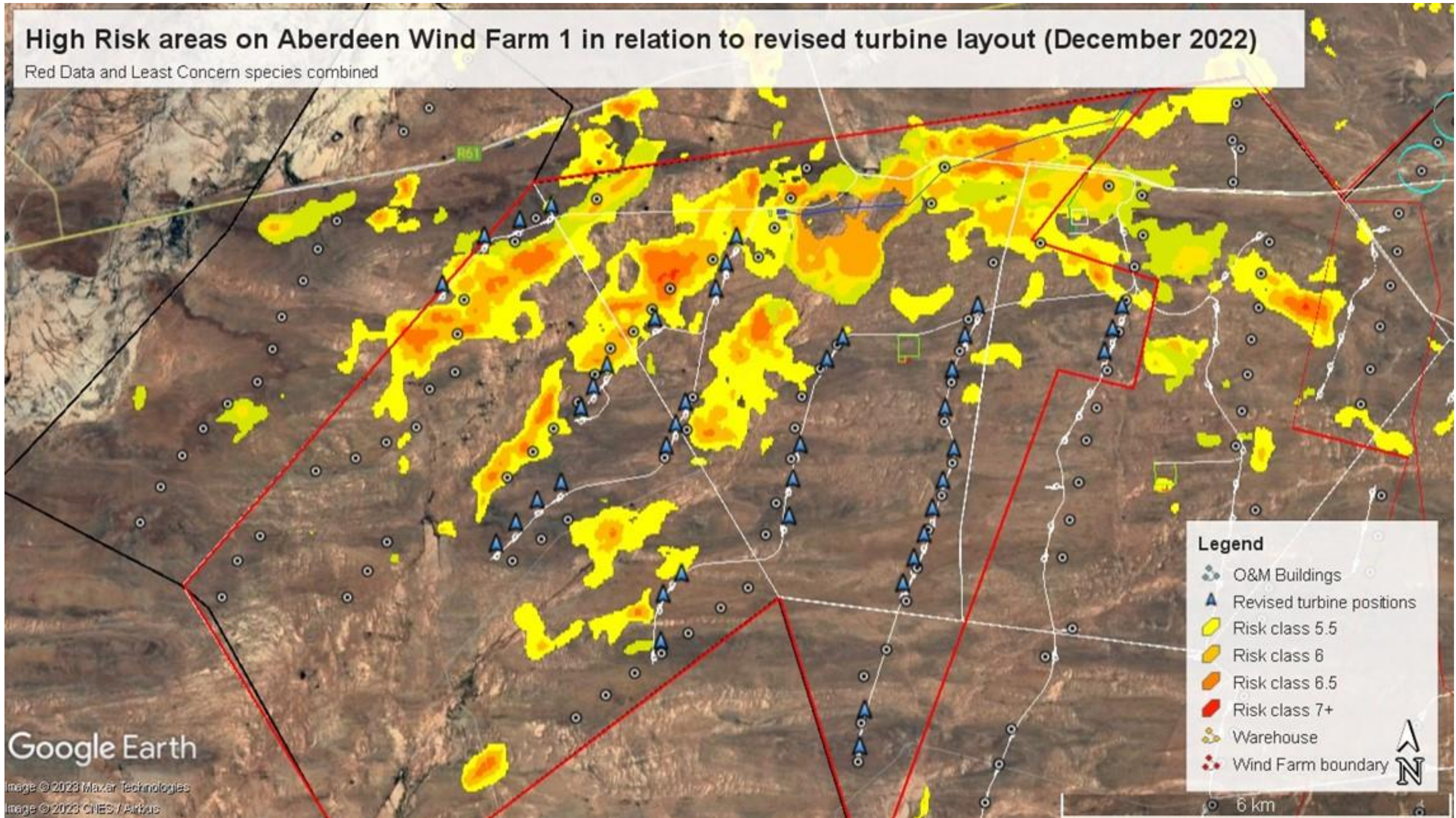
Layout - Roads & Transmission (MV)

- Site Boundary
- Roads & MV
- ▨ Moderate Sensitivity - Major Drainage (inclusive of 25m buffer)
- Moderate Sensitivity - Minor Drainage (inclusive of 12m buffer)



High Risk areas on Aberdeen Wind Farm 1 in relation to revised turbine layout (December 2022)

Red Data and Least Concern species combined



Google Earth

Image © 2023 Maxar Technologies
Image © 2023 CHES / Airbus

Legend

-  WEF1
-  Bat Monitoring Stations
-  Confirmed Bat Roost
-  Potential Bat Roost
- Infrastructure**
 -  Proposed Turbines
 -  Existing Roads
 -  New Roads
 -  Construction laydown area
 -  O&M Buildings
 -  Site Camp (including batching plant)
 -  Warehouse
 -  BESS
- Hydrology**
 -  Non-Perennial River
 -  Furrow
 -  Wind Pump
 -  Water Supply Point
 -  Reservoir
 -  Dam
 -  Non-perennial Pan



Map Produced by
Wooding Geospatial Solutions
Data source's:
Infrastructure Data - IWS, 2022
SANLC Data - 2020, Dept. Forest,
Fisheries & the Environment. Available:
https://legis.environment.gov.za/data_egis
Topographic Data - CDNGI, 2020. Available:
<http://www.cdngportal.co.za/cdngportal/>

Projection: Transverse Mercator
Datum: WGS84
Central Meridian: 23
Units: Meter
Date of Print: 1/20/2023





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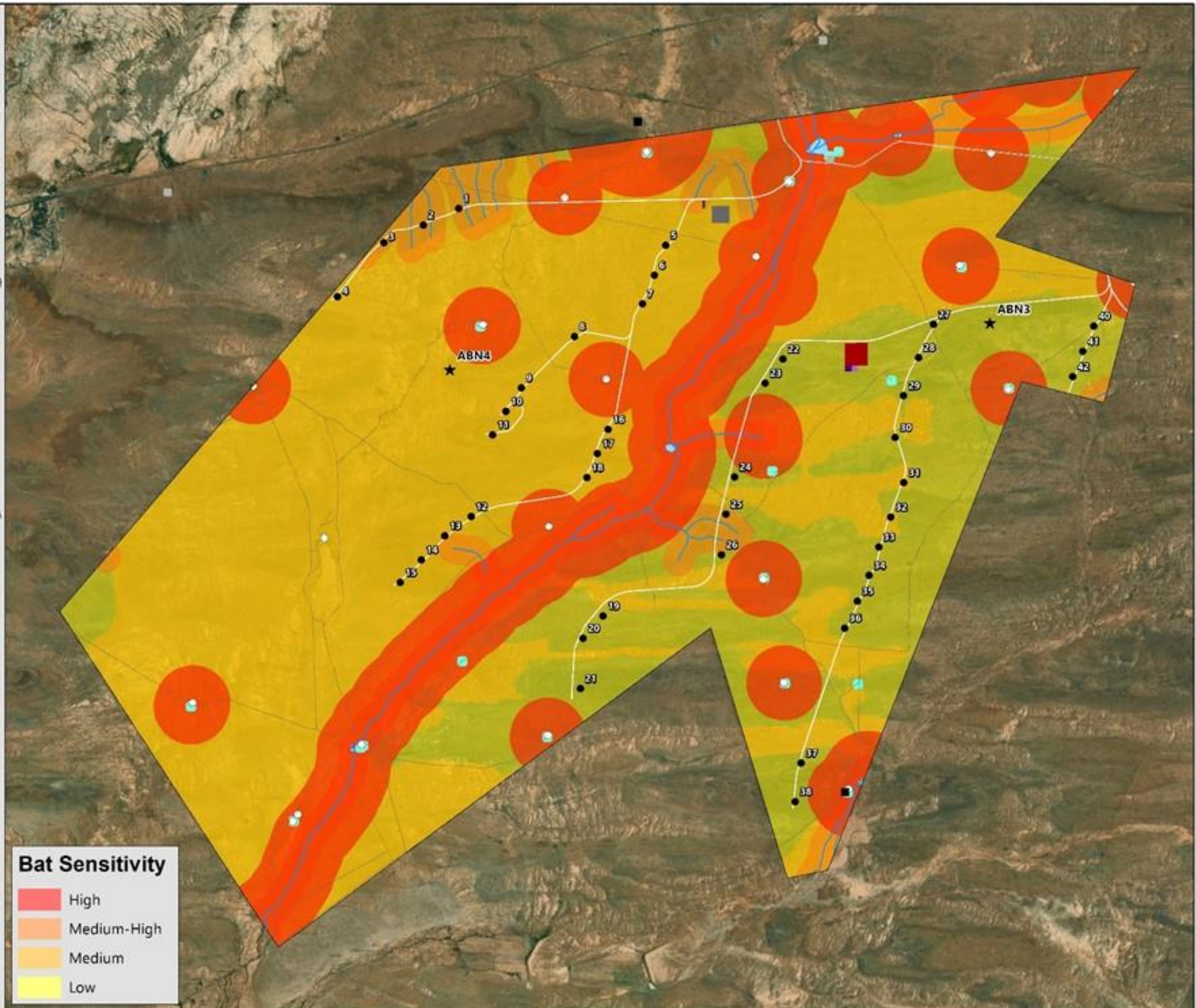
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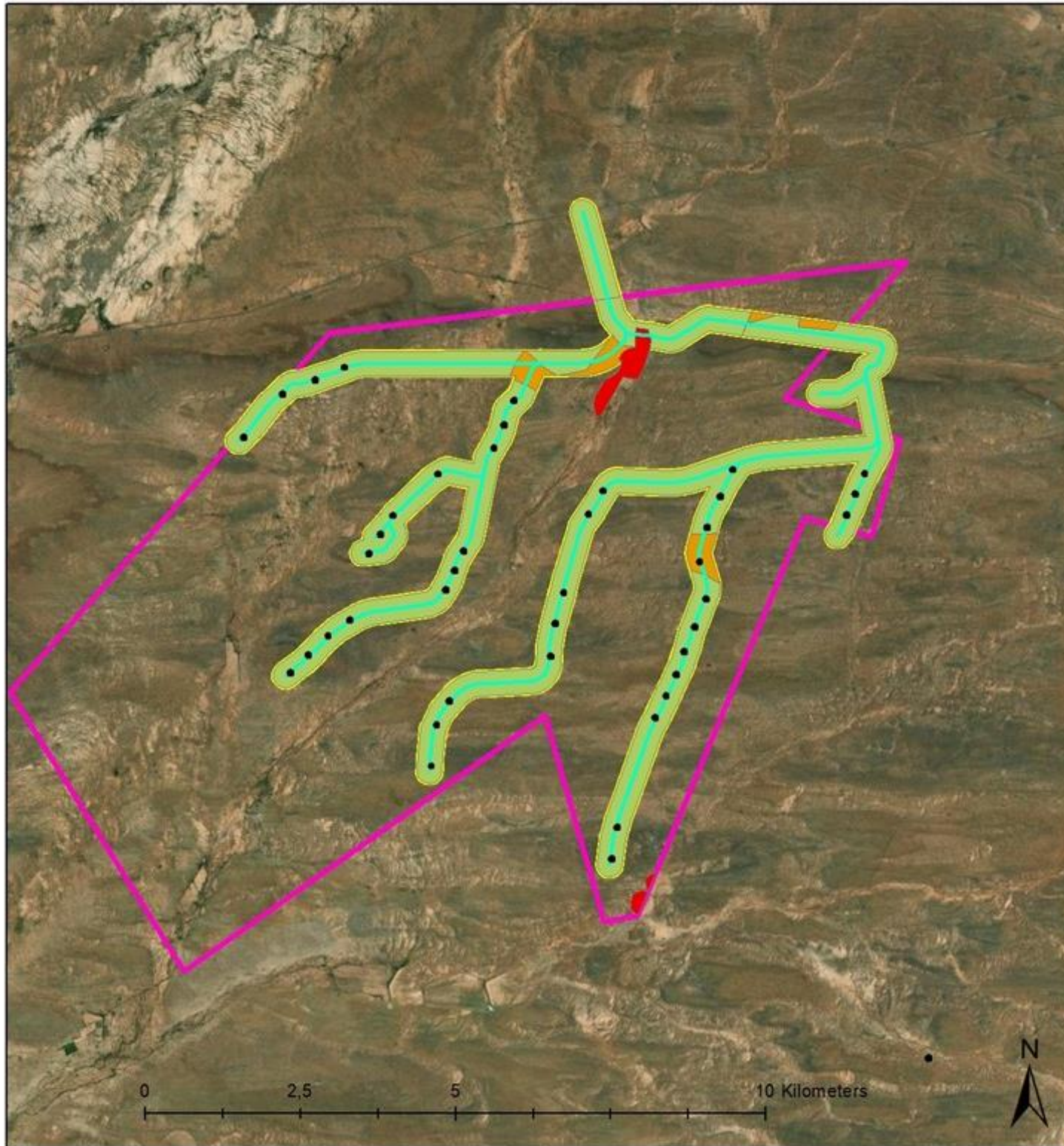


Mobile: +27 (0)79 313 3479
Email: info@iws-sa.co.za

Bat Sensitivity

-  High
-  Medium-High
-  Medium
-  Low

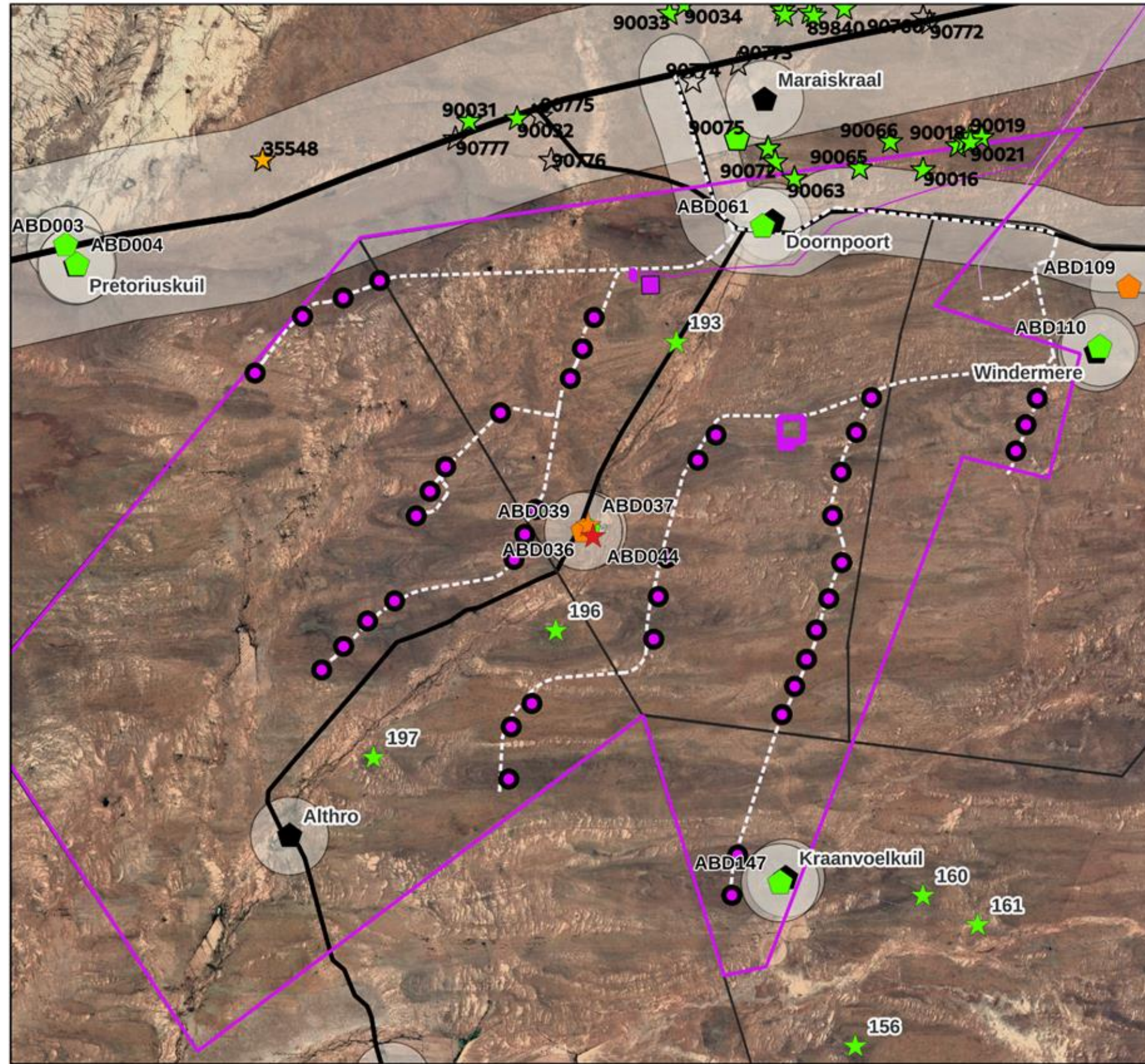




Legend

- | | |
|--|--|
|  Development area-9180 ha | Sensitivity |
|  Study area-1785 ha |  Low-1316.65 ha |
|  Wind Farm 1 Roads |  Medium-421.85 ha |
|  Turbines and hardstands |  High-49.71 ha |





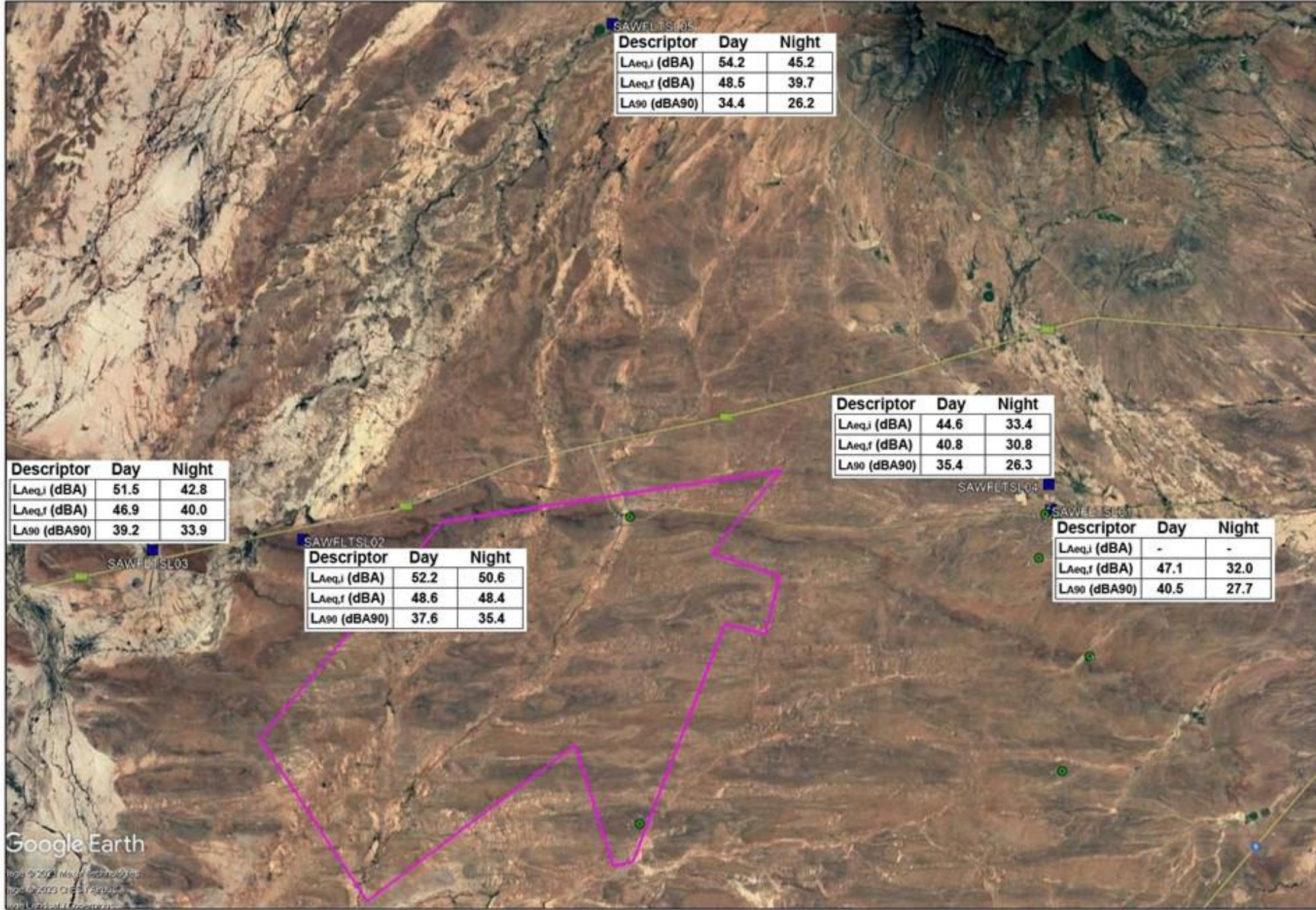
HERITAGE RESOURCES

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 1 Turbine Markers
- ⬢ Farms
- Scenic Routes
- Road
- - - Aberdeen WEF Access Roads
- 12 km 132 kV SC Twin Tern OHL
- 9 km 132 kV SC Twin Tern OHL
- WEF 1 Boundary
- WEF 1 Construction laydown area
- WEF 1 BESS
- Aberdeen Properties
- Recommended Buffers

GRADING

- | | |
|-----------------|-------------------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| WHITE | NCW |





Descriptor	Day	Night
LAeq,i (dBA)	54.2	45.2
LAeq,f (dBA)	48.5	39.7
LA90 (dBA90)	34.4	26.2

Descriptor	Day	Night
LAeq,i (dBA)	44.6	33.4
LAeq,f (dBA)	40.8	30.8
LA90 (dBA90)	35.4	26.3

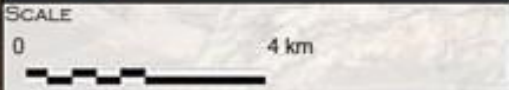
Descriptor	Day	Night
LAeq,i (dBA)	51.5	42.8
LAeq,f (dBA)	46.9	40.0
LA90 (dBA90)	39.2	33.9

Descriptor	Day	Night
LAeq,i (dBA)	52.2	50.6
LAeq,f (dBA)	48.6	48.4
LA90 (dBA90)	37.6	35.4

Descriptor	Day	Night
LAeq,i (dBA)	-	-
LAeq,f (dBA)	47.1	32.0
LA90 (dBA90)	40.5	27.7

LEGEND

- Local roads (Google Earth)
- Proposed Project Boundary
- Potential Noise-sensitive receptors
- Measurement Locations



TITLE
Aberdeen WF 1: Locations where ambient sound levels were measured

CLIENT
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 1 (Pty) Ltd

Enviro-Acoustic Research
726 Wiedrich st
Moreleta Park
0181
Tel: 012 004 362
Fax: 086 621 0292
email: mame@eaars.co.za



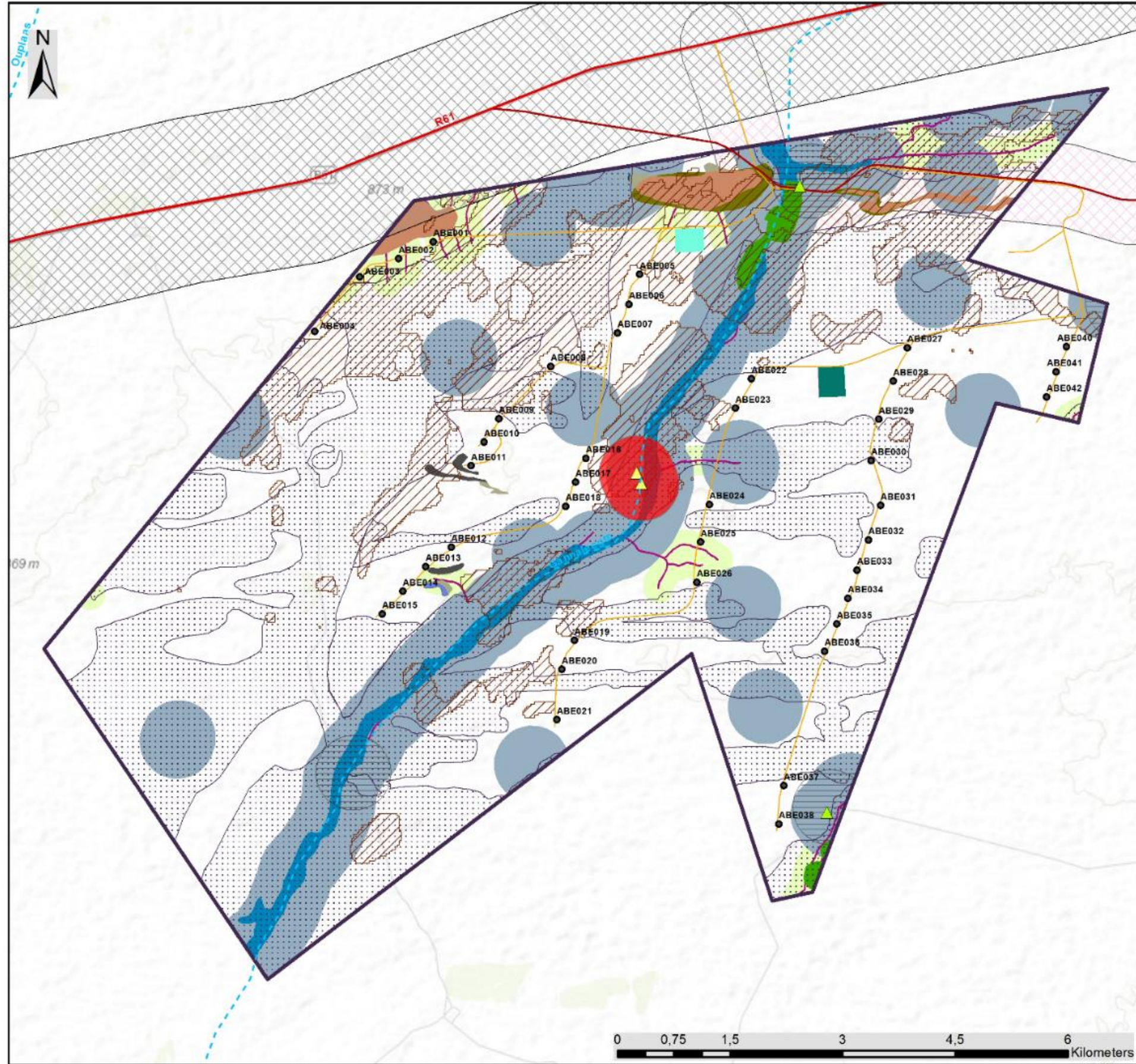
REFERENCES AND SOURCES
Google Earth



Google Earth

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8 km

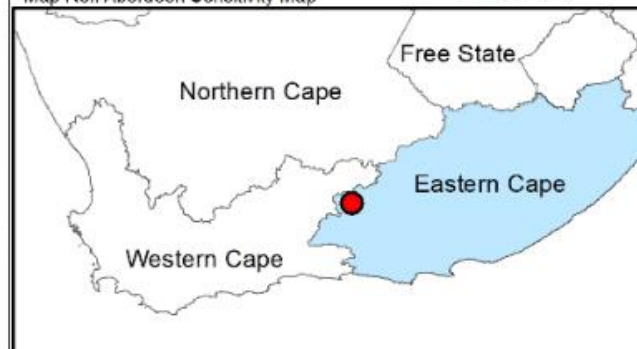


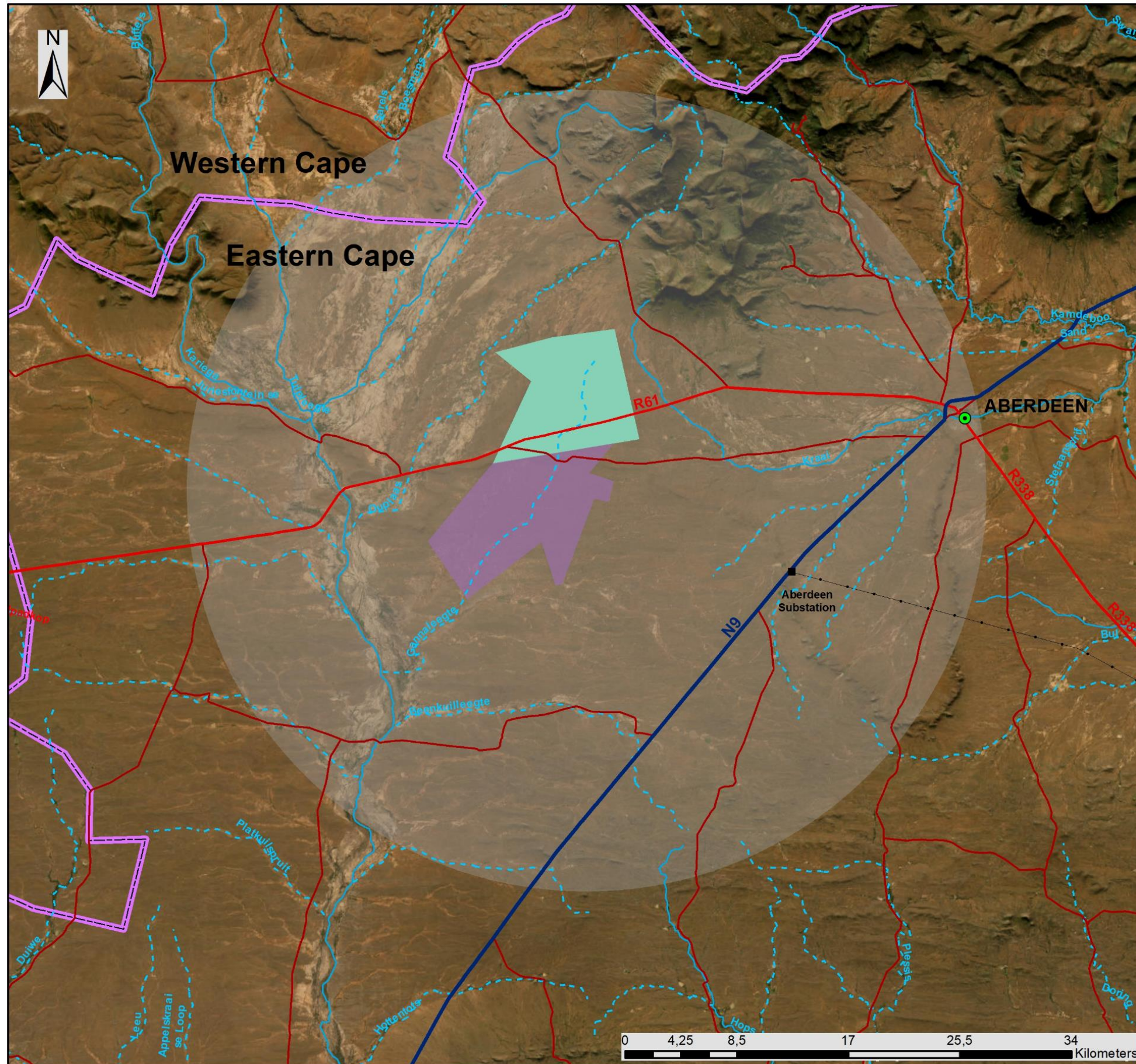
Aberdeen Wind Facility 1 Eastern Cape Province Sensitivity and Layout Map

Legend

- Regional Road
 - Main Road
 - Perennial River
 - Non Perennial River
 - Substation, BESS and O&M Buildings Hub
 - Warehouse, Laydown Area and Site Camp Hub
 - Turbines
 - Access & Internal Roads with Cabling
 - Aberdeen Wind Facility 1 Development Area
- ### Environmental Sensitivity
- ▲ Noise Sensitive Receptors
 - ▲ Heritage sites
 - 500m Artefacts Buffer (High Heritage Sensitivity)
 - Farm Werf Buffers (High Heritage Sensitivity)
 - R61/N9 Road 1km Buffer (High Heritage Sensitivity)
 - Historical route 500m Buffer (High Heritage Sensitivity)
 - Minor Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
 - Major Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
 - Soil (High Soil Sensitivity)
 - Avifauna (High Avifauna Sensitivity applicable to turbines)
 - Drainage (Very High Terrestrial Ecology Sensitivity)
 - Plains (Very High Terrestrial Ecology Sensitivity)
 - Ridge (Very High Terrestrial Ecology Sensitivity)
 - Rocky (Very High Terrestrial Ecology Sensitivity)
 - Sheetwash (Very High Terrestrial Ecology Sensitivity)
 - Stony Ground (Very High Terrestrial Ecology Sensitivity)
 - Minor slopes and drainage (High Terrestrial Ecology)
 - Bat (Medium-High Bat Sensitivity)
 - Bat (High Bat Sensitivity)

Scale: 1:70 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Sensitivity Map





Aberdeen Wind Facility 1 Eastern Cape Province

Cumulative Map

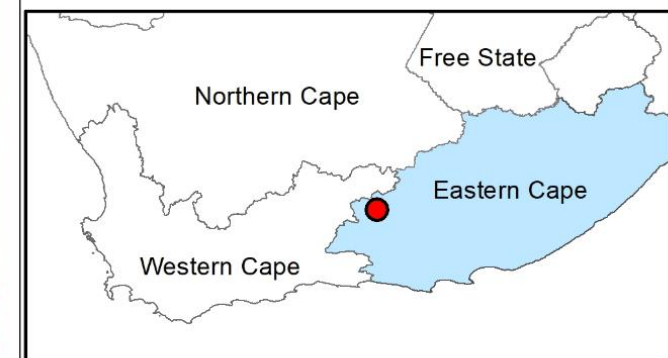
Legend

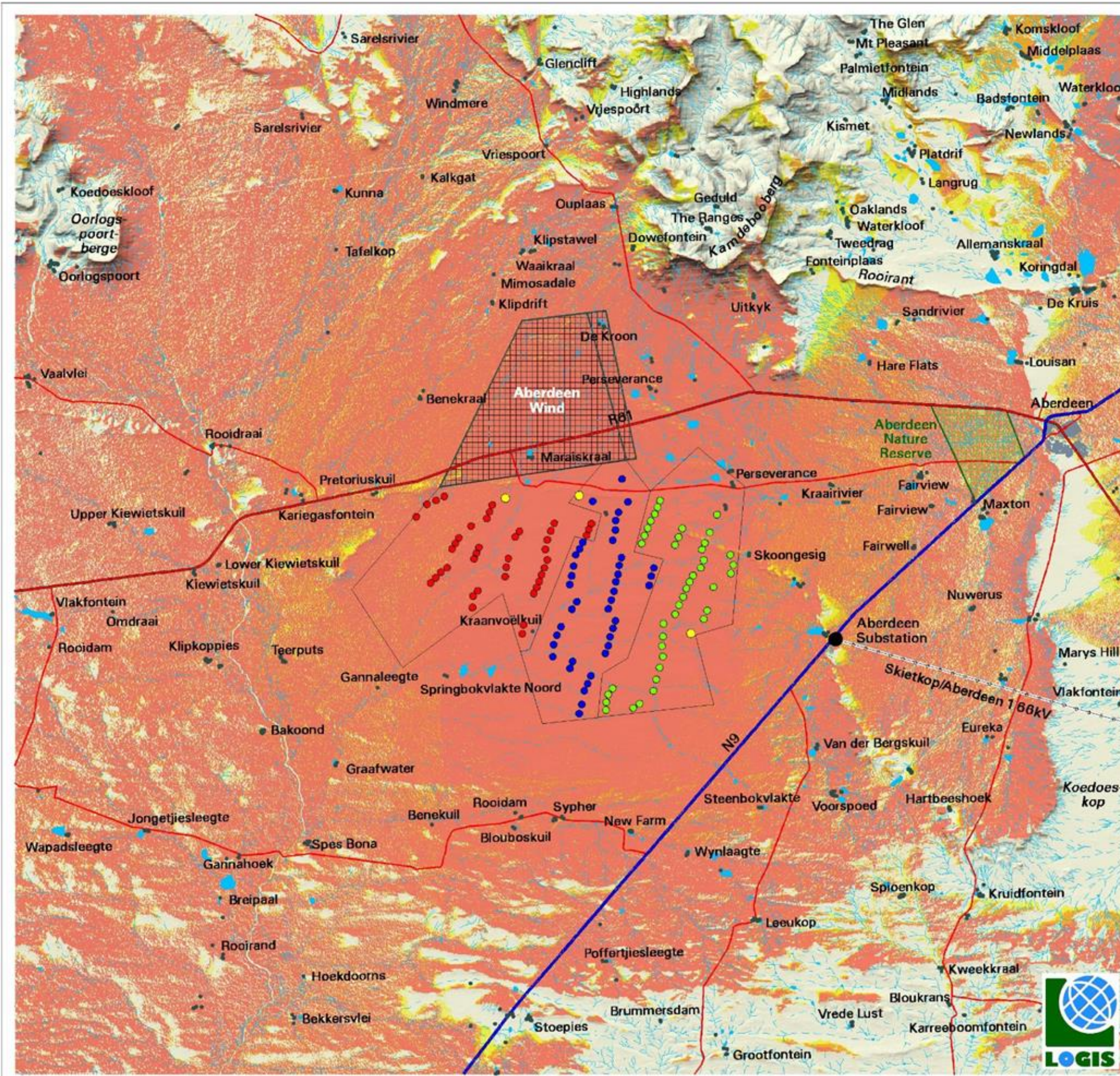
- Town
- Existing Substation
- Eskom Power Line (Existing)
- National Road
- Regional Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Facility 30km Radius
- Aberdeen Wind Facility 1 Development Area

Properties linked to Renewable Energy Facilities (REEA 2022 Q3)

- Eskom Aberdeen Wind

Scale: 1:400 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Cumulative Map





Proposed Aberdeen Wind Energy Facility Cluster

- LEGEND**
- National Road
 - Arterial/Main Road
 - Secondary Road
 - Power Line
 - Substation
 - Dam
 - Non-perennial River
 - Town/Built-up Area
 - Homestead/Farm Dwelling
- Aberdeen WEF Cluster**
- WEF 1 Turbines
 - WEF 2 Turbines
 - WEF 3 Turbines
 - Battery Energy Storage System (BESS)

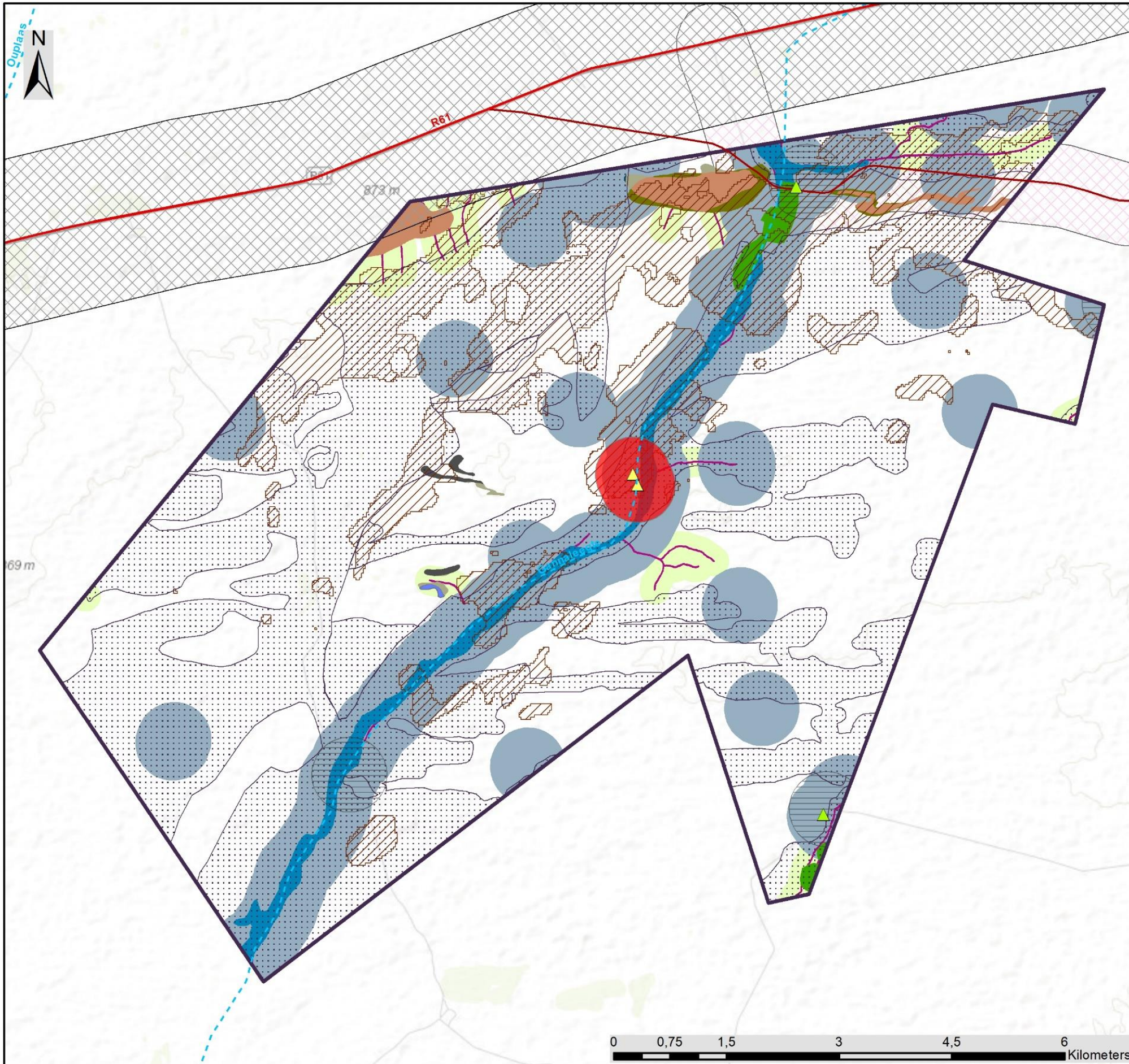
- CUMULATIVE VIEWSHED ANALYSIS**
- Not Visible
 - Turbines from only one WEF visible
 - Turbines from two WEFs visible
 - Turbines from three WEFs visible

Notes:
Visibility calculated at 300m above ground level

- RENEWABLE ENERGY PROJECTS**
- Approved

Source:
Department Forestry, Fisheries and the Environment (DFFE), Renewable Energy EIA Applications Database (REEA 2021 Q4)





Aberdeen Wind Facility 1 Eastern Cape Province Sensitivity Map

Legend

- Regional Road
- Main Road
- Perennial River
- Non Perennial River
- Aberdeen Wind Facility 1 Development Area

Environmental Sensitivity

- ▲ Noise Sensitive Receptors
- ▲ Heritage sites
- 500m Artefacts Buffer (High Heritage Sensitivity)
- Farm Werf Buffers (High Heritage Sensitivity)
- R61/N9 Road 1km Buffer (High Heritage Sensitivity)
- Historical route 500m Buffer (High Heritage Sensitivity)
- Minor Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Major Drainage (High Aquatic Sensitivity for all infrastructure except Roads and MV)
- Soil (High Soil Sensitivity)
- Avifauna (High Avifauna Sensitivity applicable to turbines)
- Drainage (Very High Terrestrial Ecology Sensitivity)
- Plains (Very High Terrestrial Ecology Sensitivity)
- Ridge (Very High Terrestrial Ecology Sensitivity)
- Rocky (Very High Terrestrial Ecology Sensitivity)
- Sheetwash (Very High Terrestrial Ecology Sensitivity)
- Stony Ground (Very High Terrestrial Ecology Sensitivity)
- Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)

Scale: 1:70 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Sensitivity Map

savannah
environmental

