

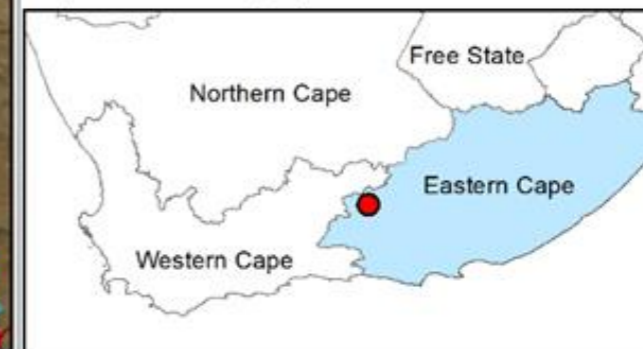
Aberdeen 3 Wind Facility Eastern Cape Province

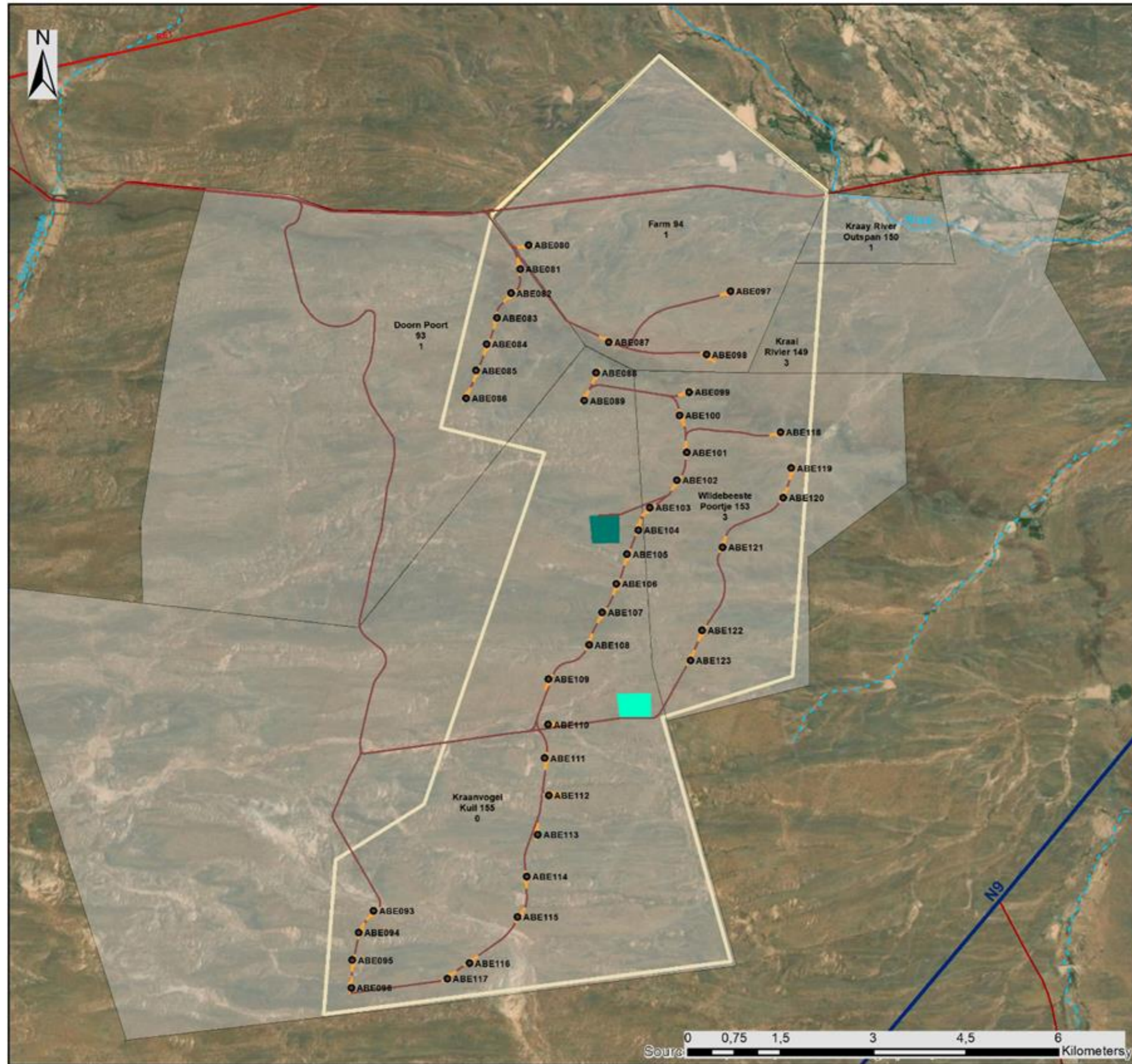
Locality Map

Legend

- Town
- Existing Substation
- · — Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 3 Development Area
- Project Site

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





Aberdeen Wind Facility 3 Eastern Cape Province

Layout Map

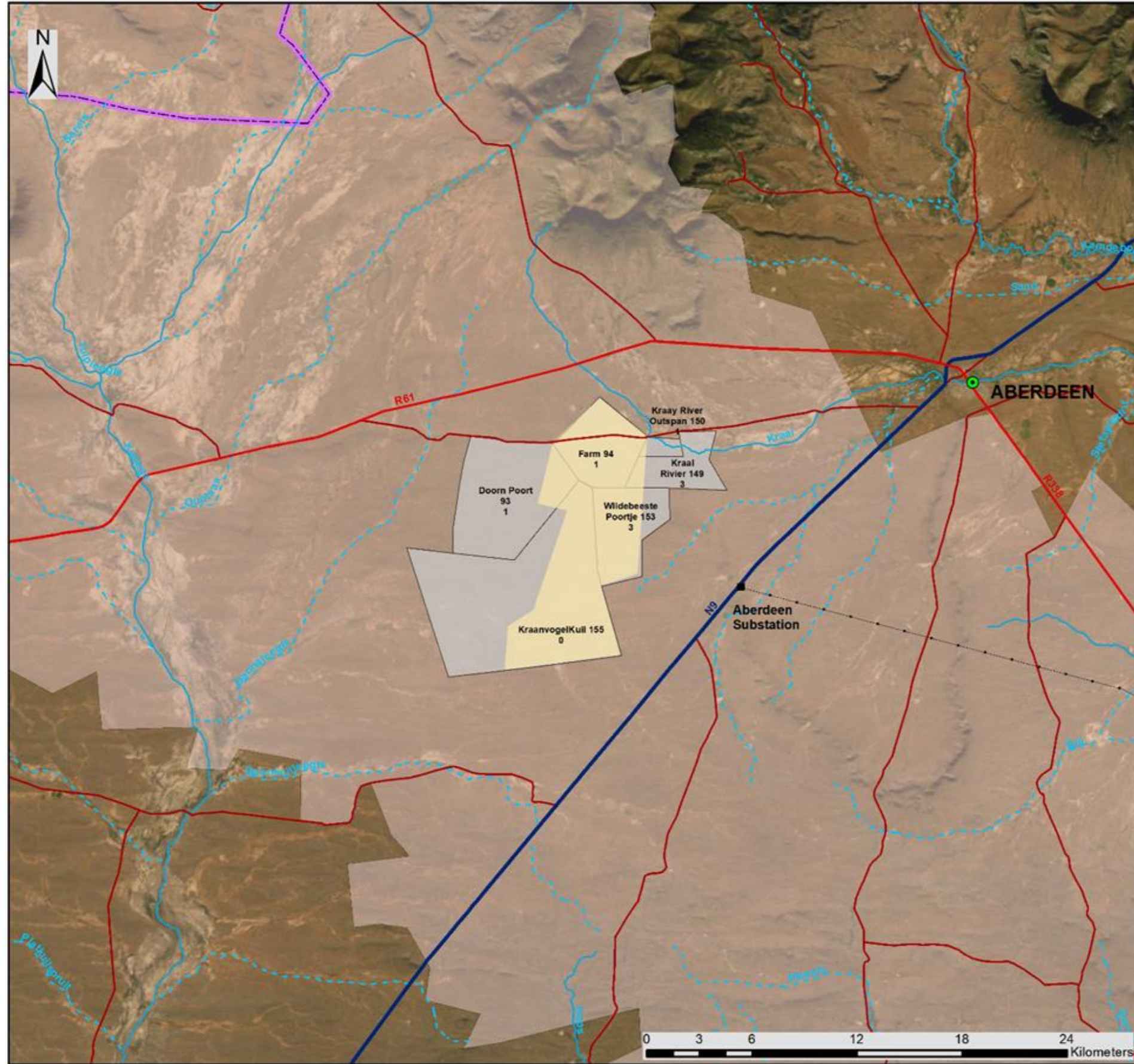
Legend

- Town
 - Regional Road
 - National Road
 - Main Road
 - Perennial River
 - - - Non Perennial River
 - Affected Farm Portions
- ### Proposed Development
- Turbines
 - Turbine Hardstands
 - Access & Internal Roads
 - Substation, BESS and O&M Buildings Hub
 - Warehouse, Laydown and Site Camp Hub
 - Aberdeen Wind Facility 3

Scale: 1:85 000
Projection: GCS_WGS_1984
Map Ref: Aberdeen Layout Map

savannah
environmental





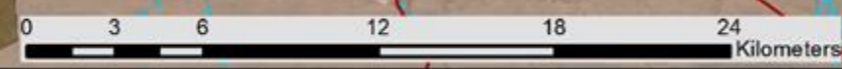
Aberdeen 3 Wind Facility Eastern Cape Province

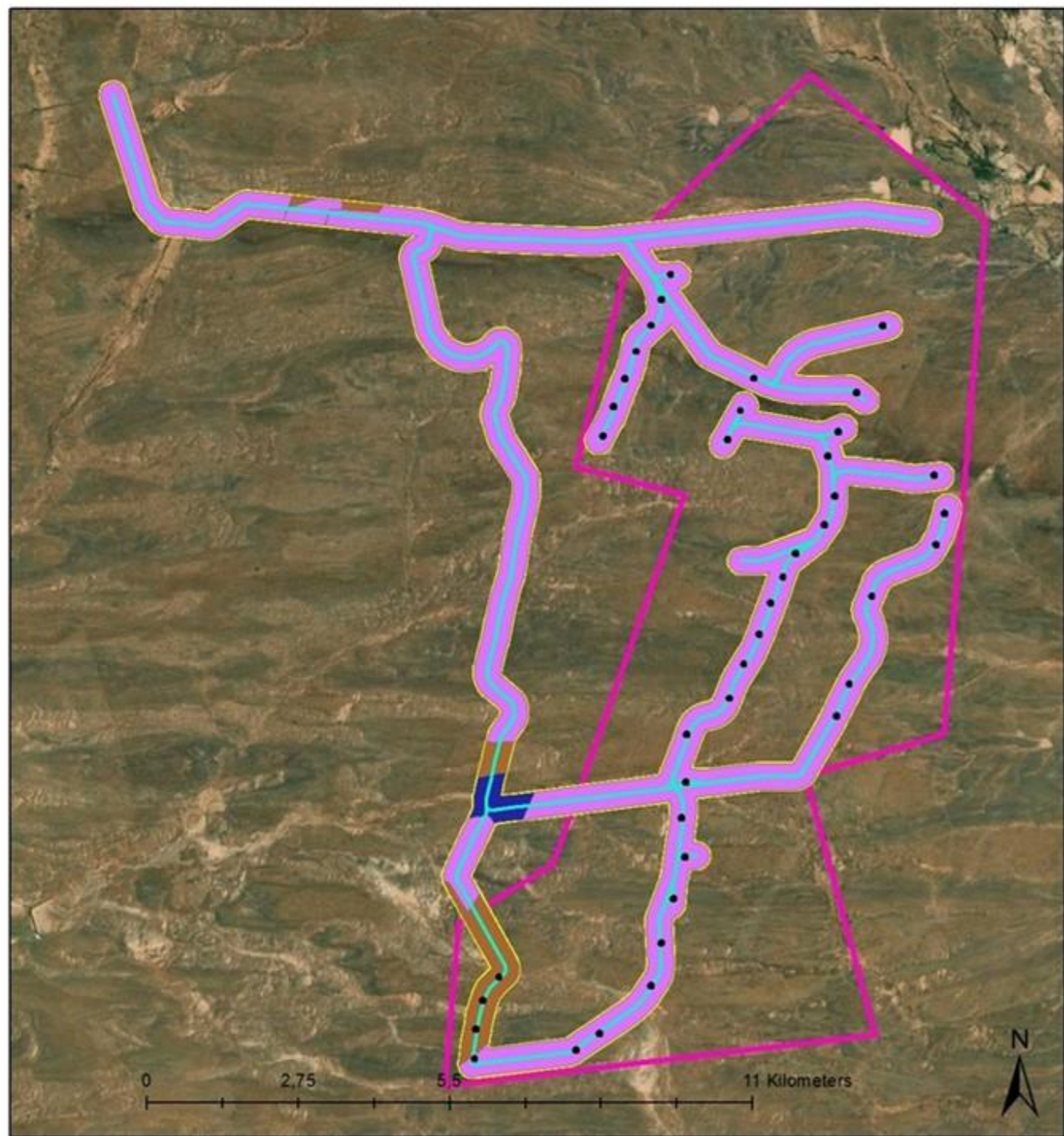
REDZ and Locality Map

Legend

- Town
- Existing Substation
- Eskom Power Line (Existing)
- Regional Road
- National Road
- Main Road
- Perennial River
- - - Non Perennial River
- Provincial Boundary
- Aberdeen Wind Facility 3 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 3 Roads |  Glenrosa-2442.5 ha |
|  Study area-2626 ha |  Nkonkoni-138.6 ha |
|  Development area-7225 ha |  Swartland-45.1 ha |

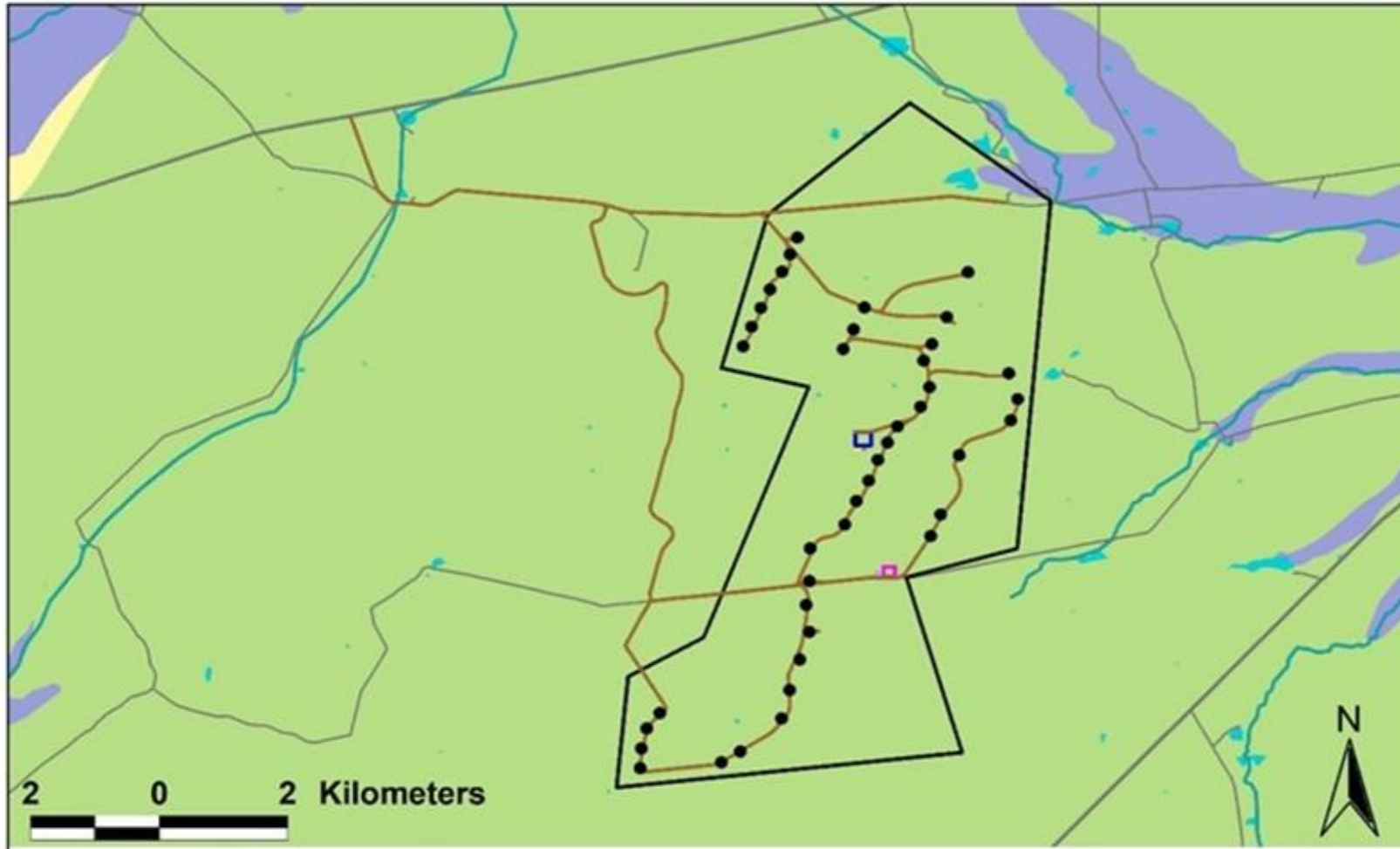




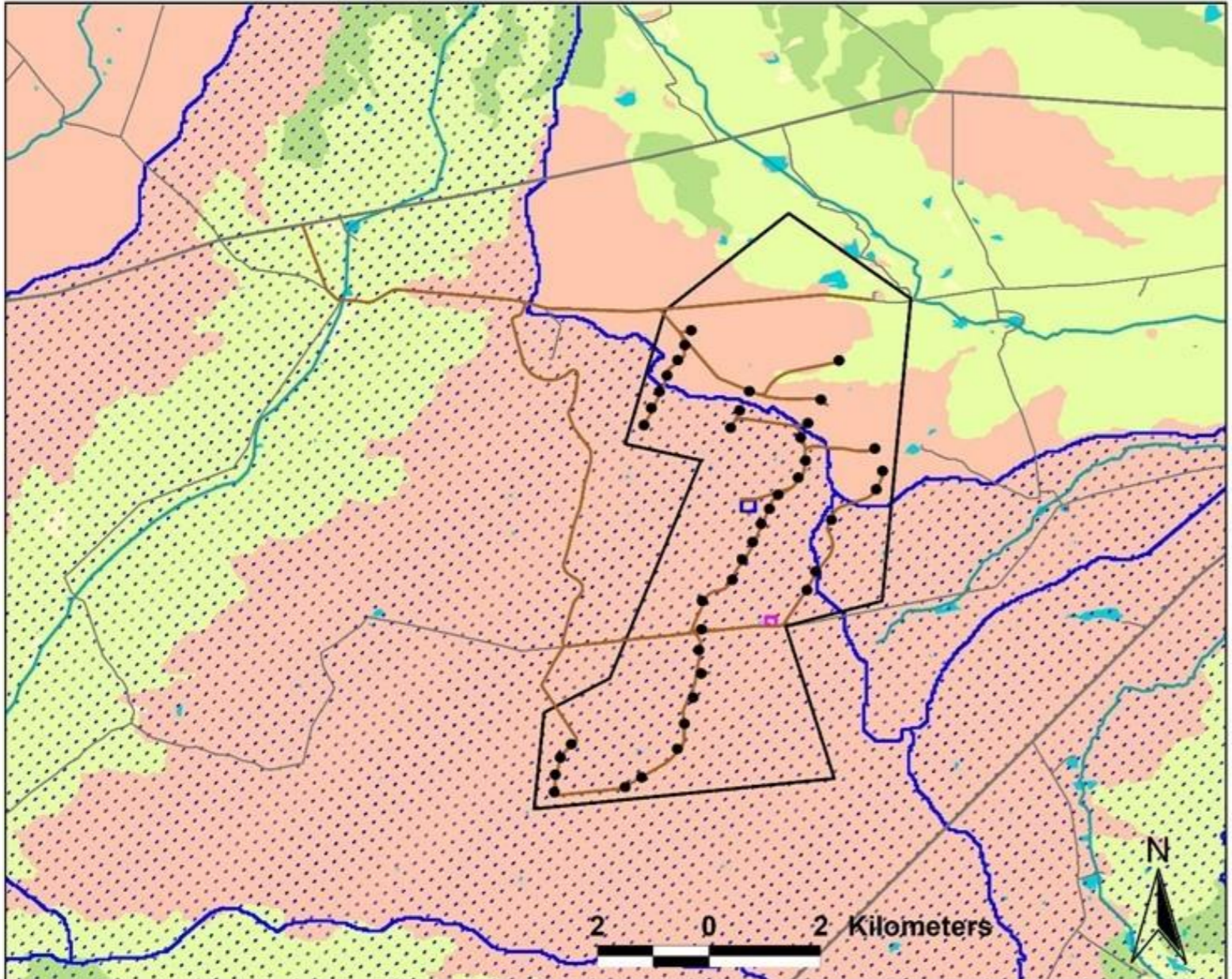
Legend

- | | |
|--|---|
|  Turbines and hardstands | Land capability |
|  Wind Farm 3 Roads |  Low (5)-2487.7 ha |
|  Study area-2626 ha |  Low-Moderate (7)-138.6 ha |
|  Development area-7225 ha | |





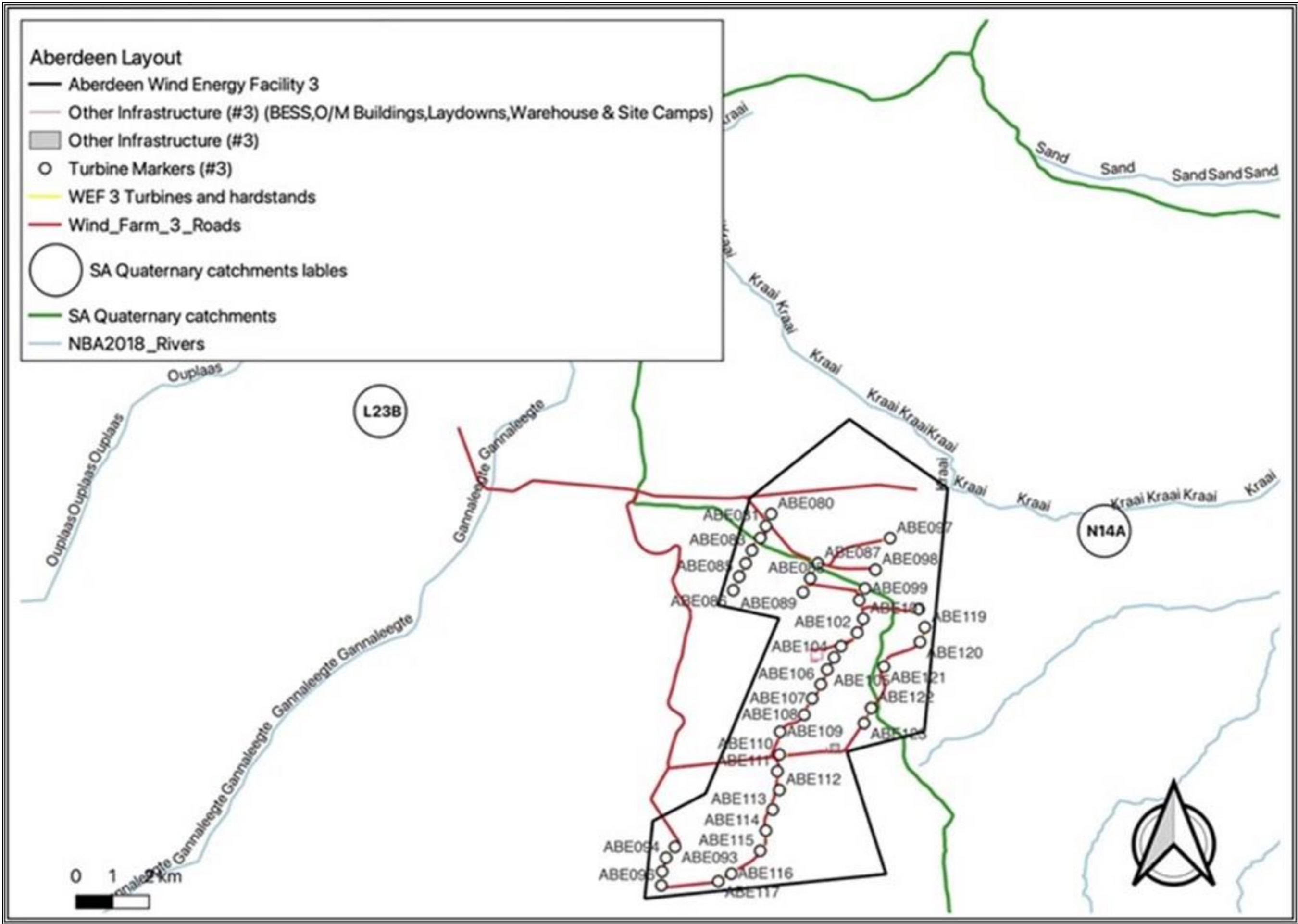
<ul style="list-style-type: none"> Aberdeen WEF 3 Boundary Aberdeen WEF 3 Turbines Aberdeen WEF 3 Roads 	<p>Vegetation Types</p> <ul style="list-style-type: none"> Eastern Lower Karoo Eastern Upper Karoo Gamka Karoo Southern Karoo Riviere 	<p>Aberdeen WEF 3</p>
<p>Aberdeen WEF 3 Infrastructure</p> <ul style="list-style-type: none"> BESS O&M Buildings Construction laydown area Site Camp Warehouse 	<ul style="list-style-type: none"> NFEPA Rivers NFEPA Wetlands Major Roads Minor Roads 	<p>Vegetation Types</p>
		<p>3Foxes Biodiversity Solutions</p>



<ul style="list-style-type: none"> Aberdeen WEF 3 Boundary Aberdeen WEF 3 Turbines Aberdeen WEF 3 Roads 	<ul style="list-style-type: none"> EC - CBAs CBA 1 CBA 2 ESA 1 ESA 2 Other Areas 	<p>Aberdeen WEF 3</p> <hr/> <p>Critical Biodiversity Areas</p> <hr/> <p>3Foxes Biodiversity Solutions</p>
<ul style="list-style-type: none"> Aberdeen WEF 3 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 3
- Other Infrastructure (#3) (BESS, O/M Buildings, Laydowns, Warehouse & Site Camps)
- Other Infrastructure (#3)
- Turbine Markers (#3)
- WEF 3 Turbines and hardstands
- Wind_Farm_3_Roads
- SA Quaternary catchments labels
- SA Quaternary catchments
- NBA2018_Rivers

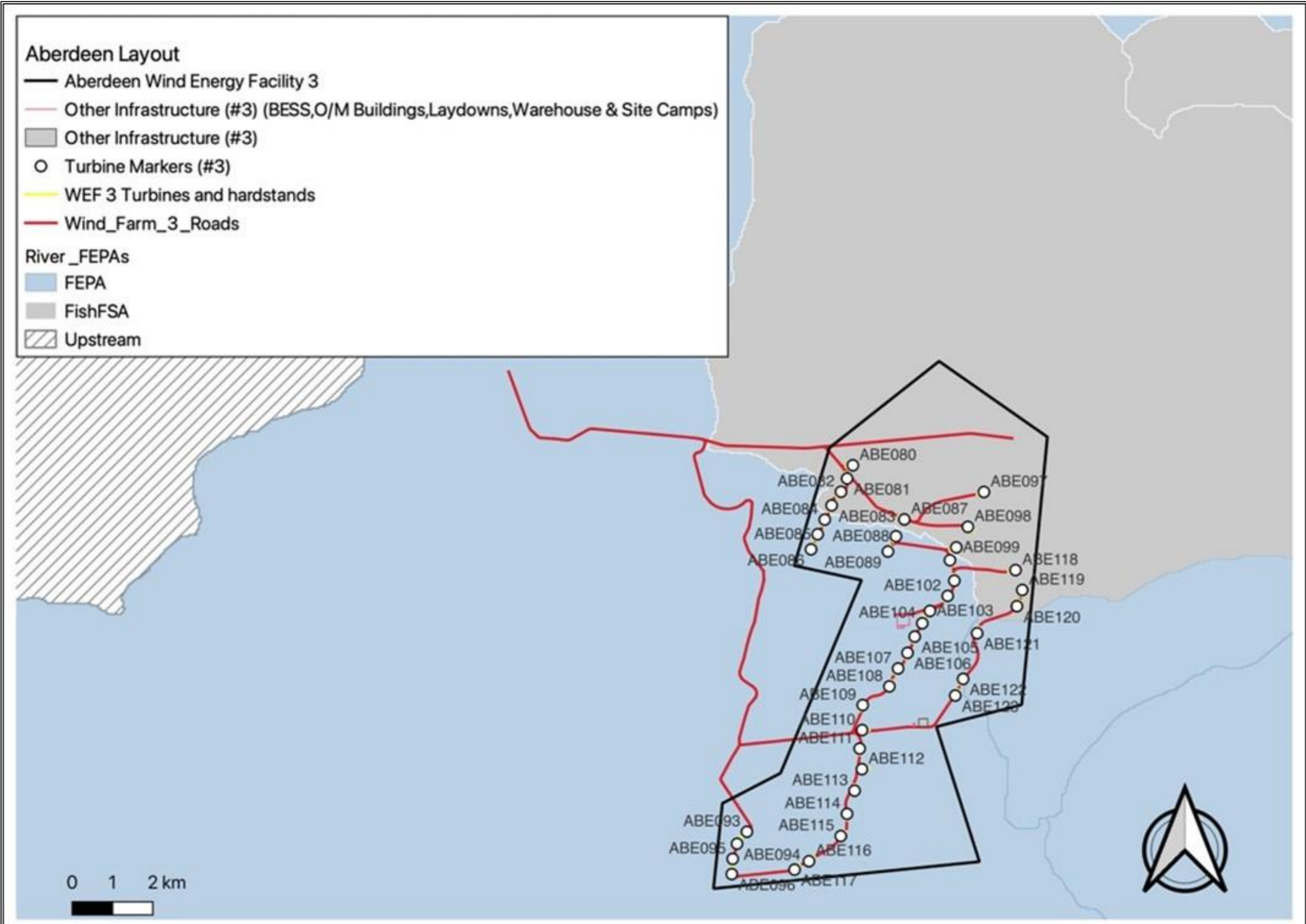


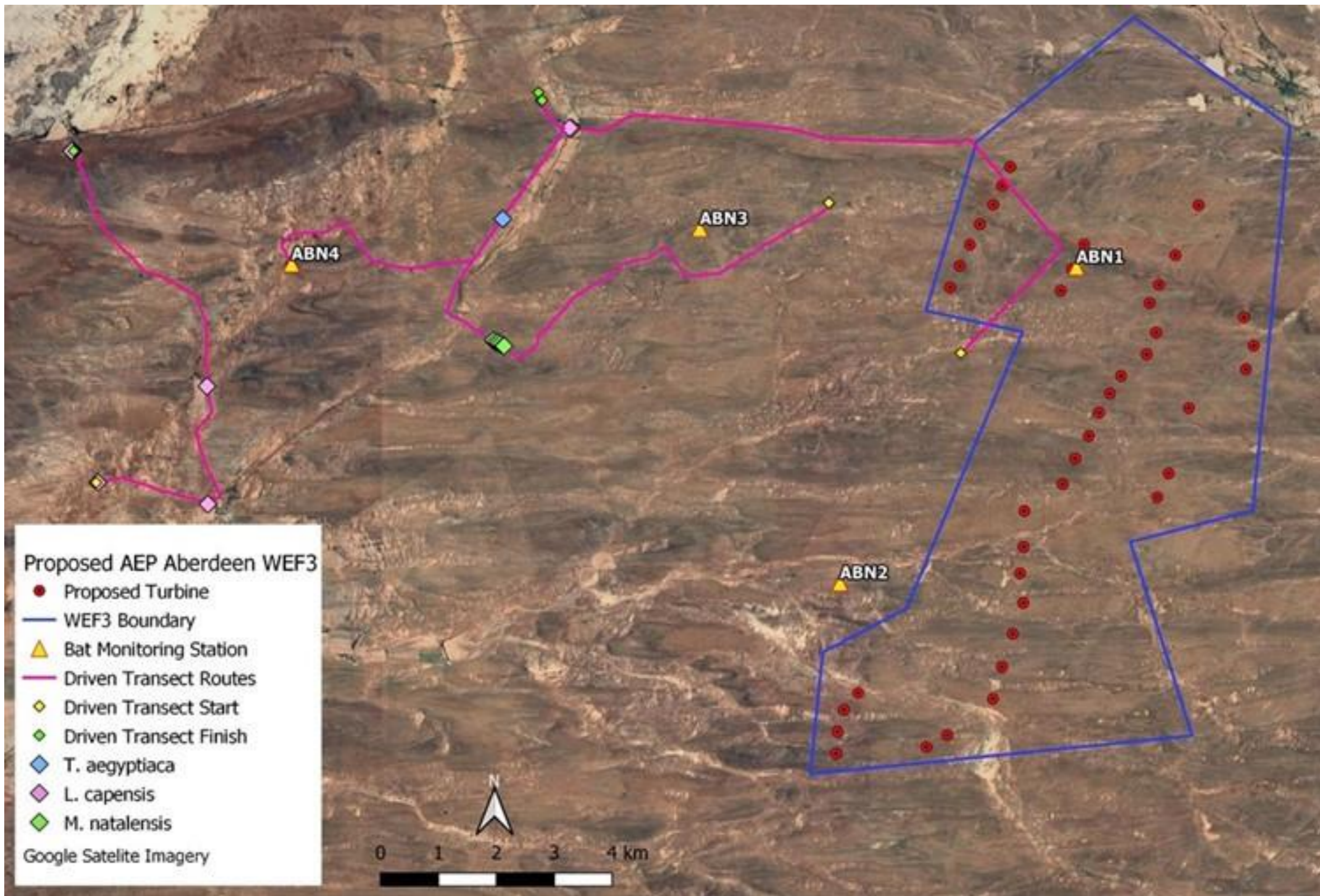
Aberdeen Layout

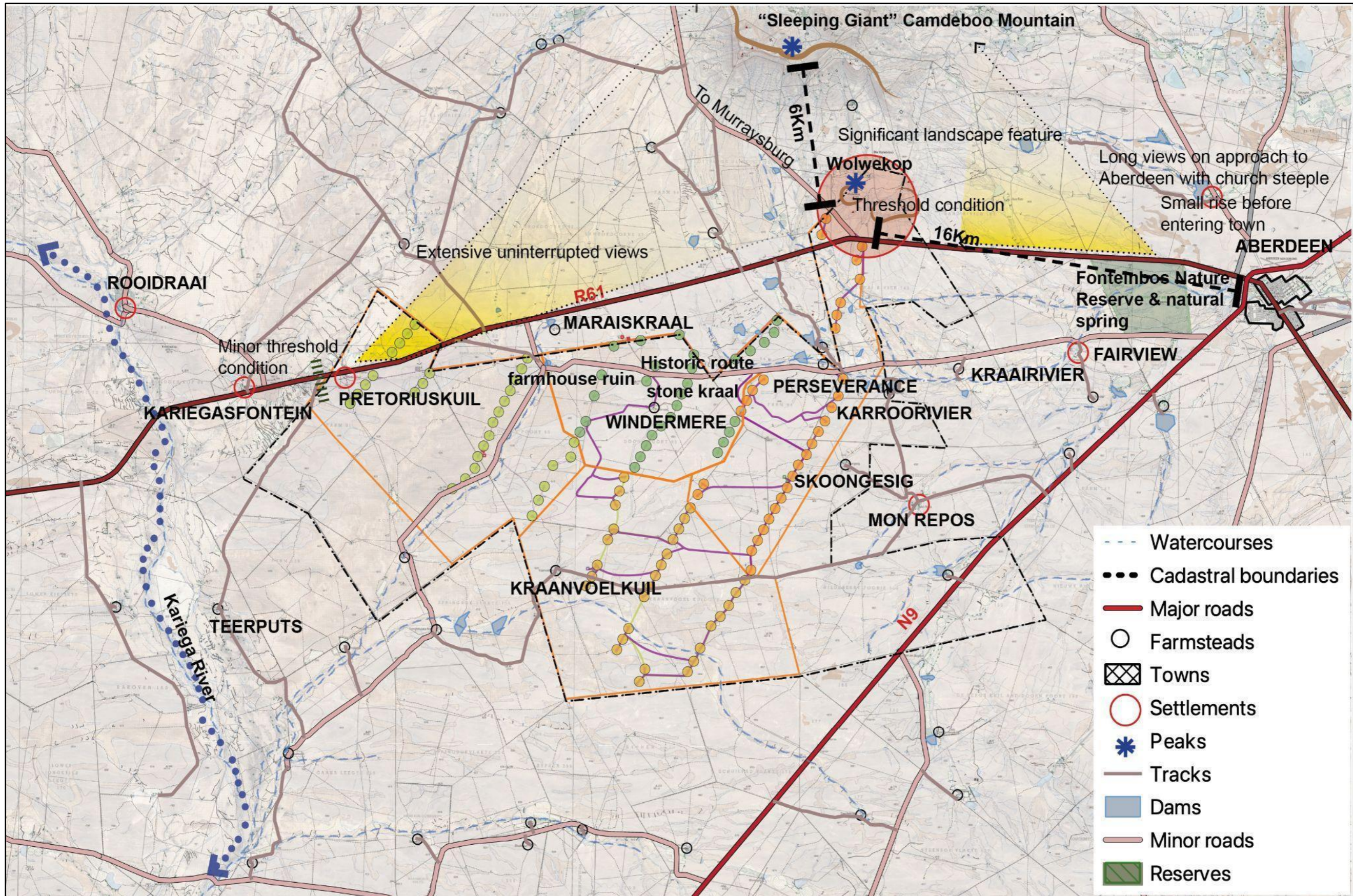
- Aberdeen Wind Energy Facility 3
- Other Infrastructure (#3) (BESS, O/M Buildings, Laydowns, Warehouse & Site Camps)
- Other Infrastructure (#3)
- Turbine Markers (#3)
- WEF 3 Turbines and hardstands
- Wind_Farm_3_Roads

River_FEPAs

- FEPA
- FishFSA
- ▨ Upstream







"Sleeping Giant" Camdeboo Mountain

6km

Significant landscape feature

Wolwekop

Threshold condition

16km

Long views on approach to Aberdeen with church steeple

Small rise before entering town

ABERDEEN

Fonteinbos Nature Reserve & natural spring

FAIRVIEW

MARAIKRAAL

Historic route

farmhouse ruin

stone kraal

PERSEVERANCE

KRAAIRIVIER

Minor threshold condition

KARIEGASFONTEIN

PRETORIUSKUIL

WINDERMERE

SKOONGESIG

MON REPOS

KRAANVOELKUIL

TEERPUTS

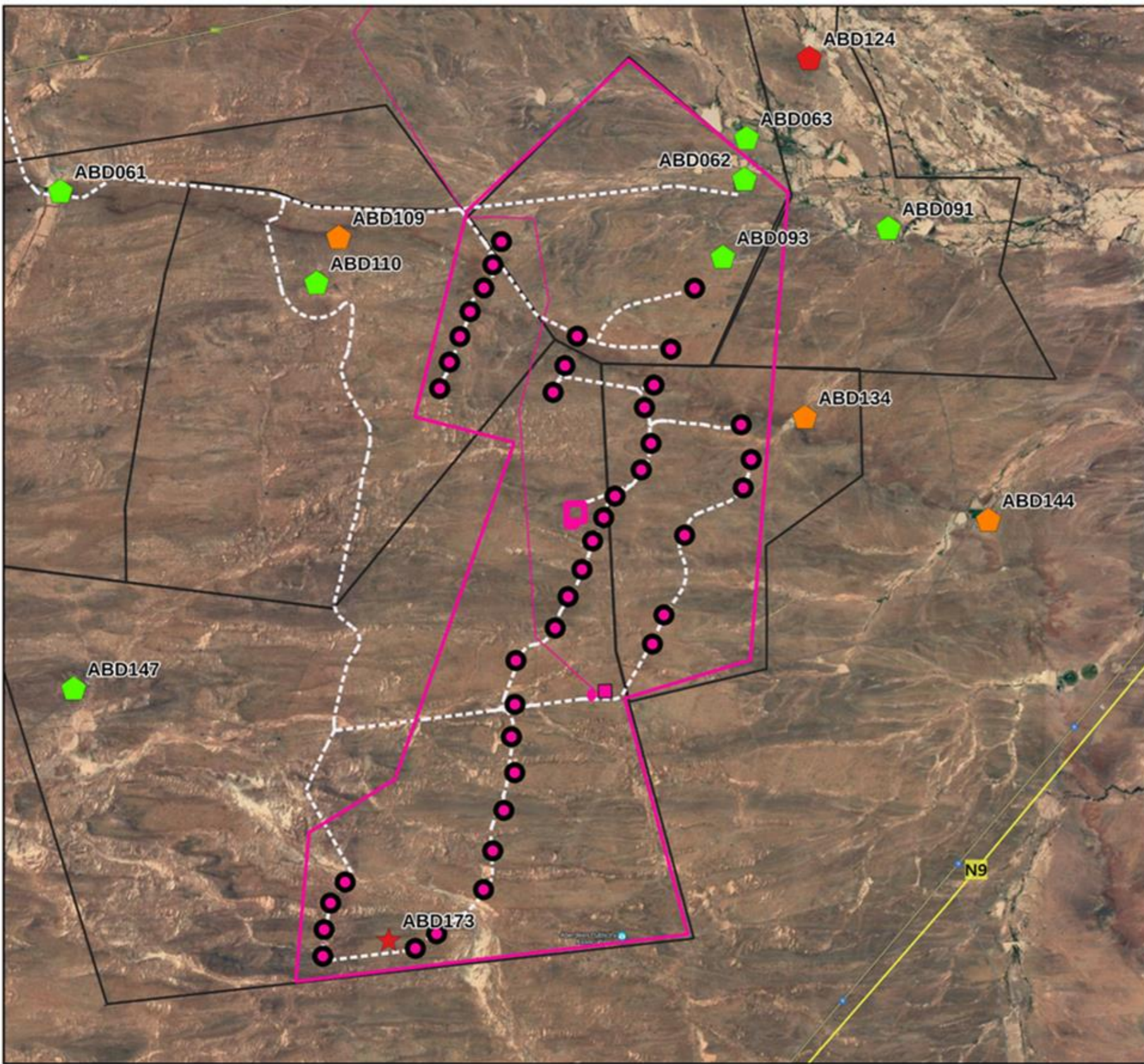
Kariega River

To Murraysburg

R61

N9

- - - Watercourses
- Cadastral boundaries
- Major roads
- Farmsteads
- ▣ Towns
- Settlements
- ★ Peaks
- Tracks
- Dams
- Minor roads
- Reserves

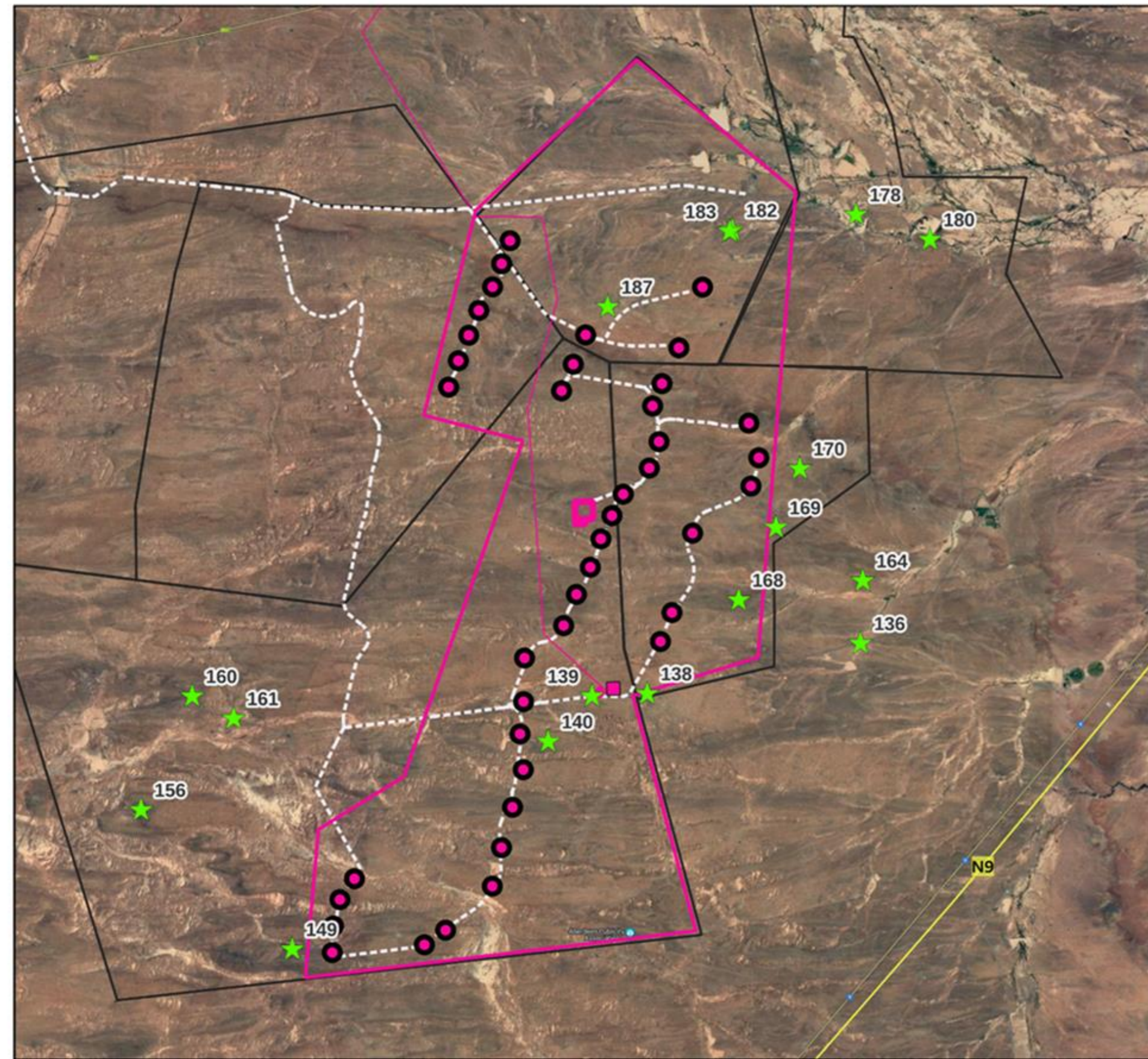


- HERITAGE RESOURCES**
- ☆ Arch, Bat, Geo, Met, Pal, Und
 - ⬠ Structures, Monuments & Memorials
 - Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
 - △ Conservation Area, Cultural Landscape
 - WEF 3 Turbine Markers
 - ⬠ Farms
 - Road
 - Scenic Routes
 - 18 km 132 kV SC Twin Tern OHL
 - WEF 3 Boundary
 - WEF 3 Construction
 - WEF 3 BESS
 - Aberdeen Properties
 - Recommended Buffers

GRADING

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





HERITAGE RESOURCES

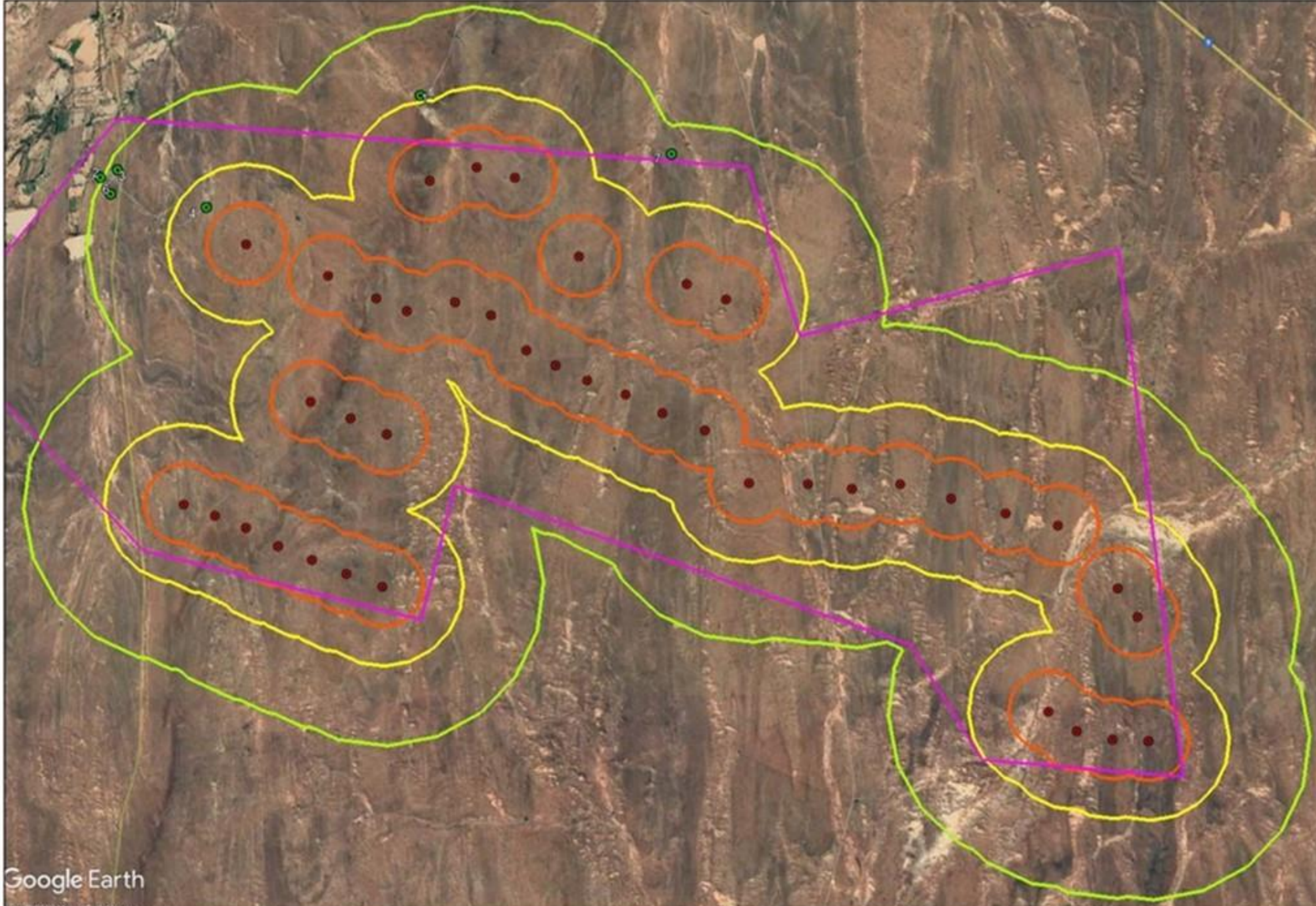
- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬠ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 3 Turbine Markers
- ⬠ Farms
- Road
- Scenic Routes
- 18 km 132 kV SC Twin Tern OHL
- WEF 3 Boundary
- WEF 3 Construction
- WEF 3 BESS
- Aberdeen Properties
- Recommended Buffers




GRADING

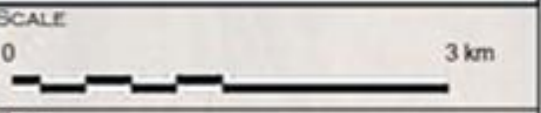
- | | |
|-----------------|-------------------|
| DARK RED | I & II |
| RED | IIIa |
| ORANGE | IIIb |
| GREEN | IIIc |
| WHITE | NCW |



CTS HERITAGE



- LEGEND**
-  - Local roads (Google Earth)
 -  - Project Focus Area
 -  - 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 3: Closest identified NSR and buffer areas

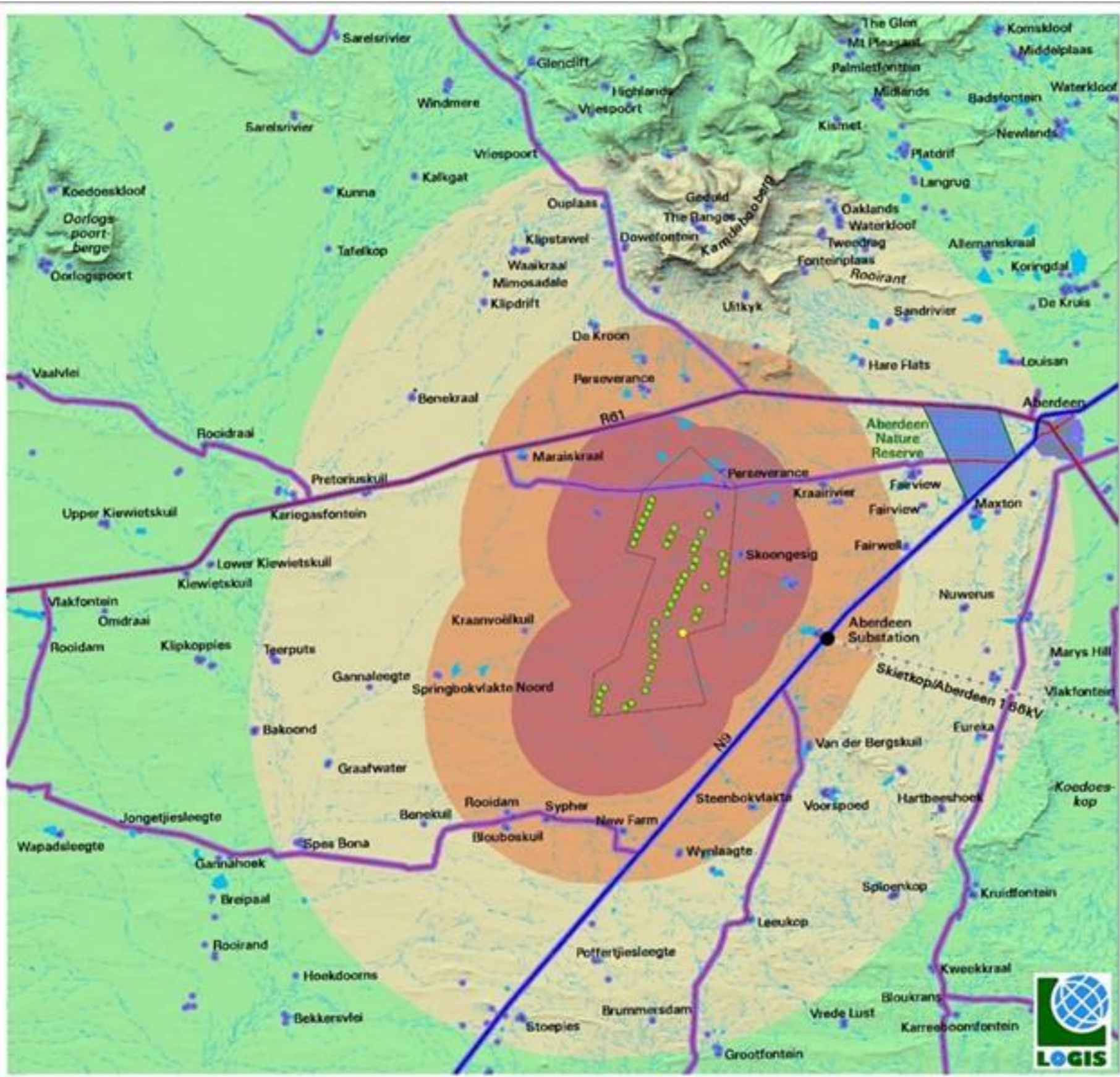
CLIENT
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 3 (Pty) Ltd

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



REFERENCES AND SOURCES
 Google Earth





Proposed Aberdeen Wind Energy Facility Cluster

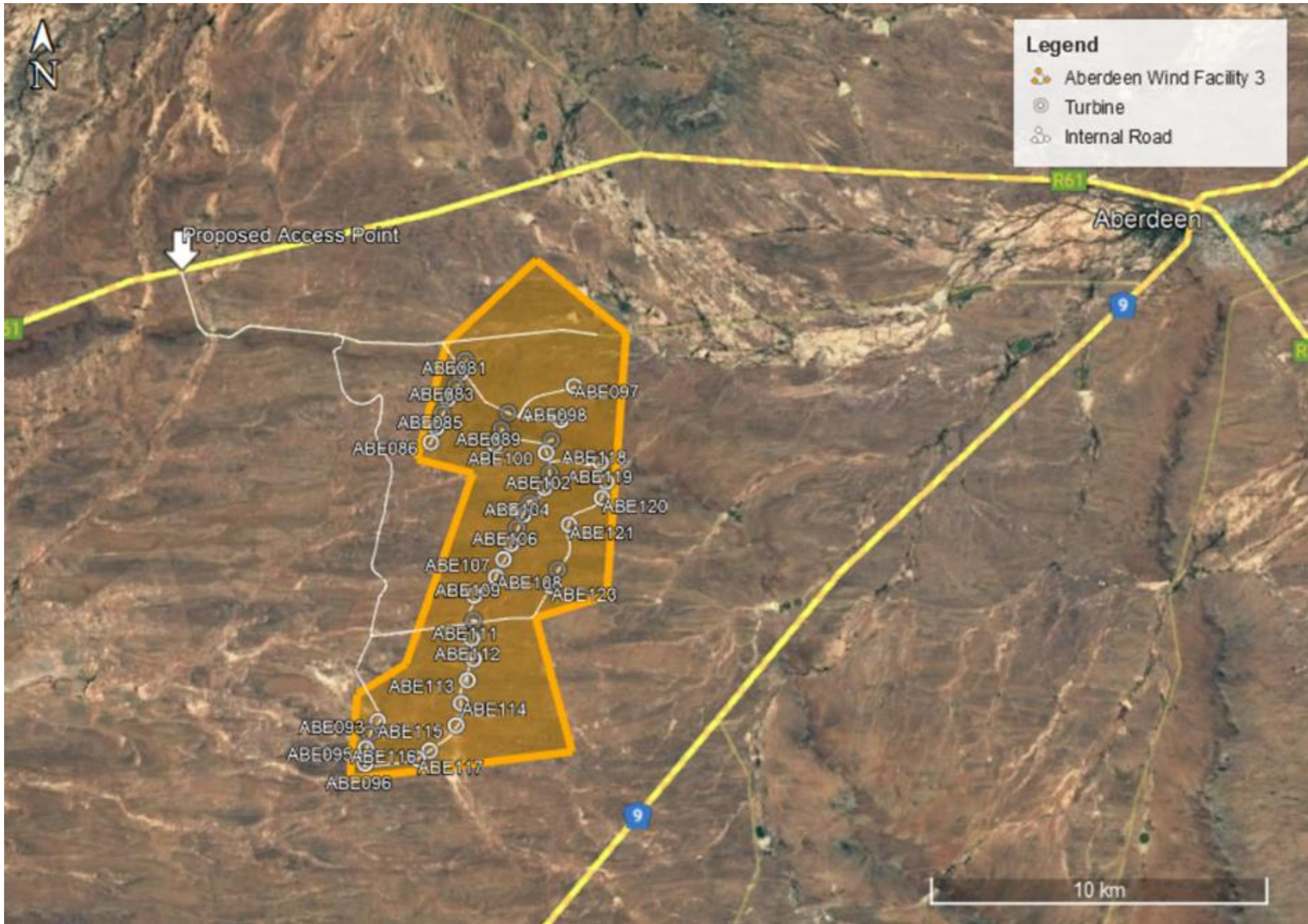
- LEGEND**
- National Road
 - Arterial/Main Road
 - Secondary Road
 - Power Line
 - Substation
 - Dam
 - Non-perennial River
 - Town/Built-up Area
 - Homestead/Farm Dwelling

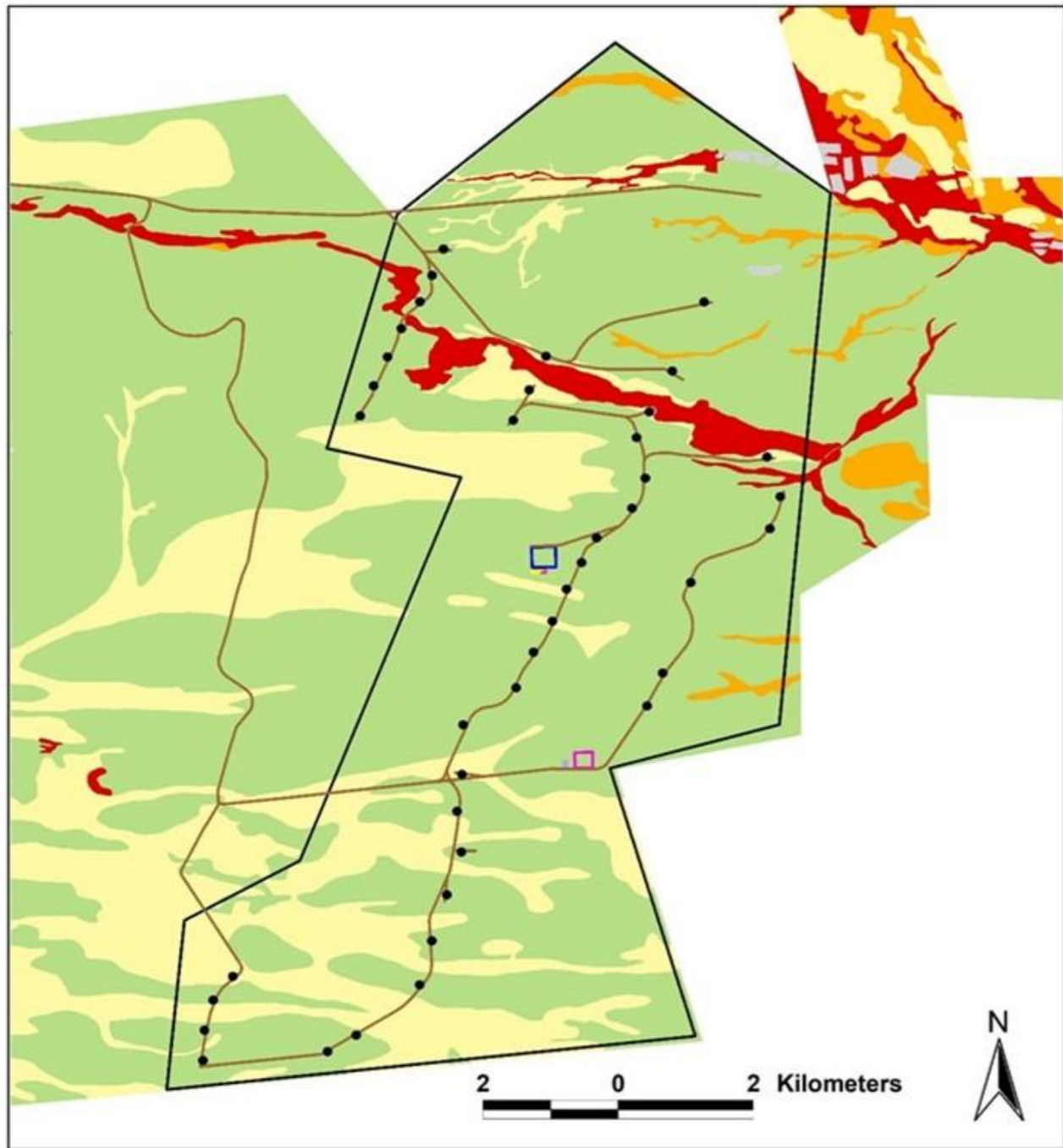
- Aberdeen WEF Cluster**
- WEF 3 Turbines
 - Battery Energy Storage System (BESS)


- 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



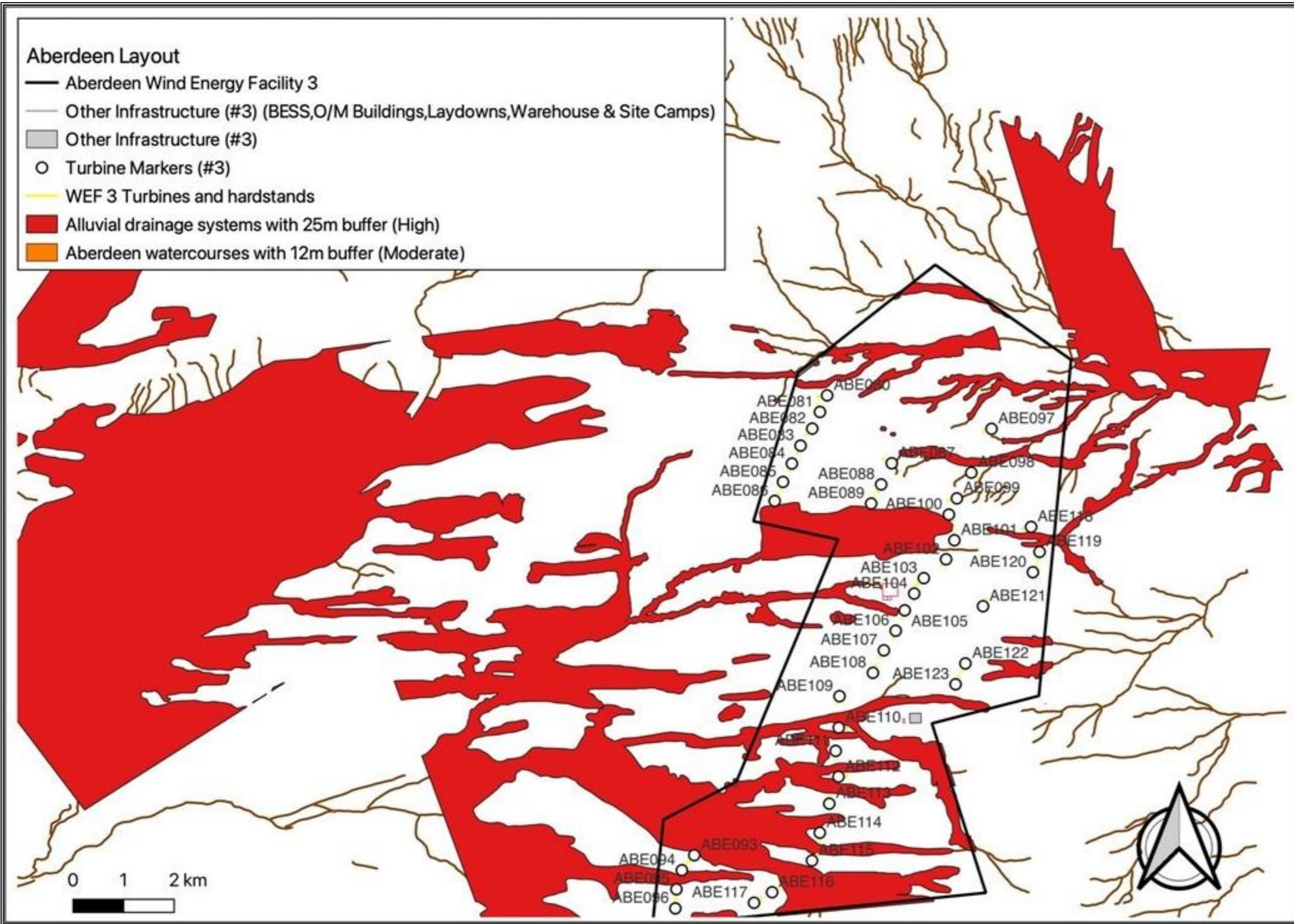




<ul style="list-style-type: none"> Aberdeen WEF 3 Boundary Aberdeen WEF 3 Turbines Aberdeen WEF 3 Roads <p>Aberdeen WEF 3 Infrastructure</p> <ul style="list-style-type: none"> BESS O&M Buildings Construction laydown ar Site Camp Warehouse 	<p>Ecological Sensitivity</p> <ul style="list-style-type: none"> Very High High Medium Low Transformed 	<p>Aberdeen WEF 3</p> <hr/> <p>Ecological Sensitivity</p> <hr/>  <p>3Foxes Biodiversity Solutions</p>
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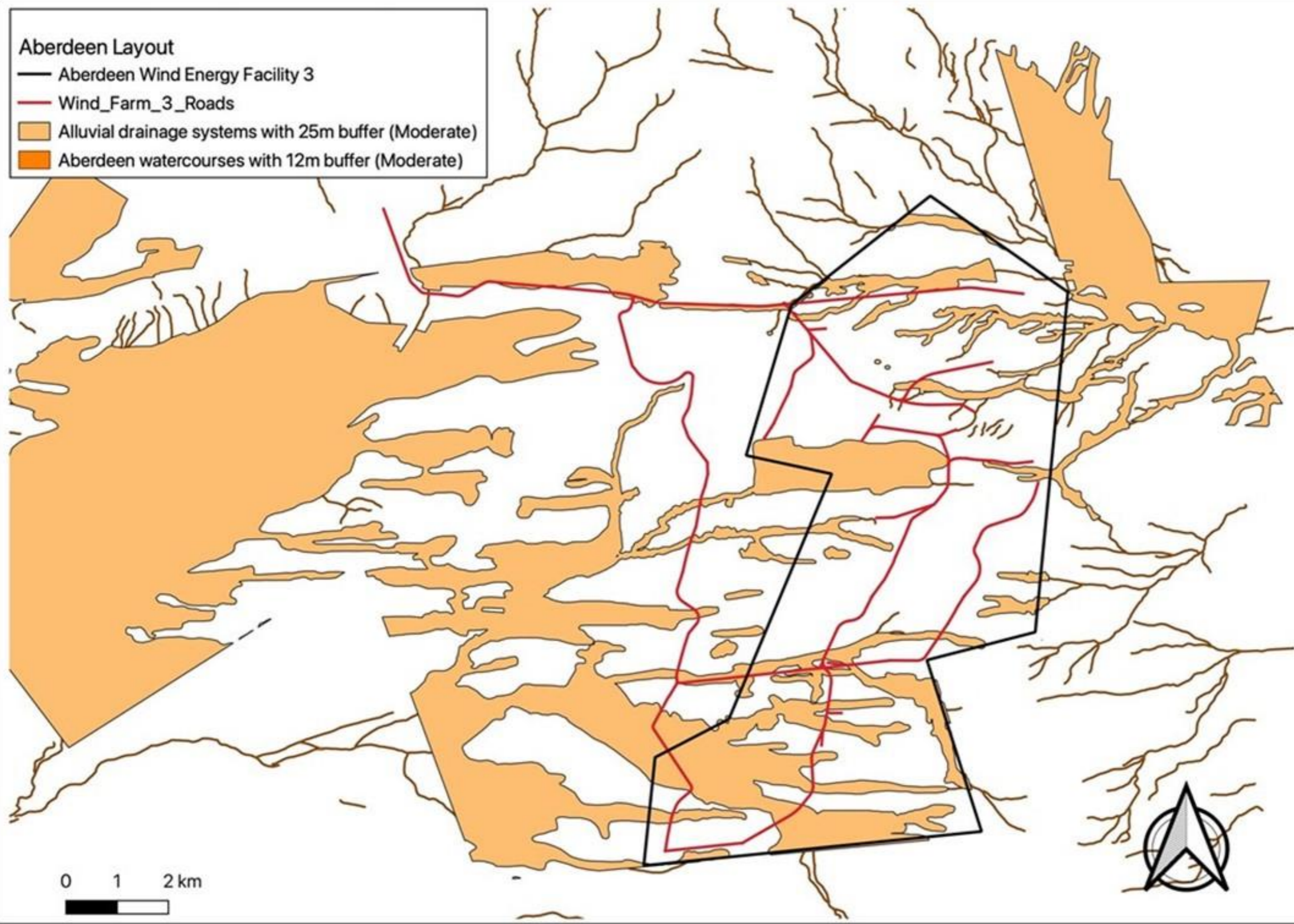
Aberdeen Layout

- Aberdeen Wind Energy Facility 3
- Other Infrastructure (#3) (BESS, O/M Buildings, Laydowns, Warehouse & Site Camps)
- Other Infrastructure (#3)
- Turbine Markers (#3)
- WEF 3 Turbines and hardstands
- Alluvial drainage systems with 25m buffer (High)
- Aberdeen watercourses with 12m buffer (Moderate)



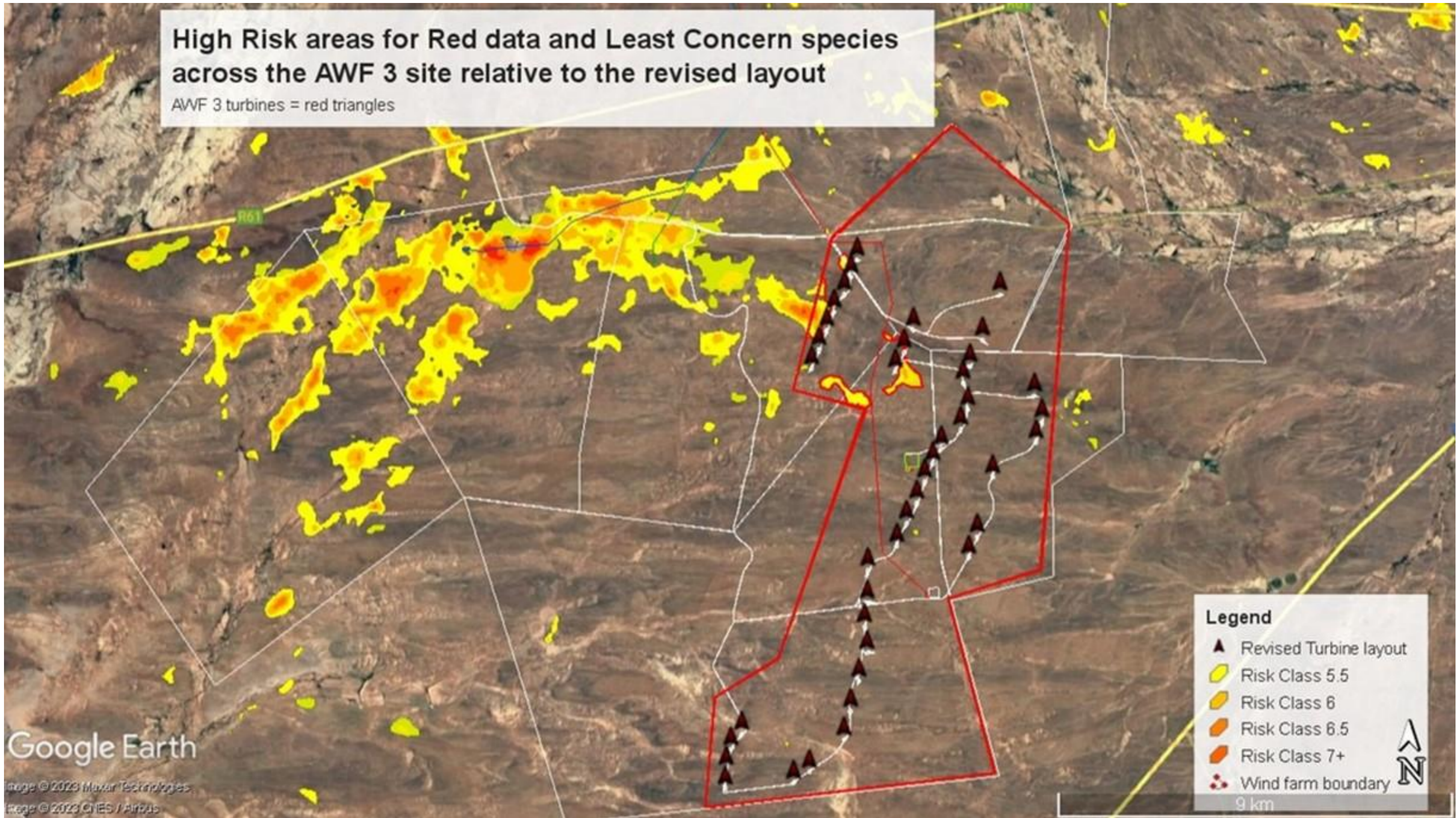
Aberdeen Layout

- Aberdeen Wind Energy Facility 3
- Wind_Farm_3_Roads
- Alluvial drainage systems with 25m buffer (Moderate)
- Aberdeen watercourses with 12m buffer (Moderate)



High Risk areas for Red data and Least Concern species across the AWF 3 site relative to the revised layout

AWF 3 turbines = red triangles



Legend

- WEF
- 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_apis
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

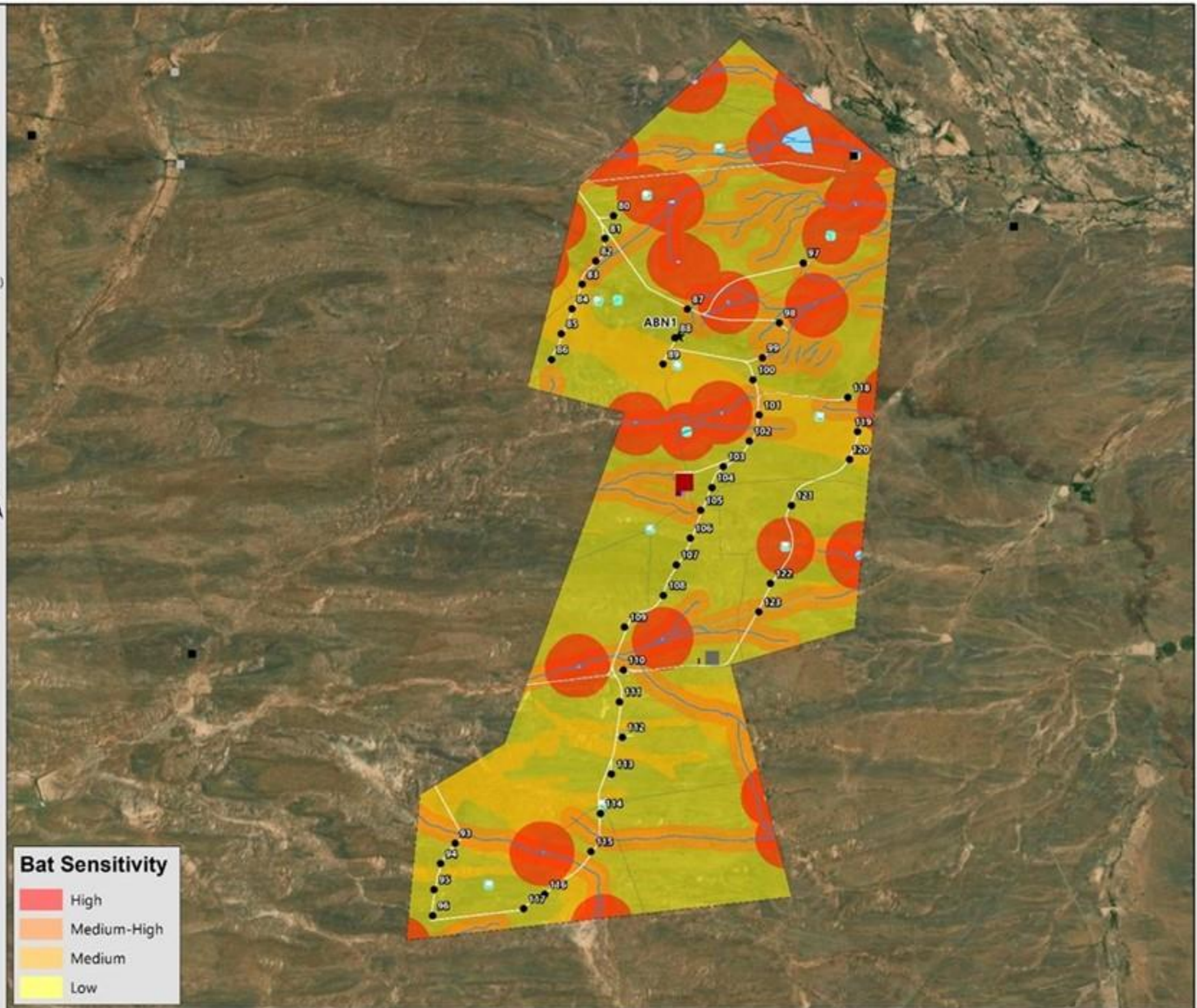
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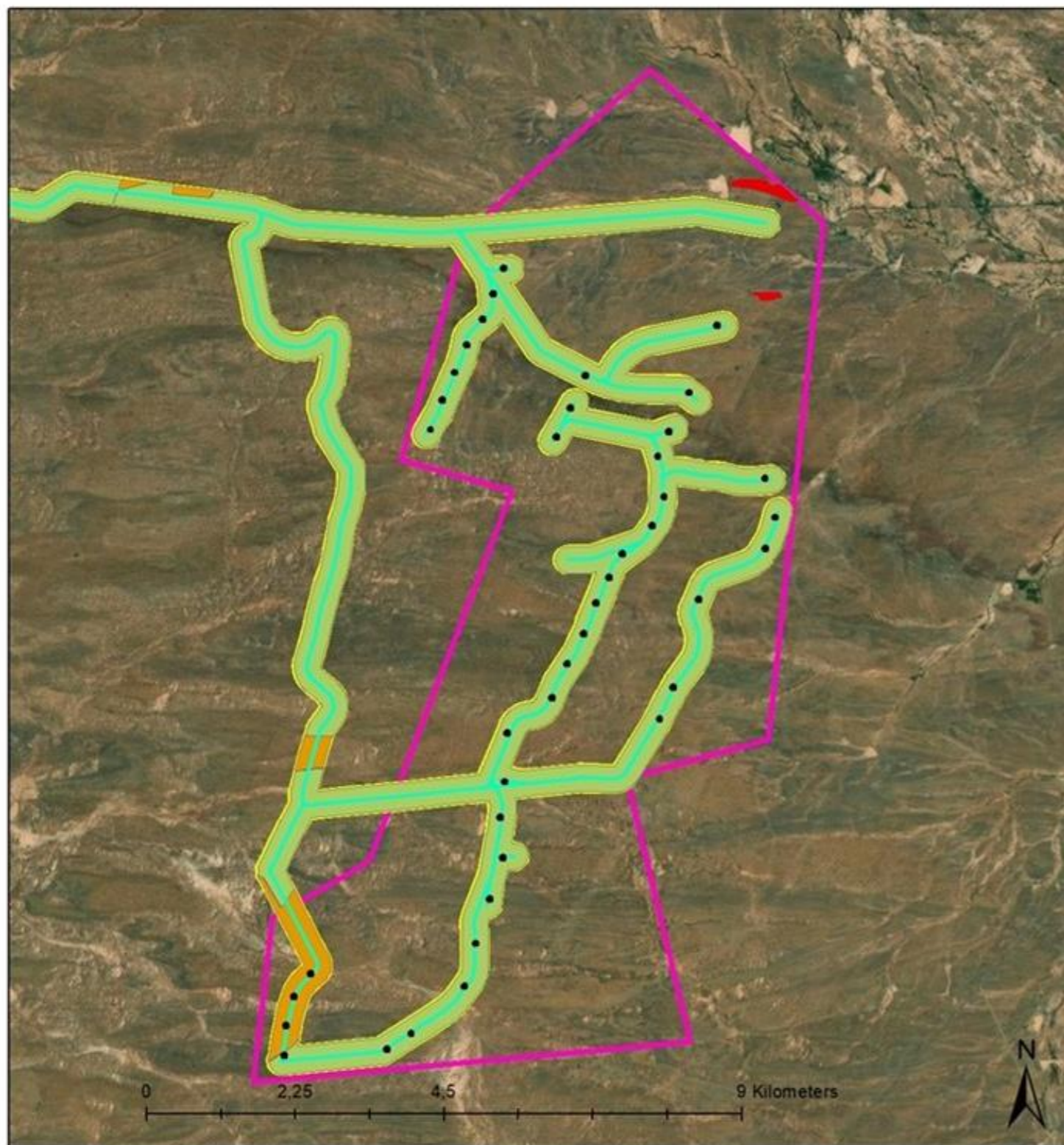


Mobile: +27 (0)79 313 3479
Email: info@iws-ss.co.za

Bat Sensitivity

- High
- Medium-High
- Medium
- Low

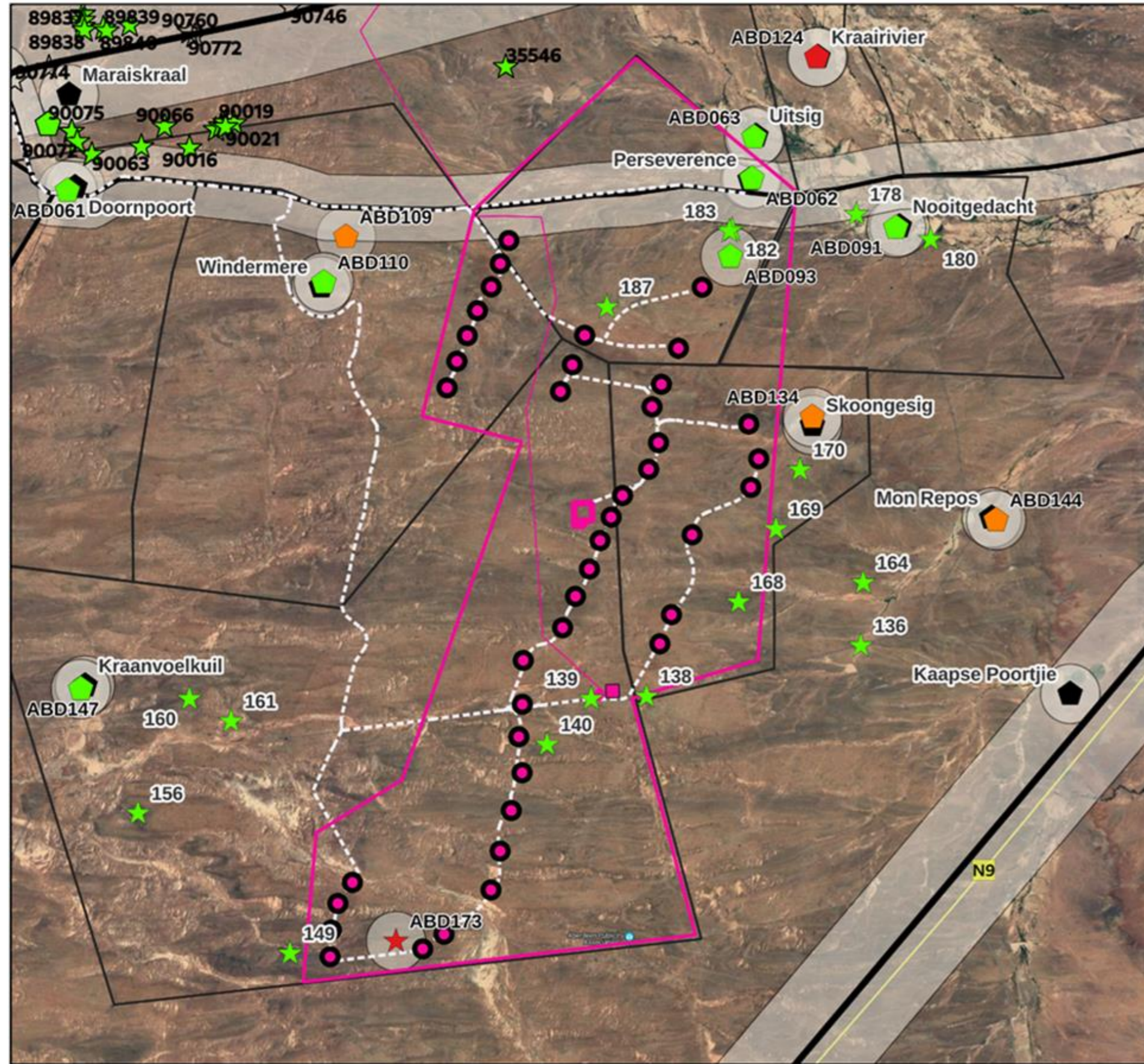




Legend

- | | |
|--|---|
|  Turbines and hardstands |  Low-2487.7 ha |
|  Wind Farm 3 Roads |  Medium-138.6 ha |
|  Study area-2626 ha |  High-22.6 ha |
|  Development area-7225 ha | |





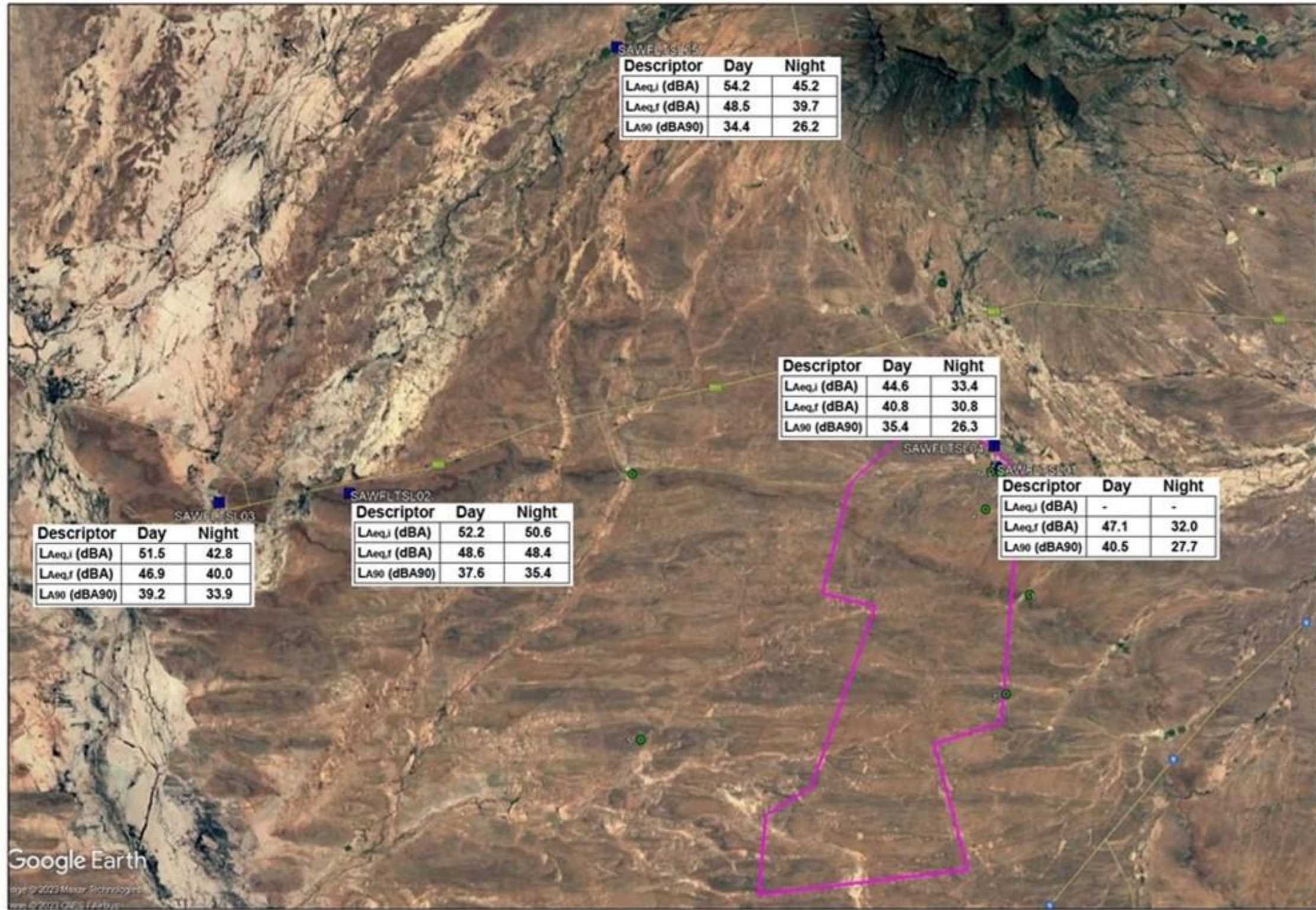
HERITAGE RESOURCES

- ☆ Arch, Bat, Geo, Met, Pal, Und
- ⬡ Structures, Monuments & Memorials
- Liv. Heritage/Sacred sites, Burial Grounds and Graves, Natural Place
- △ Conservation Area, Cultural Landscape
- WEF 3 Turbine Markers
- ⬠ Farms
- Road
- Scenic Routes
- 18 km 132 kV SC Twin Tern OHL
- WEF 3 Boundary
- WEF 3 Construction
- WEF 3 BESS
- Aberdeen Properties
- Recommended Buffers

GRADING

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

CTS HERITAGE



Descriptor	Day	Night
L _{Aeq,L} (dBA)	54.2	45.2
L _{Aeq,T} (dBA)	48.5	39.7
L _{A90} (dBA90)	34.4	26.2

Descriptor	Day	Night
L _{Aeq,L} (dBA)	44.6	33.4
L _{Aeq,T} (dBA)	40.8	30.8
L _{A90} (dBA90)	35.4	26.3

Descriptor	Day	Night
L _{Aeq,L} (dBA)	-	-
L _{Aeq,T} (dBA)	47.1	32.0
L _{A90} (dBA90)	40.5	27.7

Descriptor	Day	Night
L _{Aeq,L} (dBA)	52.2	50.6
L _{Aeq,T} (dBA)	48.6	48.4
L _{A90} (dBA90)	37.6	35.4

Descriptor	Day	Night
L _{Aeq,L} (dBA)	51.5	42.8
L _{Aeq,T} (dBA)	46.9	40.0
L _{A90} (dBA90)	39.2	33.9

LEGEND

- Local roads (Google Earth)
- Project Focus Area
- Potential Noise-sensitive receptors
- Measurement Locations



TITLE
Aberdeen WF 3: Locations where ambient sound levels were measured

CLIENT
Savannah Environmental (Pty) Ltd for Aberdeen Wind Facility 3 (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

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9 km

Aberdeen Wind Facility 3 Eastern Cape Province

Sensitivity and Layout Map

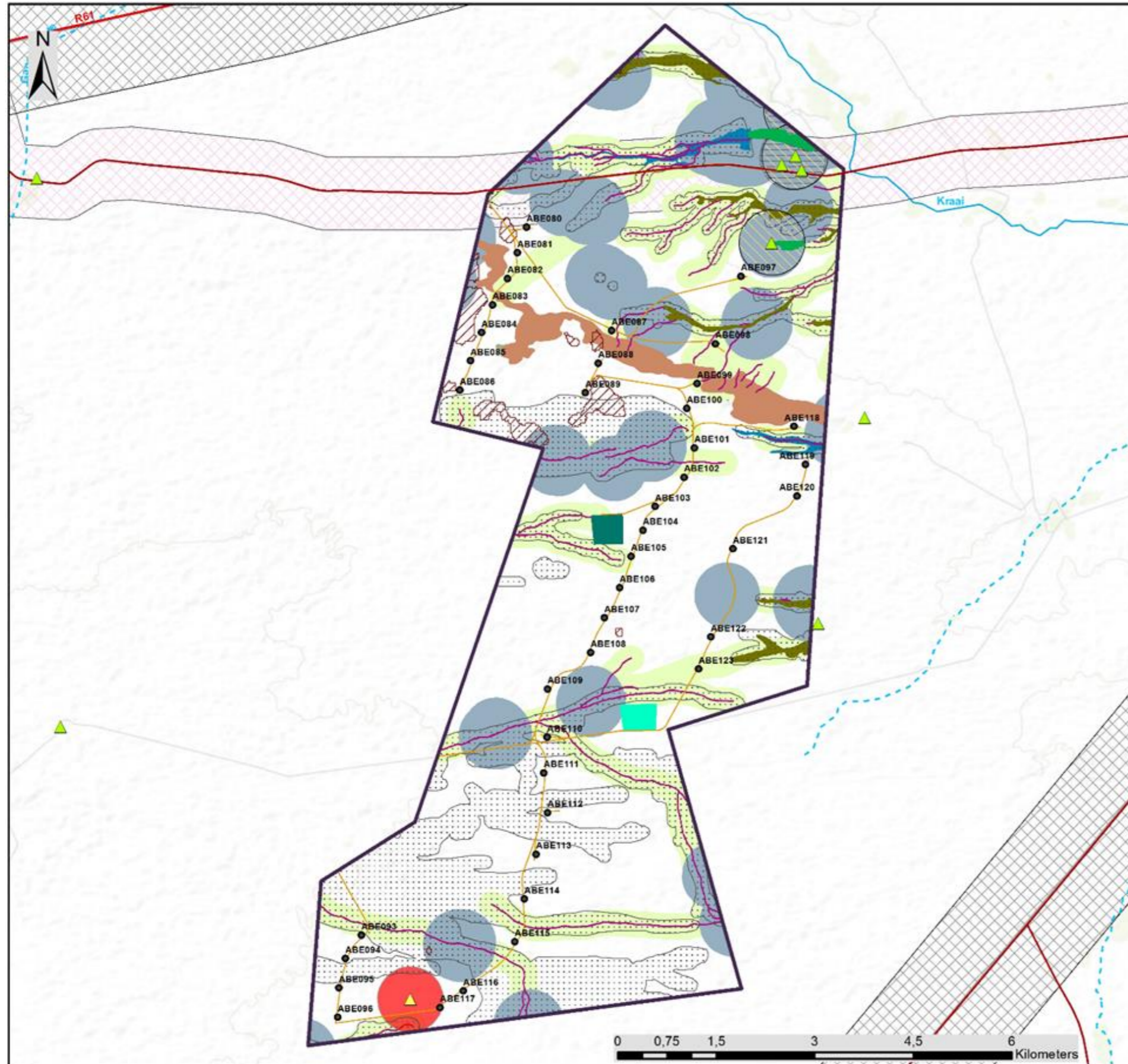
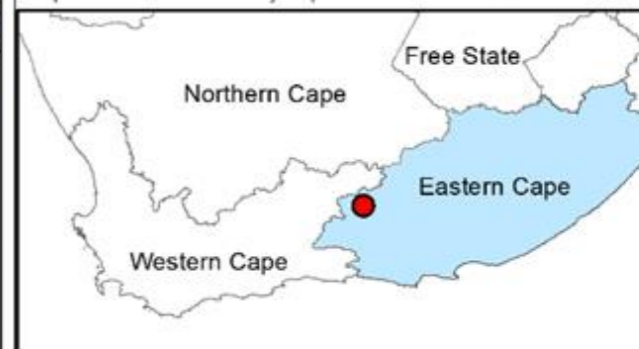
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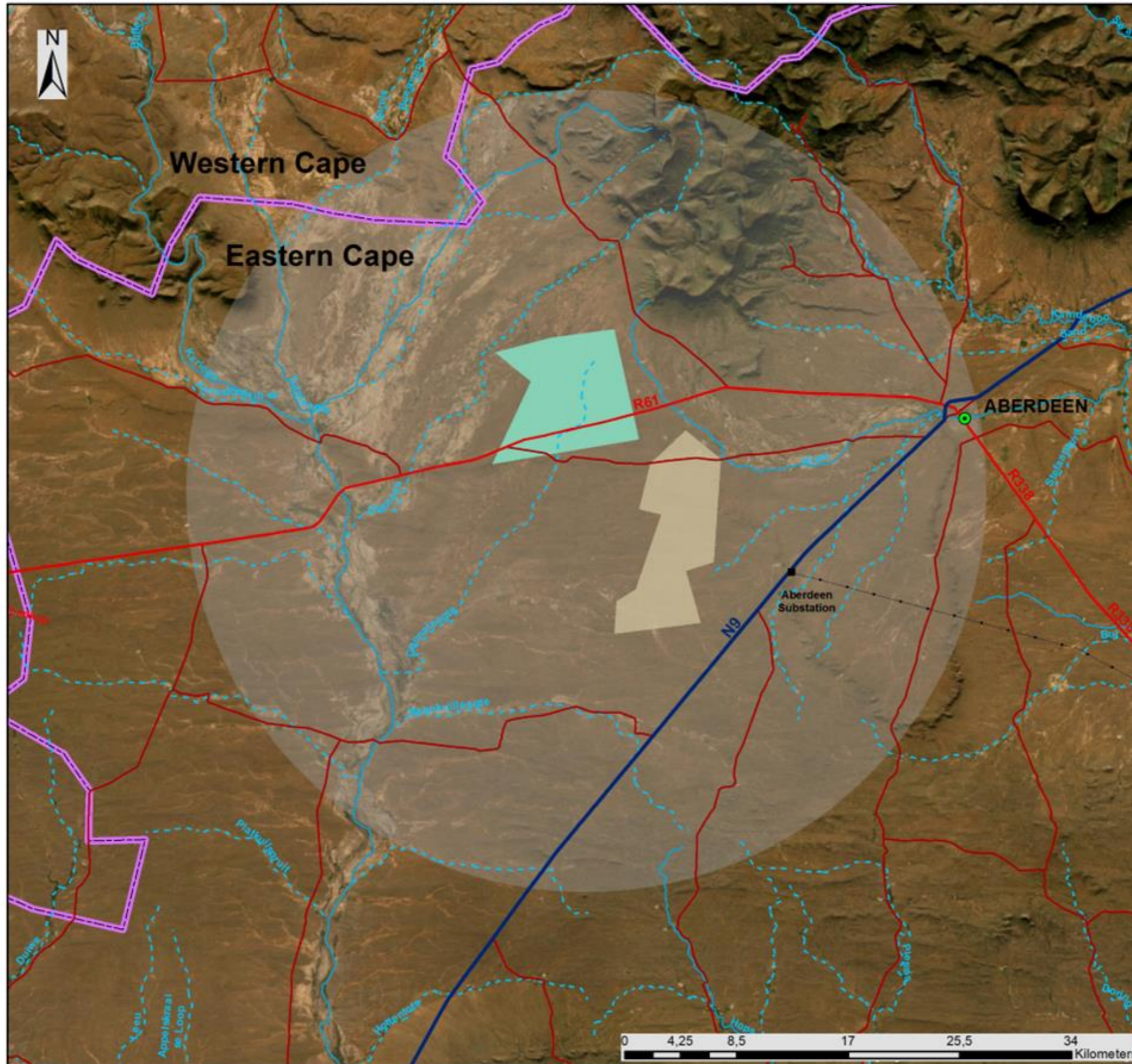
- Regional Road
- Main Road
- Perennial River
- Non Perennial River
- Turbines
- Access & Internal Roads
- Substation, BESS and O&M Buildings Hub
- Warehouse, Laydown and Site Camp Hub
- Aberdeen Wind Facility 3 Development Area

Environmental Sensitivity

- Noise Sensitive Receptors
- Heritage sites
- 500m Artefacts Buffer (High Heritage Sensitivity)
- 500m Structures 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)
- 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)
- Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
- Bat (Medium-High Bat Sensitivity)
- Bat (High Bat Sensitivity)
- Soil (High Soil Sensitivity)

Scale: 1:80 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Sensitivity Map





Aberdeen Wind Facility 3 Eastern Cape Province

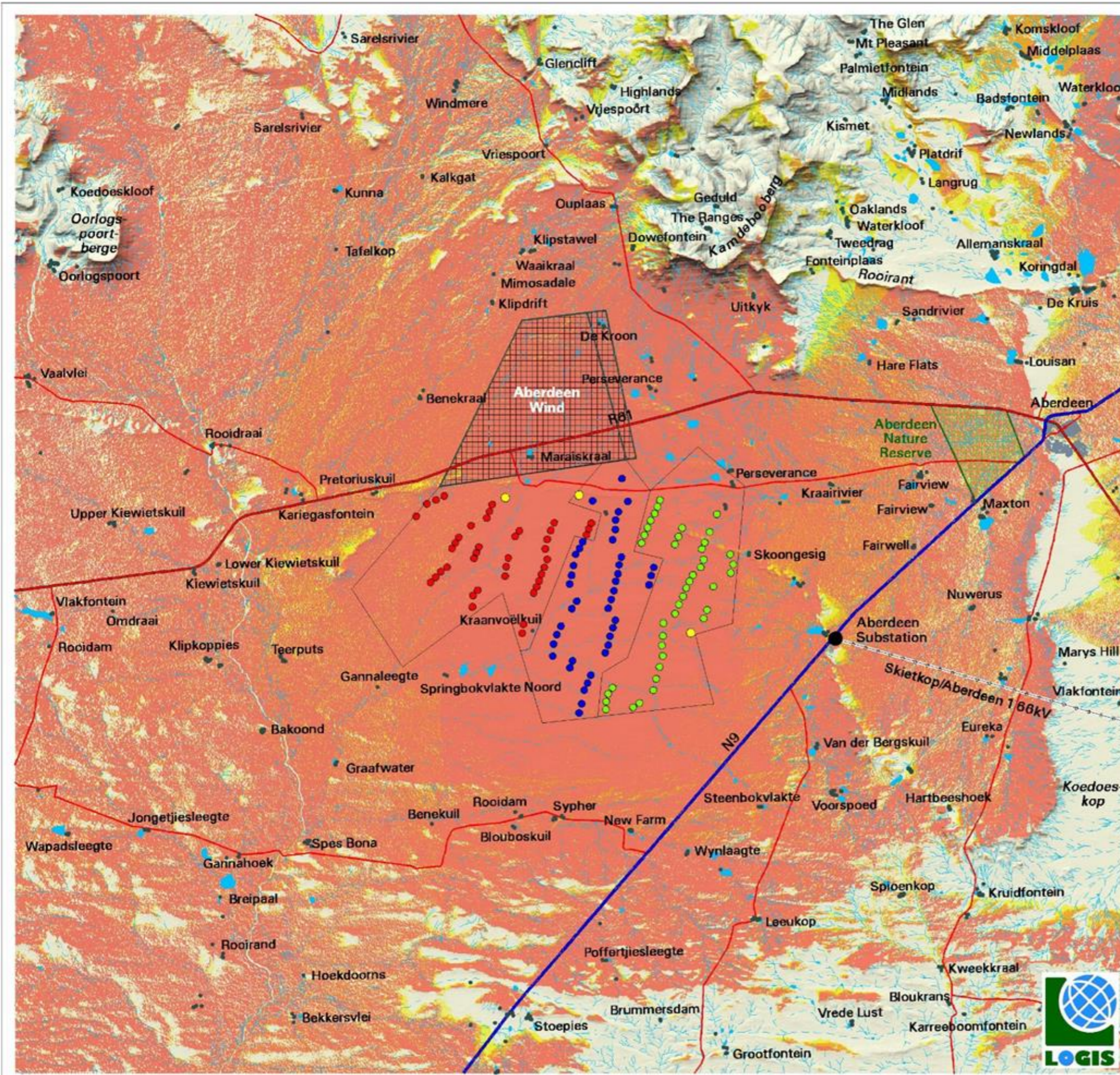
Cumulative Map

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 3 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 3 Eastern Cape Province

Sensitivity Map

Legend

-  Regional Road
 -  Main Road
 -  Perennial River
 -  Non Perennial River
 -  Aberdeen Wind Facility 3 Development Area
- Environmental Sensitivity**
-  Noise Sensitive Receptors
 -  Heritage sites
 -  500m Artefacts Buffer (High Heritage Sensitivity)
 -  500m Structures 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)
 -  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)
 -  Minor slopes and drainage (High Terrestrial Ecology Sensitivity)
 -  Bat (Medium-High Bat Sensitivity)
 -  Bat (High Bat Sensitivity)
 -  Soil (High Soil Sensitivity)

Scale: 1:80 000
 Projection: GCS_WGS_1984
 Map Ref: Aberdeen Sensitivity Map

