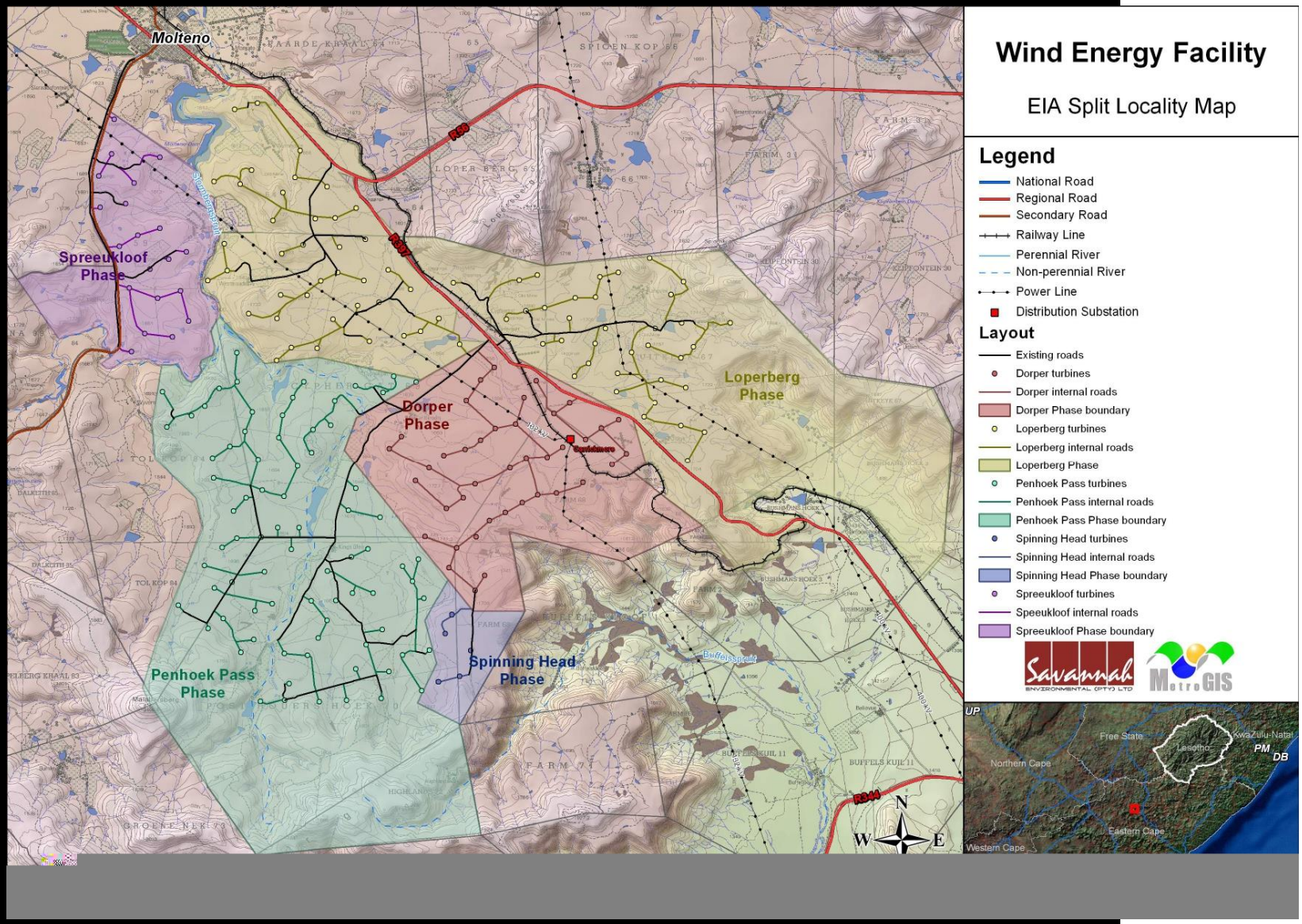
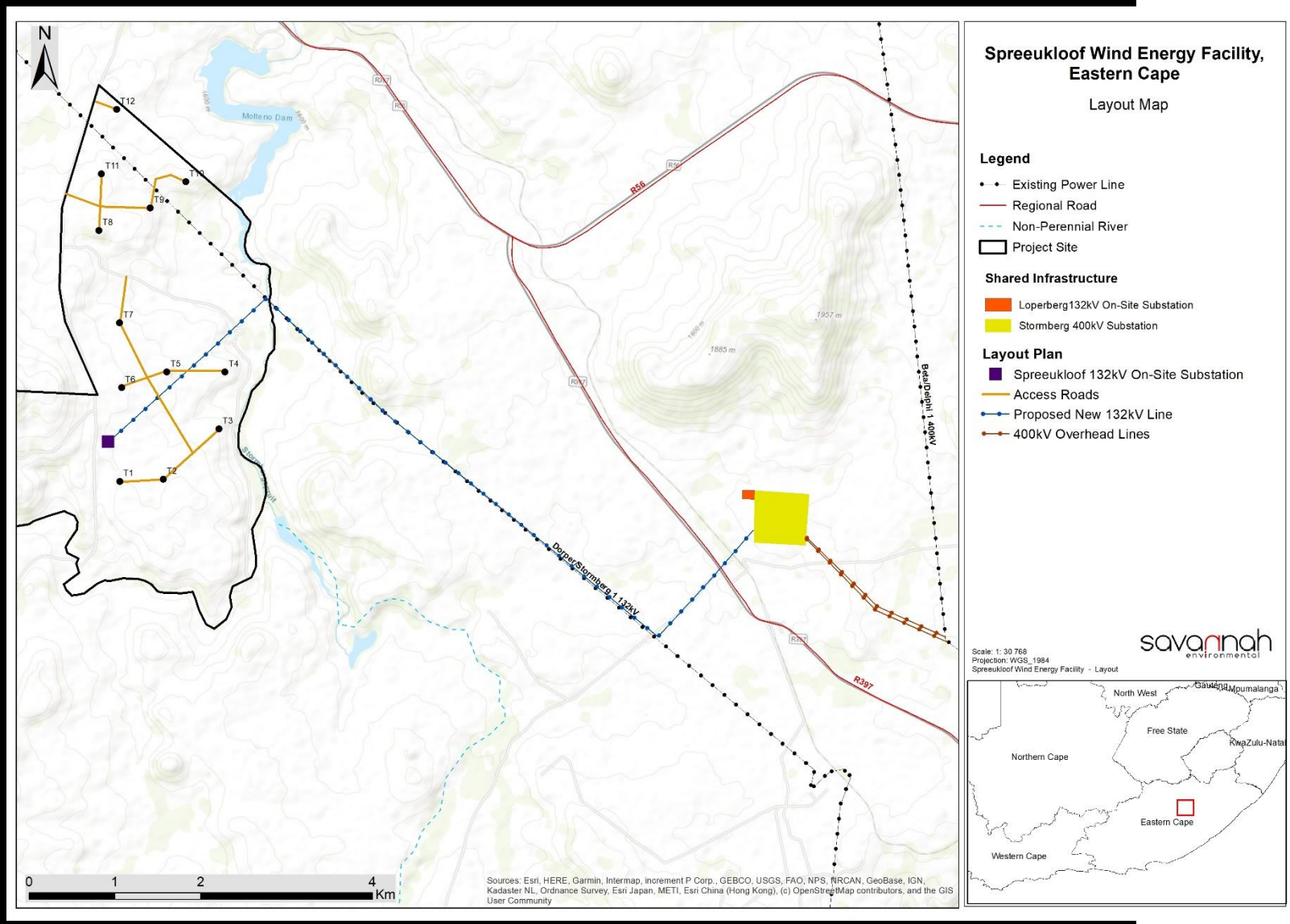
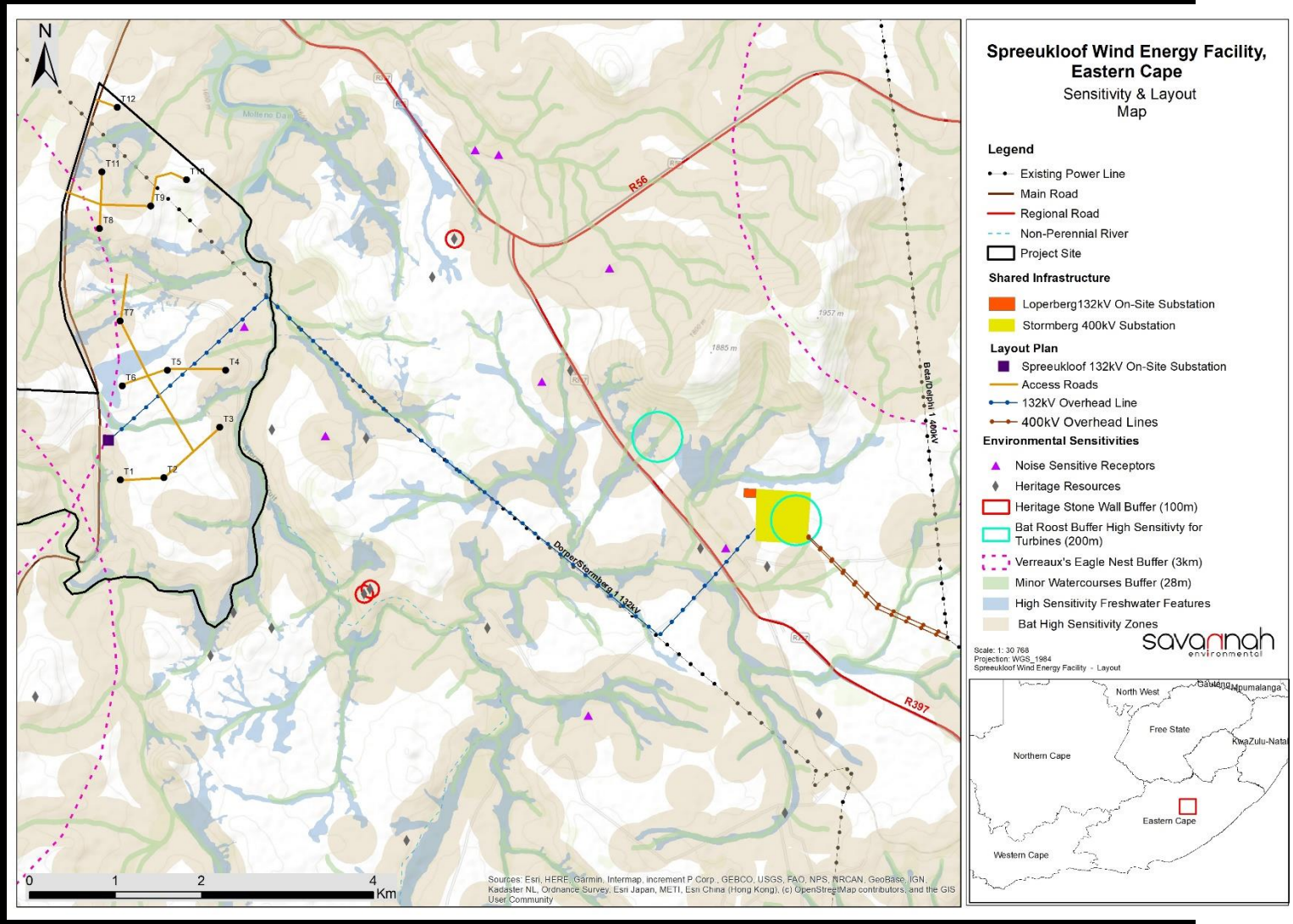
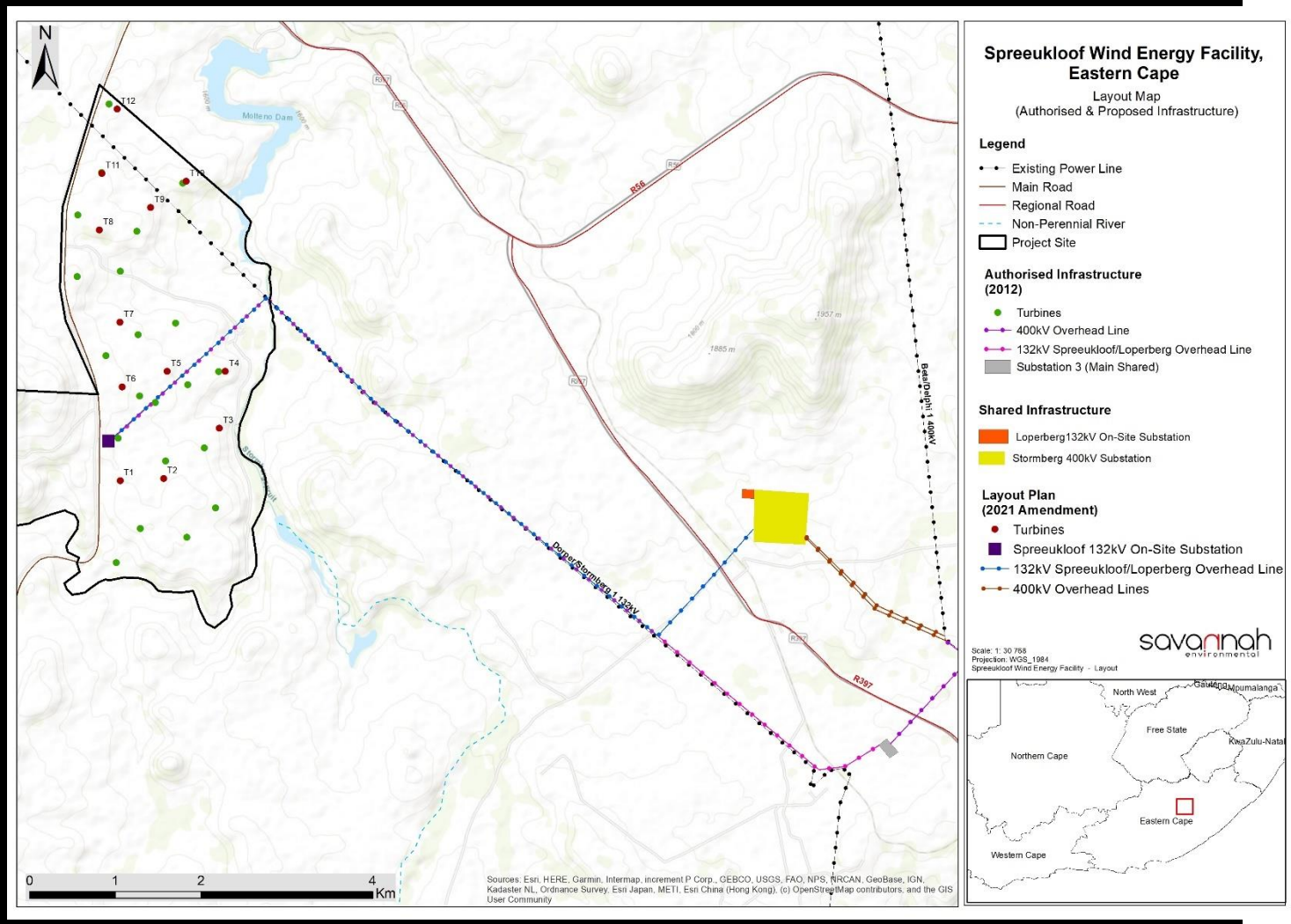
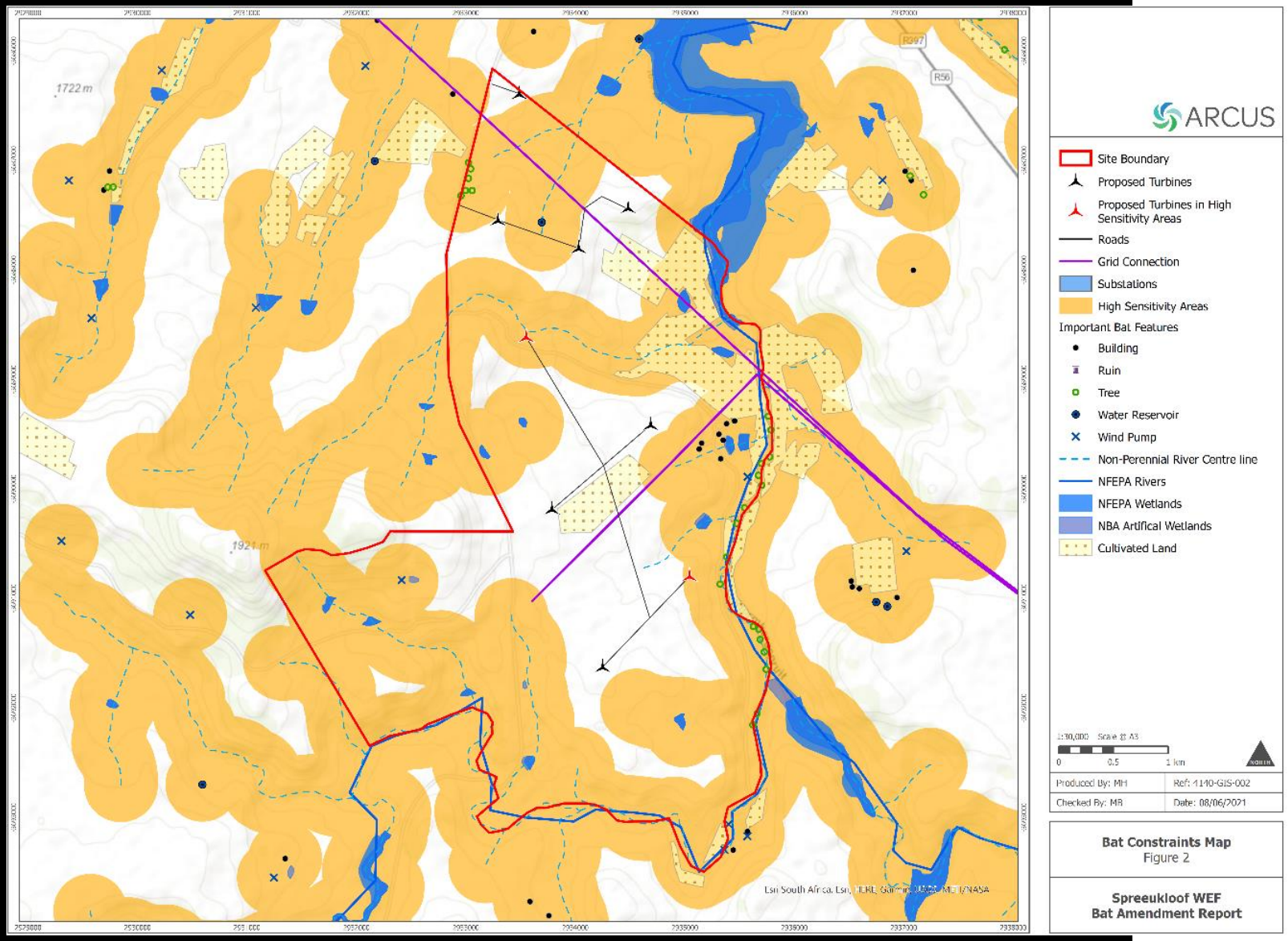
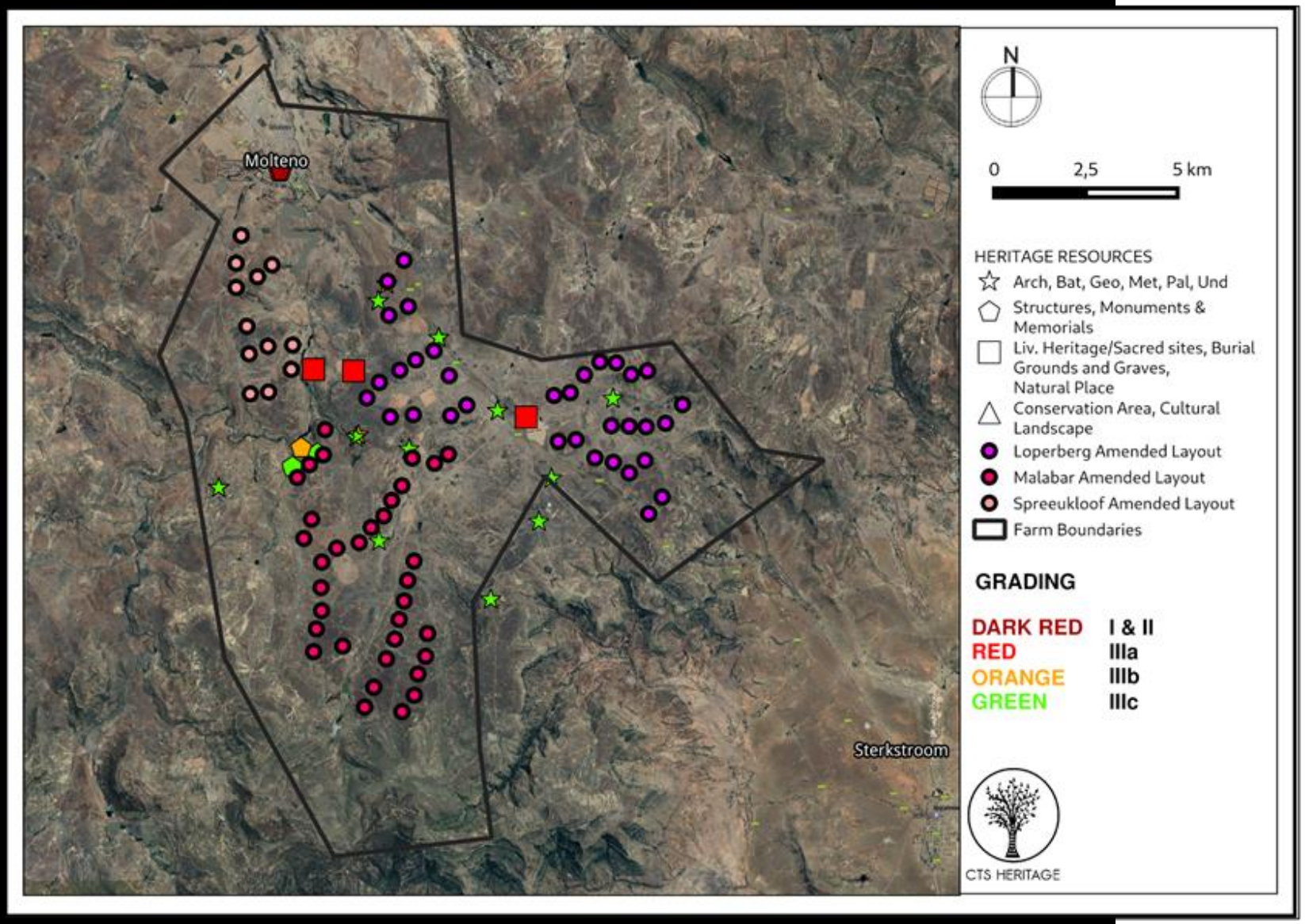

Molteno
R58
R397
Spreeukloof Phase
Dorper Phase
Loperberg Phase
Penhoek Pass Phase
Spinning Head Phase
R344
N
W
E
Wind Energy Facility
EIA Split Locality Map
Legend
National Road
Regional Road
Secondary Road
Railway Line
Perennial River
Non-perennial River
Power Line
Distribution Substation
Layout
Existing roads
Dorper turbines
Dorper internal roads
Dorper Phase boundary
Loperberg turbines
Loperberg internal roads
Loperberg Phase
Penhoek Pass turbines
Penhoek Pass internal roads
Penhoek Pass Phase boundary
Spinning Head turbines
Spinning Head internal roads
Spinning Head Phase boundary
Spreeukloof turbines
Speeukloof internal roads
Spreeukloof Phase boundary
Savannah
ENVIRONMENTAL (PTY) LTD
MetroGIS
UP
Free State
KwaZulu-Natal
Lesotho
PM
DB
Northern Cape
Eastern Cape
Western Cape

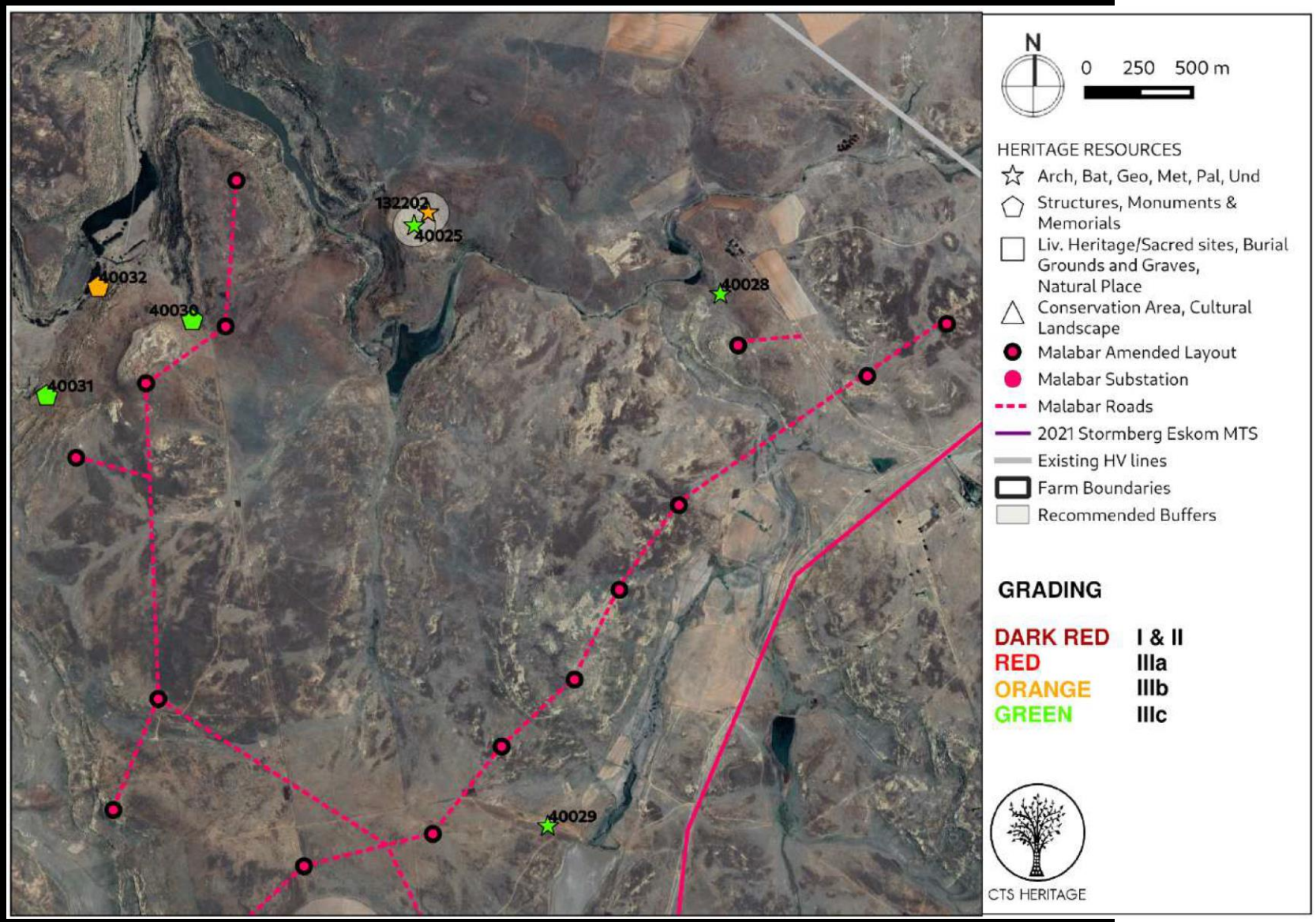

N
T12
T11
T10
T9
T8
T7
T6
T5
T4
T3
T2
T1
Molteno Dam
R56
R397
1957 m
1885 m
Beta/Delphi 1 400kV
Dapper/Stormberg 1 132kV
0
1
2
4
Km
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Spreeukloof Wind Energy Facility, Eastern Cape
Layout Map
Legend
Existing Power Line
Regional Road
Non-Perennial River
Project Site
Shared Infrastructure
Loperberg132kV On-Site Substation
Stormberg 400kV Substation
Layout Plan
Spreeukloof 132kV On-Site Substation
Access Roads
Proposed New 132kV Line
400kV Overhead Lines
savannah environmental
Scale: 1: 30 768
Projection: WGS_1984
Spreeukloof Wind Energy Facility - Layout
North West
Gauteng
Mpumalanga
Free State
KwaZulu-Natal
Northern Cape
Eastern Cape
Western Cape

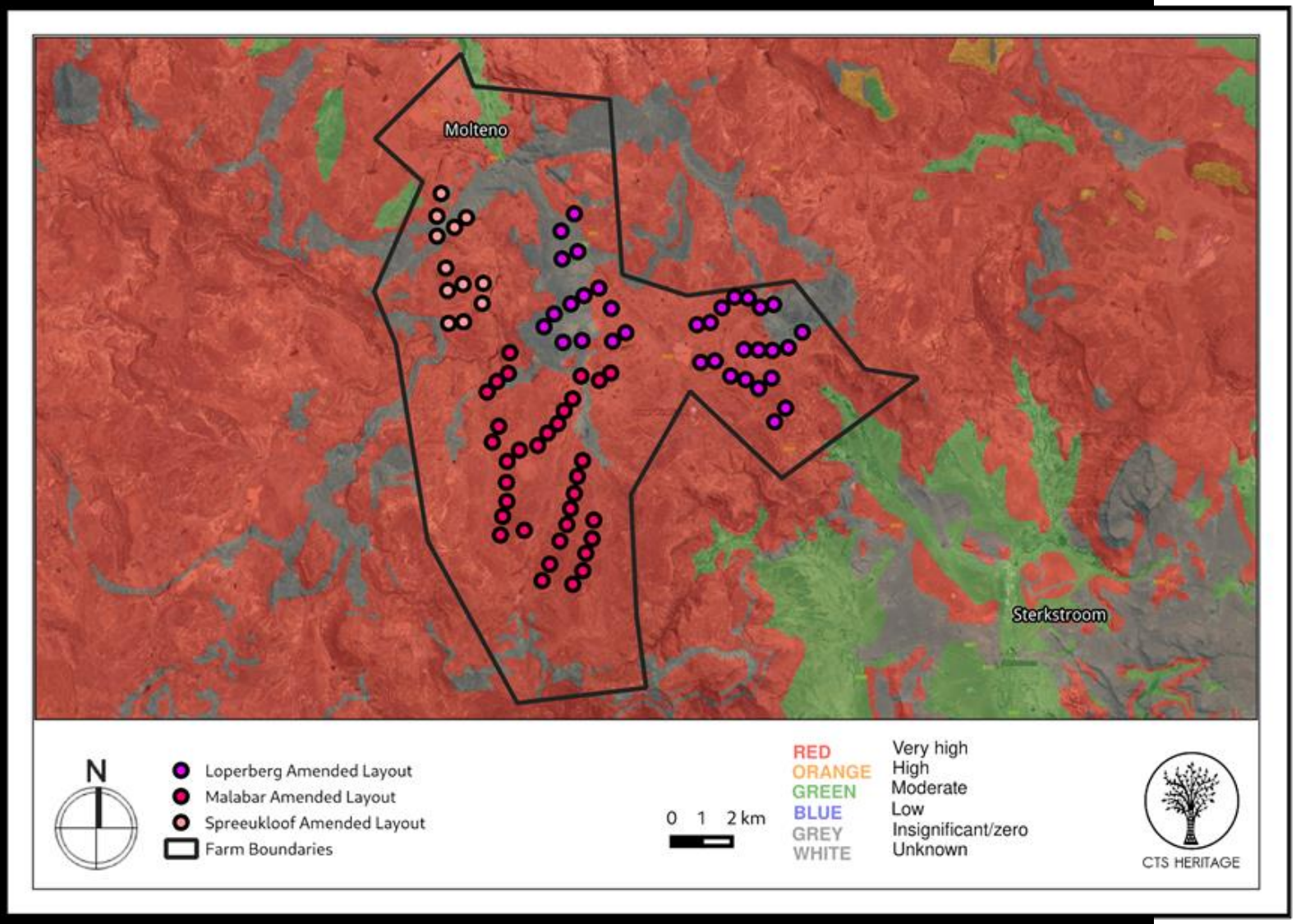

N
T12
T11
T10
T9
T8
T7
T5
T4
T6
T3
T1
T2
R56
R397
Beta/Delphi 1 400kV
Dopper/Stormberg 1 132kV
1957 m
1885 m
0
1
2
4
Km
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Spreeukloof Wind Energy Facility, Eastern Cape
Sensitivity & Layout Map
Legend
Existing Power Line
Main Road
Regional Road
Non-Perennial River
Project Site
Shared Infrastructure
Loperberg132kV On-Site Substation
Stormberg 400kV Substation
Layout Plan
Spreeukloof 132kV On-Site Substation
Access Roads
132kV Overhead Line
400kV Overhead Lines
Environmental Sensitivities
Noise Sensitive Receptors
Heritage Resources
Heritage Stone Wall Buffer (100m)
Bat Roost Buffer High Sensitivty for Turbines (200m)
Verreaux's Eagle Nest Buffer (3km)
Minor Watercourses Buffer (28m)
High Sensitivity Freshwater Features
Bat High Sensitivity Zones
savannah environmental
Scale: 1: 30 768
Projection: WGS_1984
Spreeukloof Wind Energy Facility - Layout
North West
Gauteng
Mpumalanga
Free State
KwaZulu-Natal
Northern Cape
Eastern Cape
Western Cape

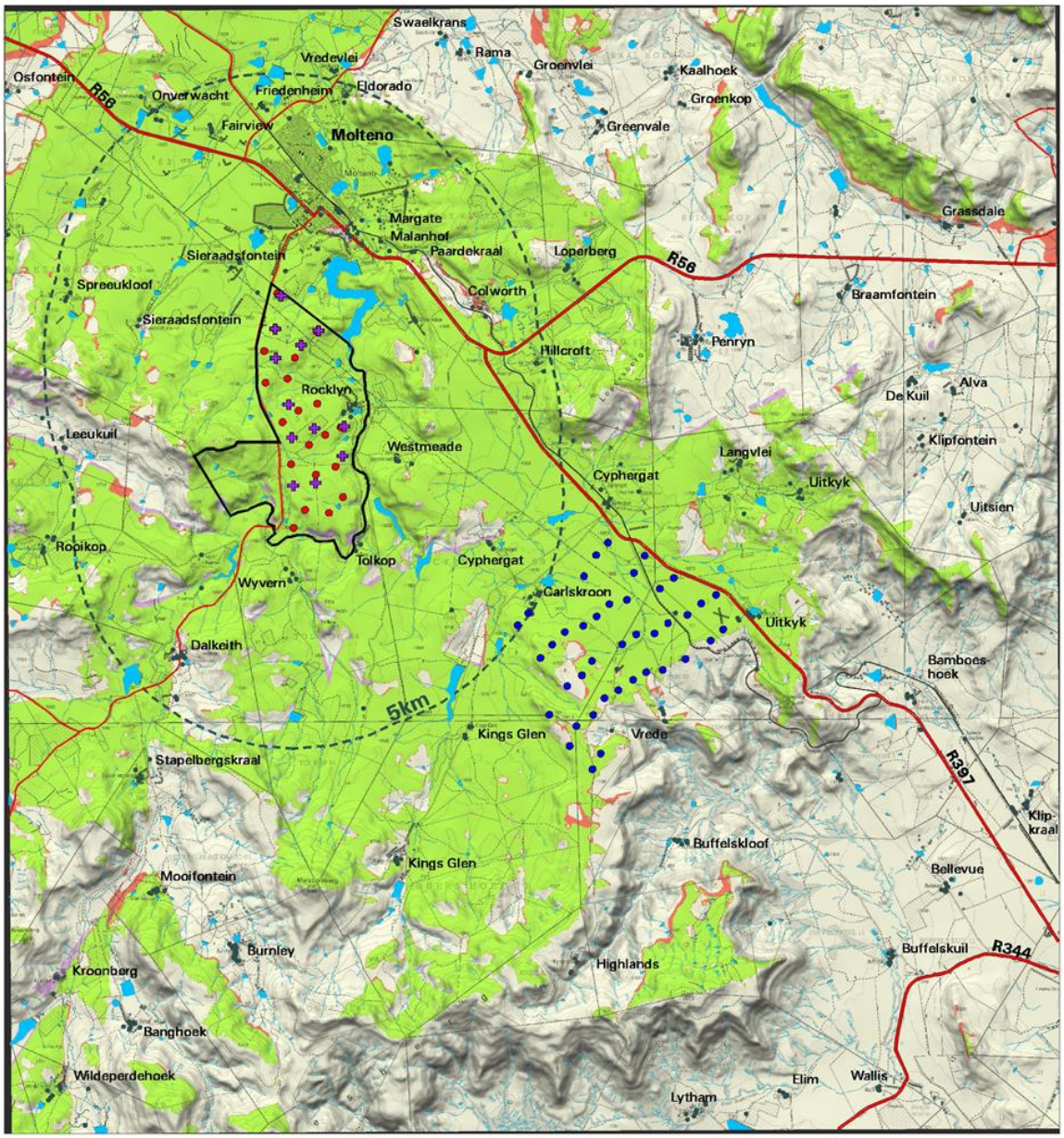

N
T12
T11
T10
T9
T8
T7
T6
T5
T4
T3
T2
T1
Molteno Dam
R56
R397
Beta/Delphi 1 400kV
Poper/Stormberg 1 132kV
0
1
2
4
Km
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Spreeukloof Wind Energy Facility, Eastern Cape
Layout Map
(Authorised & Proposed Infrastructure)
Legend
Existing Power Line
Main Road
Regional Road
Non-Perennial River
Project Site
Authorised Infrastructure (2012)
Turbines
400kV Overhead Line
132kV Spreeukloof/Loperberg Overhead Line
Substation 3 (Main Shared)
Shared Infrastructure
Loperberg132kV On-Site Substation
Stormberg 400kV Substation
Layout Plan (2021 Amendment)
Turbines
Spreeukloof 132kV On-Site Substation
132kV Spreeukloof/Loperberg Overhead Line
400kV Overhead Lines
savannah environmental
Scale: 1: 30 758
Projection: WGS_1984
Spreeukloof Wind Energy Facility - Layout
North West
Gauteng
Mpumalanga
Free State
KwaZulu-Natal
Northern Cape
Eastern Cape
Western Cape


ARCUS
Site Boundary
Proposed Turbines
Proposed Turbines in High Sensitivity Areas
Roads
Grid Connection
Substations
High Sensitivity Areas
Important Bat Features
Building
Ruin
Tree
Water Reservoir
Wind Pump
Non-Perennial River Centre line
NFEPA Rivers
NFEPA Wetlands
NBA Artifical Wetlands
Cultivated Land
1:30,000 Scale @ A3
0
0.5
1 km
Produced By: MH
Ref: 1140-GIS-002
Checked By: MB
Date: 08/06/2021
Bat Constraints Map
Figure 2
Spreeukloof WEF
Bat Amendment Report
1722 m
1921 m
R397
R56


Molteno
Sterkstroom
N
0
2,5
5 km
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
Loperberg Amended Layout
Malabar Amended Layout
Spreeukloof Amended Layout
Farm Boundaries
GRADING
DARK RED I & II
RED IIIa
ORANGE IIIb
GREEN IIIc
CTS HERITAGE


132202
40025
40032
40030
40031
40028
40029
N
0 250 500 m
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
Malabar Amended Layout
Malabar Substation
Malabar Roads
2021 Stormberg Eskom MTS
Existing HV lines
Farm Boundaries
Recommended Buffers
GRADING
DARK RED I & II
RED IIIa
ORANGE IIIb
GREEN IIIc
CTS HERITAGE


Molteno
Sterkstroom
N
Loperberg Amended Layout
Malabar Amended Layout
Spreeukloof Amended Layout
Farm Boundaries
0 1 2 km
RED Very high
ORANGE High
GREEN Moderate
BLUE Low
GREY Insignificant/zero
WHITE Unknown
CTS HERITAGE



Proposed Spreeukloof WEF - Amendment (2021)

LEGEND

- Farm Identified for the WEF
- Authorised Wind Turbine Positions (2013)
- Proposed Amended Wind Turbine Positions (2021)
- Arterial/Main Road
- Secondary Road
- Non-perennial River
- Dam/Waterbody
- Residence/Homestead
- Existing Dorper Wind Turbines

COMPARATIVE VIEWSHED ANALYSIS

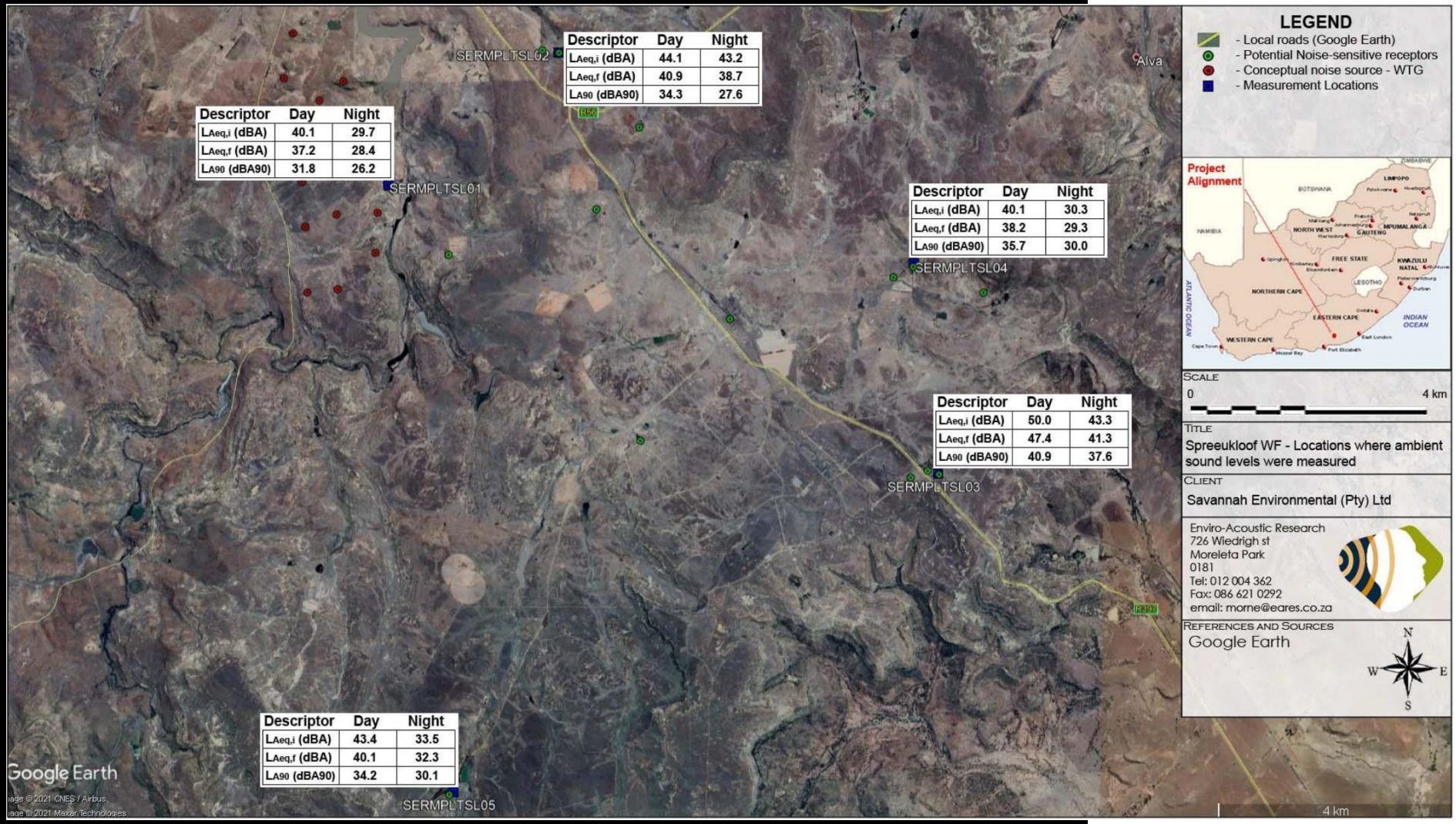
- Potential visual exposure for: Authorised WTG Layout (182.5m blade-tip height)
  - 120m hub-height
  - 125m rotor diameter
- Potential additional area of exposure for: Amended/Proposed WTG Dimensions (208m blade-tip height)
  - 120m hub-height
  - 176m rotor diameter
- Area of Reduced Visual Exposure of Authorised WTG Layout
- Observer proximity to the WTG (5km buffer)

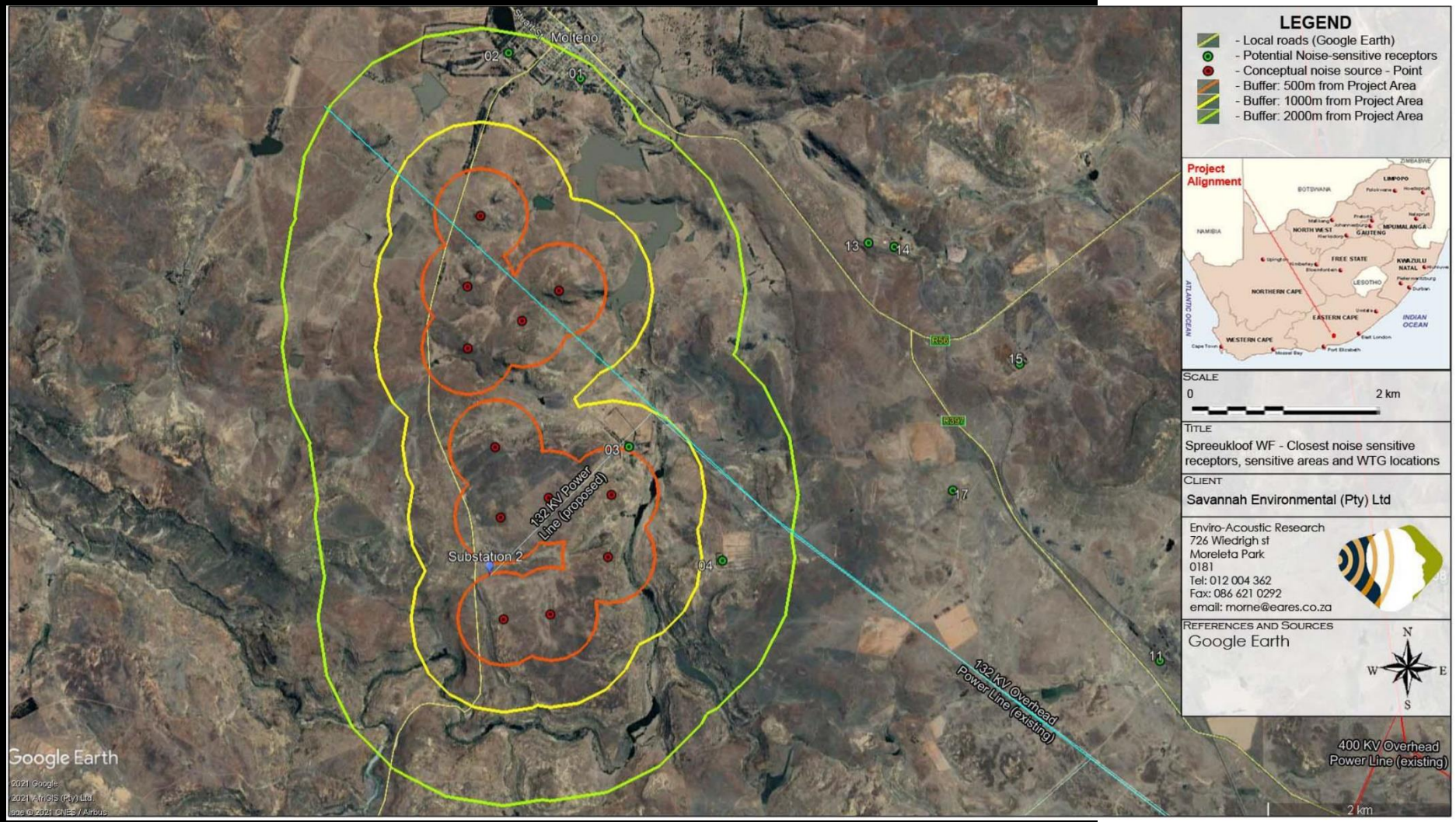
LOGIS

N

0 5km

Scale 1 : 120 000 (A4)


SERMPLTSL02
Descriptor | Day | Night
LAeq,i (dBA) | 44.1 | 43.2
LAeq,f (dBA) | 40.9 | 38.7
LA90 (dBA90) | 34.3 | 27.6
Alva
R56
Descriptor | Day | Night
LAeq,i (dBA) | 40.1 | 29.7
LAeq,f (dBA) | 37.2 | 28.4
LA90 (dBA90) | 31.8 | 26.2
SERMPLTSL01
Descriptor | Day | Night
LAeq,i (dBA) | 40.1 | 30.3
LAeq,f (dBA) | 38.2 | 29.3
LA90 (dBA90) | 35.7 | 30.0
SERMPLTSL04
Descriptor | Day | Night
LAeq,i (dBA) | 50.0 | 43.3
LAeq,f (dBA) | 47.4 | 41.3
LA90 (dBA90) | 40.9 | 37.6
SERMPLTSL03
R397
Descriptor | Day | Night
LAeq,i (dBA) | 43.4 | 33.5
LAeq,f (dBA) | 40.1 | 32.3
LA90 (dBA90) | 34.2 | 30.1
SERMPLTSL05
Google Earth
age © 2021 CNES / Airbus
age © 2021 Maxar Technologies
4 km
LEGEND
- Local roads (Google Earth)
- Potential Noise-sensitive receptors
- Conceptual noise source - WTG
- Measurement Locations
Project Alignment
ZIMBABWE
LIMPOPO
BOTSWANA
NAMIBIA
NORTH WEST
GAUTENG
MPUMALANGA
FREE STATE
KWAZULU NATAL
LESOTHO
NORTHERN CAPE
EASTERN CAPE
WESTERN CAPE
ATLANTIC OCEAN
INDIAN OCEAN
Cape Town
Port Elizabeth
East London
SCALE
0
4 km
TITLE
Spreeukloof WF - Locations where ambient sound levels were measured
CLIENT
Savannah Environmental (Pty) Ltd
Enviro-Acoustic Research
726 Wiedrigh st
Moreleta Park
0181
Tel: 012 004 362
Fax: 086 621 0292
email: morne@eares.co.za
REFERENCES AND SOURCES
Google Earth
N
W
E
S


LEGEND
- Local roads (Google Earth)
- Potential Noise-sensitive receptors
- Conceptual noise source - Point
- Buffer: 500m from Project Area
- Buffer: 1000m from Project Area
- Buffer: 2000m from Project Area
Project Alignment
SCALE
0
2 km
TITLE
Spreeukloof WF - Closest noise sensitive receptors, sensitive areas and WTG locations
CLIENT
Savannah Environmental (Pty) Ltd
Enviro-Acoustic Research
726 Wiedrigh st
Moreleta Park
0181
Tel: 012 004 362
Fax: 086 621 0292
email: morne@eares.co.za
REFERENCES AND SOURCES
Google Earth
N
W
E
S
Molteno
01
02
03
04
13
14
15
17
11
132 kV Power Line (proposed)
Substation 2
132 kV Overhead Power Line (existing)
400 KV Overhead Power Line (existing)
R56
R397
Google Earth
2021 Google
2021 AfriGIS (Pty) Ltd.
2 km