

## **Appendix D1: Surface Water Verification Assessment**



# Scientific Terrestrial Services

Applying science to the real world

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**Date:** Friday, 03 March 2017

**Ref:** STS 160045

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Attention: Chiara D'Egidio Kotze

Dear Madam,

## **FRESHWATER RESOURCE VERIFICATION AND DEPARTMENT OF WATER & SANITATION'S RISK ASSESSMENT MATRIX IN FULFILMENT OF REGULATION GN509 OF 2016 AS IT RELATES TO THE NATIONAL WATER ACT. FOR THE PROPOSED NEW KATHU CEMETARY, KATHU, NORTHERN CAPE PROVINCE**

### **1. INTRODUCTION**

Scientific Terrestrial Services (STS) was appointed to conduct a field verification for all freshwater resources within 500m of the proposed cemetery development and to apply the Department of Water and Sanitation (DWS) Risk Assessment Matrix as part of the environmental assessment and authorisation process for the proposed new Kathu Cemetery within the Northern Cape Province. The proposed project comprises approximately 5 ha of land, and will include site clearing for new graves, a parking area, an access road and support infrastructure. Two alternatives for the access road are proposed, one from Dingleton Road (Alternative 1) and the second from the N14 highway (Alternative 2). The new cemetery together with the proposed access road alternatives, will henceforth collectively be referred to as the "study area".



The study area is situated approximately 13 km south of central Kathu, and immediately north of the N14 highway, on the remaining extent of the farm Lyleveld 545 within the Gamagara Municipality and John Taolo Gaetsewe District Municipality (Figure 1 and 2).

The aim of the study was to identify all freshwater resources within 500m of the study area, and which might be affected by the proposed development, as per General Notice 509 (GN 509) and will henceforth be referred to as the investigation area. The Department of Water and Sanitation (DWS) Risk Assessment Matrix was applied to all freshwater resources identified in order to comply with regulation GN 509 of 2016 as it relates to the National Water Act (NWA).

## 2. ASSUMPTIONS AND LIMITATIONS

- The initial study was undertaken as a desktop assessment and as such, the information gathered must be considered with caution, as inaccuracies and data capturing errors are often present within these databases;
- The follow up field verification of the desktop delineated wetlands undertaken, together with the desktop assessment is considered to provide adequate information for informed decision making to take place;
- The watercourse delineation as presented in this report is regarded as a best estimate of the watercourse boundary based on the desktop methods used. Areas in close proximity to the study area were however delineated during the field verification according to “DWAF<sup>1</sup>, 2008: A practical Guideline Procedure for the Identification and Delineation of Wetlands and Riparian Zones” The delineation as presented in this report is thus considered the best estimate of the outer boundary based on the site conditions present at the time of assessment. Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur. If more accurate assessments are required, the wetland will need to be surveyed and pegged according to surveying principles; and
- Wetlands and terrestrial zones create transitional areas where an ecotone is formed as vegetation species change from terrestrial to wetland species. Within this transition zone some variation of opinion on the wetland boundary may occur, however if the DWAF (2008) method is followed, all assessors should get largely similar results.

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<sup>1</sup> The Department of Water Affairs and Forestry (DWAF) was formerly known as the Department of Water Affairs (DWA). At present, the Department is known as the Department of Water and Sanitation (DWS). For the purposes of referencing in this report, the name under which the Department was known during the time of publication of reference material, will be used.



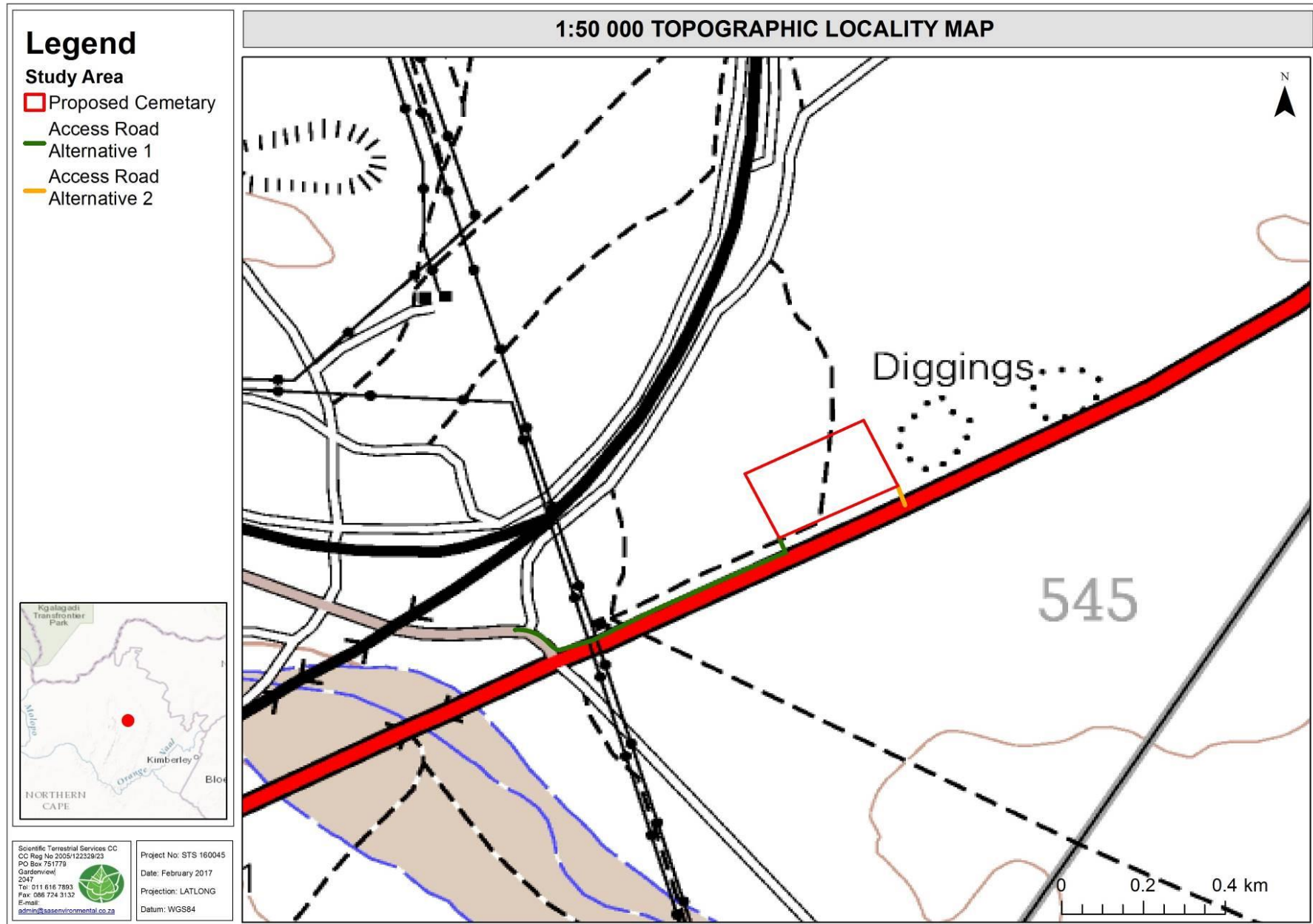


Figure 1: The study area depicted on a 1:50 000 topographical map in relation to the surrounding area.





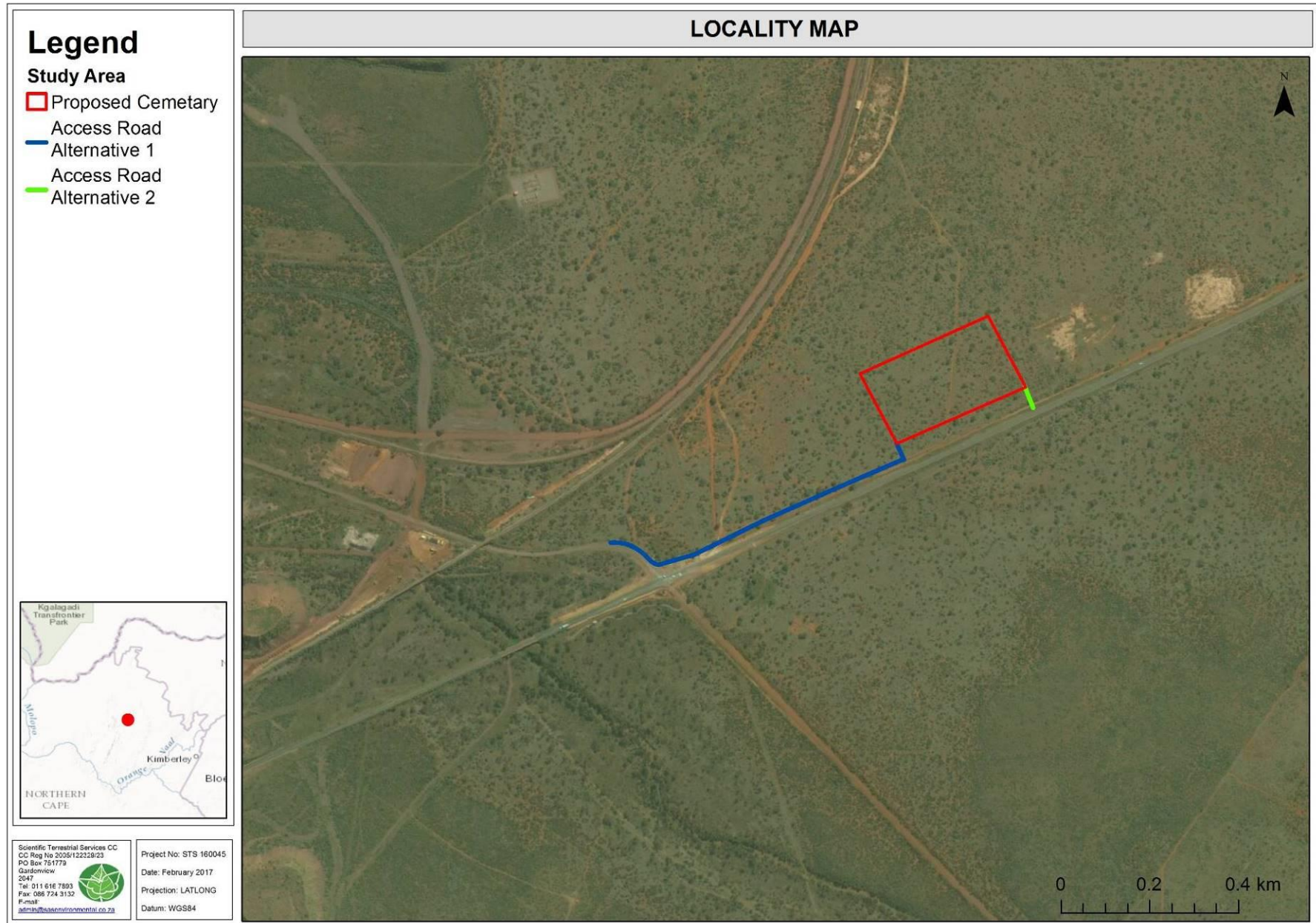


Figure 2: Digital Satellite image depicting the location of the study area in relation to surrounding areas.



### 3. RESULTS

Freshwater resources within 500m of the study area were delineated by means of desktop methods, with the use of aerial photographs, digital satellite imagery and topographical maps. These desktop delineations were then followed up and verified by the specialist whilst on site. For the purpose of this report, the definition and motivation for a regulated zone of activity for the protection of the freshwater resources can be summarised as follows:

- Activity 12 (xii)(c) of GN 983 of the Environmental Impact Assessment (EIA) Regulations (2014), of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA, 1998) must be considered in defining the relevant regulated zone associated with any watercourse. This Listed Activity states that any development exceeding 100 m<sup>2</sup> within a watercourse, in front of a development setback or, if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such development occurs within an urban area will require an Environmental Authorisation (EA) in terms of the NEMA (Act 107 of 1998);
- The extent of a watercourse as per the Water Use Authorisation (WUA) in terms of the NWA (Act 36 of 1998) defines a watercourse as “(a) a river or spring; (b) a natural channel in which water flows regularly or intermittently; (c) a wetland, lake or dam into which, or from which, water flows; and (d) reference to a watercourse includes, where relevant, its bed and banks”. Further to this, GN 509 of 2016 defines a regulated area of a watercourse for section 21 (c) or (i) of the Act water uses as “(a) the outer edge of the 1 in 100 year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam; (b) in the absence of a determined 1 in 100 year flood line or riparian area the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or (c) a 500 m radius from the delineated boundary (extent) of any wetland or pan will trigger a WUA in terms of section 21 (c) and (i) of the NWA, 1998 (Act 36 of 1998);

Below are the results obtained from the desktop study and field verification:

- A single fresh water resource was observed within 500m of the study area, namely the Ga-Mogara River, which is located approximately 300m from closest point of Alternative 1;
- Where accessible the Ga-Mogara River was delineated during the field investigation, however it must be noted that the river system has been largely degraded and altered as a result of mining activities and road works;
- This riparian zone of the Ga-Mogara river is considered to be more intact further downstream past the N14 bridge, however the riparian zone associated with the N14 bridge and further upstream has been significantly impacted upon and altered as a result of earth moving activities, channel diversions and mining activities;
- Scientific Terrestrial Services was supplied by SLR Consulting with the calculated 1/100-year<sup>2</sup> floodline data, which indicates that Alternative 1 falls within the 1:100-year flood line;
- At the time of assessment, the Ga-Mogara River was dry, and is only likely to experience sustained water flow during periods of high rainfall. As such the river system is not considered important in terms of supplying water to biota or communities in the area;
- High levels of disturbance have altered the faunal habitat within the riparian zones, as well as within the areas outside of the riparian zone;
- Large mining roads (dirt), localised excavations, overburden dumps and the continuous movement of heavy mining equipment through the riparian zone and stream bed itself have resulted in widespread bank and stream bed disturbances; and
- These long term and ongoing impacts have resulted in an observable increased in the sediment load of the river system, where in some areas excavated material has been dumped in the stream bed;

The maps below depict the location of the Ga-Mogara River as well as the regulated zone. The figures which follow presents the conditions of the watercourse.

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<sup>2</sup> The floodline was determined by DHI for a nearby mining expansion project





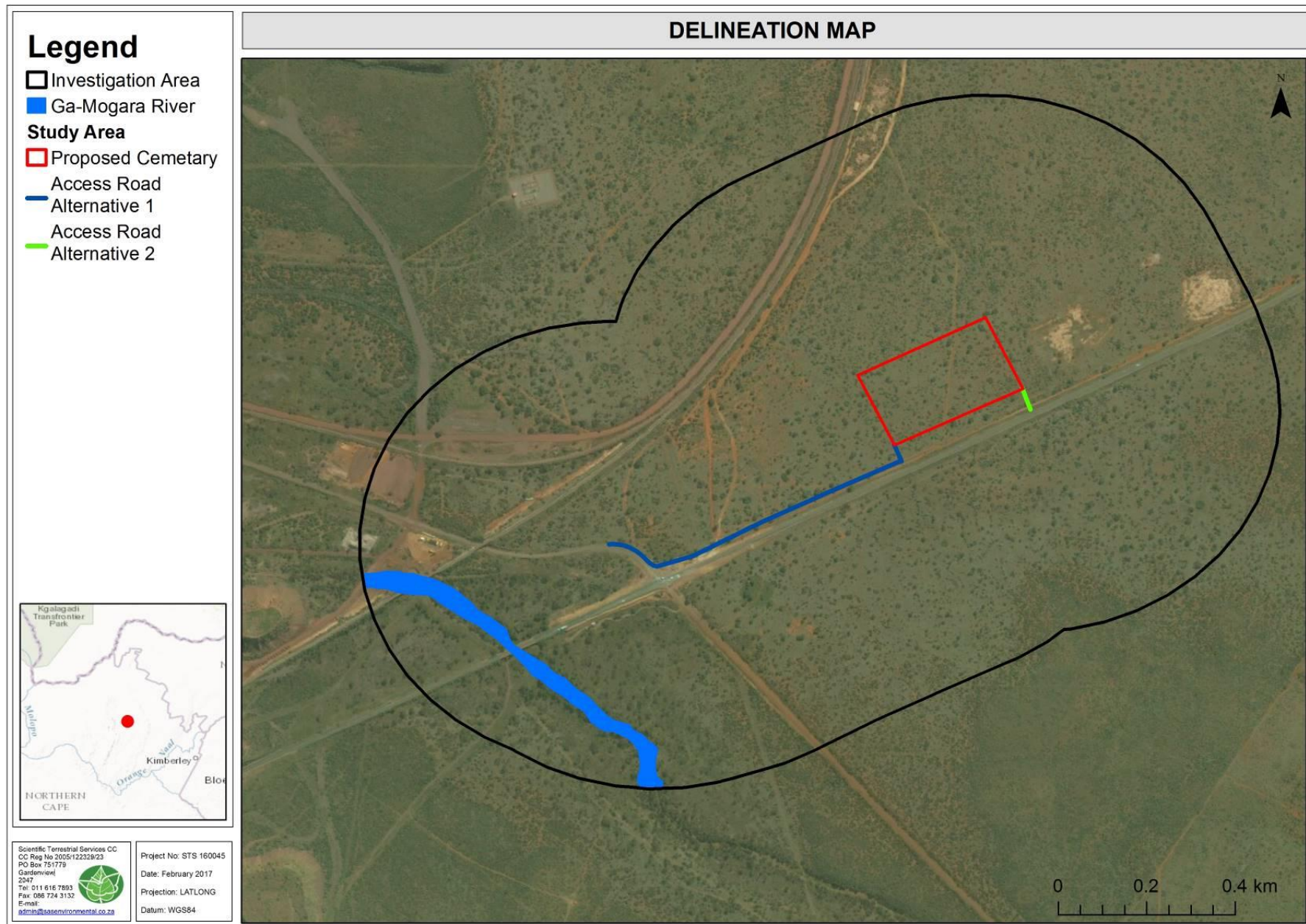


Figure 3: Digital Satellite image depicting the identified fresh water resource





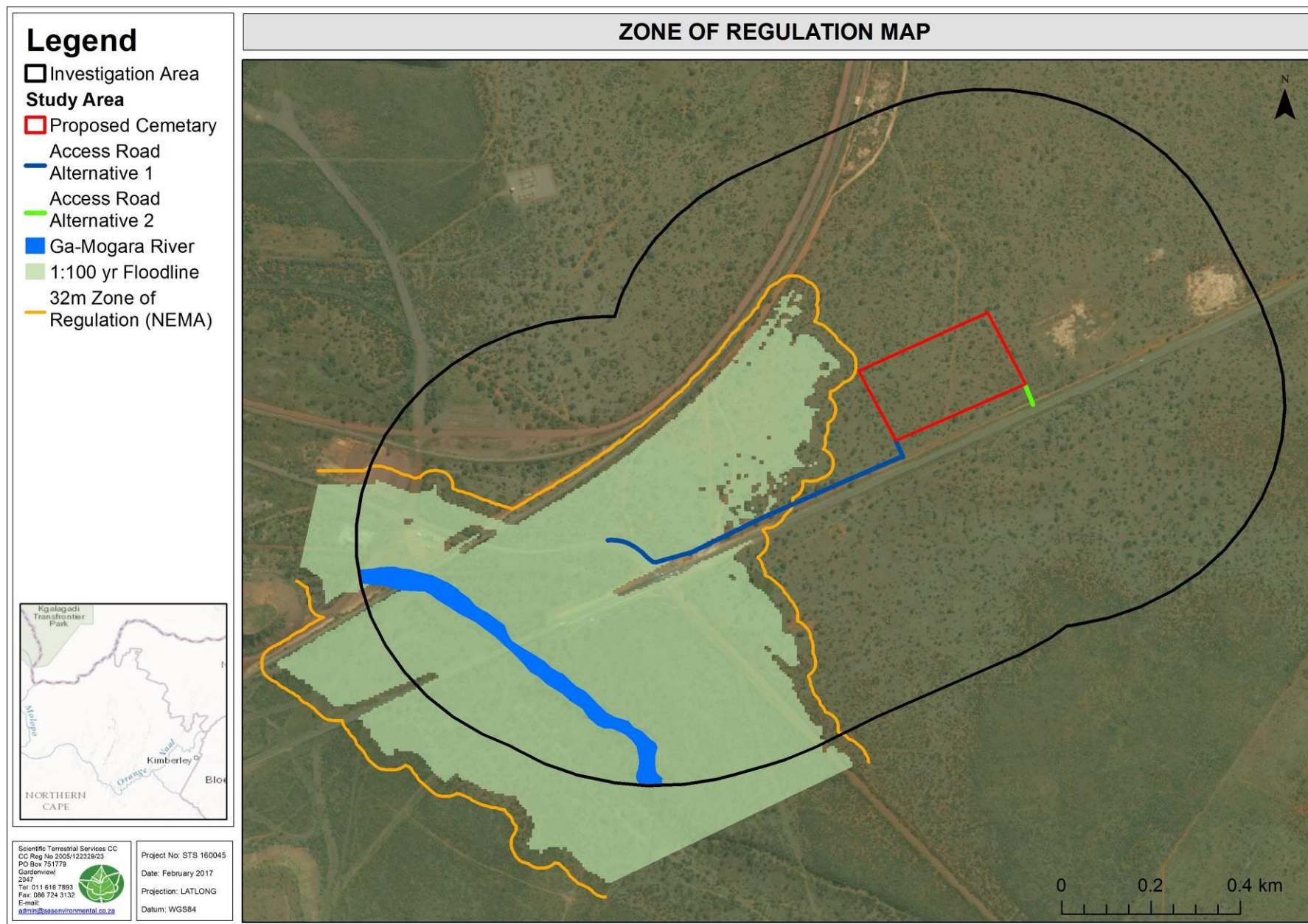


Figure 4: Freshwater resource within 500m of the study area, and the associated regulated zones







Figure 5: Representative photographs of Ga-Mogara River north of the N14 bridge.



Figure 6: Representative photographs of Ga-Mogara River where the riparian zone is less degraded, south of the N14 bridge.



Figure 7: Representative photographs of Ga-Mogara River where the N14 crosses the river.

#### 4. DWS RISK ASSESSMENT

During the risk assessment, consideration was given to the following aspects:

- The flood plain and freshwater resource (Ga-Mogara River) have historically undergone modifications as a result of anthropogenic activities. These include heavy grazing, edge effects from mining activities and direct impacts as a result of the construction of roads and railways through the freshwater resource and flood plain, thus the ecological integrity and service provision capacity of the flood plain and fresh water resource has already been significantly lowered;
- Due to the topography of the study area, direct impacts arising from the construction and operations of the cemetery are unlikely to affect the Ga-Mogara River to the south-east of the study area, due to the presence of raised roads and a railway line that are likely to act as buffers (silt-traps), collecting any sediment washed away along the banks and verges of these infrastructures;
- The study area and flood plain are located within deep, well drained sandy soils, thus limiting the amount of surface water runoff into the flood plain areas and the Ga-Mogara river system, therefore decreasing impacts that water runoff from the study area may have on the Ga-Mogara river system;
- The risk assessment was applied on the basis that the stipulated mitigation measures in all specialist (STS 2017) will be implemented as recommended and therefore the results presented demonstrate the impact significance of perceived impacts on the receiving freshwater environment **post-mitigation**; and
- When applying the risk assessment method, allowance was made for scores which are just outside the LOW risk class to be manually amended (to a maximum of 25), after considering additional mitigation measures, alternatives (methods) or specific activities, in order to reduce a risk rating class from Medium to Low. Where deemed appropriate and feasible, this manual risk rating adjustment was applied, as shown in the summary table below.

The results of the risk assessment are summarised in the table below. Assuming that strict, efficient implementation of well-developed mitigation measures takes place, the proposed development is considered to have medium significance impacts on the fresh water system and floodplain associated with the study area, although with strict enforcement of the stipulated mitigation measures or by seeking alternatives (Alternative Access 1), all anticipated impacts may be reduced to a low impact significance.



Table 1: Summary of results of the risk assessment.

No.	Phases	Activity	Aspect	Impact	Severity	Consequence	Likelihood	Significance	Risk Rating	Confidence level	Control Measures	Borderline LOW MODERATE Rating Classes
1	Construction	Site preparation and clearing of vegetation within the 1:100year flood line	<p>Clearing of vegetation within the 1:100year flood line;</p> <p>Earthworks, creating potential sources of sediment, which may be transported to the freshwater resource during periods of high rainfall;</p> <p>Transportation of construction materials, resulting in disturbances to soils, and increased risk of sedimentation/erosion within the flood line;</p> <p>Construction of temporary access roads, creating potential sources of sediment that can be carried to the floodplain via stormwater runoff.</p>	<p>Temporarily exposed soils, leading to increased risk of transportation of sediment to the floodplain;</p> <p>Increased sedimentation of the water resource may lead to altered water quality, smothering of vegetation, altered vegetation composition and a decreased biodiversity potential for faunal species;</p> <p>Exposed soils and temporary hard surfaces may result in increased stormwater runoff, leading to sheet erosion, as well as increased water inputs to the freshwater resource;</p>	1.75	5.75	11	63	M	80	<p>Vegetation is to be cleared systematically and only when necessary to avoid exposed soil surfaces for prolonged periods of time.</p> <p>Temporary soil stockpiles to be protected with hessian sheeting or a similar product to prevent windblown sedimentation / erosion.</p> <p>Construction waste must not be stored within the floodplain, and must be removed and disposed of at a registered waste disposal site.</p> <p>Berms to be constructed to slow down stormwater movement and ensure excess sediment is not deposited into the floodplain or fresh water resource.</p> <p>Sanitation services shall be provided for construction personnel, whereby at least one portable toilet will be provided per ten personnel and must be emptied regularly.</p> <p><b>Selection of Alternative Access 2 will result in no activities taking place within the 1:100-year flood line.</b></p>	L (-8)
2		Construction of road infrastructure within the 1:100year food line	<p>Construction of access roads within the floodplain (Alternative 1)</p> <p>Removal of topsoil during ground levelling activities;</p> <p>Creation of temporary stockpiles of all topsoil removed;</p> <p>Temporary storage of both construction related material and waste material;</p> <p>Construction vehicles accessing site through floodplain;</p>	<p>Increased risk of transportation of sediment from exposed soils in stormwater runoff, leading to increased sedimentation of the floodplain and fresh water resource, smothering of vegetation and/or altered vegetation composition;</p> <p>Indiscriminate movement of vehicles through the floodplain will result in loss of vegetation and disturbances of soils, increased sedimentation and erosion activities.</p>	1.75	5.25	11	63	M	80	<p>As per Impact 1.</p> <p>Strict supervision of all construction activities to ensure no construction related activities are conducted outside of the marked footprint.</p>	L (-8)





Scientific Terrestrial Services

No.	Phases	Activity	Aspect	Impact	Severity	Consequence	Likelihood	Significance	Risk Rating	Confidence level	Control Measures	Borderline LOW MODERATE Rating Classes
3	Construction	Construction of Alternative 2 Access route	Removal of topsoil during ground levelling activities; Creation of temporary stockpiles of all topsoil removed; Temporary storage of both construction related material and waste material; Construction vehicles accessing site through floodplain;	Temporarily exposed soils, leading to increased risk of erosion and the formation of preferential flow paths; Increased risk of stormwater carrying increased sediment loads into the flood plain; Vegetation clearing, leaving exposed soils and the increased risk of alien plant proliferation in the disturbed areas;	1.5	5.5	7	38	L	80	As per Impact 1. Construction waste must not be stored within the regulated zone, and must be removed and disposed of in accordance with existing approved waste management policies.	
4	Operations	Vehicles accessing the study area	Increased levels of water runoff as a result of a higher incidence of hardened surfaces within the study area leading to erosion, the creation of preferential flow paths and sedimentation of the floodplain Increased risk of ground water pollution as a result of possible contaminant leakages from vehicles accessing the study area Increased risk of indiscriminate movement of vehicles through and/or dumping of waste in the floodplain area as site will be open to the public; Increased alien plant proliferation from habitat disturbance.	Sedimentation of the floodplain and freshwater resource could lead to altered water quality and vegetation community composition; Contamination of surface and ground water, leading to impaired water quality within the fresh water resource; Additional water inputs as a result of increased stormwater runoff, if properly managed, could potentially result in increased vegetation growth due to increased moisture. The increased vegetation growth will help stabilise the soils and trap excess sediment runoff (positive impact) Soil compaction from vehicle access and soil disturbance could result in the proliferation of alien plant species, resulting in the loss of endemic riparian vegetation, altering the riparian habitat	1.25	5.25	12	63	M	80	Monitoring of erosion must take place on a yearly basis, in order to prevent the formation of erosion gullies as a result of altered flow paths, and the possible sedimentation of the floodplain Berms are to be used to slow down the flow of stormwater  Selection of Alternative Access 2 will result in no activities taking place within the 1:100-year flood line	L (-5)



## 5. CONCLUSION

The NFEPA database (2011) indicated the presence of the Ga-Mogara River 300m to the southeast of the study area, which is considered to be in a moderately modified ecological condition, however at the time of the field verification, the section of the river assessed is considered to be in a significantly higher state of degradation. No other areas of importance were identified within or within the immediate vicinity (within 500m) of the study area by the relevant desktop databases.

Based on the findings of the study, the following is recommended:

1. Although the watercourse has been significantly modified, the ecoservice provision and hydrological function thereof is still deemed important. Therefore, as much protection of the watercourse and floodline must be afforded during construction activities.
2. Alternative Access 1 falls within the 1/100-year floodline, and as such if any activities are to take place within this regulated zone, authorisation will be required in terms of the NWA. Please refer to Figure 4 for the conceptual depiction of these buffer and regulated zones.
3. Should detailed information pertaining to the PES and EIS of the watercourse be required, further studies will need to be undertaken.
4. The perceived impacts per the DWS Risk Assessment are considered to be Medium, however they directly relate to the regulated zone and the impact there-on. With suitable mitigation measures the impacts can be significantly decreased, and construction activities should not have any significant impact upon the regulated zone.
5. It is recommended that proceeding forward, the proponent should obtain guidance from the relevant regulating authorities with regards to the development process within the associated regulated zone (NWA), and that the relevant environmental authorisations and water use authorisation processes are followed.

We trust that this letter will find you well. Please do not hesitate to contact us if there are any aspects you would like to discuss further.

Yours Faithfully,

**Digital Documentation Not Signed for Security Purposes**

Stephen van Staden



## 6. REFERENCES

- Department of Water Affairs and Forestry (DWAF). 2008. Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas, prepared by M. Rountree, A. L. Batchelor, J. MacKenzie and D. Hoare. Report no. X. Stream Flow Reduction Activities, Department of Water Affairs and Forestry, Pretoria, South Africa.
- Department of Water and Sanitation (DWS). 2016. Section 21 c and i water use Risk Assessment Protocol.
- Kleynhans C.J., Thirion C. and Moolman J. 2005. A Level 1 Ecoregion Classification System for South Africa, Lesotho and Swaziland. Report No. N/0000/00/REQ0104. Resource Quality Services, Department of Water Affairs and Forestry, Pretoria
- NFEPA: Driver, A., Nel, J.L., Snaddon, K., Murray, K., Roux, D.J., Hill, L., Swartz, E.R., Manuel, J. and Funke, N. 2011. Implementation Manual for Freshwater Ecosystem Priority Areas. Water Research Commission. Report No. 1801/1/11. Online available: <http://bgis.sanbi.org/nfepa/project.asp>
- NPSDF (2012). Northern Cape Provincial Spatial Development Framework/ Provincial Development and Resource Management Plan. Department of Cooperative Governance, Human Settlements and Traditional Affairs.
- RQS Department of Water and Sanitation (DWS) 2012. Present Ecological State, Ecological Importance and Ecological Sensitivity database for Primary Drainage Region A. Online available: <http://www.dwa.gov.za>.
- Scientific Terrestrial Services (STS) 2017. Faunal and Floral Ecological Assessment as part of the Environmental Assessment and Authorisation Process for the Proposed New Kathu Cemetery, Kathu, Northern Cape.



**APPENDIX A: DESKTOP ASSESSMENT RESULTS**

**Table A1: Desktop data relating to the character of freshwater resources within the study area and surrounding region.**

Aquatic ecoregion and sub-regions in which the study area is located		Detail of the study area in terms of the National Freshwater Ecosystem Priority Area (NFEPA) (2011) database (Figure 4 & 5)	
Ecoregion	Southern Kalahari	FEPACODE	The study area falls within an area considered as an Upstream Management Area. These are Upstream Management Catchment required to prevent the downstream degradation of FEPAS and Fish Support Areas
Catchment	Orange		
Quaternary Catchment	D41J		
WMA	Lower Vaal	NFEPA Wetlands	There are no wetlands associated with the study area according to the NFEPA Wetlands Database, with the nearest wetland located $\pm$ 1.8 km to the west.
subWMA	Molopo		
Dominant characteristics of the Southern Kalahari Ecoregion Level 2 (29.01) (Kleynhans <i>et al.</i> , 2007)		Wetland vegetation Type	The study area is located within the Eastern Kalahari Bushveld Group 3 wetland vegetation type (Least Threatened). The western portion of the Access Road Alternative 1 falls within the Eastern Kalahari Bushveld Group 4 wetland vegetation type (Least Threatened). (Figure A1)
Dominant primary terrain morphology	Plains: Moderate relief, Closed Hills, Mountains: Moderate and high relief. Hills and Lowlands, Extremely Irregular Plains (Almost Hilly), Lowlands and hills, slightly irregular Plains and Pans		
Dominant primary vegetation types	Karroid Kalahari Bushveld, Kalahari Mountain Bushveld, Kalahari Plateau Bushveld	NFEPA Rivers	The Ga-Mogara River is located $\pm$ 300m to the southwest of the study area. According to the NFEPA Database the Ga-Mogara River is considered to be in a moderately modified ecological condition (Class C) (Figure A2)
Altitude (m a.m.s.l)	700-1500		
MAP (mm)	0 to 500		
Coefficient of Variation (% of MAP)	30 to 40	Detail of the study area in terms of the Gamagara Local Municipality Biodiversity Summary Project (MBSP, 2010).	
Rainfall concentration index	60 to >65	The database indicated the presence of the Ga-Mogara River 300m southeast of the study area, which corresponds with the NFEPA database.	
Rainfall seasonality	Late summer	Ecological Status of the most proximal sub-quaternary reach (DWS, 2014)	
Mean annual temp. (°C)	16 to 22	Sub-quaternary reach	D41J-02464 (Ga-Mogara)
Winter temperature (July)	0 to 22 °C	Assessed by expert?	Y
Summer temperature (Feb)	16 – >32 °C	Mean Ecological Importance (EI) Class	Low
Median annual simulated runoff (mm)	<5 to 40	Mean Ecological Sensitivity (ES) Class	Very Low
Northern Cape Provincial Spatial Development Framework (NPSDF, 2012)		Stream Order	3
<ul style="list-style-type: none"> <li>The proposed study area is situated within the Griqualand West Centre of Endemism). (Figure A3); and</li> <li>The proposed MRA is situated within the Gamagara Corridor. The corridor focuses on the mining of iron and manganese (Figure A4)</li> </ul>		Default Ecological Class (based on median PES and highest EI or ES mean)	D





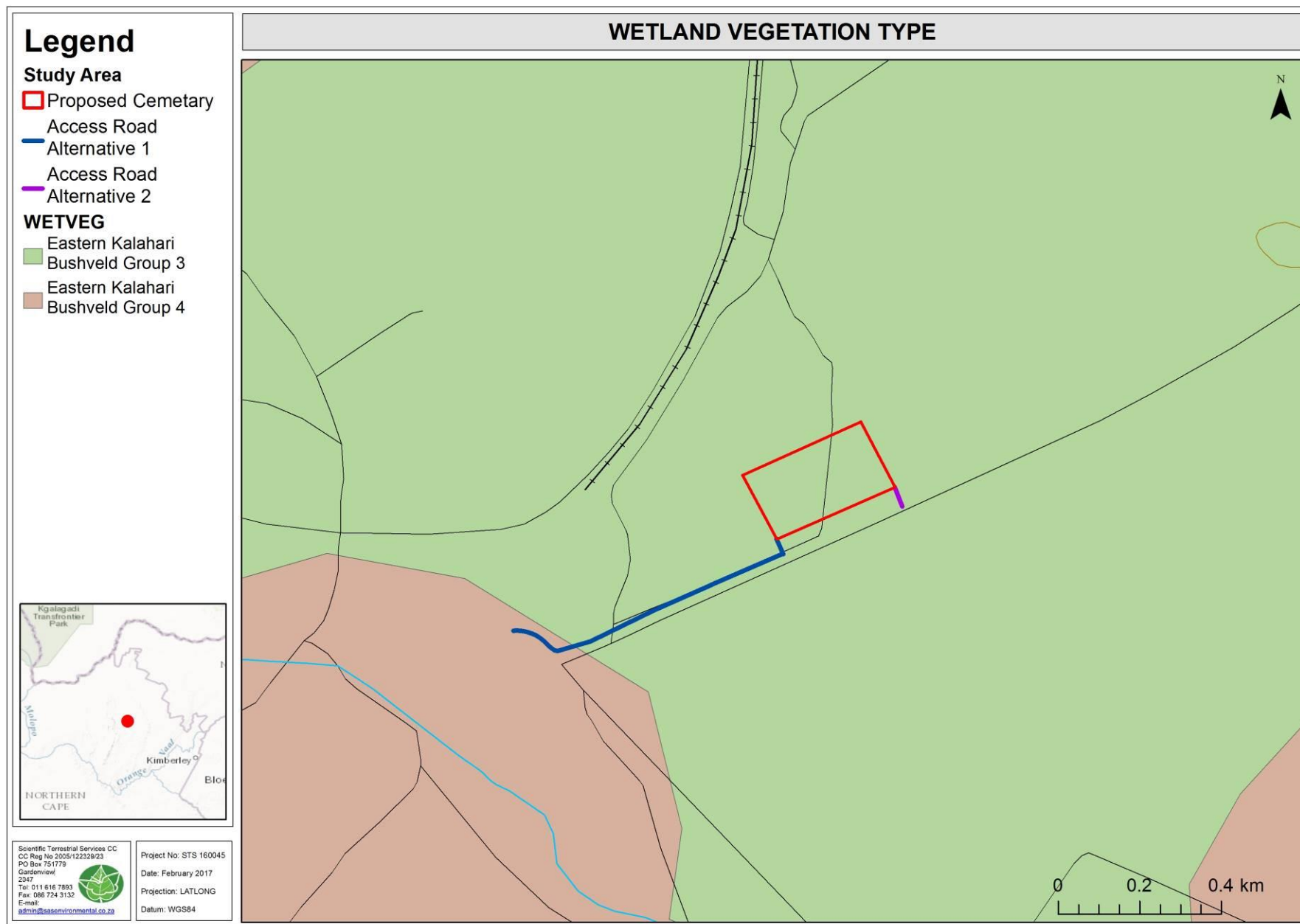


Figure A1: Wetland Vegetation groups associated with the study area (NFEPA, 2011).



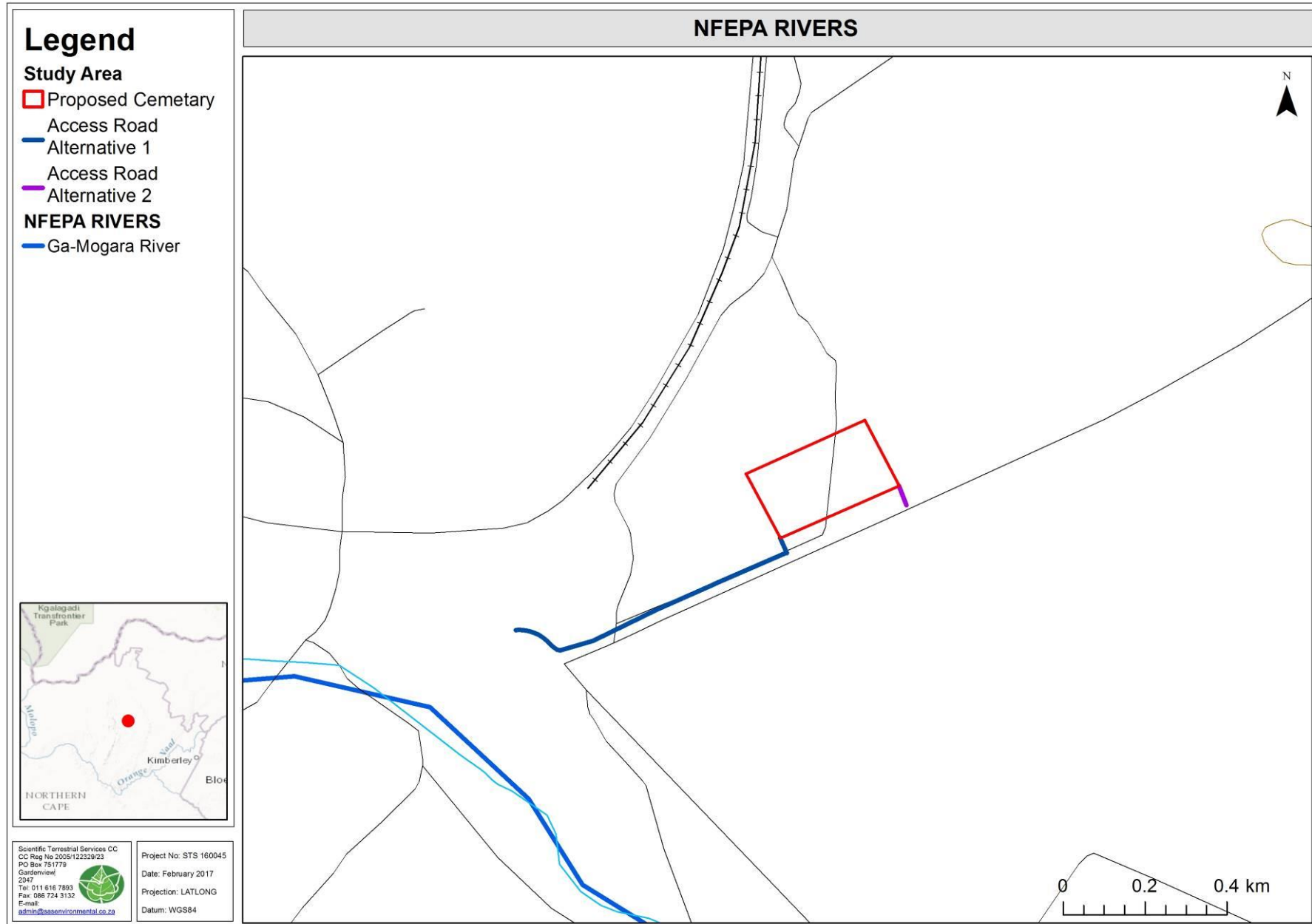


Figure A2: The Ga-Mogara River located southeast of the study area (NFEPA, 2011)



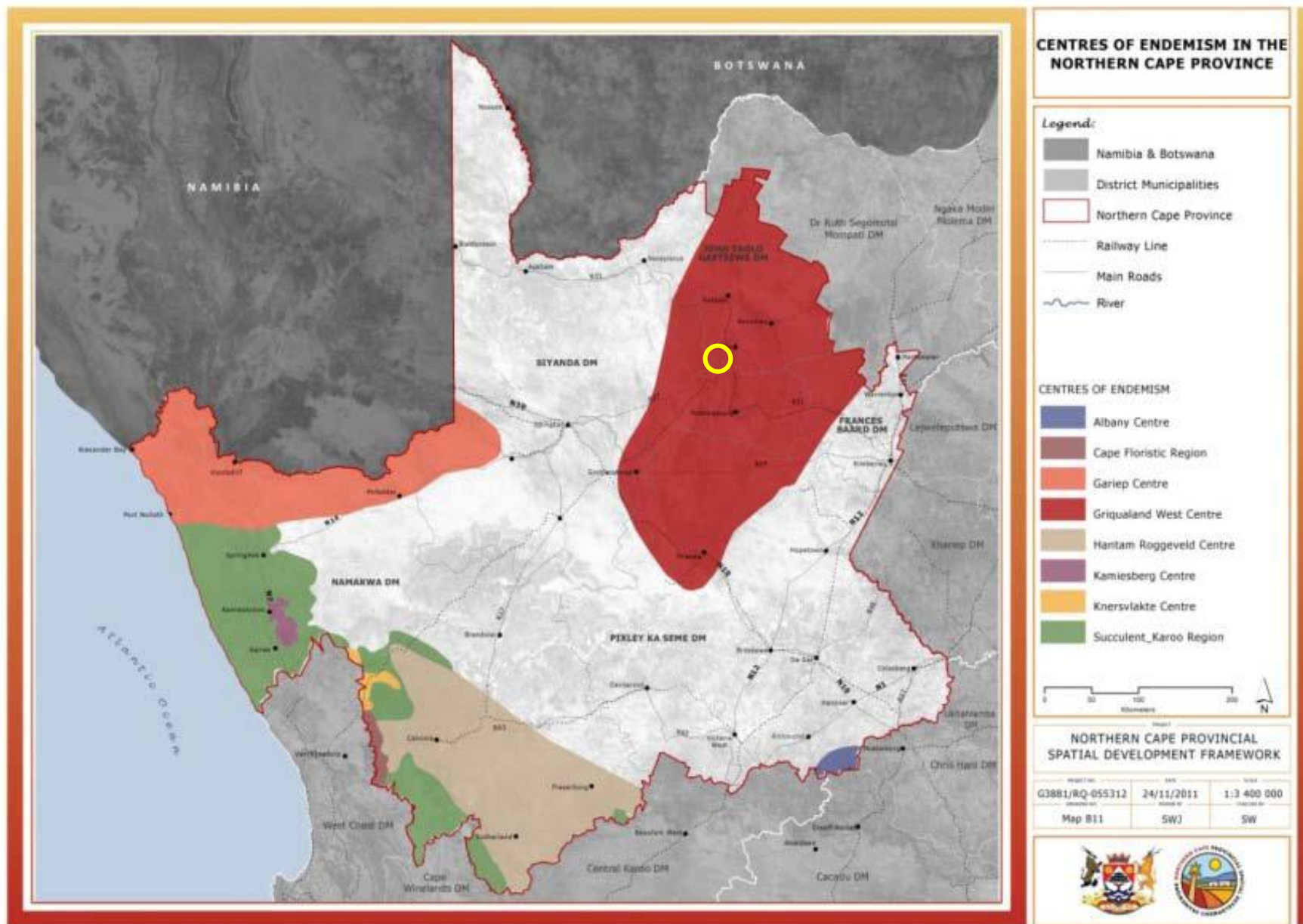


Figure A3: Centres of endemism of the Northern Cape Province: the MRA indicated by a yellow circle (Northern Cape Provincial Spatial Development Framework, 2012).





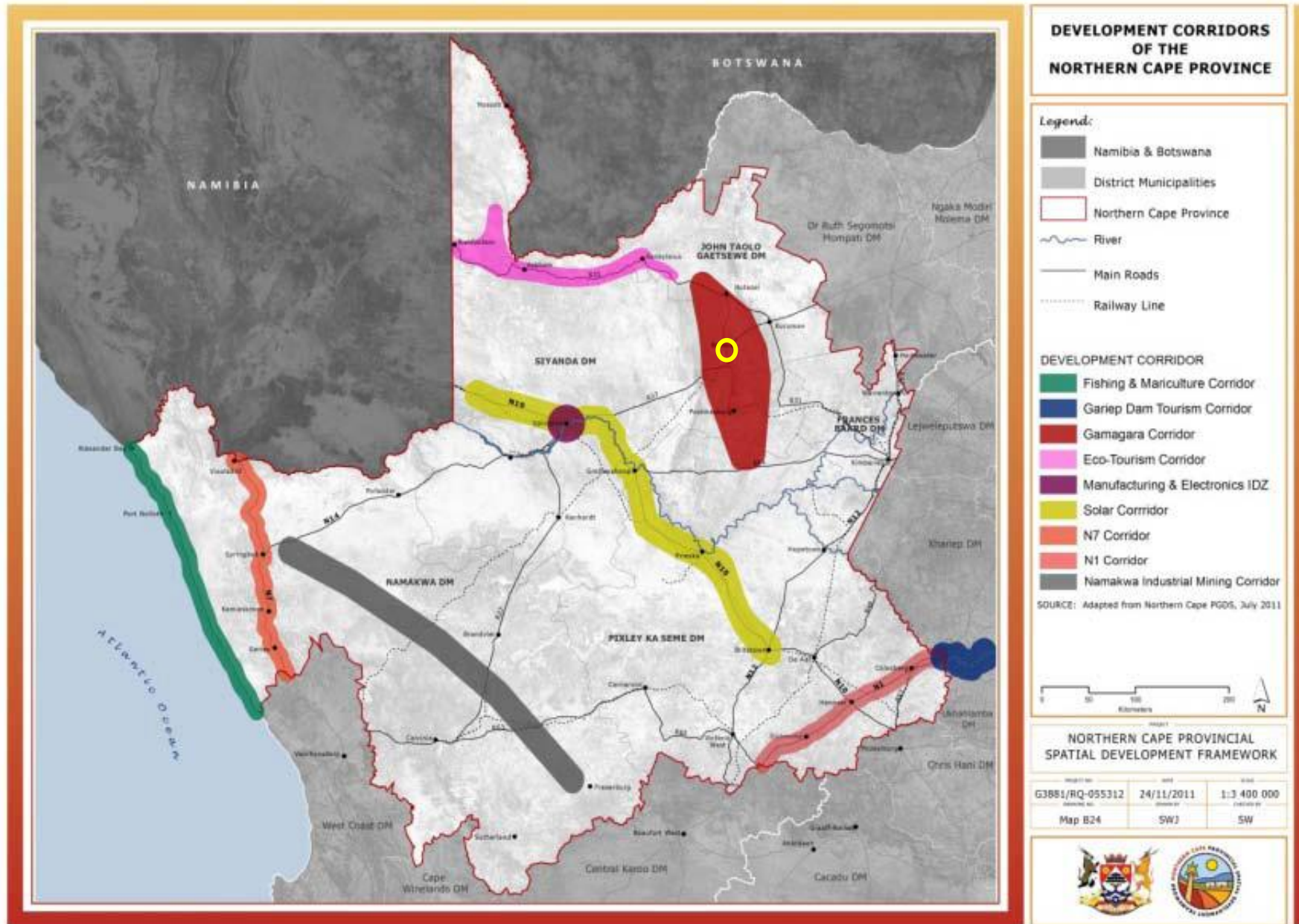


Figure A4: Development regions and corridors of the Northern Cape: the MRA indicated by the yellow circle (NPSDF, 2012).





### **Northern Cape Provincial Spatial Development Framework (NPSDF, 2012)**

The proposed study area falls within the Griqualand West Centre of Endemism (GWC). According to van Wyk and Smith (2001), the GWC coincides with the surface outcrops of the Ghaap Group (previously Griqualand West Sequence) and Olifantshoek Supergroup (previously Sequence). However, in floristic terms the outer boundaries of the centre are rather diffuse, as several of the GWC floristic elements spill over onto related substrates, especially alkaline substrates rich in calcium.

The Kalahari Mountain Bushveld covers the mountainous western parts of the GWC, and, both endemic to the centre, covers the eastern plateau area. *Tarchonanthus camphorates* is a particularly common woody species in these two bushveld types. Typical mountain species include *Searsia tridactyla* (formally known as *Rhus tridactyla*), *Croton gratissimus* and *Buddleja saligna*. Pockets of Karoo-type vegetation increase towards the south and west, especially in heavily overgrazed areas.

The vegetation of the GWC is still intact, although extremely poorly conserved. Apparently, the Kalahari Plateau Bushveld is the only Savanna Biome vegetation type, which is not represented in any sizable nature reserve. Bush encroachment by e.g. the indigenous *Senegalia mellifera* (formally known as *Acacia mellifera*), which is due to inappropriate veld management practices (mainly overgrazing by domestic livestock), is a major problem in many parts of the region.



**APPENDIX B: SPECIALISTS DETAILS AND DECLARATION**



**the denc**

Department:  
Environment & Nature Conservation  
NORTHERN CAPE PROVINCE  
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, Metlife Towers, T-Floor, Tel: 053 807 7300, Fax: 053 807 7328

**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

Application for authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014

File Reference Number:	(For official use only)
NEAS Reference Number:	
Date Received:	

**1. Project title:**

**New Kathu Cemetery**

**2. Details of the specialist:**

<b>Project Specialist:</b>	Stephen van Staden	
<b>Trading name (if any):</b>	Scientific Terrestrial Services	
<b>Business reg. no./ID. no.:</b>	2005/122329/23	
<b>Contact person:</b>	Stephen van Staden	
<b>Physical address:</b>	29 Arterial Road West, Oriel, Bedfordview, 2007	
<b>Postal address:</b>	PO Box 751779, Gardenview, 2047	
<b>Postal code:</b>	2047	<b>Cell:</b> 083 415 2356
<b>Telephone:</b>	011 616 7893	<b>Fax:</b> 011 615 6240/ 086 724 3132
<b>E-mail:</b>	emile@sasenvironmental.co.za	
<b>Qualifications:</b>	MSc (Environmental Management) (University of Johannesburg) BSc (Hons) Zoology (Aquatic Ecology) (University of Johannesburg) BSc (Zoology, Geography and Environmental Management) (University of Johannesburg) Tools for wetland Assessment short course Rhodes University	
<b>Professional affiliation (s) (if any)</b>	Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP) Accredited River Health practitioner by the South African River Health Program (RHP) Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum	

**3. Details of the consultant**

<b>Project consultant/firm:</b>	<b>Synergistics Environmental Services (Pty) Ltd</b>	
<b>Business reg. no./ID. no.:</b>	2003/030216/07	
<b>Contact person:</b>	Chiara D'Egidio Kotze	
<b>Postal address:</b>	PO Box 1596 Cramerview	
<b>Postal code:</b>	2060	<b>Cell:</b> 0732 777 228
<b>Telephone:</b>	011 467 0945	<b>Fax:</b> 011 467 0978
<b>E-mail:</b>	ckotze@slrconsulting.com	

**4. Declaration by the specialist appointed in terms of the Environmental Impact Assessment Regulations, 2010 2014**

I, Stephen van Staden, declare that --

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



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Signature of the specialist:

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Scientific Terrestrial Services

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Name of company (if applicable):

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Date:

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Signature of the Commissioner of Oaths:

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Date:

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Designation:

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Official stamp (below):

