Project Applicant: **ANGLO AMERICAN, KUMBA IRON ORE**

Project: # Kathu Supplier Park

Report Name: # Technical Report for the Water Use Application for Section 21 (c) and (i) for the Kathu Supplier Park

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Reviewed by:	Linda Munro
For Submission to:	Department of Water and Sanitation (DW&S), as part of the Water Use License Application in terms of Section 21 of the National Water Act, 1998 (NWA, No. 36 of 1998).
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Working Together

PROJECT INFORMATION SHEET

PROJECT:

Kathu Supplier Park

REPORT DETAILS:

Report Name: **Technical report for the Water Use Application for Section 21 (c) and (i) for the Kathu Supplier Park**

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S0640/EIA01 February 2015

ANGLO AMERICAN, KUMBA IRON ORE AND THE INDUSTRIAL DEVELOPMENT CORPORATION

Kathu Supplier Park

Technical Report for the Water Use Application for Section 21 (c) and (i) for the Kathu Supplier Park (Draft)

EXECUTIVE SUMMARY

Introduction to the project

Anglo American, Kumba Iron Ore (Kumba) through its subsidiary the Sishen Iron Ore Company (Pty) Ltd (SIOC) and the Industrial Development Corporation (IDC) are proposing the possible development of an industrial park near Kathu in the Northern Cape for the purpose of establishing an operating platform for businesses that support mining and other industries.

The proposed 'Kathu Supplier Park' will be located on the Farm Sekgame 461 south of Kathu and the R380 provincial road, within the John Taolo Gaetsewe District Municipality and the Gamagara Local Municipality, in the north-eastern part of the Northern Cape Province.

The town of Kathu has been selected as the preferred location for the supplier park due to its central proximity to the mining industry in particular. The mining industry is one of the largest contributors to the economy of the Northern Cape. Economic activities in the Northern Cape are primarily focused on mining of diamonds, iron ore, copper, limestone, manganese, zinc lead and other minerals. The town of Kathu is known as the iron ore capital of the country. Kathu has one of the five largest open cast iron-ore mining operations in the world, namely the Sishen Iron Ore Mine, and is centrally located to serve the whole mining industry of the Northern Cape with relatively easy access to Postmasburg, Hotazel, Kuruman, Kimberley, Upington, Johannesburg and Saldanha. With the major growth of the mining and solar industry around Kathu, it could potentially become a future industrial node of the Northern Cape. This development will satisfy the demand for facilities to house suppliers and is easily accessible from the N14 highway, a major service route between Johannesburg, the West Coast of South Africa and Botswana.

Water Use Licence Application

In order for the Kathu Supplier Park project to commence, it will be necessary to obtain a water use licence (WUL) from the Department of Water and Sanitation (DW&S) in terms of Section 40 of the National Water Act (NWA; No. 36 of 1998) for applicable water uses listed in Section 21 of the NWA. A WUL is required as there is a natural wetland pan where the Kathu Supplier Park is to be constructed. Currently there is illegal dumping in the wetland pan and there are no specific water uses related to the wetland pan.

The design of the Kathu Supplier Park has allowed for the wetland pan to be retained on site and a 32 m buffer will be provided to minimise the impacts to the pan.

Since the Kathu Supplier Park will be built around the wetland pan, it is necessary to apply for a WUL for this pan under:

- Section 21 (c) impeding or diverting the flow of water in a watercourse
- Section 21 (i) altering the bed, banks, course or characteristics of a watercourse

Key findings and conclusion

A Wetland Ecological Assessment was conducted by Scientific Aquatic Services (SAS), where the possible impacts that the Kathu Supplier Park will have on the wetland pan were assessed. SAS concluded that since the wetland pan was being retained, the impacts to the wetland pan, with mitigation measures implemented, would be negative low to very low.

The wetland pan will be retained and will be incorporated into the design of the Kathu Supplier Park. In addition, the wetland pan will no longer have any illegal dumping and a 32 m buffer will be maintained around it, thus the quality of the pan is likely to improve.

With rehabilitation measures implemented, SAS deemed it likely that the current ecology and functionality of the pan could be improved.

Consultant Declaration

Synergistics Environmental Services (Pty) Ltd (Synergistics) (part of the SLR consulting group) is an independent environmental consultancy that was established in South Africa in 2004.

The undersigned consultants herewith declare that this Technical report represents an objective and complete assessment of the water related environmental impacts associated with the proposed Kathu Supplier Park. Issues and impacts were identified and assessed through professional judgement and consultation with interested and affected parties and authorities.

The Water Use Licence Application process followed for the project is deemed to comply with relevant legislation, best practices and principles of integrated environmental management.

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S0640/EIA01 March 2015

ANGLO AMERICAN, KUMBA IRON ORE AND THE INDUSTRIAL DEVELOPMENT CORPORATION

Kathu Supplier Park

Technical Report for the Water Use Application for Section 21 (c) and (i) for the Kathu Supplier Park (Draft)

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TERMS AND ABBREVIATIONS

Acronyms / Abbreviations	**Definition**
BEE	Black Economic Empowerment
DEA	Department of Environmental Affairs
DW&S	Department of Water and Sanitation (previously Department of Water Affairs DWA)
EIA	Environmental Impact Assessment
EMP(r)	Environmental Management Programme (Report)
GNR	Government Notice Regulation
m^3/a	cubic meters per annum
m^3/s	cubic meters per second
MPRDA	Mineral and Petroleum Resources Development Act (No. 28 of 2002)
NEMA	National Environmental Management Act (No. 107 of 1998)
NWA	National Water Act (No. 36 of 1998)
OHSA	Occupational Health and Safety Act (85 of 1993)
SAS	Scientific Aquatic Services
SIOC	Sishen Iron Ore Company (Pty) Ltd
SWEP	Sishen Western Expansion Project
WULA	Water Use Licence Application

GLOSSARY OF TERMS

Baseline Environment

Pre-development environmental conditions. The prevailing environmental conditions (or status quo) prior to the start of an activity or project, including current / existing environmental damage / degradation.

Environment

Surroundings in which organisms operate, including air, water, land, natural resources, flora, fauna, humans and their inter- relations (includes bio-physical and socio-economic components).

Environmental Impact Assessment (EIA)

An EIA is an assessment of the positive and negative environmental consequences of the proposed project. The primary objective of the EIA is to aid decision-making by providing factual information on the assessment of these impacts, and determining their significance, as well as making valued judgements in choosing one alternative over another. For this EIA a combination of checklists, overlays and mapping, scoping and professional experience will be used to identify the possible negative and positive impacts on the environmental components.

Ephemeral

Ephemeral water bodies (wetlands, springs, streams, rivers, ponds or lakes), are found in semi-arid to arid upland areas, that only flow (exists) for a brief period of time during and shortly after rain. The banks of these water bodies have scattered riparian vegetation including trees, shrubs, and grasses, but often with incomplete or discontinued tree canopy cover.

It is not the same as intermittent, seasonal or non-perennial water bodies, which exist for longer periods, but not all year round.

Interested and Affected Parties (I&APs)

These are individuals or groups concerned with or affected by the environmental impacts and performance of a project. Interested groups include those exercising statutory environmental control over the project, local residents/communities (people living and/or working close to the project), the project's employees, customers, consumers, investors and insurers, environmental interest groups, the general public, etc.

Significant Impact

An impact can be deemed significant if scientific environmental studies, consultation with the relevant authorities and other interested and affected parties, on the context and intensity of its effects, provide reasonable grounds for mitigating measures to be included in the environmental management report and environmental management programme. Present and potential future, cumulative and synergistic effects should all be taken into account.

SO640/EIA01 **January 2015**

ANGLO AMERICAN, KUMBA IRON ORE AND THE INDUSTRIAL DEVELOPMENT CORPORATION

Kathu Supplier Park

Technical Report for the Water Use Application 21 (c) and (i) for the Kathu Supplier Park

1. Preliminaries

1.1 Introduction and background

The town of Kathu is known as the iron ore capital of the country. Kathu has one of the five largest open cast iron-ore mining operations in the world, namely the Sishen Iron Ore Mine, and is centrally located to serve the whole mining industry of the Northern Cape with relatively easy access to Postmasburg, Hotazel, Kuruman, Kimberley, Upington, Johannesburg and Saldanha. With the major growth of the mining and solar industry around Kathu, it could potentially become a future industrial node of the Northern Cape. This development will satisfy the demand for facilities to house suppliers and is easily accessible from the N14 highway, a major service route between Johannesburg, the West Coast of South Africa and Botswana.

An investigation was undertaken by the Kumba project team to identify infrastructural needs for the town of Kathu. A supplier park concept not only attracted significant interest from businesses but also various financial institutions. This facility will provide for the delivery of industrial goods and services and the proposed location in Kathu is central and apart from servicing the mining industry, is also near to major projects such as the Solar Plant Park, and towns such as Postmasburg, Hotazel, and Kuruman.

The cluster concept that is being applied in the development of the Kathu Supplier Park will integrate the needs of all value chain stakeholders with those of political and financial/ funding stakeholders. Political considerations include alignment with the Government's objective to achieve significant macroeconomic benefits by creating and sustaining jobs in sectors, attracting fixed domestic investment as well as ensuring an environment conducive to growth.

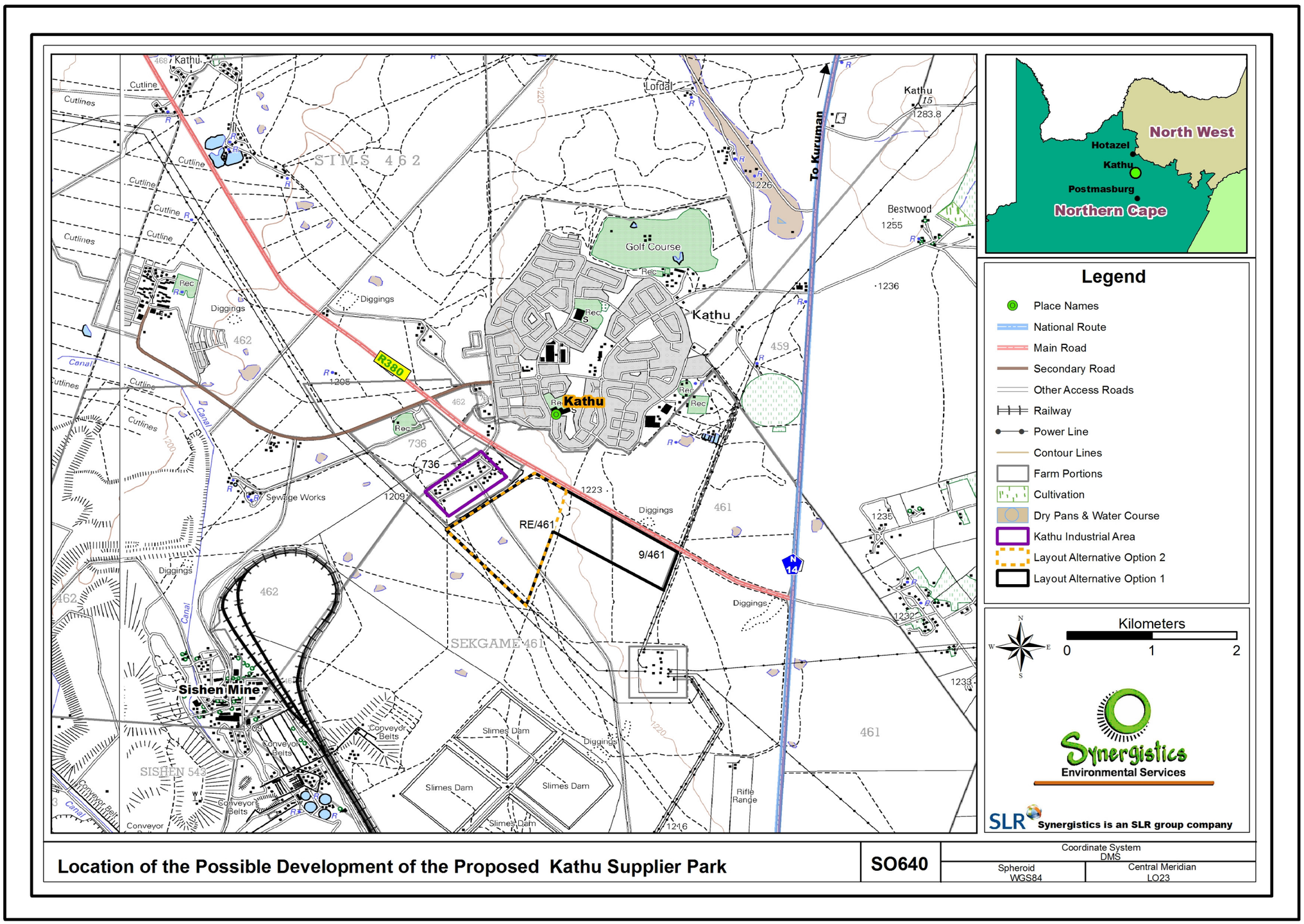

Figure 1: Locality of the Possible Development of the Proposed Kathu Supplier Park (Kumba and IDC Alternative Layout Options)

1.2 Purpose and structure of the document

The purpose of this document is to provide supplementary information for the authorising of water uses for the Kathu Supplier Park project.

The report provides:

- A description of the legal requirements for water use licensing (Section 1.3.2).
- Project information about the proposed Kathu Supplier Park (Section 3).
- A description of and motivation for all the water uses included in the IWULA (Section 1.3.2).
- A description of the baseline environment (Section 1 and individual descriptions of key receptors in Section 4).
- A description of the key water-related environmental receptors and the potential impacts (Section **Error! Reference source not found.**).
- Proposed integrated water and waste management procedures and practices to mitigate potential impacts (Section 3.3 and Section 6).
- Supporting technical information (as per Appendices).

1.3 Legal Assessment framework

1.3.1 Existing Lawful Uses

There are currently no known existing lawful water uses on the Kathu Supplier Park project site, other than permissible water uses under Schedule 1 of the National Water Act (NWA, No. 36 of 1998).

1.3.2 Water uses in terms of Section 21

A water use licence (WUL) is required from the DW&S in terms of Section 40 of the NWA for the following water uses for the Kathu Supplier Park:

Table 1. Specific water uses to be authorised

Type of water use	Property	Description
• Section 21 (c) impeding or diverting the flow of water in a watercourse[1] • Section 21 (i) altering the bed, banks, course or characteristics of a watercourse	Remainder of Farm Sekgame 461	The Kathu Supplier Park will be constructed around a natural ephemeral wetland pan.

The applications forms for each of these licenses have been submitted to the DW&S together with this report.

[1] Watercourse – in terms of the NWA a watercourse is means -
(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) any collection of water which the Minister may, by notice in the *Gazette,* declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

The artificial wetland groups that are present on site – the moist grasslands, the artificial seep and artificial dam – are not included in the WUL Application (WULA), as discussed with Moses Mahunonyane and Philani Msimango of the Northern Cape DW&S. Therefore, only the natural wetland pan (wetland pan) is discussed in this report.

1.3.3 Summary of relevant exemptions

There are no exemptions that have been granted for any of the Section 21 water uses of the NWA nor are any being applied for in this application.

1.3.4 Summary of general authorisations

There are no general authorisations that have been granted for any of the Section 21 water uses of the NWA nor are any being applied for in this application for the Kathu Supplier Park project.

1.4 Surface owner

Name of Organisation: Sishen Iron Ore Company (Pty) Ltd
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1.5 Adjacent/potentially affected properties

North west from where the Kathu Supplier Park is to be located, is an existing industrial area known as the Kathu Industrial area (refer to Figure 1). To the east of the project site on the property owned by the Gamagara Local Municipality, there is a moist grasslands, an artificial seep and an artificial dam.

2. Section 27 Motivation

(a) Existing lawful water uses

There are currently no known existing lawful water uses, other than existing lawful water uses under Schedule 1 of the NWA of permissible water uses.

(b) The need to redress the results of past racial and gender discrimination

Kumba and the IDC have highlighted the importance of establishing the Kathu Supplier Park with the focus being social and economic development. Economic development in this context refers to standard acceptable economic measures such as gross geographic product, enterprise creation, job creation, economic upliftment in an area with high levels of poverty, unemployment and illiteracy. The Kathu Supplier Park will aim to create jobs in both the construction and operational phases of the proposed development.

New employment opportunities will be created during the construction and operation phases of the project. It is estimated that ~ 1 300 people (195 senior, 390 skilled and 715 unskilled persons) will be required during the 12 to 18 month construction period. The contractor will be required to employ labour from the local community as far as reasonably possible. The Gamagara Municipality and Department of Labour will be kept informed about the recruitment process. Around 600 people might be employed during operation.

Refer to Appendix A of the IWULA for Kumba's Corporate Governance Report and Kumba's Integrated Report, which provides information on BEE ownership and Kumba BEE shareholders.

(c) Efficient and beneficial use of water in the public interest

As a public trustee of the water resources, the DW&S must ensure that the water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all users. The Minister, through the department, has to ensure that the water is allocated equitably and used beneficially in the public interest, while promoting environmental values.

The Kathu Supplier Park project is committed to sustainable water use and will endeavour to have minimal impacts on the surrounding watercourses. The recommendations provided by the Wetland Ecological Assessment Report (See Appendix B) will be put in place where possible and applicable to help minimise impacts to the aquatic environment. The use of the water will be in the public interest as it will result in the positive socio-economic impacts described above and will improved the wetland.

(d) The socio-economic impact -

(i) of the water use or uses if authorised; or

If the water use is authorised, then the Kathu Supplier Park Project will be able to proceed. This could result in:

- Sustainable employment opportunities;
- Potential gain in government taxes;
- The realisation of annual expenditure in the local economy;
- Enhancing local economic development;
- The local creation of Small, Medium and Micro Enterprises (SMME) development opportunities through providing access to new markets and improving economies of scale;
- The opportunity to provide skills development and training to the local community;
- Impacts on town and social structure e.g. crime, inward migration of people, pressure on services etc.; and
- Incubation of local entrepreneurs and businesses.

(ii) Of the failure to authorise the water use or uses;

Without the water use, the Kathu Supplier Park will not be able to proceed. Therefore none of the scenarios in section d (i) will be realised.

(e) Any catchment management strategy applicable to the relevant water resource

A catchment management strategy has not been developed yet for the Lower Vaal, with the Internal Strategic Perspective report of 2004 (Report No. 10/000/00/0304) being the most up-to-date document available in relation to management.

According to Orasecom (2009), the predominant land use of the Middle Molopo sub-area, where catchment D41J is located, is livestock farming and the largest water requirement is livestock watering.

It is planned for the D41J catchment to receive water from the Vaal Gamagara Water Supply (VGWS) Scheme. The scheme consists of the purification 13.27 million cubic meters per annum (m^3/a) water, pumps, 11 reservoirs and 370 km of pipes that delivers water to users.
The pipeline has the capacity to transfer and import approximately 15 million m^3/a of water into the D41J catchment and D41K catchments (DWA, 2014). The 13.27 million m^3/a water is supplemented by the dewatering activities occurring at the Sishen Iron Ore Mine (Sishen Mine) as well as the Kolomela and Beeshoek mines near Postmasburg, to lower the groundwater table to ensure safe mining conditions (DWA, 2014).

The beneficiaries of the Vaal Gamagara pipeline will, among others, include Local Authorities/Municipalities which will include the Gamagara Local Municipality, Mining houses and Agriculture (mainly stock watering along the scheme, farmer and domestic use) (DWA, 2014).
Thus, the catchment where the project is taking place will be receiving water through this Scheme. This could potentially alleviate pressure on water resources as a result of projects in the area.

The proposed Kathu Supplier Park will not be in conflict with the Internal Strategic Perspective of the Lower Vaal and will not abstract water from the catchment.

(f) The likely effect of the water use to be authorised on the water resource and on other water users

On the water resource

As previously discussed, the wetland pan has received illegal dumping. This has resulted in contamination and transformation of the wetland pan.

Scientific Aquatic Services (SAS, 2014a) conducted an impact assessment which took into consideration various components of the water resource which included:

- Loss of wetland habitat and ecological structure,
- Changes to wetland ecological and socio-cultural service provision, and
- Impacts on wetland hydrological function and sediment balance

The wetland assessment looked at two different scenarios:

- Alternative 1: All wetland features within the subject property will be permanently lost as a result of development activities; and
- Alternative 2: Wetland features will not be lost as a result of development activities.

Table 2 below provides a summary of SAS's findings with regard to the wetland pan for the 2 alternatives. Full details on the assessment are contained in Appendix B. Alternative 2 (retaining the wetland) is the chosen alternative, where the wetland pan will be incorporated into the design of the Kathu Supplier Park.

Table 2. Summary of impact assessment results (SAS, 2014a)

Impact	Alternative	Significance - Unmanaged	Significance - Managed
Loss of wetland habitat and ecological structure	1	Medium Low (negative)	Medium Low (negative)
	2	Medium Low (negative)	Very Low (negative)
Changes to wetland ecological and socio-cultural service provision	1	Medium Low (negative)	Medium Low (negative)
	2	Medium Low (negative)	Very Low (negative)
Impacts on wetland	1	Medium Low (negative)	Medium Low (negative)

Impact	Alternative	Significance - Unmanaged	Significance - Managed
hydrological function and sediment balance	2	Medium Low (negative)	Low (negative)

The natural wetland pan is ephemeral and limited impacts are expected, as there is no flowing or standing water under normal conditions. This is discussed in further detail in Section 5 below.

On other water users

There are no water users associated with the wetland pan and currently there is illegal dumping within the wetland pan.

The effect of the water use of the preferred alternative on the water courses will be that the resource will be utilised in a sustainable manner. With the implementation of mitigation measures as proposed in the SAS (2014a) report and the Environmental Management Plan (EMP) drafted for the Kathu Supplier Park, the wetland pan will not be heavily impacted from the project's activities, where the impacts will be medium low to very low, thus other water users are unlikely to be significantly impacted by this water use.

On the broader public and property

The main function performed by the wetland pan on the project site is for sediment trapping.
With the implementation of mitigation measures proposed by SAS (2014a), the wetland pan will not be heavily impacted from the project's activities, where the impacts will be medium low to very low, thus the broader public and property are unlikely to be significantly impacted by this water use.

(g) The class and the resource quality objectives of the water resource

The DW&S has specific objectives in terms of class and resource quality as well as recommended ecological classes for water resources which they would apply to the management of this water resource.
The Department's current objectives with regard to the water resource are not available.

(h) Investments already made and to be made by the water user in respect of the water use in question;

The capital value of the activity on completion is estimated to be R1.4 billion.

(i) The strategic importance of the water use to be authorised;

As part of stimulating the economy and creating jobs, government has developed a programme of 18 Strategic Integrated Projects (SIPs) largely focused on infrastructure development (DWA, 2013), one being the Northern Cape Mineral Belt (SIP1). Therefore, the authorisation of this water use will contribute to the SIPs with it involving infrastructure development falling within the Northern Cape. Though this project is not mining related, it is a development in support of mining activities and the development of infrastructure which supports the stimulation of the economy.

The water use is required to allow for the Kathu Supplier Park to proceed as it will provide for the delivery of industrial goods and services.

The proposed location in Kathu is central and apart from servicing the mining industry, is also near to major projects such as the Solar Plant Park, and towns such as Postmasburg, Hotazel, and Kuruman.

As discussed in Section 2(b) above, Kumba and the IDC have highlighted the importance of establishing the Kathu Supplier Park with the focus being social and economic development.

The water use is required to allow for the development of the Kathu Supplier Park. The Kathu Supplier Park development is needed for:

- Sustainable employment opportunities;
- Potential gain in government taxes;
- The realisation of annual expenditure in the local economy;
- Enhancing local economic development;
- The local creation of SMME development opportunities through providing access to new markets and improving economies of scale;
- The opportunity to provide skills development and training to the local community; and
- Incubation of local entrepreneurs and businesses.

(j) The quality of water in the water resource which may be required for the reserve and for meeting international obligations; and

The DW&S have specific objectives in terms of water quality of water resources that may be required to the reserve for meeting international obligations, which they would apply to this water resource.

There are no international obligations or promulgated resource quality objectives for the water resource.

(k) The probable duration of any undertaking for which a water use is to be authorised.

The water use requirements will apply for the life of the Kathu Supplier Park and its associated activities, the Kathu Supplier Park would be a permanent development to allow for long term delivery of industrial goods and services.

3. Project Description

3.1 Project location

The Kathu Supplier Park will be constructed on a property that is owned by the SIOC:

- Remainder of Farm Sekgame 461 (refer to Figure 1).

In terms of WUL only the Remainder of Farm Sekgame 461 is applicable, as this is where the wetland pan is located.

The area where the Kathu Supplier Park is to be located is not being used for any specific purpose currently. There is illegal dumping in the natural ephemeral pan including dumping of rubble, rubbish and solid waste.

3.2 Project alternatives

3.2.1 Property alternatives

Two property/location options were identified for the development of the supplier park, namely the Noxious Industry site (Site 1) and Farm Sekgame 461 (Site 2) (refer to Figure 2)). Only two sites were considered due to the unavailability of land in close proximity to the town of Kathu and Sishen Mine.

The border of Site 1 is adjacent to a canal, has a natural valley head seep wetland within the site and the northern border is 30 m away from a natural depression. Directly adjacent to southern edge of the property is an artificial valley seep and an artificial flat bench.

Site 2 has one natural wetland pan within the project site, with the next closest watercourse being a natural bench depression approximately 300 m away from the property border. The site also has an artificial dam and artificial seep. Site 1 is closer to more natural wetlands in comparison to site 2.

The Kumba project team visited the two sites and evaluated them against the following criteria:

- Land size;
- Land cost;
- Land type;
- Land use zoning;
- Location;
- Labour force;
- Access roads;
- Availability of water and electricity services;
- Shape;
- Expansion possibilities;
- Access to Sishen Mine;
- Accessibility to roads servicing other mining areas; and
- Environmental legislation.

The Kumba project team selected Site 2 as the feasible option because of its favoured accessibility from the R380 provincial road, its close proximity to the Kathu Industrial area and the size of available land. This was the alternative considered for this project.

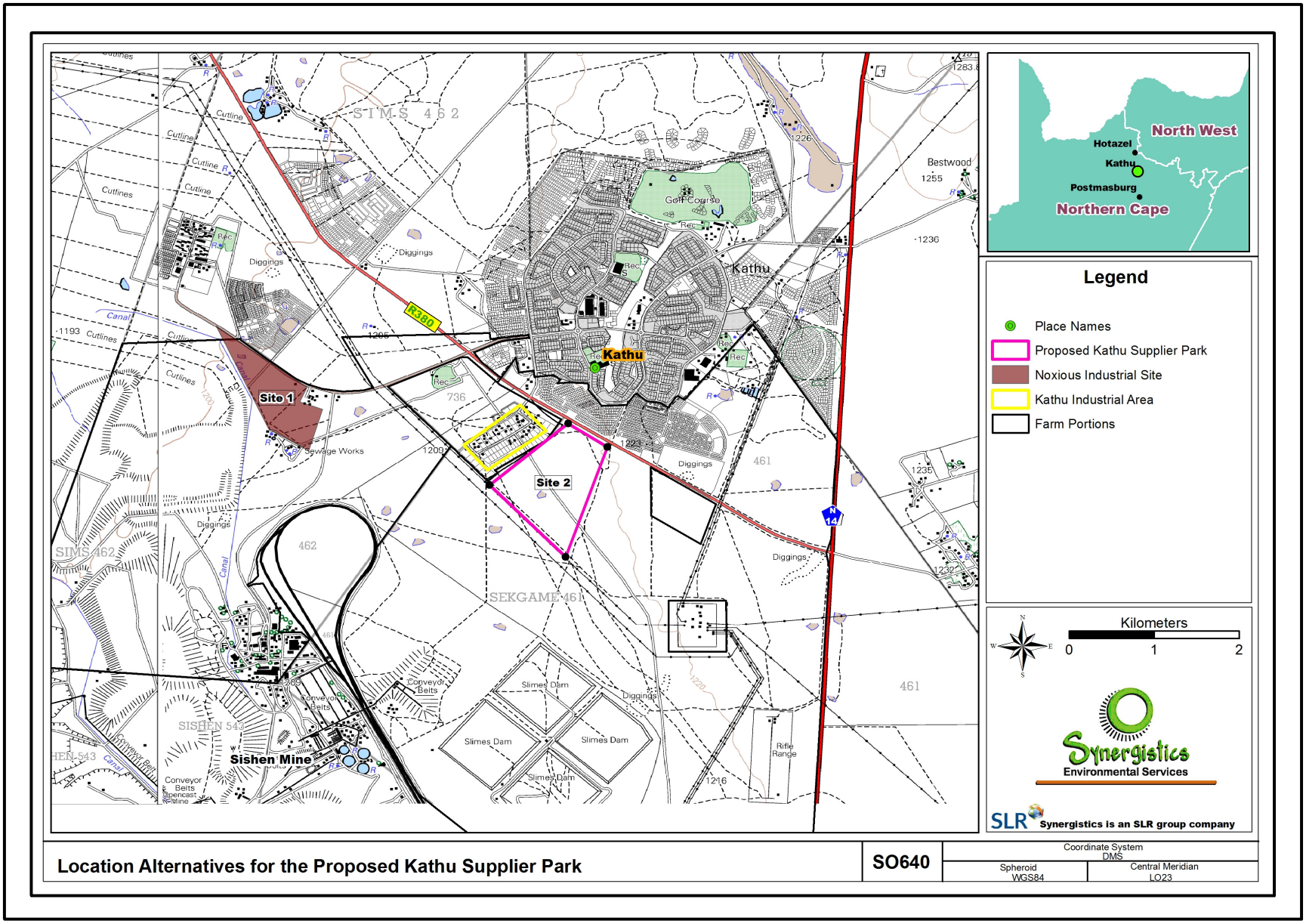

Figure 2. Location alternatives for the Kathu Supplier Park.

3.2.2 Layout alternatives

Two alternative layout options (Layout Alternative Option 1 and Layout Alternative Option 2) for the proposed Kathu Supplier Park were assessed as part of the EIA (see Figure 1).

3.2.2.1 *Layout Alternative Option 1*

Layout Alternative Option 1 is located in the northern section of the Farm Sekgame 461 on the remaining extent and portion 9 of the farm which is owned by the SIOC. This layout alternative will cover an area of ~ 140 ha in size and is bordered by:

- Kathu Industrial Area to the north and northwest;
- R380 provincial road and Kathu to the north and northeast; and
- Power line servitudes and open veld to the east, south and southwest.

3.2.2.2 *Layout alternative option 2*

Layout Alternative Option 2 is also located in the northern section of the Farm Sekgame 461 as is the alternative option; however it will be situated on only one of the portions of the Farm Sekgame 461 i.e. the remaining extent. This layout alternative will be occupying an area of ~ 100 ha in size and is bordered by the:

- Kathu Industrial Area to the north and northwest;
- R380 provincial road and Kathu to the north and northeast;
- Open veld with the presence of the Lategan Dam, surrounding artificial seep wetland areas and moist grasslands to the north and northeast; and
- Power line servitudes and open veld to the east, south and southwest.

The conceptual design of the proposed Kathu Supplier Park, with the wetland pan, is contained in Figure 3 below. The layout option alternatives 1 and 2 are shown in the legend.

The two alternative layout options were assessed as part of the EIA process. Information on water related aspects of the assessment as provided in the EIA is provided in Section 5 and a summary of the assessment is provided in Table 3.

None of the two layout alternatives present a fatal flaw (i.e. impact of very high significance (from an environmental perspective). However, Layout Alternative Option 2 is the preferred environmental layout as a result of the reduced impacts caused to the Lategan Dam and artificial seep wetland, the sensitive wet based soils associated with these wetland features, and the sensitive *Acacia erioloba* habitat unit.

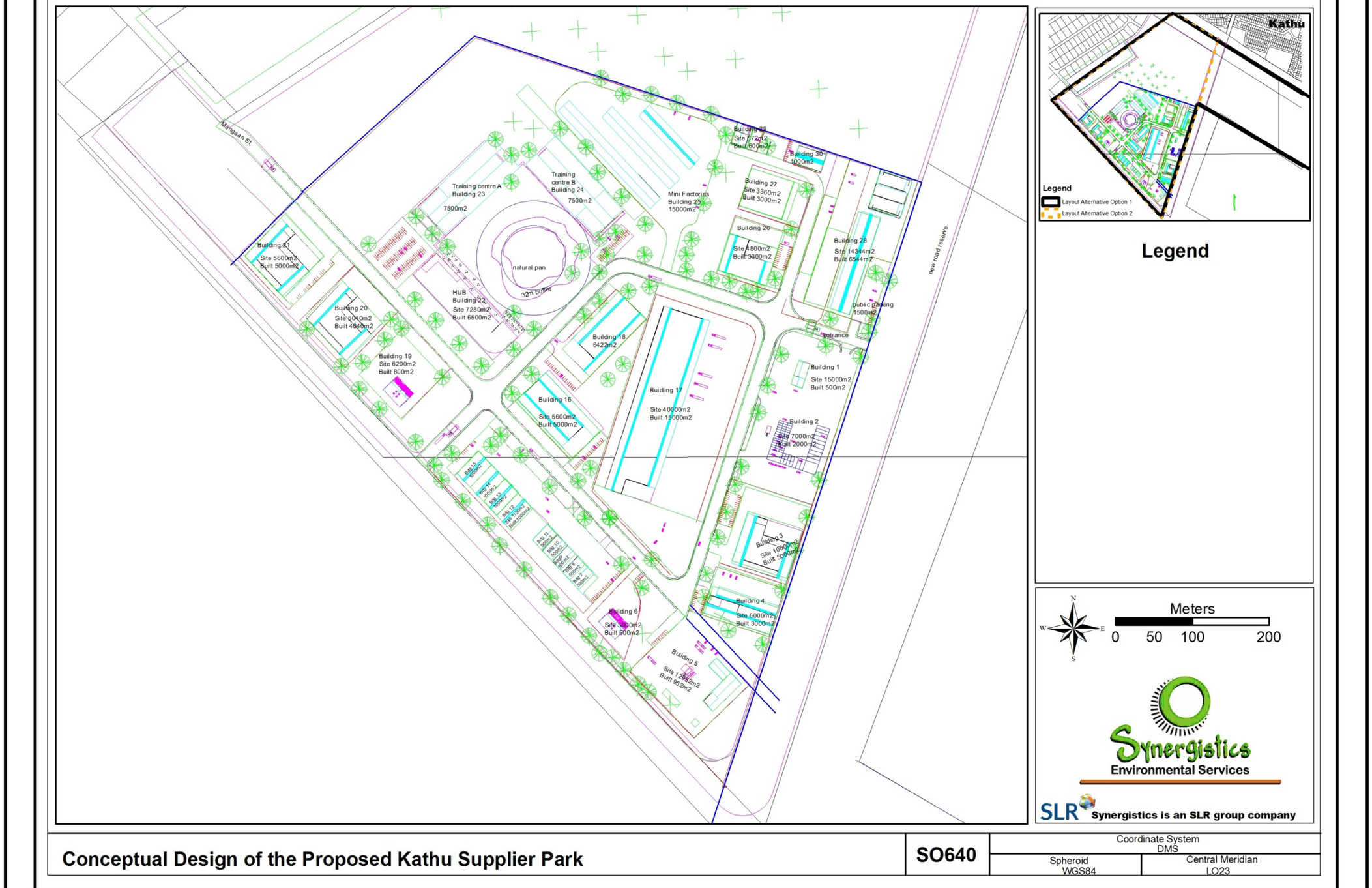

Figure 3. Conceptual Design of the Proposed Kathu Supplier Park

3.2.3 No go development alternative

The no-go development is considered as an alternative in the evaluation of development alternatives. In the EIA the no-go development impacts would be similar to the existing impacts at the proposed project site.

Kumba maintains that the no-go development alternative will:

- Result in none of the potential job opportunities being realised – thus not creating sustainable employment opportunities;
- Result in a potential loss in government taxes;
- Not see the realisation of annual expenditure in the local economy;
- Inhibit the opportunity of enhancing local economic development;
- Inhibit the local creation of SMME development opportunities through providing access to new markets and improving economies of scale;
- Result in no opportunity to provide skills development and training opportunities to the local community; and
- Result in no incubation of local entrepreneurs and businesses.

The no-go development will also not provide the opportunity to improve the status of the wetland pan as it will continue to be used as a dumping site; whereas as part of the Kathu Supplier Park it will be conserved and appropriately managed.

It was concluded that the no-go development will have negative impacts on the social environment and local economy

Refer to Section 5 for further details and the assessment of the no-go development.

3.3 Physical Project Description

3.3.1 General Description

The proposed Kathu Supplier Park is expected to provide an operating platform for businesses that support mining and other industries.

It is envisaged that the park will consist of the following facilities: manufacturing, warehousing, facility management services (e.g. maintenance and repairs; firefighting; housekeeping; leasing; sustainable development; municipal services; security, access control; public transport; retail; etc.), meeting and conference facilities, canteens, training, educational and social project facilities, a medical centre, incubation centre, a research laboratory, a logistic distribution and consolidation centre, an induction centre, workshops and offices.

Additional infrastructure to be included for the functionality of the supplier park include: internal roads (tarred and paved), storm water system, waste management measures, an internal water reticulation system, electricity supply and perimeter fencing.

Road access to the study area is available via the existing R380 provincial road and/ or the internal roads of the Kathu industrial area.

The property (remaining extent of the Farm Sekgame 461) proposed for the possible development of the Kathu Supplier Park is owned by the SIOC. According to the Gamagara Municipality Spatial Development Framework (SDF, May 2011), the land is zoned for industrial development and falls within the urban edge of Kathu.

The area earmarked for the proposed supplier park will be fenced, and access to the park will be provided through dedicated access control points.

3.3.2 Ablutions and Sewage Treatment

An existing Gamagara Municipal wastewater treatment works (sewage treatment plan) is located ~ 2,5 km north-west of the possible development of the proposed Kathu Supplier Park. The sewage treatment plant was recently upgraded and has sufficient capacity to accommodate the supplier park. As per the draft resolution, a sewerage connection to the sewage treatment plant will be provided by the Gamagara Municipality in order to discharge up to a volume of 1 Mℓ per day.

Due to the very flat topography, sewage will be discharged from the supplier park to lifting stations via gravity sewers. Thereafter the wastewater will be pumped from the main pump station to the Gamagara Municipal pump station from where it will be conveyed to the Municipal sewerage treatment plant.

If connection to the Municipal sewerage line is not immediately available during construction, chemical toilets will be provided for the construction workers. The chemical toilets will not be located near wetlands and will be regularly emptied by a honey sucker collection system and the sewage taken to an appropriate sewage treatment facility.

3.3.3 Storm Water Management and Pollution Control

Surface infrastructure such as roads will direct the stormwater runoff into attenuation ponds/structures equipped with oil and sediment traps. Storm water attenuation ponds will be constructed to reduce the difference between the pre- and post-development stormwater volumes, and to remove sedimentation from the stormwater runoff prior to discharge. Discharge from these ponds will be limited to pre-development flow conditions having a recurrence interval of 1:5 and 1:10 year events. The release point of water from the attenuation ponds to the discharge course/ sheet flow will be designed to reduce the potential for erosion.

Storm water attenuation of and the separation of hydrocarbon contamination and stormwater flow at the individual erven and facilities within the supplier park will be the onus of each developer.

3.3.4 Water Supply

A volume of 7.8 Mℓ (7 800 m^3) potable water will be required for construction and operation of the possible development of the proposed Kathu Supplier Park. Water will be supplied by the Gamagara Municipality through their standard water supply network as per the draft resolution mentioned above.

The operational water demand is estimated at a peak of 1.1 Mℓ per day.

3.3.5 Water Reticulation and Storage

A water pipeline will be established from the water supply point to the storage reservoirs (separate storage facilities for purified and untreated water) located within the study area. The water from these reservoirs will be used for potable demand and fire protection, and will be pumped into the reticulation system of the proposed Kathu Supplier Park.

3.3.6 Hazardous Waste Management

Hazardous waste produced may include hydrocarbon waste from workshops and servicing areas, used petroleum products, used cleaning materials, light bulbs (including fluorescent tubes which is regarded as hazardous), electronic and medical waste, which will be removed off site by an appropriate licensed waste company for disposal.

The quantities of hazardous wastes will be fairly small and the waste management activities (storage, handling and recycling) fall below the legislated thresholds, which will therefore not trigger the need for a waste management license (WML) in terms of the NEM:WA.

3.3.7 General Waste Management

General waste will include general office waste such as paper and other degradable materials which will be disposed of offsite at a licensed facility. Access to a permitted non-hazardous waste disposal site will be provided by the Gamagara Municipality as per the draft resolution mentioned above.

The quantities of general wastes will be small (~ 98 000 m^3 and 25 000 m^3 during Phase 1 and 2, respectively) and the waste management activities (storage, handling and recycling) fall below the legislated thresholds, which will therefore not trigger the need for a WML in terms of NEM:WA.

3.3.8 Watercourse Crossings and Wetland Delineations

No watercourses, other than wetland features and a man-made dam (Lategan Dam) occur within the study area of the proposed Kathu Supplier Park. The wetland buffer zones of 32m as advocated by the legislative principles in the National Environmental Management Act (NEMA; No. 107 of 1998) were delineated by Scientific Aquatic Services (Wetland Delineation and Impact Assessment, Appendix B) and can be seen in Figure 3 below. Construction and operational activities will not occur within the delineated buffer zones of the respective wetland features and/ or dam. As mentioned previously, only the wetland pan forms part of this WULA.

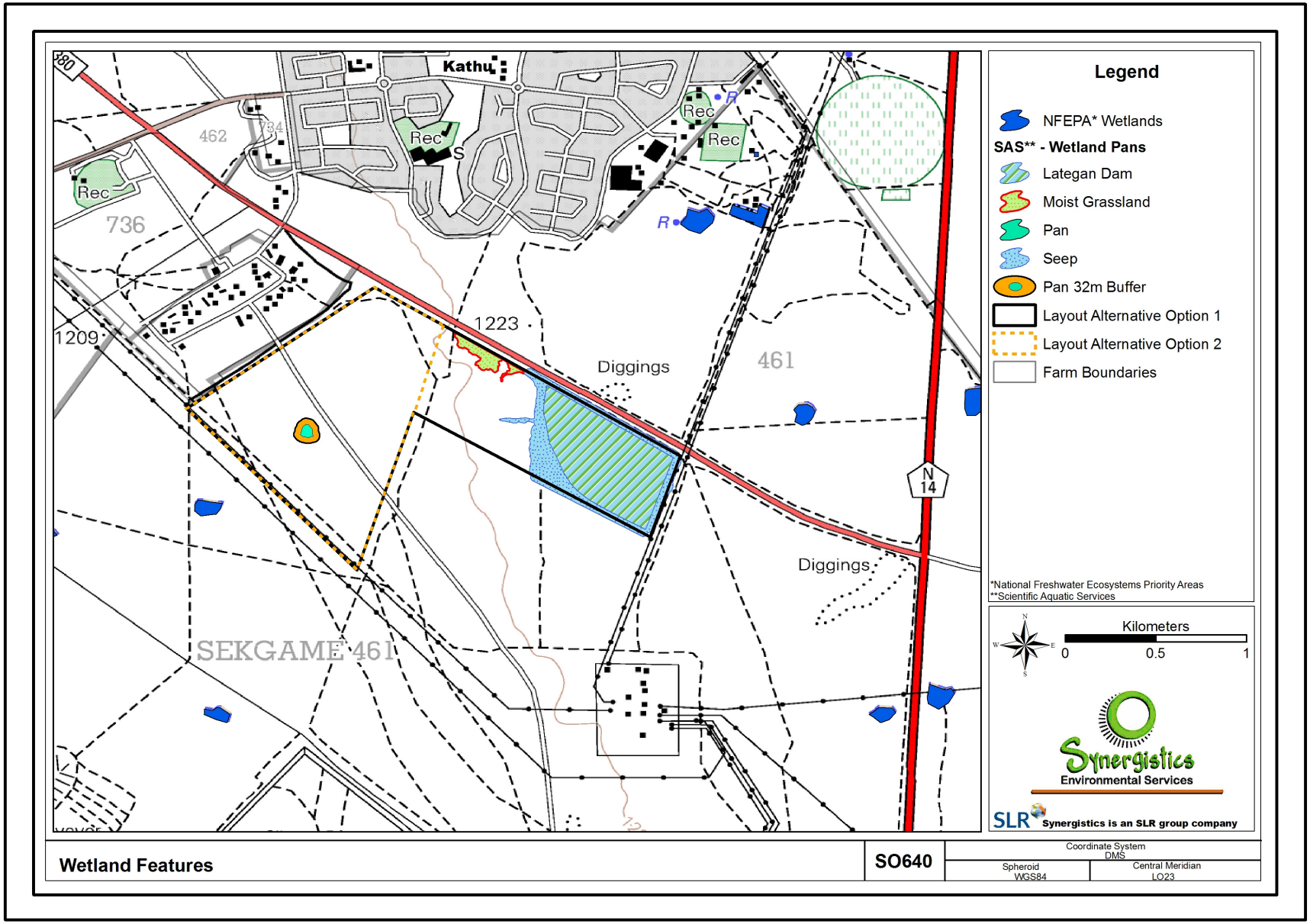

Figure 3: Proposed Kathu Supplier Park in Relation to Wetland Features according to SANBI and Scientific Aquatic Services

4. Baseline Environment

4.1 Climate

Climatic data were taken from data collected at Sishen Mine, approximately 3.5 km northeast of the centre of the study area, and can therefore be considered applicable to the study area.

The regional climate is semi-arid with a mean annual precipitation of 448 mm. The precipitation tends to fall in summer and early autumn. Temperatures vary between –9°C and +42°C, with an average of 19.2°C. The mean annual temperature recorded at Sishen Mine is 19°C. The average annual maximum temperature is 26.7°C and minimum temperature is 11.8°C. January is the warmest month with an average maximum temperature of 32.9°C and July is the coldest month with an average minimum temperature of 3.1°C.

4.2 Surface water

The study area is situated in the D41J quaternary catchment of the Orange Primary Drainage Region. The nearest river, the Gamagara River, is located approximately 12 km from the study area (Figure 44).

The Lategan dam located ~ 550 m to the east of the study area was constructed for the storage of water being obtained from the Sishen Mine pit dewatering activities. The dam is being managed by the Gamagara Local Municipality, but due to a lack of maintenance to the water pumps and pipelines this water is currently not being utilised. Seepage from the Lategan dam is also taking place just outside the study area, due to the insufficient lining of the dam. Surface water features within the study area include a natural wetland pan

The surface water environment surrounding the study area has good water quality due to the large area being underlain by dolomite, an aquifer with good storage and recharge capacity. Most of the domestic water used in the John Taolo Gaetsewe District Municipal area is supplied to the area via the Vaal-Gamagara Government Water Supply Scheme, also known as the Kalahari East Pipeline. Along the way, excess ground water of acceptable quality, originating from de-watering activities at some of the Northern Cape mines along the pipeline route, is added to the network. This addition of suitable groundwater to the pipeline system assists in supplying users with potable water.

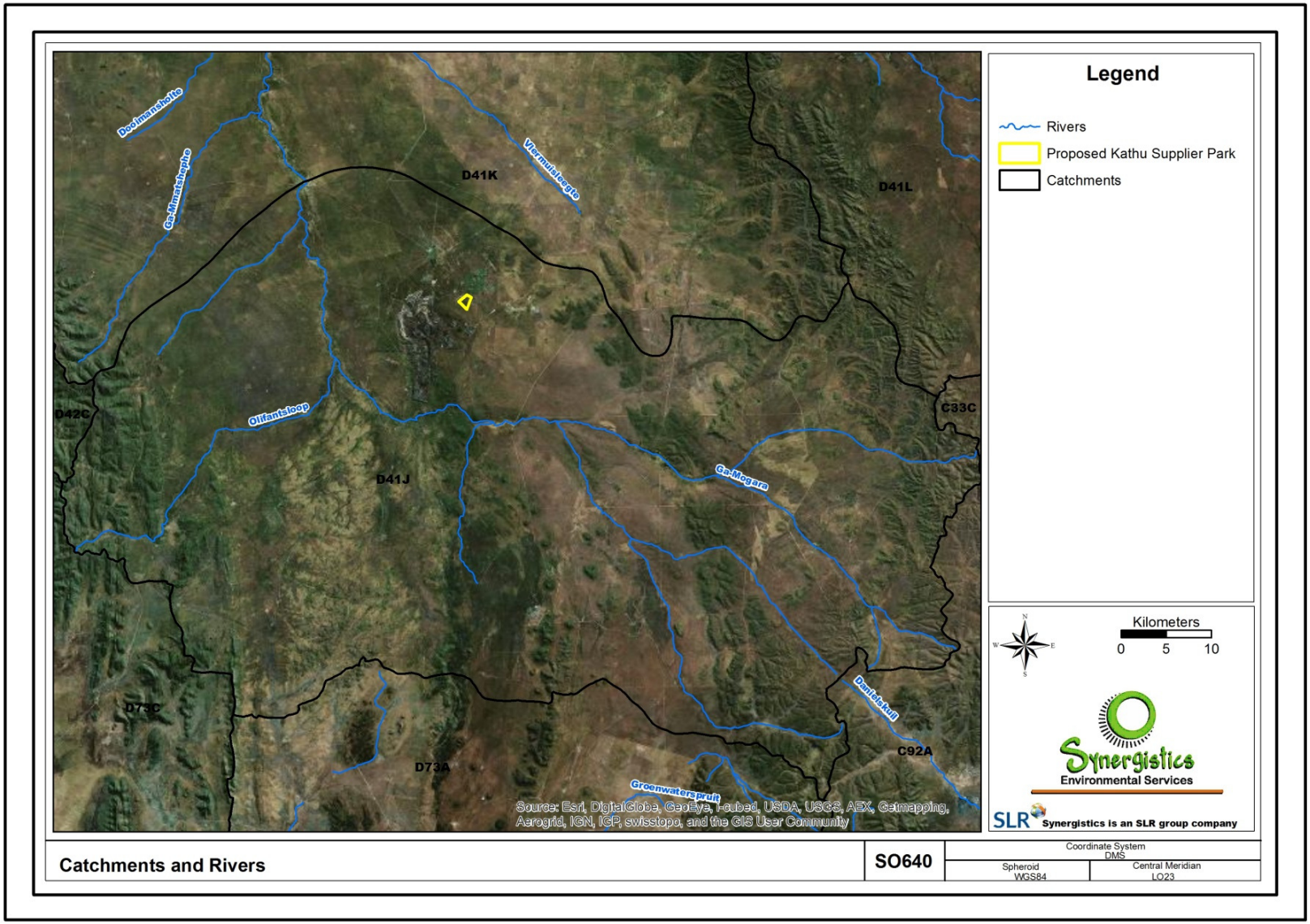

Figure 4. Catchments and rivers surrounding the Kathu Supplier Park Project.

4.3 Wetland Pan

The wetland pan has a moderately low level of ecological function and service provision, with the main function being sediment trapping from surface runoff of surrounding disturbed areas. The pan is not regarded as having significant importance in terms of biodiversity maintenance. Even though the wetland pan has been significantly disturbed as a result of illegal dumping activities, it does support various indigenous wetland species (SAS, 2014a). Therefore, there is a slight increase in its biodiversity maintenance importance, though not very important. The wetland pan is also isolated and not located in close proximity to large developed areas or roads; thus its assimilation of phosphates, nitrates and toxicants is likely to be limited. Other ecosystem services that the wetland pan performs on a very limited scale is flood attenuation and erosion control (SAS, 2014a).

4.3.1 Present Ecological State (PES), Ecological Importance and Sensitivity (EIS) and Recommended Ecological Category (REC)

4.3.1.1 PES

The wetland pan was indicated to be in a natural or good condition with a greater than 75% natural land cover, however the illegal dumping has decreased the PES of the feature. This pan has been significantly disturbed as a result of historic earth moving activities and as a result of the dumping of rubble and litter within the feature which has decreased the PES of the pan substantially (SAS, 2014a).

The overall existing condition of the pan, which includes consideration of hydrology and vegetation, was considered to be PES C (moderately modified).

4.3.1.2 EIS

The wetland pan was found to have an EIS falling within Category D (low/marginal sensitivity) (SAS, 2014a).

4.3.1.3 REC

SAS (2014a) indicated that while the pan has a moderately low level of ecoservice and function, with rehabilitation PES could be improved and thus the current ecology and functionality of the pan could be improved, with the REC being a Category B (Largely natural).

4.4 Geology

The study area falls within the Proterozoic Transvaal Supergroup (ESS, 2014). The Transvaal Supergroup comprises a basal, carbonate platform sequence called the Campbell Rand Subgroup, which is overlain by thick units of banded iron formation belonging to the Asbestos Hills Subgroup. The Asbestos Hills Subgroup is overlain by sedimentary rocks of the Gamagara Subgroup (ESS, 2014).

The surface geology in the north eastern section of the project site comprises Quaternary-age windblown sand and the remainder of the project area comprises Tertiary-age surface limestone (calcrete) deposits. Both of these deposits form part of the Kalahari Group (Jaffares and Green, 2014).

The abovementioned windblown sands consist of rounded quartz grains that are coloured by a thin coating of haematite. According to Brink (1986) *In* Jaffares and Green (2014), these soils can exhibit an open-voided grain structure and can be prone to collapse settlement. Based on borehole logs, the Kalahari group deposits are underlain by Banded Ironstone Formation, which in turn is underlain by dolomite bedrock at depths of between 97 and 146 m below ground level.

4.5 Biodiversity

The study area is located within Kathu Bushveld (SVk 12), which falls within the Savanna Biome and the Eastern Kalahari Bushveld Bioregion. The Kalahari is considered to be a semi-arid region, and rainfall is highly unpredictable (Mucina and Rutherford 2006). The Kathu Bushveld is not considered to be of conservation concern (National list of threatened ecosystems for South Africa, 2011). However, the vegetation type is considered to be under conserved and is under increased threat as a result of habitat loss from mining activities in the region (SAS, 2014b).

The project site is comprised of four habitat units: Kathu bushveld, *Acacia erioloba* woodland, wetland and transformed land (SAS, 2014b).

4.5.1 General Flora and Fauna

In the surrounding area which also included an artificial dam, artificial seep and moist grassland, the following floral species were identified: *Cynodon dactylon*, *Juncus effusus*, *Eragrostis lehmanniana* and *Eragrostis echinocloidea*, *Phragmites australis*, *Cyperus exculentus*, *Cortaderia selloana*, *Gomphocarpus fruticosus*, *Tamarix ramosissima* and *Pennisetum setaceum, Typha capensis, Scirpoides dioecus, Kyllinga alba, Cortaderia selloana, Andropogon eucomus, glandulosa, Persicaria lapathifolia, Datura stramonium, Verbesina encelioides.*

The full list of identified species is contained in the Vegetation and Faunal report in Appendix C (SAS, 2014b).

It should be noted that the Kathu Supplier Park is adjacent to the town of Kathu; this is important as many farms to the north of Kathu have been declared as being part of the Kathu Forest which is considered unique due to the amount as well as size of the protected *Acacia erioloba* (Camel thorn) trees.

Some of the faunal species identified on site include the following:

Mammals:
Cynictis penicillata (Yellow Mongoose), *Galerella sanguinea* (Slender Mongoose), *Crocidura cyanea* (Reddish-grey musk shrew), *Raphicerus campestris* (Steenbok), *Lepus saxatilis* (Scrub Hare) and *Acomys subspinosus* (Cape Spiny Mouse) were identified within the subject property.

All mammal species are common species for the area and are listed as non-threatened species by the IUCN. However, all of the species are listed as protected within the Northern Cape Nature Conservation Act (No. 9 of 2009).

Reptile and amphibian:
One amphibian species was identified on site, namely *Amietophrynus garmani* (Eastern olive toad). The amphibian population is not expected to be diverse due to the general lack of natural wetlands within the region (SAS, 2014b).

Arthropod:
There is a low possibility of finding the following scorpion species, *Hadogenes spp.* or *Opistophthalmus spp.*, on site, from the lack of rocky outcrop and rocks that would provide crevices or burrowing.

The full list of identified species is contained in the Vegetation and Faunal report in Appendix C (SAS, 2014b).

4.5.2 Wetland flora and fauna

Species dominating the wetland pan include the facultative wetland species *Panicum coloratum* (White Buffalograss) and *Urochloa panicoides* (Garden Urochloa). One mammal species was identified within the wetland habitat, *Crocidura cyanea* (reddish-grey musk shrew). In its present state the wetland pan feature will not provide habitat for a significant wetland faunal assemblage due to dumping within the feature that resulted in contamination and transformation of wetland vegetation (SAS, 2014b). SAS indicated that it is highly likely that the poor trapping success rate in the wetland habitat was due to the abundance of vegetation and insects at the time of the assessment as there had been high rainfall within the preceding months. Therefore, the trapping success rate is not considered an indication of the abundance or diversity of smaller mammal species within the subject property and the occurrence of the Muridae family is expected to be high in this area (SAS, 2014b).

4.6 Surrounding protected areas and watercourses

4.6.1 Protected areas

The sensitive landscapes that occur in the vicinity of the study area include the Kathu Woodlands, the Kathu Pan and other seasonal pans as well as perennial man-made dams (see Figure 5). These are discussed further below.

The Kathu Forest, ~ 2,5 km north of the study area, is considered to be unique in that it forms an almost closed canopy of the protected *Acacia erioloba* (Camel thorn) trees, which is rare for this arid part of the country. This forms a well-known natural feature in the Northern Cape Province and has been declared a Natural Heritage Site. On 10 July 2009 the DAFF declared the Kathu Forest as a protected woodland under Section 12 (1) (c) of the NFA. The Kathu Woodlands is a unique woodland of exceptionally large camel thorn trees (*Acacia erioloba*) north of the town of Kathu. This woodland of about 4 000 ha is one of the only of its kind in the world.

The Kathu Pan, associated with the Kathu Woodlands is a significant archaeological and paleontological site ~ 5 km to the west of the study area. The Kathu Pan comprising 12 identified pan localities, was a marshland and ephemeral surface body primarily fed by artesian seepage. The surface of this water body fluctuates seasonally with the water table, but has not risen above the ground surface since aquifer dewatering commenced to supply the town with water. This resulted in the formation of sinkholes in the pan deposit, due to lowered groundwater levels.

The following features were identified within the study area (Figure 3):

The Lategan Dam and surrounding seepage areas identified within the eastern section of the study area, the moist grasslands to the west of the dam, and the natural slope depression wetland pan within the south-western portion of the study area are either artificial and/ or already disturbed and are therefore of low to moderate sensitivity (as per the description below).

However, they do have some conservation value as they create an environment for wetland floral and faunal species and also act as a buffer. The wetland pan has also been identified as a priority wetland in terms of the National Freshwater Ecosystems Priority Areas database (NFEPA, 2011) by South African National Biodiversity Institutes (SANBI).

The *Acacia erioloba* woodland habitat was identified as sensitive and highly important due to the presence of *Acacia erioloba* trees. These trees are listed as protected species in terms of the NFA and identified as key stone Species of Conservation Concern (SCC) as listed by the SANBI PRECIS (National Herbarium Pretoria (PRE) Computerised Information System) database.

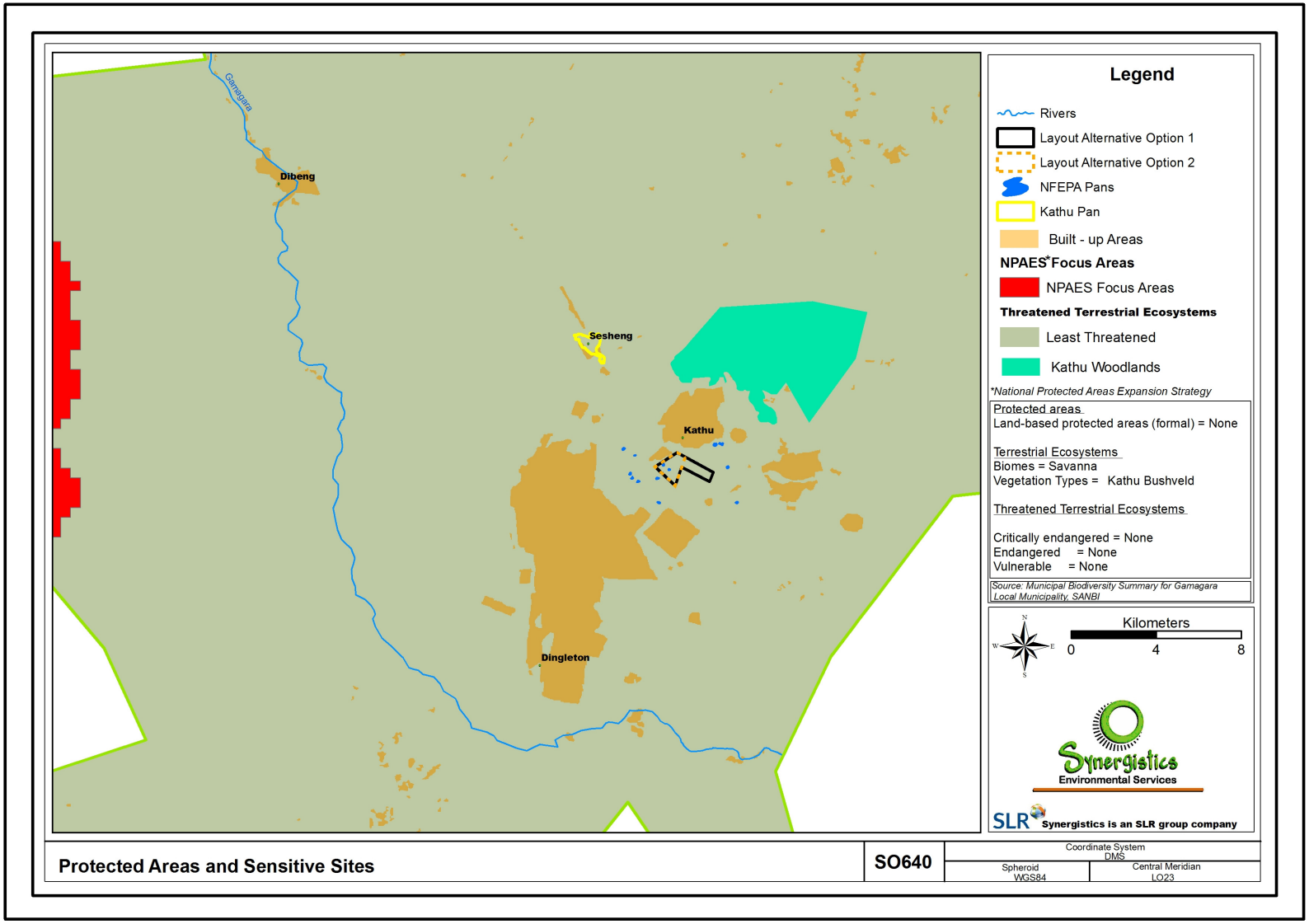

Figure 5: Protected Areas and Sensitive Sites within and around the Proposed Kathu Supplier Park

4.6.2 Watercourses

A dam and two wetland features were identified within the study area (see Figure 3):

1. Artificial Lategan Dam;
2. Artificial seep wetland area surrounding the Lategan Dam; and
3. Natural slope depression wetland pan (discussed in Section 4.3 above).

4.6.2.1 Artificial Dam

The large artificial Lategan Dam is located within the eastern portion of the study area, adjacent to the R380 provincial tar road. This feature was constructed for the storage of grey water which is produced during mine operations and which is continuously pumped into the feature through a transfer scheme from the Sishen Mine.

4.6.2.2 Artificial Seep Wetland

Water seepage from the Lategan Dam resulted in the formation of hydromorphic soils capable of supporting obligate and facultative wetland species. The system was characterised by species such as *Phragmites australis* (Common reed), *Typha capensis* (Bulrush), *Juncus effusus* (Soft rush) and *Scirpoides dioecus* (no common name), *Cyperus exculentus* (Yellow nutsedge), *Kyllinga alba* (no common name), *Cortaderia selloana* (Pampas grass) and *Andropogon eucomus* (Snowflake grass). The seep wetland is also likely to provide the habitat to support a high diversity of faunal species with special mention of breeding habitat and cover for amphibian, avifaunal and invertebrate species.

It is highly likely that the artificial seepage area would lose its wetland characteristics if water pumping into the Lategan Dam were to be discontinued because of the low likelihood that natural wetland features existed in this portion of the study area prior to construction of the dam, or should seepage from the poor lined dam and leaking pipes no longer occur. The area will not be able to sustain its hydrological functionality and would cease to exist as a wetland. The area was probably a terrestrial feature before the construction of the dam.

4.6.2.3 Natural Slope Depression Wetland Pan

This natural wetland pan is located within the south western portion of the study area. Species dominating the pan include the facultative wetland species *Panicum coloratum* (White buffalo grass) and *Urochloa panicoides* (Liverseed grass). The pan did not contain any surface water at the time of the assessment. The pan is in a fairly good natural state but has been disturbed due to dumping activities in the past.

The natural pan can be considered as endorheic (landform with closed elevation contours). The feature therefore receives water from precipitation, diffuse surface flow, and groundwater and the dominant hydrodynamics within the feature are bidirectional vertical fluctuations. Disturbance within the pan's catchment is likely to have resulted in the slight alteration of the flow patterns of water into the feature. However, if surrounding areas are cleared of dumped rubble and litter the hydrological functioning of the feature is likely to improve.

4.6.2.4 Moist Grasslands

These grasslands are located to the west of the Lategan Dam and directly adjacent to the R380 provincial road. Runoff from the road and water seepage from the dam resulted in small depression areas and moist conditions.

Although hydromorphic soils were absent, it should be noted that the continued augmentation of these area with runoff and seepage and the extended saturation of soils is likely to result in the creation of wetland conditions in future.

5. Impacts

An assessment of the impacts on the wetland pan was conducted by SAS (2014a). Only the natural wetland pan is discussed in this section, as the other wetland groups – the moist grasslands, the artificial seep and artificial dam - do not form part of the WULA as discussed with Moses Mahunonyane and Philani Msimango of the Northern Cape DW&S. For details on these artificial features, refer to the Wetland Ecological Assessment in Appendix B.

Section 5.1 below discusses the impacts to the wetland pan specifically, as provided in the Wetland Ecological Assessment (SAS, 2014a; Appendix B).

The impact assessment as provided in the EIA for water and socio-economic aspects is discussed in Section 5.2 below.

5.1 Natural Wetland Pan

5.1.1 Direct Impacts

The Wetland Ecological Assessment assessed the possible impacts that the Kathu Supplier Park could have on the wetland pan. The study looked at all three watercourse features but only the natural wetland pan is applicable to this application as discussed above.

The impact assessment conducted by SAS (2014a) took into consideration probability, severity, spatial extent, duration and significance (ranked from 1 (low) to 5 (high)) to determine the impacts for the following categories in terms of the wetland pan:

- Loss of wetland habitat and ecological structure
- Changes to wetland ecological and socio-cultural service provision
- Impacts on wetland hydrological function and sediment balance

The details below provide a summary of the findings of the Wetland Ecological Assessment for Alternative 2 for the wetland pan. Refer to Appendix B for the further details.

5.1.1.1 *Loss of wetland habitat and ecological structure*

The following aspects were considered for the impacts to the loss of wetland habitat and ecological structure:

Pre-Construction	Construction	Operational
Poor planning of infrastructure placement	Construction of infrastructure within wetlands and wetland buffer areas	Increased runoff volumes from hardened surfaces
Inadequate design of infrastructure	Site clearing and the disturbance of soils	Indiscriminate movement of operational vehicles through wetland areas
	Earthworks within wetland features	Ineffective stormwater drainage
	Movement of construction vehicles within wetlands	Inefficient aftercare and maintenance

	Inundation caused by ineffective stormwater drainage	
	Dumping of waste within wetland areas	
	Spills and leaks from construction vehicles	
	Inadequate management of edge effects during construction	
	Alien vegetation encroachment	

The wetland pan and associated functions and service provision will not be permanently lost from the property where the Kathu Supplier Park will be located. The development activities are likely to have negative impacts on wetland function and service provision; however, with the implementation of mitigation measures the overall significance of impacts may be reduced (SAS, 2014a).

Mitigation/ Management	Probability of Impact	Sensitivity of receiving environment	Severity	Spatial Scale	Duration of Impact	Likelihood	Consequences	Significance
Without	4	2	**2**	**2**	**5**	**6**	**9**	70 (medium low) negative
With	3	2	1	1		5	5	25 (very low) negative

The following mitigation measures were proposed by SAS (2014a):

Essential mitigation measures

- Ensure that construction related activities do not encroach into the wetlands or wetland buffer zones;
- Limit the footprint area of the construction activity to what is absolutely essential in order to minimise environmental damage;
- The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas;
- The relevant approvals must be obtained from DW&S for any activities within the wetland areas and associated buffers. In this regard special mention is made of water use licences in terms of section 21 (c) and (i) of the NWA as well as any authorisation that may apply as part of General Notice 1199 as published in the Government Gazette 32805 of 2009 as it relates to the NWA;
- Edge effects of activities including erosion and alien/ weed control need to be strictly managed in wetland areas;
- Remove all alien and weed species encountered in order to comply with existing legislation (amendments to the regulations under the Conservation of Agricultural Resources Act, 1983 and Section 28 of the National Environmental Management Act, 1998). However, care should be taken with the use of herbicides within areas close to the wetland feature to ensure no additional impacts occur due to the herbicide used.

- Restrict construction vehicles to designated roadways. The indiscriminate movement of construction vehicles through wetland areas must be strictly prohibited;
- All spills should be immediately cleaned up and treated accordingly;
- Regularly inspect all construction vehicles for leaks. Re-fuelling must take place on a sealed surface area to prevent hydrocarbons reaching surface/subsurface water that could potentially flow to the wetland feature;
- Prevent run-off from work areas entering wetland habitats;
- Incorporate adequate erosion and stormwater management measures in order to prevent erosion and the associated sedimentation of the wetland areas. In this regard specific attention should be given to the attenuation of stormwater in order to prevent erosion;
- Sanitation facilities must be provided for the duration of the proposed development and all waste removed to an appropriate facility. These facilities must be located outside of the wetland features and must be regularly serviced;
- Implement waste management as contemplated in the Environmental Management Programme in order to prevent construction related waste from entering the wetland environment;
- Do not allow dumping of waste material within wetland areas at any stage of the development. Do not allow any temporary storage of building material within the wetland areas;
- All waste, with special mention of waste rock and spoils and remaining building material should be removed from the site on completion of the construction phase; and
- Rehabilitate the natural pan in order to improve the PES of the wetland habitat.

5.1.1.2 *Change to wetland ecological and socio-cultural service provision*

The following aspects were considered for the impacts to the change to wetland ecological and socio-cultural service provision:

Pre-Construction	**Construction**	**Operational**
planning of infrastructure placement	Construction of infrastructure within wetlands and wetland buffer areas	Increased runoff velocity and volume from hardened surfaces
Inadequate design of infrastructure	Earthworks within wetland features	Indiscriminate movement of operational vehicles through wetland areas
	Ineffective stormwater drainage	Insufficient aftercare and maintenance
	Site clearing and the removal of vegetation	Ineffective stormwater drainage
	Inadequate management of edge effects during construction	
	Indiscriminate movement of construction vehicles within wetlands	
	Spill of waste material and waste deposits into the wetland habitat	

The wetland pan will not be permanently removed from the property where the Kathu Supplier Park is to be located and the wetland features and associated functions and service provision will not be permanently lost from the subject property. Development activities are likely to have negative impacts on wetland function and service provision, however, with the implementation of mitigation measures the overall significance of impacts may be reduced (SAS, 2014a).

Mitigation/ Management	Probability of Impact	Sensitivity of receiving environment	Severity	Spatial Scale	Duration of Impact	Likelihood	Consequences	Significance
Without	4	2	2	2	5	6	9	54 (medium low) negative
With	2	2	1	1	3	4	5	20 (very low) negative

The following mitigation measures were proposed by SAS (2014a):

Essential mitigation measures

- Ensure that construction related activities do not encroach into the wetlands or wetland buffer zones;
- The footprint of construction related activities should be kept to a minimum;
- The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas;
- Prevent run-off from work areas entering wetland habitats;
- Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland features. Management measures may include berms, silt fences, hessian curtains and stormwater diversion away from areas susceptible to erosion. Care should however be taken so as to avoid additional disturbance during the implementation of these measures;
- Attenuate stormwater in order to prevent erosion;
- Sheet runoff from paved surfaces and access roads must be curtailed;
- Ensure that seepage from dirty water systems is prevented as far as possible;
- Implement an alien vegetation control program within wetland areas; and
- Rehabilitate the natural pan in order to improve function and service provision.

5.1.1.3 *Impacts on wetland hydrological function and sediment balance*

The following aspects were considered for the impacts to the impacts on wetland hydrological function and sediment balance:

Pre-Construction	Construction	Operational
Poor planning of infrastructure placement	Construction of infrastructure within wetlands and wetland buffer areas	Insufficient aftercare and maintenance leading to ongoing erosion and increased sedimentation due to poor management

Inadequate design of infrastructure with special mention of stormwater management structures	Site clearing and the removal of vegetation	Increased runoff velocity and volume due to increase in impervious surface associated with the development
	Site clearing and the disturbance of soils	Inundation caused by ineffective stormwater drainage
	Earthworks within wetland areas	Ineffective stormwater drainage
	Compaction and loss of wetland soils	
	Ineffective stormwater drainage	

The wetland pan will not be permanently removed from the subject property and the hydrological function and sediment balance will not be permanently lost. Development activities may result in impacts on the hydrology and sediment balance of the wetland pan. However, with the implementation of mitigation measures the overall impact significance can be reduced (SAS, 2014a).

Mitigation/ Management	Probability of Impact	Sensitivity of receiving environment	Severity	Spatial Scale	Duration of Impact	Likelihood	Consequences	Significance
Without	4	2	2	2	5	6	9	54 (medium low) negative
With	4	2	1	1	5	6	7	42 (low) negative

The following mitigation measures were proposed by SAS (2014a):

Essential mitigation measures:

- Ensure that construction activities do not encroach into the wetlands or wetland buffer zones;
- The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas;
- Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland features. Management measures may include berms, silt fences, hessian curtains and stormwater diversion away from areas susceptible to erosion. Care should however be taken so as to avoid additional disturbance during the implementation of these measures;
- Attention should be given to attenuation of stormwater in order to prevent erosion;
- Sheet runoff from cleared areas and access roads needs to be curtailed;
- Any discharge of runoff into wetland features must be done in such a way as to prevent erosion. In this regard special mention is made of the use of energy dissipating structures in stormwater discharge;
- As much vegetation growth as possible should be promoted within the subject property in order to protect soils and to reduce the percentage of the surface area which is paved. In this regard special mention is made of the need to use indigenous vegetation species as the first choice during landscaping; and
- Rehabilitate the natural pan in order to improve the hydrological function and sediment balance of the feature.

5.2 Impacts as per the EIA

The EIA looked at the impacts of each alternative discussed in Section 3.2.2, as well as the impacts on water related and socio-economic aspects of the environment during the construction and operational phases of the project. Information on these aspects is provided in this section as extracted from the EIA.

Each environmental component on water related and socio-economic aspects is discussed as follows:

- **Baseline Impacts.** This section described the pre-development / existing environment. Existing impacts is an important component to the assessment of cumulative impacts.
- **Project Impacts.** Project impacts are described for construction and operation phases. Impacts of Kumba and the IDC's Layout Alternative Options are first described; and then they are compared.
- **Cumulative Impacts.** Cumulative impacts are described for all the project phases.
- **No-Go Development Alternative.** Impacts of the no-go development deals with impacts on the study area if the Kathu Supplier Park is not developed.
- **Conclusions and Recommendations**. A summary of the conclusions reached by the various specialist areas of investigation.

The impact rating for each category below including the cumulative impact for each alternative is tabulated in Table 3 below.

5.2.1.1 *Hydrology*

Baseline / Existing Impacts

The Lategan Dam located within the eastern portion of the study area has been constructed for the storage of grey water which is continuously pumped from Sishen Mine's dewatering activities through a transfer scheme. The seepage of water from the dam has resulted in the formation of the seep wetland. Both the dam and seep wetland are artificial features with completely altered hydrology, sediment and water quality regimes.

The natural pan located within the south-western portion of the study area is an ephemeral feature which contains surface water for limited periods of the year.

The hydrology of the seep wetland and the natural wetland pan have been significantly disturbed as a result of historic earth moving activities and dumping of rubble and waste.

Impact Sources

Existing Impact Sources

Water Quality:

- Existing illegal dumping is taking place in the artificial and natural wetland features which can impact on the resources.

Project Impact Sources

Construction Phase

Water Quality:

- Risk of hydrocarbon and other hazardous substances spilled.
- Stripping of topsoil.
- Littering.
- Construction of water management infrastructure.

Water Quantity:

- Water use and consumption of surface water.
- Stormwater management infrastructure.

Operational Phase

Water Quality:

- Risk of hydrocarbon and other hazardous substances spilled.
- Hydrocarbon spillages resulting from vehicles at the park.
- Littering.
- Sediment runoff.

Water Quantity:

- Water use and consumption of surface water.
- Stormwater management infrastructure.

Description of Project Impacts

The infrastructure is located outside the artificial seep wetland area which is acting as a buffer to the Lategan Dam and outside the 32 m buffer zone of the natural wetland pan (as delineated by the wetland specialist). Impacts on surface water will therefore be limited to temporary disturbance of the beds and banks of the dam and wetland features and possible impediment of flow within the catchment of the pan during construction.

The Lategan Dam is storing grey water on a continuous basis while the associated seep wetland is being augmented by water seeping from the dam. The natural wetland pan is ephemeral and limited impacts are expected, as there is no flowing or standing water under normal conditions.

Water quality impacts during construction could occur if hydrocarbons are spilled near the dam and/or wetland features.

Construction Phase

Impact on surface water quality relating to potentially increased suspended solids and some risk of erosion. Hazardous spillages may also affect water quality.

Operational Phase

The impact of the proposed supplier park on water quantity (catchment yield) will be positive, due to storm water being released back into the course/ sheet flow of the environment.

Layout Alternative Option 1

Layout Alternative Option 1 could disturb the beds and banks and impede the flow of the Lategan Dam and artificial seep wetland in addition to the disturbance caused by Layout Alternative Option 2 to the catchment of the natural wetland pan.

Layout Alternative Option 2

Layout Alternative Option 2 could disturb the beds and banks and impede the flow of the catchment of the natural wetland pan.

Environmental Management Framework

The following management measures have been incorporated into the design of the project and will mitigate risks to surface water and wetlands:

Measures to avoid and minimise surface water impacts and risks have been incorporated into the EMP Numbers 5, 6, 8 and 17, respectively on Environmental Risks and Emergencies, Hydrology and Water Use and Consumption, Stormwater, Erosion and Sedimentation, and Waste Management (see Appendix A).

Cumulative Impacts

Each new development that takes place in the area, contributes to the cumulative impacts on hydrological quantity and quality.

Layout Alternative Option 1	*Layout Alternative Option 2*
Similar to project impacts described above for Layout Alternative Option 1.	Similar to project impacts described above for Layout Alternative Option 2.

No-Go Development Alternative

Impacts of the proposed supplier park on the dam and wetland features and potential pollution of surface water are not significant and do no justify enforcement of the no-go development option.

5.2.1.2 *Wetland Habitats*

Baseline / Existing Impacts

The following existing impacts were identified on natural and artificial wetlands within the study area:

- Illegal dumping of refuse and construction rubble.
- Seepage from the artificial dam due to poor lining and leaking pipes of the dam.
- Historical earth moving activities.

Project Impact Sources

Construction Phase

- Construction of stormwater infrastructure.
- Clearing and grubbing associated with constructing the supplier park facilities and associated.
- Earthworks.
- Vehicle movement.
- Dust generated by construction activities, eroded sediments, leaked hydrocarbons from construction vehicles, litter and small amounts of construction materials can all find their way into the system, polluting the water quality and impacting on wetlands.

Operational Phase

- Stormwater runoff and drainage.
- Vehicle movement.

Description of Project Impacts

Although the dam and seep wetland are artificial features they still provide a habitat which support wetland faunal and floral species and play a role in terms of function and service provision. In order to safeguard the wetland habitat that has developed within the dam and surroundings it is therefore recommended that the seepage wetland remains free from development thereby acting as a buffer to the artificial dam.

The natural pan has been significantly disturbed as a result of historic earth moving activities. However, with rehabilitation, it is deemed highly likely that the overall PES of the feature can be improved. A minimum buffer of 32 m is therefore advocated in order to minimise any impact the proposed development activities could have as well as to safeguard wetland resources during the operational phase of the development.

The following impacts on the wetland features within the study area of the proposed Kathu Supplier Park are identified and assessed:

- Loss of wetland habitat and ecological structure;
- Changes to wetland ecological and socio-cultural service provision; and
- Wetland hydrological function and sediment balance.

Development activities may result in long term impacts on the abovementioned wetland impacts, with an impact significance of negative medium-low for the artificial dam and associated seep wetland as well as the natural wetland pan. However, with the implementation of mitigation measures the overall significance of impacts can be reduced to a negative low for the artificial dam and associated seep wetland, and negative very low for the natural wetland pan.

Layout Alternative Option 1

Layout Alternative Option 1 will impact on the Lategan Dam and artificial seep wetland in addition to the impact of Layout Alternative Option 2 on the natural wetland pan.

Layout Alternative Option 2

The natural wetland pan will be impacted upon over the life of the supplier park.

Environmental Management Framework

Measures to mitigate impacts on wetlands have been incorporated into the EMP Number 26 on Watercourses and Wetlands (see Appendix A).

Cumulative Impacts

Wetlands within the region are under continued threat due to ongoing mining development in the area. Impacts on the natural wetland pan within the study area may therefore add to the cumulative effect on the wetlands of the region.

Layout Alternative Option 1

Similar to project impacts described above for Layout Alternative Option 1.

Layout Alternative Option 2

Similar to project impacts described above for Layout Alternative Option 2.

No-Go Development Alternative

Existing impacts on wetlands will remain. Additional impacts due to the presence of the proposed Kathu Supplier Park will be avoided.

5.2.1.3 *Social*

Baseline / Existing Impacts

The social impacts listed below can be regarded as cumulative impacts, which are added to the impacts already experienced or perceived due to current and new mining developments, housing developments, town expansion, solar park developments and road construction,

Project Impact Sources

Construction and Operational Phase

- In-migration of people and presence of construction workers.
- Change in land-use due to development of the proposed supplier park.

Description of Impacts (Cumulative Impacts)

The project will contribute and add to the cumulative impact of development in the area and existing impacts as already experienced and perceived by the local community:

Impacts on health;

- Sexually transmitted and other diseases.
- Road accidents.
- Potential for increase in inhalable dust.

Pressure on physical infrastructure;

- Road deterioration and increased need for road maintenance.
- More dangerous driving conditions.
- Greater need for emergency response vehicles.
- Congestion causing delays for road users.
- Localised and intermittent noise from increased industrial traffic.
- Increased risk of accidents resulting in major chemical spills.
- Pressure on electricity supply.

Impacts on towns and social structures;

- Change in current ambience and structure of towns.
- Rapid urbanisation leading to a loss of community, a weakening of social networks, and often an increase in crime.
- Impacts of inward migration of employees, family members and job seekers (Increase in issues such as HIV/AIDS and TB, alcohol and substance abuse, commercial sex and domestic violence, social cohesion).
- Influx of people will place a demand on housing and drive property prices upwards (Impact on availability and adequacy of affordable housing – shortage of affordable housing, increase in prices, growth of informal settlements).
- Pressure to provide necessary school and healthcare facilities and staff.
- Increased pressure on service delivery such as the provision of waste management services, water and power distribution networks, development and maintenance of public amenities such as parks, gardens, sports facilities, etc.

There are high expectations associated with the proposed project and this should be managed. Due to previous developments in the area there are signs of stakeholder fatigue that could be to the detriment of participatory processes associated with the project. It is expected that the project will have a positive impact on job creation and the local economy in the construction and operation phase. There are some nuisance impacts that can be expected during construction such as noise, dust and traffic. These impacts may continue into the operation phase, depending on the tenant composition and the effectiveness of the mitigation measures.

Environmental Management Framework

EMP Numbers 3, 13 and 22 on Complaints Register and Management, Fires, and Public and Labour Relations (See Appendix F).

Cumulative Impacts

The social impacts listed below can be regarded as cumulative impacts, which are added to the impacts already experienced or perceived due to current and new mining developments, housing developments, town expansion, solar park developments and road construction,

No-Go Development Alternative

Existing social impacts will remain. Additional impacts (negative and positive) due to the presence of the proposed Kathu Supplier Park will be avoided.

5.2.1.4 Land Tenure and Displacement of People

No privately owned properties are affected. There will be no impacts on land tenure and there will be no displacement of people.

5.2.1.5 Economic Activities

Baseline / Existing Impacts

The area earmarked for the proposed Kathu Supplier Park is currently used as wilderness land and for recreational motorcycle tracks, illegal refuse and construction rubble dumping, road and pedestrian access between the Kathu industrial area and Sishen Mine.

Project Impact Sources

Construction and Operational Phase

- Capital and operational expenditure.
- Job creation.

Description of Project Impacts

The proposed development will inject about R1.2 billion over a period of ~ two years into the economy of Kathu. During this period, nearly 1 300 job opportunities will be created on-site, and an additional number of jobs of roughly 4 378 due to the multiplier effect in the economy, in Kathu and elsewhere in the country. The total additional value added during the development of Stage 1 is expected to be in the order of R419.2 million.

The management of the park will stimulate the economy directly with about R23.8 million annually. The total number of direct jobs (on-site) required to manage and maintain the park is estimated to be in the order of about 45 jobs. The total additional value added to the economy is in the order of R21.5 million annually.

The tenants are expected to represent the largest single impact of the project. Based on industry standards and an understanding of the tenants, their expenditure could be in the order of R2.9 billion annually. The total expenditure is estimated to be ~ R5.97 billion (i.e. indirect and induced effects on the economy). The direct (on-site) job creation is expected to be not less than 2 195 per annum, whilst the indirect (3 101) and induced (3 404) is expected to be created elsewhere in the region and in the country. The total contribution to the tax base is estimated to be in the order of R278.7 million.

The impact significance of the proposed supplier park on the local economy and job creation are rated as positive high to very high.

Cumulative Impacts

The economic impact as described above can be added to that of developments in the area, most notably the mining and housing developments.

No-Go Development Alternative

The no-go development will have high negative impacts on the associated impacts on regional economy.

Table 3. Alternatives Assessed in the EIA.

Impact	Existing Impact	Project Impact				Cumulative Impact				No-Go / Alternative Development
		Layout Alternative Option 1		Layout Alternative Option 2		Layout Alternative Option 1		Layout Alternative Option 2		
		Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	Unmitigated	Mitigated	
Physical Environment										
Hydrology (Quantity).	Neg Low	Neg High	Neg Moderate	Neg Moderate	Neg Low	Neg High	Neg Moderate	Neg Moderate	Neg Moderate	Neg Low
Hydrology (Quality).	Neg Moderate	Neg High	Neg Moderate	Neg Moderate	Neg Low	Neg High	Neg Moderate	Neg Moderate	Neg Low	Neg Moderate
Biological Environment										
Wetland Habitats.	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Low	Neg Moderate
Social and Economic Environment										
Social Impacts (Land Tenure & Displacement).	Neg Moderate	Low	Low	Low	Low	Low	Low	Low	Low	Neg Moderate
Social Impacts (Safety, Health, Population Growth, & Sense of Place).	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate	Neg Moderate
Economic Impacts (Local and Regional Economy & Employment).	Pos Low	Pos High	Pos High	Pos High	Pos High	Pos High	Pos High	Pos High	Pos High	Pos Low

6. Department of Water and Sanitation Requests

Following a site visit held between the Northern Cape DW&S and Synergistics, and the review of the Scoping Report, the DW&S (National and Regional) sent through requirements of what needs to be included with the WULA. Please refer to Table 4 below with the DW&S requirements and the references of where the information can be found.

Table 4. DW&S requirements for inclusion with the WUL and reference of where information can be sourced

DW&S request	Response
Master plan showing temporary and permanent infrastructure and natural features	Refer to Appendix D of this Technical Report
Storm water management plan	Refer to Appendix E of this Technical Report
Waste management plan	**Hazardous Waste Management:** Hazardous waste produced may include hydrocarbon waste from workshops and servicing areas, used petroleum products, used cleaning materials, light bulbs (including fluorescent tubes which is regarded as hazardous), electronic and medical waste, which will be removed off site by an appropriate licensed waste company for disposal. The quantities of hazardous wastes will be fairly small and the waste management activities (storage, handling and recycling) fall below the legislated thresholds, which will therefore not trigger the need for a waste management license (WML) in terms of the NEM:WA. **General Waste Management** General waste will include general office waste such as paper and other degradable materials which will be disposed of offsite at a licensed facility. Access to a non-hazardous waste disposal site will be provided by the Gamagara Municipality as per the draft resolution mentioned above. The quantities of general wastes will be small (~ 98 000 m3 and 25 000 m3 during Phase 1 and 2, respectively) and the waste management activities (storage, handling and recycling) fall below the legislated thresholds, which will therefore not trigger the need for a WML in terms of NEM:WA. Refer to the Draft Environmental Management Plan (EMP)in Appendix F for waste management measures.
Present Ecological State (PES)/ Ecological Importance and Sensitivity (EIS)/ Recommended Ecological Category (REC)	Refer to Section 2(g), Section 4.3.1 of this report and the Wetland Ecological Assessment in Appendix B.
Catchment of the wetland pan	Refer Section 2(e) and Section 4.2 of this Technical Report.
Photos	Refer to Section 3.2.3 of Appendix B.
Landscape design plans	Refer to Appendix D.
Alternative layouts that will incorporate the pans as valued open space features in the landscape planning/ design	Since the draft scoping report and after an authority's meeting held with the Northern Cape DW&S, an alternative layout (Proposed Layout Option) has been developed in order to exclude the Lategan dam, surrounding artificial seep wetland areas and moist grasslands from the study area. A Master Plan of the final layout is attached in Appendix D.

Plant species plans	Refer to the EMP in Appendix F.
Rehabilitation plans	Mitigation measures for the site clean-up and rehabilitation are included in the EMP (see Appendix F - EMP No 21).
The EIA and EMP need to be submitted	These have been submitted simultaneously with the WULA.
A new alternative that will integrate the Lategan Dam, 2 pans and infrastructure from the Supplier Park must be drawn up and submitted for approval. The pans and the dam should be kept as green open space. The motto must be to design with nature. A Master Plan must be compiled and submitted for approval to DW&S. Temporary and permanent, infrastructure must be shown as well as the dam, pans, open space, circulation, legible scale with an information key and descriptions on A1 paper.	Since the draft scoping report and after an authority's meeting held with the Northern Cape DW&S, an alternative layout (Proposed Layout Option) has been developed in order to exclude the Lategan dam, surrounding artificial seep wetland areas and moist grasslands from the study area. A Master Plan of the final layout is attached in Appendix D.
Work method statement	The successful tenderer will, in line with the Occupational Health and Safety Act, 1993 (OHSA, No. 85 of 1993), develop a work method statement which will include aspects as discussed in this technical report. This work method statement can be provided once it has been developed by the successful tenderer, prior to construction.

7. Management

The following water related management measures, as extracted from the EMP, will be applied for the Kathu Supplier Park. The numbering has been kept as per the EMP. The measures below relate only to water aspects but the full EMP is contained in Appendix F.

6	HYDROLOGY, WATER USE AND CONSUMPTION	.	.	.
	Environmental Aspect / Impact Source:	.		
	Depletion of natural water resources.	.		
	Goals and Objectives:	.		
	Optimisation of natural resource consumption and conservation.	.		
	Mitigation Measures:	.		
6.1	Minimise water consumption, create awareness and encourage all staff to use water sparingly.	Ongoing	Y	Y
6.2	Ensure adequate maintenance of water tanks, pipes and taps and repair all drips and leaks as soon as possible.	Ongoing, within 24 hours of detection.	Y	Y
8	STORMWATER, EROSION AND SEDIMENTATION	.	.	.
	Environmental Aspect / Impact Source:	.	.	.
	Degradation of wetland pan water quality and habitats. Loss of growth medium.	.	.	.
	Goals and Objectives:	.	.	.
	Adhere to applicable effluent discharge standards. Minimise impacts on downstream wetland pan ecosystems. Limit the loss of growth medium (soil) and prevent sedimentation of downstream drainage systems.	.	.	.
	Mitigation Measures:	.	.	.
8.1	Areas where wind and water erosion becomes a problem will be stabilised and protected as soon as practically possible. Protection measures may include berms, trenches, channels, and benches to divert or attenuate stormwater, or rock cladding, gabions, sodding, hydro seeding, planting, soil binders, etc.	As required	Y	Y

8.2	Sedimentation traps / berms will be installed below extensive earthworks and unvegetated areas where erosion is found to be problematic, including soil stripping operations, and stockpiles.	As required	Y	Y
8.3	Regular inspection of attenuation ponds and sediment traps for maintenance purposes.	Weekly	Y	Y
8.4	Regular maintenance of attenuation ponds and sediment traps.	Ongoing, as required.	Y	Y
8.5	Appropriate measures to be included in the lease agreements of tenants for the separation of oil and stormwater flow at the individual erven and facilities within the Kathu Supplier Park. The construction and maintenance will be the onus of each developer.	Prior to operation.	.	Y
8.6	Should erosion of wetland banks become a problem as a result of construction activities, these areas will be stabilised and protected. Protection measures could include attenuation structures, gabions, rock cladding, etc.	Annually	Y	Y
8.7	Erosion protection measures and measures to control sedimentation problems will be approved by the EA.	Ongoing	Y	.
8.8	Exposed areas associated with topsoil stripping and vegetation removal in advance of infrastructure developments will be kept to a minimum.	Ongoing	Y	.
8.9	Water used for dust suppression shall be in quantities small enough not to generate significant run-off that could result in erosion.	Ongoing	Y	.
8.10	Stockpiling of gravel, cut, fill or any other material (e.g. soil) to be limited in degraded areas or footprint areas where future buildings and infrastructure are planned. The Contractor to indicate the proposed areas and method of undertaking these activities in a method statement to be submitted to the ECO for approval before these activities commence.	Prior to construction, ongoing.	Y	.
8.11	The Contractor to ensure that the stockpiled material does not blow or wash away, or mix with each other. If the material is in danger of being washed or blown away, the contractor to cover it with a suitable material such as hessian, netting or plastic.	Prior to construction, ongoing.	Y	.
8.12	The Contractor to take reasonable measures to control the erosive effects of storm water runoff, especially where excavation and construction activities form temporary channels.	Prior to construction, ongoing.	Y	.
8.13	Earth deflection berms to be used on sections of pipelines that exceed a slope of 1:3. A method statement in this regard shall be submitted to the ECO prior to commencement of pipeline construction.	Prior to construction, ongoing.	Y	.
8.14	All roadways, drains and storm water control facilities to be kept clean.	Ongoing	.	Y
18	SPILL PREVENTION, RESPONSE AND CLEAN-UP	.	.	.

	Environmental Aspect / Impact Source:	.	.	.
	Substances such as fuels, lubrication oils, hydraulic and brake fluid, solvents, radioactive components, paints and anti-corrosives, insecticides and pesticides, as well as the by-products and waste associated with use of these products will be present on site. The release of these hazardous substances into the receiving environment that could result in air, soil and water pollution and may affect the health and well-being of people, plants and animals.	.	.	.
	Goals and Objectives:	.	.	.
	Define and implement control measures for hazardous spill prevention, and ensure adequate response and clean-up measures are put in place.	.	.	.
	Mitigation Measures:	.	.	.
18.1	A spill prevention and response procedure to be put in place and kept up to date as per the specific requirements of construction and operation and will be based on the following principles:	Ongoing	Y	Y
18.1.1	Identify activities and areas where there are risks for spills.	Annually	Y	Y
18.1.2	Provision of workshops and wash bays equipped with appropriate stormwater management to separate clean and dirty water, and impervious surfaces draining towards silt traps and oil separators.	Ongoing	Y	Y
18.1.3	Prevention of spills during the transportation and handling of hazardous chemicals.	Ongoing	Y	Y
18.1.4	Ensure appropriate maintenance of vehicles and equipment to prevent spills. Records to be kept on file.	Ongoing	Y	Y
18.1.5	Drip trays are to be placed under stationary vehicles and equipment which leak oil or lubricants.	Ongoing	Y	Y
18.1.6	Identify and train people responsible to respond to spills and to provide assistance and instructions for immediate actions required to stop the spill, prevent further spreading of the hazardous substance and to obtain specialist input where required.	Ongoing	Y	Y
18.1.7	Ensure appropriate inspections are conducted to ensure early detection of spills.	Ongoing	Y	Y
18.1.8	Investigate and assess spills, as per the incident reporting procedure, and identify and implement immediate appropriate corrective actions required to stop the spill and prevent further spreading of the hazardous substance.	Ongoing	Y	Y
18.1.9	Determine appropriate measures to remove, treat and/or dispose of the hazardous substance and contaminated soil and/or water.	Ongoing	Y	Y
18.1.10	Determine appropriate measures to clean up the area affected by the spill, with specialist input where required.	Ongoing	Y	Y
18.2	The ECO and EA to investigate and implement appropriate measures to collect, handle, store and	Ongoing	Y	.

	treat contaminated soil. The aim of treatment is to contain contaminants and rehabilitate soils for later use in rehabilitation.			
18.3	Contractor responsible to collect, handle, store and treat contaminated soil as per procedures developed by the ECO and EA.	As required	Y	.
18.4	All vehicles to be serviced on a regular basis and in well-constructed and bunded areas, with oil separators and dirty water collection systems.	Ongoing	Y	Y
18.5	In the event of a breakdown, maintenance of vehicles to take place with care and the recollection of spillage to be practiced to prevent the ingress of hydrocarbons into the topsoil.	Ongoing	Y	Y
18.6	Special care to be taken to avoid spillage of hazardous products to avoid water-soluble contaminants from entering the ground or contaminating surface and/ or groundwater.	Ongoing	Y	Y
18.7	Any spillage of hazardous products to be attended to immediately and affected areas to be promptly reinstated to the satisfaction of the ECO.	Ongoing	Y	.
18.8	If soil is polluted, the first management priority should be to treat the pollution by means of in situ bioremediation. The acceptability of this option must be verified by an appropriate soils expert and by the local water authority on a case by case basis, before it is implemented.	Ongoing	Y	Y
18.9	If in situ soil treatment (bio-remediation) is not possible or acceptable then the polluted soil to be classified according to the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (DW&S) and disposed at an appropriate, permitted, off-site waste facility.	Ongoing	Y	Y
21	REHABILITATION	.	.	.
	Environmental Aspect / Impact Source:	.	.	.
	Long-term environmental degradation due to incomplete site clean-up and rehabilitation.	.	.	.
	Goals and Objectives:	.	.	.
	Minimise residual impacts and ensure physical and chemical stability of site. Ensure human safety.	.	.	.
	Mitigation Measures:	.	.	.
21.1	Identify disturbed areas for rehabilitation (all areas disturbed during construction and areas where previous rehabilitation measures have failed or are incomplete).	Monthly, and at end of construction phase	Y	.
21.2	Any natural areas beyond the development footprint which have been affected by the development activities to be rehabilitated using indigenous grass species.	Prior to operation	Y	.
21.3	Develop rehabilitation procedures specific to each disturbed area.	Monthly, and	Y	.

		at end of construction phase		
21.4	Disturbed areas, especially cut and fill embankments, should be rehabilitated as soon as possible.	As required	Y	.
21.5	Growth medium (i.e. topsoil) will be placed on all disturbed areas (minimum layer of 300 mm).	As required	Y	.
21.6	Soils to be replaced to all areas not required by the operational phase, and the preparation of a seed bed and/or rock cladding to facilitate the re-vegetation program for these areas should be conducted to limit potential erodibility as well as maintaining the source materials for rehabilitation processes.	Ongoing	Y	.
21.7	Soil to be replaced to appropriate soil depths, and areas to be covered to achieve a free draining landscape, as close as possible to the pre-development/ baseline land capability rating.	Prior to operation	Y	.
21.8	A representative sampling of the stripped soils to be analysed to determine the nutrient status of the utilisable materials. As a minimum the following elements should be tested for: electrical conductivity, cation exchange capacity, pH, Calcium, Magnesium, Potassium, Sodium, Phosphor, Zinc, Clay% and Organic Carbon. These elements provide the basis for determining the fertility of soil based on the analysis, fertilisers that will be applied if necessary.	Prior to operation	Y	.
21.9	Naturally occurring indigenous species will be used in the re-vegetation of disturbed areas to help with the prevention of alien invasive species becoming dominant and with maintaining biodiversity.	As required	Y	.
24	ABLUTION FACILITIES AND SEWAGE TREATMENT	.	.	.
	Environmental Aspect / Impact Source:	.		
	Spread of biological contamination into the receiving environment. Health risks due to unhygienic conditions.	.		
	Goals and Objectives:	.		
	Define and implement control measures to ensure adequate treatment and disposal of sewage waste.	.		
	Mitigation Measures:	.		
24.1	All sewerage water from the camp / offices shall be disposed of into the municipal connection, if available. If immediate connection to the existing sewage line is not possible, chemical toilets must be provided for workers.	Prior to construction	Y	Y
24.2	Adequate toilet facilities shall be provided on site, approximately one toilet per 15 staff members.	Ongoing	Y	Y
24.3	The positioning of the chemical toilets shall be done in consultation with the ECO and more than 100m from a wetland.	Ongoing	Y	.

24.4	Toilets will be easily accessible and will be provided within easy walking distance from where employees are working.	Ongoing	Y	.
24.5	Toilets will be maintained to ensure hygienic conditions and will be provided with locks and doors.	Ongoing	Y	Y
24.6	Chemical toilets will be secured to prevent them from blowing over.	Ongoing	Y	.
24.7	Chemical toilets will not be placed in areas susceptible to flooding.	Ongoing	Y	.
24.8	The waste material generated from the chemical toilet facilities shall be serviced on a regular basis.	Ongoing, as required.	Y	.
24.9	Disposal of chemical toilet waste to be in accordance with the waste management procedure to be issued by the ECO.	Ongoing	Y	.
24.10	Use of open areas for this purpose shall not, under any circumstances, be allowed.	Ongoing	Y	Y
24.11	The construction of "long drop" toilets is forbidden.	Ongoing	Y	Y
26	WATERCOURSES AND WETLANDS	.	.	.
	Environmental Aspect / Impact Source:	.	.	.
	Loss of wetland habitat and ecological structure. Changes to ecological and socio-cultural service provision. Impacts on wetland hydrological function and sediment balance.	.	.	.
	Goals and Objectives:	.	.	.
	Improved ecological and socio-cultural service provision of the wetland habitats. Conservation of wetland hydrological functions as an integrated and holistic approach to conserve the surrounding environment.	.	.	.
	Mitigation Measures:	.	.	
26.1	The wetland habitat to be strictly off limit to construction personnel and vehicles.	Ongoing	Y	Y
26.2	Ensure that construction related activities do not encroach into the wetlands or wetland buffer zones.	Ongoing	Y	.
26.3	Limit the footprint area of the construction activity to what is absolutely essential in order to minimise environmental damage.	Ongoing	Y	.
26.4	The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas.	Ongoing	Y	Y
26.5	Edge effects of activities including erosion and alien/ weed control need to be strictly managed in wetland areas.	Ongoing	Y	Y

26.6	Remove all alien and weed species encountered in order to comply with existing legislation (amendments to the regulations under the Conservation of Agricultural Resources Act, 1983 and Section 28 of the National Environmental Management Act, 1998). However, care should be taken with the use of herbicides within areas close to the wetland feature to ensure no additional impacts occur due to the herbicide used.	Ongoing	Y	Y
26.7	Restrict construction vehicles to designated roadways. The indiscriminate movement of construction vehicles through wetland areas must be strictly prohibited.	Ongoing	Y	.
26.8	All spills should be immediately cleaned up and treated accordingly.	As required.	Y	Y
26.9	Regularly inspect all construction vehicles for leaks. Re-fuelling must take place on a sealed surface area to prevent hydrocarbons reaching surface/subsurface water that could potentially flow to the wetland feature.	Ongoing	Y	.
26.10	Prevent run-off from work areas entering wetland habitats.	Ongoing	Y	Y
26.11	Sanitation facilities must be provided for the duration of the proposed development and all waste removed to an appropriate facility. These facilities must be located outside of the wetland features and must be regularly serviced.	Ongoing	Y	Y
26.12	Implement waste management as contemplated in the EMP in order to prevent construction related waste from entering the wetland environment.	Ongoing	Y	.
26.13	Do not allow dumping of waste material within wetland areas at any stage of the development. Do not allow any temporary storage of building material within the wetland areas.	Ongoing	Y	Y
26.14	All waste, with special mention of waste rock and spoils and remaining building material should be removed from the site on completion of the construction phase.	Ongoing	Y	Y
26.15	Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland features. Management measures may include berms, silt fences, hessian curtains and stormwater diversion away from areas susceptible to erosion. Care should however be taken so as to avoid additional disturbance during the implementation of these measures. In this regard specific attention should be given to the attenuation of stormwater in order to prevent erosion.	Ongoing	Y	Y
26.16	Attenuate stormwater in order to prevent erosion.	Ongoing	Y	Y
26.17	Sheet runoff from paved surfaces and access roads must be curtailed.	Ongoing	Y	Y
26.18	Ensure that seepage from dirty water systems is prevented as far as possible.	Ongoing	Y	Y
26.19	Implement an alien vegetation control program within wetland areas.	Ongoing	Y	Y

26.20	Rehabilitate the natural pan in order to improve the PES of the wetland habitat, function and service provision, and the hydrological function and sediment balance of the feature.	Ongoing	Y	Y
26.21	Any discharge of runoff into wetland features must be done in such a way as to prevent erosion. In this regard special mention is made of the use of energy dissipating structures in stormwater discharge.	Ongoing	Y	Y
26.22	As much vegetation growth as possible should be promoted within the study area in order to protect soils and to reduce the percentage of the surface area which is paved. In this regard special mention is made of the need to use indigenous vegetation species as the first choice during landscaping.	Ongoing	Y	Y
27	EFFLUENT MANAGEMENT	.	.	.
	Environmental Aspect / Impact Source:	.	.	.
	Degradation of water quality. Damage to wetland habitats and catchment area.	.	.	.
	Goals and Objectives:	.	.	.
	Adhere to applicable effluent discharge standards. Minimise impacts on downstream ecosystems. Prevention of water pollution. Treat and remediate polluted water.	.	.	.
	Mitigation Measures:	.	.	.
27.1	Uncontrolled discharge of contaminants, without permission of the ECO such as fuels, oils, solvents, detergents, cement, flocculants, bitumen, other chemicals and organic materials into any water sources to be prevented.	Ongoing	Y	Y
27.2	Runoff from fuel depots, workshops, and washing bays, which could potentially contain hydrocarbons, shall be directed through oil traps/ separators in good working order.	Ongoing	Y	Y
27.3	Regular inspection of oil traps/ separators for maintenance purposes.	Weekly	Y	Y
27.4	Regular maintanance of oil traps/ separators.	Ongoing, as required.	Y	Y
27.5	Appropriate corrective action to be taken in areas where water quality becomes problematic.	Ongoing	Y	Y

8. Public participation

Extensive communication and public participation has been undertaken for this project. The full details are contained in the draft EIA. The details below provide a summary of the Public Participation Process (PPP) that has been undertaken thus far.

8.1 Identification of interested and affected parties

Potential I&APs were identified through networking, referral and the use of the existing Kumba and Synergistics I&AP databases (developed and updated since 2009). The existing databases included landowners, neighbouring landowners and people who participated in previous EIA processes in the area. Press advertisements and site posters were used to identify new I&APs.

A list of all parties that were consulted during the public participation was developed and is included below. This list will be updated throughout the EIA and WULA process, if and where required.

Registered IAP	Surname	Initials	Name	Affiliation
Y	Ackerman	Mr P.	Pieter	DWA (Pretoria)
Y	Abrahams		Abe	NC DWA
Y	Msimango	Mr P.	Philani	Case Officer Control Scientific Technician Water Quality Management - Lower Vaal Region Department of Water Affairs - Northern Cape
	Killian (Du Plessis)	Mrs V.	Valerie	DWA (Pretoria)
	Mahunonyane	Mr. M	Moses	DWA Northern Cape Head of Institutional Establishment
	Mpe		Rachel	NC DWAF
	Mazwhi	Mrs	Nossi	DWA Regional Manager water service and use
	Abbott	Dr H.		Department of Water Affairs and Forestry, Assistant Director
	Ravhugoni	Mr	Ntsundeni	NC Dept Mineral Resources
	Ramakulukusha	Mr	M	DENC Case Officer
	Du Toit	A. J.	Attie	Eskom
	Burger	J	Jeanine	Snr Environmental Advisor Eskom Transmission North-West Grid
	Geeringh	Mr J.	John	Eskom
	Van Gensen	A	Andrea	Env ironmental Management Practitioner Eskom Distribution NWR Land Development
	Nortier	G.	Gilbert	Transnet
	Ndou	Mr L. W.	Livhuwani Wilson	Transnet Freight Rail, Environmental Specialist
	Fiff	Mr S.	Sam	Western Region Environmental Manager - Transnet
	Matabane	Mr V.	Vincent	Transnet
	Esterhuizen	Mr S.		Department of Agriculture, Deputy Director

Registered IAP	Surname	Initials	Name	Affiliation
Y	Torien	Mrs	N.J	Department of Agriculture, Land Reform and Rural Development SRM Control Technician
	De Jager	L.	Louis	Department of Agriculture
	Mothibi	Mr	Wonders Viljoen Dimakatso	Northern Cape Department of Agriculture, Land Reform & Rural Development MEC/director/deputy depart
	Smit	Mr	Christo	Department of Agriculture, Land Reform and Rural Development
	Alberts	Mr	Herman (Attie)	Department of Environmental Affairs, Chief Directorate: Integrated Environmental Authorisations
	McCourt	Ms L.	Lize	Chief Director: Environmental Impact Management (DEA)
	Mbanjwa	Mr	Sibonelo	Department of Environmental Affairs Deputy Director
	Grond	Mr M.		Gamagara Local Municipality, Acting Chief Financial Officer
	Ositang	Mr K.		Gamagara Local Municipality, Acting Technical Service Manager
Y	Beneke	Mr R.		Gamagara Local Municipality, Finance Manager
Y	Walker	Mr J.	Jimmy	Gamagara Local Municipality, Manager: Corporate Services
	Bosman	Clr L.		Gamagara Local Municipality, Councilor
	Diniza	Clr M.		Gamagara Local Municipality, Councilor
	Hantise	Clr O. E.		Gamagara Local Municipality, Councilor
	Hinana	Ms Q.		Gamagara Local Municipality, Manager Community Servises
	Itumeleng	Mr C.		Gamagara Local Municipality, Manager Corporate Service
	Joachim	Mr. C.		Gamagara Local Municipality, Municipal Manager
	Kaars	Clr J.C.		Gamagara Local Municipality, Councilor
	Modise	Ms V.		Gamagara Local Municipality, Assistant
	Moyo	Clr D.		Gamagara Local Municipality, Councilor
	Nampa	Clr O.I.		Gamagara Local Municipality, Councilor
	Olivier	Clr A.C.		Gamagara Local Municipality, Councilor
Y	Burger	MR	Pierre	Gamagara Local Municipality
	Rakoi	Mr M. J.	James	Gamagara Local Municipality Mayor
	Botha		Lategan	Gamagara Municipality
Y	Mostert	A.		Gamagara Municipality
	Solomon	Mrs	Sheron French	Municipal Manager - Gamagara Municipality

Registered IAP	Surname	Initials	Name	Affiliation
	vos	Mr	Gerrit	DA Ward Councillor for ward 1 - Gamagara Municipality
	Tiroyame	Mr	Ernest	ANC Ward Councillor for ward 2 - Gamagara Municipality
	Gorrah	Mr	Victor	ANC Ward Councillor for ward 3 - Gamagara Municipality
	Obuseng	Mr	Isaac	ANC Ward Councillor for ward 4 - Gamagara Municipality
	Selonyane	Mrs	Patricia	ANC Ward Councillor for ward 5- Gamagara Municipality
	Van Der Westhuizen	Mr	G.A.	John Taolo Gaetsewe District Municipality, IDP/PMS MANAGER, Office of the Municipal Manager
	Mothibakeledi	Mrs M.I.		John Taolo Gaetsewe District Municipality, Member: Social Services, Disaster Management & Safety & Security Committee
	Gaobusiwe	S. B.		John Taolo Gaetsewe / Municipal Mayor
	Mosiane	Mrs L.		John Taolo Gaetsewe District Municipality, Manager: Internal Audit
	Phetlhu	Mr B.D.		John Taolo Gaetsewe District Municipality, Traditional Leader
	Riet	Mrs C.S		John Taolo Gaetsewe District Municipality, Member: LED Agricultural & Tourism Committee
	Van Huysteen	Mr T.		John Taolo Gaetsewe District Municipality, Assistant Manager Finance
	Mosikatsi	Mrs S.	Sophia	John Taolo Gaetsewe District Municipality, Executive Mayor
	Mochware	Mr M. E.		John Taolo Gaetsewe District Municipality, Chairperson: Public Participation, Infrastructure & Service Delivery Committee
	Van Niekerk	Mr	Sakkie	AssMang Mining, Manager
	Coetzee	D. J.		AssMang Mining Khumani Mine
	Mosterd	Mr A.	Alex	AssMang Mining, Manager
	Manong	Mrs V.		Kuruman District Health Office, District Manager
	Cloete	Ms M.		Department of Health
	Moncho	Mr	Godfrey	Department of Health NC Deputy Director maintenance.
	Sethole	D. M.		Environmental Health Practitioner Department of Health
	Shushu	Mr	Norman	Northern Cape Provincial Government MEC: Finance, Economic Affairs and Tourism
	Nyongwana	Mr T.		Department of Transport, Roads and Public Works, Assistant Director
Y	Viljoen	Mr A.	Albertus	Tshiping Water Users Association
	Mzila	Z.	Zinnle	Department of Labour
	Paulsen	E. J. M.	Mervyn	Management Support Services, Labour Centre Postmasburg
	Townsend	A.	Adelaide	Department of Labour
	Mphahlele	Mr	Jonathan	Department of Labour NC Regional manager
	Ishamil	Mr	M	Department of Education NC Chief Director
	Burger	J.	Johann	Snr. O. Town Planning

Registered IAP	Surname	Initials	Name	Affiliation
	Hasenjager	Mr I.	Ian	Sedibeng Water
	Mans	Ms J.	Jacoline	Department of Agriculture, Forestry and Fisheries, Chief Forester
	Tshetlho	Mr Z.		Kgalagadi District Municipality, Manager: Development & Planning
	Van der Westhuizen (Attention)	Mr G. A.	Gerrie	Kgalagadi District Municipal Assistant Manager
	Smit	Mr C.		Department of Local Government and Agriculture, D.O.T. Director
Y	Voigt	Mr W.	Werner	Environmental Specialist Anglo
Y	Galimberti	Mrs	Mariagrazia	South African Heritage Resources Agency
Y	Lavin	Ms J.	Jenna	South African Heritage Resources Agency
	Smit	Ms	Annette	Member of NG Church Kathu
	Smit	Mr	Freek	Member of NG Church Kathu
	Smit	Ms	Jacquelene	Member of NG Church Kathu
	Smith	Ms	Jean	Member of NG Church Kathu
	Solomons	Mr	Charl	Member of NG Church Kathu
	Jordaan	Mr	Jorrie	Member of NG Church Kathu
	Smit	Mr	Nico	Member of NG Church Kathu
	Van Schalkwyk	Mr S.	Schalk	Leraar NG Kerk / Dorp
	Van Niekerk	Ms	Mercia	Member of NG Church Kathu
	Van Schalkwyk	Ms T.	Therina	Member of NG Church Kathu
	De Villiers	Rev A.		Reverend of NG Church Kathu
	Van Niekerk	Mr	Marius	Member of NG Church Kathu
	Buys	Mr H.W.		Teacher at Kathu High School
	Buys	Me S.M.		Teacher at Kathu High School
	Solomons	Mr G.		Teacher at Kathu Primary School
	Spagenberg	Me A.		Teacher at Kathu Primary School
	Booysen	Mrs H. W.		Teacher at Kathu High School
	Du Preez	Me E.		Teacher at Kathu Primary School
	Van Niekerk	Mr H.A.R.		Teacher at Kathu Primary School
	Slabbert	Me R.		Teacher at Kathu Primary School
				Kathu Primary School
	Carlson	R.		Teacher
	Mogotsi	Me K.V.		Teacher at Sishen Intermediate Mine School
	Senye	Mr K.E.		Teacher at Sishen Intermediate Mine School
Y	Cronje	P.	Pierre	Interested Party
Y	Maritz	Mr A. W. A.	Interested Party	Curtis Farm
	Hoffman	J. E.	Jacob/Jaap	Fouriesville
	Jacobs	Mr G. G.	Gabriel Gerhardus	Mooihoek Farm
	Kotzé	Mr C. H.	Coenraad Hendrik	Erfdeel, Lohathla Farm
	Van der Linde	J. A.	Tops	Farmer
	Viljoen	Mr J. F.	Fred	Bishopswood Farm
	Smit	J. A.		Vredeford
	Pias	Pieter		Interested Party

Registered IAP	Surname	Initials	Name	Affiliation
	Naidoo	Sahndya		Werksmans Attorneys
	Botha	Christine		Werksmans Attorneys
	De Klerk	C		Interested Party
	Markram	Mr A.	Alfred	Moria Boerdery BK / Sishen Ged 24 Farms
	Van Zyl	Mr A. H. G.	Andre	Lanham Farm
	Cornelissen	Mrs S.	Stephanie	Wright Farm
	Maritz	Mr J. H.		Dingle Farm
	Lock	J. P.	Johan	Edenvale Farm
	Laubscher	A.		SNR. Admin D.
	Kalp	Mev. M. M.		Rosenvlei / Kromvlei
	Hoffman	A. J.	Adriaan	Maxdale, Dingleton
	Fourie	J. M.	Jan	Dundrum Farm
	Burger	Mr J. A.	Jan	Oupos / Uitkoms Farms
	Bosman	Mr L.		Interested Party
	Smit		Nicolaas	Bredenkamp
	Fourie	H.	Hentie	Kumukalogistics
	Reinecke	Mr. D	Diederick	Imperial Truck Hire
				Potentially affected business in Industrial area neihgbouring site: Macsteel
	Colyn	Mr R.P.	Pieter	P3 Consulting
		Mr	Corne	Potentially Affected Business across road: Ustica Group
				Potentially Affected Business across road: Talisman plant and tool hire
				Potentially Affected Business across road: Danielskuil Steenwerke
				Potentially affected business in Industrial area neighbouring site: Kathu form-scaff
				Potentially affected business in Industrial area neighbouring site: Halsted & CO (Pty) Ltd, Agricultural, mining and industrial suppliers
				Potentially affected business in Industrial area neighbouring site: Kalahari Gas
				Potentially affected business in Industrial area neighbouring site: CIH (Commercial Industrial Hydraulics Northern Cape cc)
				Potentially affected business in Industrial area neighbouring site: Booysen Bore Drilling Company (Pty) Ltd
				Potentially affected business in Industrial area neighbouring site: Trysome
				Potentially affected business in Industrial area neighbouring site: ITR Africa
				Potentially affected business in Industrial area neighbouring site: Roadlab Civil Engineering Materials and Testing Laboratories
				Potentially affected business in Industrial area neighbouring site: Langeberg Stene
				Potentially affected business in Industrial area neighbouring site: Sarens South Africa

Registered IAP	Surname	Initials	Name	Affiliation
	Burger		Abrie	Potentially affected business in Industrial area neighbouring site: Sarens South Africa
			Kent	Potentially affected business in Industrial area neighbouring site: Sarens South Africa
	Mr	Mr T.	Theo	Potentially affected business in Industrial area neighbouring site: Allied Crane Hire (Pty) Ltd
	Mr	Mr. G	Gert	Potentially affected business in Industrial area neighbouring site: Aucor
				Potentially affected business in Industrial area neighbouring site: Transerve filtration
		Mr. L.	Leon	Potentially affected business in Industrial area neighbouring site: Kathu Truck and Trailer
		Mr. J.	Jaco	Potentially affected business in Industrial area neighbouring site: Pride in Tyres Kathu
		Mr. W.	Wilhelm	Potentially affected business in Industrial area neighbouring site: Pride in Tyres Kathu
	van der Merwe	Mr B.	Bernardus	Potentially affected business in Industrial area neighbouring site: SGB Cape
	Nkosi	Mr. D.	Douglas	Potentially affected business in Industrial area neighbouring site: SGB Cape
				Potentially affected business in Industrial area neighbouring site: FFP (Failsafe Fire Projects)
				Potentially affected business in Industrial area neighbouring site: Bolt and Engineering Distributors
				Potentially affected business in Industrial area neighbouring site: Incledon
				Potentially affected business in Industrial area neighbouring site: Sandvik
				Potentially affected business in Industrial area neighbouring site: Oryx Plant Hire
				Potentially affected business in Industrial area neighbouring site: AQS Liquid Transfers (Pty) Ltd
				Potentially affected business in Industrial area neighbouring site: Maritz Siviel Plant Hire
				Potentially affected business in Industrial area neighbouring site: Kathu Service Branch
				Potentially affected business in Industrial area neighbouring site: Kathu Depot
				Potentially affected business in Industrial area neighbouring site: Trentyre
				Potentially affected business in Industrial area neighbouring site: Sofa Designers
		Mr	Gerrit	Potentially affected business across road: Matlapeng Housing Company
				Potentially affected business in Industrial area neighbouring site: Tri-Cosigns SA (Pty) Ltd
				Potentially affected business in Industrial area neighbouring site: Precision Hydraulics
				Potentially affected business in Industrial area neighbouring site: Porrie se Werkswinkel

Registered IAP	Surname	Initials	Name	Affiliation
				Potentially affected business in Industrial area neighbouring site: Star Lubricant Distributors

8.2 Notification to interested and affected parties

Potential I&APs were notified about the project and the public participation process by means of:

- Direct letters to affected landowners.
- Press advertisements and site notices during the project announcement phase.
- Individual notifications to people who may be affected by the proposed development on the existing Kathu Supplier Park I&AP database (via telephone, email and/or fax.
- Individual written notifications to all registered I&APs (by registered mail), in accordance with sub-regulation 54 2(b) of GNR 543.
- Individual written notifications to the Gamagara Municipality (Mayor and Councillor) and John Taolo Gaetsewe District Municipality, previously Kgalagadi (Executive Mayor and Municipal Manager).
- Potentially affected businesses adjacent to the proposed Kathu Supplier Park study area (via email, fax or registered mail).
- Notifications were sent to all registered I&APs about the review of the draft and final scoping reports and the public information meeting.
- Notifications will be sent to all registered I&APs about the review of the draft EIA report as well as the review of the final EIA report.

8.3 Notification of relevant authorities

The following provincial government departments were notified about the project:

- Department of Environment and Nature Conservation (DENC);
- Department of Environmental Affairs, part of the Department of Water and Environmental Affairs (DWEA).
- The Department of Agriculture, Forestry and Fisheries (DAFF).
- The Northern Cape Department of Agriculture, Rural Development and Land Reform.
- The Northern Cape Department of Public Works, Roads and Transport.
- The Northern Cape Department of Mineral Resources (DMR).
- DW&S, part of the DWEA.
- The South African Heritage Resources Agency (SAHRA).
- The Northern Cape Department of Labour.
- Northern Cape Department of Health.

All of these authorities will be notified of and given the opportunity to review the draft and final EIA reports.

8.4 Press advertisements and Site notices

Press advertisements to announce the project were placed in the Volksblad (English) and the Kathu Gazette (Afrikaans) newspapers on 7 and 8 March 2014, respectively.

Site notices (posters) were placed at the following locations during the week of 24 to 28 March 2014:

- Next to the R380 provincial road directly north of the study area;
- On the R380 road approaching the N14 highway;
- On the corner of Jaspiss and Flemming street; and
- On the corner of Flemming street and the R380.

Copies of the advertisements and site notices are included in Appendix B2 of the draft EIA.

8.5 Registration of interested and affected parties

People and/or organisations were registered as I&APs for the project if they:

- Attended the public information meeting;
- Responded to notification letters and documentation, press advertisements or site notices;
- Own land within or adjacent to the proposed development footprint area;
- Operate businesses adjacent to the proposed development footprint area;
- Hold mining or prospecting rights on the property affected by the proposed development footprint area;
- Own, operate or administrate infrastructure affected by the project; and
- Contacted Synergistics telephonically, via fax, e-mail or post.

8.6 Background information document

A background information document (BID) (Appendix B3 of the draft EIA) was circulated in March 2014 to all landowners and identified I&APs via registered mail and/ or e-mail. The document included a response sheet and a request for written comments by 16 April 2014, providing I&APs with a commenting period of 3 weeks.

8.7 Public information meeting during scoping

A public information meeting was held on the 06 August 2014 at the main hall of the Kathu High School. Minutes of the meeting are included in Appendix B8 of the draft EIA.

8.8 Review of Draft and Final Scoping report

The draft scoping report was available for public and authority review in May 2014 for 6 weeks (40 calendar days). All registered I&APs were notified in writing of the availability of the document for review and were requested to submit comments (Appendix B4 of the draft EIA).

Following the closure of the draft scoping report review period, modifications were made to the scoping report. Comments submitted by registered I&APs on the draft scoping report were included in the final scoping report. Three weeks (21 calendar days) were provided for review of the final report in August 2014. Any new issues raised during review of the scoping report were addressed in the draft EIA report. All registered I&APs were notified in writing of the availability of the document for review and were requested to submit comments to the case officer of the competent authority (Mr M Ramakhulukusha of the DENC) (Appendix B4 of the draft EIA).

Hard copies were made available at the Sishen Iron Ore Mine security office at the main entrance near Kathu, at the Gamagara Municipality, the Kathu Library and at the venue of the public information meeting of the project. Electronic versions of the reports were provided on request to I&APs by means of e-mail, a CD sent by courier or registered mail, or through a secured file transfer protocol site.

8.9 Review of the Draft Environmental Impact Assessment Report

The draft EIA report has been made available for review from 5th March until the 26th March 2015, extension were granted on request. Hard copies have been made available at the Sishen Iron Ore Mine security office at the main entrance near Kathu, at the Gamagara Municipality and the Kathu Library. Electronic versions of the reports will be provided on request.

Please note: it is advised that the Draft EIA report be read in conjunction with this Technical report in order to gain a greater understanding on the project and its context.

8.10 Review of the water use licence application and technical report

The WUL application and technical report will be made available for public and authority review shortly after the draft EIA report for 6 weeks (40 calendar days). All registered I&APs will be notified in writing of the availability of the document for review, and they will be requested to submit comments.

Hard copies will be made available at the Sishen Mine security office at the main entrance near Kathu, at the Gamagara Municipality and the Kathu Library. Electronic versions of the reports will be provided on request.

Please note: it is advised that the Draft EIA report be read in conjunction with this report in order to gain a greater understanding on the project and its context.

8.11 Public Focus Group Meeting during the Environmental Impact Assessment Phase

During the EIA phase of the study, a public focus group meeting will be held where the results of the specialist studies and the evaluation of development alternatives, the EMP and technical report will be presented. Registered I&APs will directly be invited to attend the meeting.

8.12 Consultation with competent authority, state of department and organs of state

8.12.1 Focused Authority Meetings

A meeting was held with Mr Moses Mahunonyane from the provincial office of the DW&S in Kimberley on 7 July 2014. His colleague, Mr Philani Msimango conducted a site visit on 16 July 2014. The purpose of the meeting was to:

- Inform the department about the proposed Kathu Supplier Park.
- Obtain clarification on applicable water uses, legal requirements for the development, the WUL process to be followed and the review and decision making panel.

A meeting was held with Mr Moses Ramakulukusha of the DENC who simultaneously conducted a site visit on 8 September 2014. The purpose of the meeting was to:

- Inform the department about the proposed Kathu Supplier Park;
- Obtain clarification on the environmental legal requirements for the development and the environmental authorisation, and the EIA process to be followed; and
- Discuss all the environmental sensitivities.

Discussions of these meetings were noted in the issues and response report and are provided in Section 6.

8.12.2 Review of Scoping and Draft EIA reports

The same timeframes for report review were provided to the authorities as the IAPs. Refer to Section 8.8-8.10 above.

Please note: it is advised that the Draft EIA report be read in conjunction with this Technical report in order to gain a greater understanding on the project and its context.

8.13 Collation of issues of concern

The comments and queries raised by I&APs, with respect **to water related aspects specifically**, are contained in Table 5 below as **extracted directly from the draft EIA**. The draft EIA contains the full list of comments received for all aspects of the project. The numbering of the comments in the table is as per the table in the draft EIA.

Table 5. I&AP Issues and Concerns Relating to Water Related Issues Specifically, with Responses and References to Report Sections where Issues and Concerns are Addressed in the Draft EIA Report and Scoping Reports.

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
1.	Please provide the following with the WULA: • Master plan showing temporary and permanent infrastructure and natural features; • Storm water management plan; • Waste management plan; • Present Ecological State (PES)/ Ecological Importance and Sensitivity (EIS)/ Recommended Ecological Category (REC); • Catchment of pans; • Photos; • Landscape design plans; • Alternative layouts that will incorporate the pans as valued open space features in the landscape planning/ design, • Plant species plans; and • Rehabilitation plans.	These requirements are addressed in and attached to the draft EIA report as well as the technical report accompanying the WUL application. These documents will be made available for authority - including the Department of Water and Sanitation (DW&S), and public review.	P. Ackerman Sub Directorate Environment and Recreation, DW&S 28 March 2014

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
2.	With the development of the activity the developer must comply with Act 43 of 1983 and also take care of the following: • Article 7.3(b) of Regulation 9238: Conservation of Agricultural Resources, 1983 (Act 43 of 1983) Utilisation and protection of vleis, marshes, water sponges and water courses. • 7.(1) "…no land user shall utilize the vegetation in a vlei, marsh or water sponge or within the flood area of a water course or within 10 meters horizontally outside such flood area in a manner that causes or may cause the deterioration of or damage to the natural agriculture resources." • (3)(b) "cultivate any land on this farm unit within the flood area of a water course or within 10 meters horizontally outside the flood area of a water course."	A wetland specialist has conducted a wetland delineation and impact assessment as required in terms of the National Water Act, 1998 (NWA, No. 36 of 1998). The wetland assessment took the requirements of the Conservation of Agricultural Resources Act, 1983 (CARA, No. 43 of 1983) into consideration. The wetland delineation assisted in establishing a buffer area around the wetland features where no construction activities will take place. The draft EIA report and the wetland impact assessment assessed the project impacts on wetland features (see Section 8, and Appendix G of the draft EIA report). Recommendations made by the wetland specialist and mitigation measures to manage these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). The wetland impact assessment will be made available with the draft and final EIA reports for authority - including the DW&S and Department of Agriculture, Land Reform and Rural Development, and public review.	N.J Toerien SRM Control Technician, Department of Agriculture, Land Reform and Rural Development 8 April 2014
5.	• Waste generation and removal; • Construction and development waste; and	The National Environmental Management Waste Act, 2008 (NEM:WA, No. 59 of 2008) is not applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste has been included in the draft environmental management programme (EMP) (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority and public review. A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park special purpose vehicle (SPV) and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 Mega Volt Ampere (MVA) during construction and operation; b. Sewage connection of 1 Mega Litre (Ml) per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	A. Mostert and P. Burger Gamagara Municipality 9 April 2014

No	I&AP Issues	Response to I&AP Issues / Reference to Report Section where I&AP Issues are Addressed	Reference
	• Sources of ground, water and air pollution.	Specialists have been appointed to conduct soil, wetland and air quality impact assessments as required in terms of the Conservation of Agricultural Resources Act, 1983 (CARA, No. 43 of 1983), the NWA and National Environmental Management Act, 1998 (NEMA, No. 107 of 1998). The draft EIA report and the soil, wetland (water) and air quality impact assessments assessed the construction impacts on soil, wetland features and air quality (see Section 8, and Appendixes C, E and G of the draft EIA report). Recommendations made by the various specialists and mitigation measures to manage these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). The soil, wetland and air quality impact assessments will be made available with the draft and final EIA reports for authority and public review.	
13	Provided a copy of comments on the draft scoping report: 1. Figures 1 and 3.1 show different locations for the Supplier Park that need clarification.	Figure 1-1 of the draft scoping report illustrates the existing Kathu Industrial area (red outline), the adjacent location for the proposed Kathu Supplier Park (pink outline) and the location alternative – the Noxious Industrial Site (pink shaded area). Figure 1-1 in the final scoping report has been altered to avoid confusion about the project locality.	Mr P Ackerman & T Balzer Chief Landscape Architect & Acting Director General respectively, DW&S 3 June 2014
	2. Figure 4.7 shows one pan and Figure 4.9 shows 2 NFEPA Pans affected. Clarity must be provided.	Figure 4-9 illustrates the wetlands identified in terms of the National Freshwater Ecosystem Priority Areas (NFEPA) database. As part of the wetland assessment, all NFEPA wetlands within the study area were ground-truthed, and the specialist found that the second pan (not indicated on Figure 4.7) does not exist.	
	3. A new alternative that will integrate the Lategan Dam, 2 pans and infrastructure from the Supplier Park must be drawn up and submitted for approval. The pans and the dam should be kept as green open space. The motto must be to design with nature. A Master Plan must be compiled and submitted for approval to DW&S. Temporary and permanent, infrastructure must be shown as well as the dam, pans, open space, circulation, legible scale with an information key and descriptions on A1 paper.	Since the draft scoping report and after an authority's meeting held with the Northern Cape DW&S, an alternative layout (Proposed Layout Option) has been developed in order to exclude the Lategan dam, surrounding artificial seep wetland areas and moist grasslands from the study area. A Master Plan of the final layout is attached to the draft EIA report and the technical report accompanying the WUL application, which will be made available for authority - including the DW&S, and public review.	
	4. PES/EIS/REC of pans and dam to be provided.	A wetland specialist was appointed to conduct a wetland delineation and impact assessment as required in terms of the NWA. The draft EIA report and the wetland assessment provides the PES, EIS and REC	

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		of all the wetland features identified (see Section 8 and Appendix G of the draft EIA report).	
	5. Ecological risk to be determined and submitted.	An ecological specialist was been appointed to conduct an ecological impact assessment, as per the NEMA requirements for specialist studies. The draft EIA report and the ecological impact assessment assessed the project impacts on the ecology (see Section 8, and Appendix F of the draft EIA report). Recommendations made by the ecological specialist and mitigation measures to manage these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). The ecological impact assessment will be made available with the draft and final EIA reports for authority - including the DW&S, and public review.	
	6. Stormwater Management Plan to be submitted.	This requirement has been addressed. A Stormwater Management Plan will be attached to the technical report accompanying the WUL application, which will be made available for authority - including the DW&S, and public review.	
	7. Waste and Sewage Management Plan to be submitted.	The NEM:WA is not applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste has been included in the draft EMP (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority and public review. A sewage management plan is not required since a draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	8. Clarity on water resource used to be provided.	Water will be obtained from the Gamagara Municipality through their standard water	

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		supply network. A draft resolution was signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	9. Clarity to be provided on the zoning and town planning requirements with regards to integration of green open space and pans of the area. 10. An environmental monitoring plan and program to be provided.	Rezoning will be applied for once the environmental authorisation (EA) has been issued. A wetland specialist has been appointed to conduct a wetland delineation and impact assessment as required in terms of the NWA. The wetland delineation assisted in establishing a buffer area around the wetland features where no construction activities will take place. The draft EIA report assessed the project impacts on the environment (see Section 8 of the draft EIA report). Recommendations made by the respective environmental specialists and mitigation measures to manage and monitor these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). The specialist impact assessments will be made available with the draft and final EIA reports for authority - including the DW&S, and public review.	
	11. Previous email submitted by P Ackerman on 28 March 2014 to be addressed.	Previous comments and issues raised by Mr Ackerman by e-mail were addressed in Section 5 (number 2 of Table 5-1) of the scoping reports and Section 6 (number 1 of Table 6-1) of the draft EIA report.	
	12. The issuing of a license or the agreement with following the section 22 (3) route can only be supported if the aforementioned information and recommendations are addressed and clarity is provided.	Noted.	

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14	g) An estimation of the amount of water that would be required during the construction phase only.	An approximate volume of 1.1 Ml potable water will be required for the construction phase (see Section 3.2.4 of the final scoping and Section 4.7 of the draft EIA reports).	M. Ramakulukusha Case Officer, Northern Cape DENC 26 June 2014
	i) A confirmation from the Local Municipality that it has the capacity to process additional waste and provide water services.	A draft resolution was signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	j) The exact distance to watercourses and protected areas such as the Kathu Forest must be indicated in the report.	Refer to Sections 4.2.2 and 4.2.4 of the final scoping report and Sections 7.2.3 and 7.2.4 of the draft EIA report for distances to protected areas and watercourses, respectively. Also refer to Section 4.6 of this Technical Report.	
19	Provided a copy of the comments on the draft scoping Report. The DW&S has been alerted to issues pertaining to the archaeological importance of the area and requested these aspects to be considered. Reference is hereby made for request for information with regards to the Department of Water and Sanitation requirements for a Water Use Authorisation application or possible exemption for the Kathu Supplier Park. A site visit was conducted by Philani Msimango and Henk Botha on the 16th of July 2014 and the following issues were identified:	A Phase 1 HIA has been conducted for the possible development of the proposed Kathu Supplier Park as required in terms of the NHRA and in consultation with a Stone Age Principal Investigator from the Kathu area as requested by SAHRA. The HIA includes an assessment of the heritage impacts with recommendations and mitigation measures for the management thereof (see Section 8 and Appendix H of the draft EIA report). The HIA will be made available with the draft and final EIA report for authority- including SAHRA, and public review.	P. Msimango Case Officer, Control Scientific Technician, Water Quality Management - Lower Vaal Region, Northern Cape DW&S 31 July 2014
	• Sishen Iron Ore Company (Pty) Ltd (SIOC) in association with the Industrial Development Corporation (IDC) are proposing the development of farm Sekgame 461 into an industrial area. This industrial area will be a supplier park and it will be an operating platform for businesses that	Agreed.	

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	support mining and industries.		
	• The supplier park will consist of manufacturing, warehousing, facility management services (such as maintenance, repairs; fire fighting; house keeping municipal service, security, access control, transport etc.) canteen, educational/ social projects, medical centre, workshop, logistics distribution, incubation centre, a research laboratory and offices (amongst other things).	Agreed.	
	• The construction phase will involve the clearing of vegetation which will increase runoff.	Agreed. A stormwater management plan indicating how surface water runoff will be managed, will be made available with the WUL application and technical report for authority and public review. Mitigation measures for soil management and erosion protection are included in the EMP (see Appendix A of the draft EIA report).	
	• Water supply will be obtained from the Lategan Dam through the Gamagara Municipality. No agreement is in place yet.	Water will be obtained from the Gamagara Municipality through their standard water supply network. A draft resolution was signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	• It is understood that a pipeline for domestic wastewater will be constructed and this pipeline will feed into the municipality pipeline for waste disposal. This wastewater will be disposed of by the municipality in their wastewater treatment facility. No agreement has been reached as yet.	A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day;	

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		c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	• A pan has been identified on the vicinity of where the development will take place. This pan has been largely used for dumping of glass and other substances. The area is currently not in a good condition.	Agreed. A wetland delineation and impact assessment was conducted on all the wetlands features in the vicinity of the proposed Kathu Supplier Park (see Appendix G of the draft EIA report). This specific natural pan has a PES of *moderately modified* - Category C. The wetland assessment provides mitigation measures to maintain and also enhance the functionality of the pan, which are included in the EMP (see Appendix A of the draft EIA report).	
	• An artificial dam (Lategan Dam) was also identified. This dam is for the storage of water which is being pumped from the mine for dewatering purposes. This dam has resulted in the saturation of soils around the dam creating hydromorphic soils.	Agreed. The Lategan Dam, surrounding artificial seep wetland areas and moist grasslands have been identified within the boundaries of Layout Alternative Option 1, but have been excluded entirely from Layout Alternative Option 2.	
	Upon receipt of the draft scoping report and the background information document the DW&S has deduced the following: • Since there was a pan identified, a water use application needs to be made in terms of section 21 (c) and (i) water use activities as outlined in the National Water act (36 of 1998).	A WUL application and technical report will be made available for authority and public review.	
	• A wetland delineation study needs to be undertaken in accordance to "A Practical Field Procedure for Identification and Delineation of Wetlands and Riparian Areas" released by the Department and this study needs to be provided to the Department.	A wetland delineation and impact assessment was conducted for all the wetlands in the vicinity of the proposed Kathu Supplier Park (see Appendix G of the draft EIA report). The wetland delineation took place according to the method presented in the final draft of "A practical field procedure for identification and delineation of wetlands and riparian areas" published by the Department of Water Affairs and Forestry (DWAF) in February 2005.	
	• An agreement with the relevant water service provider needs to be provided to the Department for the provision of water for construction, operations and domestic usage.	A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation;	

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		b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	• The agreements for the disposal of waste needs to be provided as well, that is, domestic waste and construction waste. This domestic and construction waste must be disposed of in suitably registered/licensed disposal sites.	A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	• A plan to dispose of medical waste needs to be provided along with proof of the necessary Environmental Authorisations for such disposal.	The NEM:WA is no longer applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. Medical waste is a hazardous waste which will not be disposed of on-site. The management of waste has been included in the draft EMP (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority and public review.	
	• In addition, the following documentation will be required along with the water use licence application forms, Master Plan showing temporary and permanent infrastructure and natural features, Stormwater Management Plan, Waste Management Plan, PES/EIS/REC, catchment of pans, photos, Landscape Design Plans, alternative layouts that will incorporate the pans as valued open space features in the landscape planning/ design, Plant Species Plans, Rehabilitation plans.	These requirements are addressed in and attached to the draft EIA report and the technical report accompanying the WUL application, respectively. These documents will be made available for authority - including the DW&S, and public review.	
	• An Environmental Impact Assessment as well as the Environmental Management Programme needs to be provided as part of the water use licence application as well.	Noted. The draft and final EIA report (including the EMP) will be made available as part of the WUL application and technical report for authority and public review.	

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25	3) According to the website of the South Africa Heritage Resources Association, a project was initiated by Sishen Mine for the development of storm water infrastructure (Case ID 6112 (AGES Gauteng, n.d.)) which include, amongst others, the construction of a groundwater dam on the farm Sekgame 461, as indicated in Figure 4. Please confirm you are aware of this initiative bordering your proposed site for the Kathu Supplier Park. Although the proposed groundwater dam is located on Sishen Mine property, the location there-of could negatively impact on future expandability of the proposed Kathu Supplier Park.	Noted. The groundwater dam does not fall within the possible development area of the proposed Kathu Supplier Park or planned future expansions.	H. Fourie Kumuka Africa: Group Innovation Officer 20 August 2014
29	Provided a copy of comments on the final scoping report. 1. Introduction: • The Department of Water and Sanitation received the final Environmental Scoping report for the proposed construction of the Kathu Supplier Park. Sishen Iron Ore Company (Pty) Ltd (SIOC) in association with the Industrial Development Corporation (IDC) is proposing the development of farm Sekgame 461 into an industrial area. This industrial area will be a supplier park and it will be an operating platform for business that supports mining and industries. The supplier park will consists of manufacturing, warehousing, facility management services (such as maintenance, repairs, fire-fighting, house-keeping, municipal service, security, access control, transport etc.), canteen, educational/ social projects, medical centre, workshop, logistics distribution, incubation centre, a research laboratory and offices (amongst other things). • The document was then reviewed with reference to the National Water act (Act No 36 of 1998) and the following are the comments; 2. Distance from the water course: • Please note that our Department rates all perennial rivers	1. Noted. 2. Noted. • As mentioned in Section 1.3.2 of the draft and final scoping reports, the proposed Kathu Supplier Park is likely to include activities within 500 m of a wetland and will therefore require a WUL in terms of the NWA. The WUL application and technical report will be made available for authority – including DW&S and public review. • A wetland specialist has been appointed to conduct a wetland delineation and impact assessment as required in terms of the NWA. The wetland delineation and impact assessment was conducted on all the wetlands in the vicinity of the proposed Kathu Supplier Park (see Appendix G of the draft EIA report). The wetland delineation took place according to the method presented in the final draft of "A practical field procedure for identification and delineation of wetlands and riparian areas" published by the DWAF in February 2005. • The wetland delineation assisted in establishing a buffer area around the wetland features where no construction activities will take place. The draft EIA report and the wetland impact assessment assessed the project impacts on wetland features (see Section 8, and Appendix G of the draft EIA report). • Recommendations made by the wetland specialist and mitigation measures to manage these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). • The wetland impact assessment will be made available with the draft and final	P. Msimango Case Officer, Control Scientific Technician, Water Quality Management - Lower Vaal Region, Northern Cape DW&S 22 August 2014

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	together with all dry river beds and natural drainage and associated riparian areas extremely sensitive to developments. An option of developing further away from all the water courses would be the preferred option. • Please note that no development should be done within 100 m or 1:100 year flood line of any water course and 32 m of their drainage line without authorisation from our Department. The water course should be delineated in order to provide appropriate buffer to maintain such water course. The watercourses include a pan which has been identified during the site inspection on the 16th of July 2014 and the artificial wetland (Lategan Dam). The delineation should be done according to the appropriate Department of Water and Sanitation delineation document. • The construction camp shall not be located within the 1:100 year flood line or within 100 metres whatever is the greatest from any watercourse. Operation and storage of equipment within the riparian zone must be limited as far as possible. • Vehicles and other machinery must be serviced well above the 1:100 year flood line or within [outside] a horizontal distance of 100 metres from any watercourse or estuary. Oils and other potential pollutants must be disposed of at an appropriate licensed site, with the necessary agreement from the owner of such a site.	EIA reports for authority - including the DW&S, and public review. • Mitigation measures for the management of disturbances to watercourses (e.g. wetlands) caused by vehicles, machinery and construction camps are included in the EMP (see Appendix A - EMP No 6 of the draft EIA report). • The management of waste has been included in the draft environmental management programme (EMP) (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority - including the DW&S, and public review. • A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	3. Storm water management: • Storm water must be diverted from the construction works and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow. Where necessary, works must be constructed to attenuate the velocity of the storm water discharge and to protect the banks of the watercourse. Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the life of the supplier park. • Increased runoff due to vegetation clearance and/or soil	A stormwater management plan, indicating how surface water runoff will be managed, is included in the technical report accompanying the WUL application which will be made available for authority – including DW&S and public review. Mitigation measures for soil management and erosion protection are included in the EMP (see Appendix A of the draft EIA report).	

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	compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse. Storm water leaving the applicant's premises must in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises. A storm water management plan needs to be submitted for the construction and the actual Kathu Supplier Park.		
	4. Invasive alien vegetation: • Alien vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be eradicated or controlled, using standard methods approved by the Department.	Mitigation measures for the control of alien and invasive species are included in the EMP (see Appendix A - EMP No 12 of the draft EIA report).	
	5. Design and layout alternatives: • A detailed layout plan need to be submitted to our Department showing all the facilities in the proposed development, distance from all watercourses, any dry river and bathroom facility, access roads and pollution control dams from a qualified engineer. • Details of the final design must also be supplied as soon as a decision has been made, as the details of this factor may influence the environmental impact both during the construction and operational phases of the project.	A detailed layout plan is included in Section 5 of the draft EIA report which will be made available for authority – including DW&S, and public review. The detailed engineering designs will be provided to the DW&S once finalised, prior to construction.	
	6. Construction: • Details of the actual construction method must be stated as soon as possible, as it may significantly impact on the type and quantity of the construction waste and impact on the water resources. • Material with pollution generating potential must be limited in any construction activities. Any hazardous substances must be handled according to the relevant legislation	The successful tenderer will, in line with the Occupational Health and Safety Act, 1993 (OHSA, No. 85 of 1993), develop a work method statement which will include aspects as discussed in the technical report accompanying the WUL application which will be made available for authority – including DW&S and public review. This work method statement can be provided once it has been developed by the successful tenderer, prior to construction. The NEM:WA is no longer applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste has been included in the draft	

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	relating to transport, storage and use of the substance. • Any spillage of any hazardous materials including diesel that may occur during construction and operation must be reported immediately to our Department.	environmental management programme (EMP) (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority - including the DW&S, and public review. Mitigation measures for the prevention and clean-up of spills and the storage and handling of hazardous substances are included in the EMP (see Appendix A - EMP No 18 & 19 of the draft EIA report).	
	7. Waste management: • Rubbish bins and mobile toilets must be there and enough for the people on site during construction. The letter of consent from the municipality to allow contractor to empty toilet facility at their sewer system should be submitted to our department. • All sewage, grey and wash water, as well as any waste generated during the construction phase of the facilities will be collected, contained and disposed of at the permitted and/ or licensed facilities of the Local Authority and this must please be confirmed in writing by the local authority.	The NEM:WA is no longer applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste and sewage has been included in the draft environmental management programme (EMP) (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority - including the DW&S, and public review. A sewage management plan is not required since a draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	8. Rehabilitation: • Soils that have become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination. The necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent in-stream sedimentation.	Mitigation measures for the site clean-up and rehabilitation are included in the EMP (see Appendix A of the draft EIA report - EMP No 21).	

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	9. Water use entitlement: • The Department notes that you have indicated that water will be used during the activity; please take note that, in this instance, a water use license application need to be submitted to our Department. However, if you have any water entitlement in the proposed property that you will want to use for this development, please inform our Department in writing as it will need to be converted. • Please be informed that construction water may not be obtained from the water course without necessary authorisation.	Water will be obtained from the Gamagara Municipality through their standard water supply network. A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	Should the above issues be considered and all the requested documents be submitted, the Department of Water and Sanitation has no objection to the proposed development.	Noted.	
32	Provided a copy of final comments on the final Scoping report: 1 We confirm that we act for Kalahari Gholf en Jag (Pty) Ltd ("our client").	Noted.	Christine Botha Werkmans Attorneys 26 August 2014
	2 We are instructed to comment on the Final Environmental Scoping report dated July 2014 ("the final report") in respect to the application for environmental authorisation for the construction of an industrial park known as 'Kathu Supplier Park' near Kathu in the Northern Cape ("the project") for the purpose of establishing an operating platform for businesses that support mining and other industries.	Noted.	
	16 The applicant furthermore states in the final report that the project is likely to include activities within 500 metres of a wetland and would therefore require a water use licence in terms of section 21 of the National Water Act [], ("NWA"). The proposed activities include section 21 (c) of the NWA, impeding or diverting the flow of water in a watercourse; and section 21 (i) of the NWA, altering the bed, bank,	Noted.	

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	characteristics of a water course.		
	17 The water use licence application will be conducted simultaneously with the Environmental Impact Assessment process and according to the executive summary, the applicant has been in consultation with the Department of Water Affairs who confirmed that an exemption from a water use licence application process in terms of section 22 (3) of the NWA will not be followed and the applicant would therefore need to apply for a water use licence.	Noted.	
	18 The status of the water use application is not clear and it appears from the final report that the applicant is relying on information from the environmental impact assessment for the water use licence application process. We note that we have not been provided with any more information in this regard.	All registered I&APs will be notified of and afforded with an opportunity to review the WUL application and technical report which will be made available shortly after the draft EIA report.	
	19 Furthermore, it is stated that a volume of 7.8 Ml potable water will be required for construction and operation of the possible project and that water will be obtained from the Gamagara Municipality through their standard water supply network. No further detail has been provided in this regard.	A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation; b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and e. Upgrades and improvements to the roads.	
	26 Furthermore, the final report states that the applicant consulted the National Freshwater Ecosystem Priority Areas database to determine areas close to or within the project area that may be of ecological importance. The project area accordingly falls within the Lower Vaal Water Management Area and the Molopo sub Water Management area. This sub water management area is not considered to be of any importance in terms of fish sanctuaries, fish relocation or fish translocation. The closest river system is the Gamagara	Noted.	

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	River which is located approximately 12 kilometres to the South of the project area		
	27 Wetland features have been identified within the boundaries of and within 500 metres of the proposed project and includes an artificial dam, an artificial seep wetland, a natural slope depression, wetland pan, moist grasslands and a natural bench depression wetland. The natural slope depression wetland pan, is located within the south western corner of the project area and has been found to be in a natural or good condition.	Noted.	
	28 The final report recognises that the sensitive landscapes in the area include the Kathu woodlands (located about 2, 5 kilometres north of the project area); the Kathu Pan (located about 5 kilometres west of the project area).The artificial dams are also considered an important source of perennial surface water in this arid area. One such dam is on the eastern border of the proposed project.	Noted.	
	National Water Act, 1998 ("NWA") 39 The NWA aims to ensure that the nation's water resources are protected, used, developed, conserved and managed and in specific to ensure that our aquatic and associated ecosystems are adequately protected. 39.1. In terms of the NWA, a wetland is defined as – • land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil. 40 Wetland is also included under the definition of a watercourse in terms of the NWA and therefore impeding or diverting the flow a wetland would trigger the requirement of a water use licence as set out below. 41 Water may only be used in the following stipulated	Noted.	

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	circumstances by persons who do not use the water for limited domestic use under general authorisation or a licence issued under the NWA; or in terms of an existing lawful water use as defined in the NWA, which will continue subject to existing conditions and obligations. 42 Section 21 of the Act contains a list of water use activities which triggers the need for a water use licence, uses include: a) taking water from a water resource; b) storing water; c) impeding or diverting the flow of water in a watercourse; d) engaging in a stream flow reduction activity; e) engaging in a controlled activity (such as irrigation of any land with waste or water containing waste generated through any industrial activity or by a waterworks and intentional recharging of an aquifer with any waste or water containing waste); f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit; g) disposing of waste in a manner which may detrimentally impact on a water resource; h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process; i) altering the bed, banks, course or characteristics of a watercourse; j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and k) using water for recreational purposes. • 43 Furthermore, the procedure for licence applications is stipulated in section 41 of the Act and in terms of section		

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	41(4)(a) it is possible that a responsible authority as defined in the Act may require the applicant to give suitable notice in newspapers and other media describing the licence applied for and stating that written objections may be lodged against the application before a specified date, which must not be less than 60 days after the last publication of the notice. 44 An aggrieved party may also appeal against a decision of a responsible authority to grant a water use licence with the provision that the person has timeously lodged a written objection against the application.		
	58.1 Information of the type of waste that will be generated, the collecting, storing and treating of waste generated during the construction and operational phase: 58.1.1. A glaring omission in the final [scoping] report is the lack of detail in regard to the type of waste that will be generated as the applicant vaguely state that approximately 98 000 m3 and 25 000 m3 of solid waste will be generated during Phase 1 and 2 of the project respectively. Furthermore the solid waste accordingly include: construction, inert, business, commercial and industrial waste. 58.1.2. [in the scoping report,] There is no definition of "solid waste", "commercial waste" or "industrial waste" in terms of NEMWA and "inert waste", and "business waste" have been deleted with effect from 2 June 2014. 58.1.3. The applicant furthermore does not indicate in the final [scoping] report how the waste to be generated will be transported, collected or disposed of and simply state that the impact and mitigation/management measures will be assessed and investigated during the Environmental Impact Assessment phase. 58.1.4. In a letter received from the DENC dated 26 June	Scoping Phase: It is apparent that the scoping report was reviewed as per the requirements for EIA reports (as if the scoping report was an EIA report). As per the response provided in Table 5-1 (No 1, 2, 8.7, 9g and 9 k) of the final scoping report (page 43 to 46): "This level of detail will be provided as part of the draft and final EIA report as well as the technical report accompanying the WUL application." EIA Phase: Comments are addressed in the EIA report. The NEM:WA is no longer applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste has been included in the draft EMP (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority and public review. A draft resolution has been signed by the Council of the Gamagara Municipality on 30 September 2014. In the resolution, the Council agreed to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV and to include the provision of the following as part of the Gamagara Municipality's Municipal Bulk Services Master Plan: a. Electricity supply of 10 MVA during construction and operation;	

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	2014 in regard to the draft scoping report submitted to it for commenting, the DENC clearly note the lack of detail concerning the methods for collecting, storing, treating and disposing of waste and state that it must be discussed. The failure of the applicant to adequately address the above concern in the final [scoping] report is a vital omission especially in regard to the fact that the applicant acknowledges in its application form dated 17 February 2014 for environmental authorisation that it will require authorisation in terms of NEMWA. The applicant furthermore states in the Background Information Document which were sent to interested and affected parties on 27 March that an application will be made to either the National Department of Environmental Affairs or to DENC. However, to date there is no indication on the status of such an application.	b. Sewage connection of 1 Ml per day; c. Potable water supply of 1 Ml per day; d. Access to the non-hazardous waste disposal site; and Upgrades and improvements to the roads.	
	58.2 Information on the status of the water use application, waste and storm water management plan and clarity on the water resource used not included [in the scoping report]: 58.2.1. It is not clear from the final [scoping] report what the status of the water use application is and it appears that a meeting was held with a Mr Mahunonyane from the Northern Cape DW&S on 7 July 2014. A colleague of his, apparently conducted a site visit on 16 July 2014. Minutes of the meeting are to be included as Appendix A7 to the final report, which appears not to be included in the copy we have received. 58.2.2. Furthermore, it is apparent form an email correspondence dated 28 March 2014 from the DW&S to the EAP that the following documentation were to be provided with the Water use licence application: Master plan showing temporary and permanent infrastructure and natural features; a	<u>Scoping Phase</u>: It is apparent that the scoping report was reviewed as per the requirements for EIA reports (as if the scoping report was an EIA report). <u>EIA Phase</u>: Comments are addressed in the draft EIA report. All the DW&S requirements are attached to the draft EIA report and the technical report accompanying the WUL application, respectively which will be made available shortly after the draft and final EIA reports for authority - including DW&S, and public review. The NEM:WA is not applicable to the proposed Kathu Supplier Park, as the waste management activities (storage, handling and recycling) fall below the legislated thresholds. The management of waste has been included in the draft EMP (see Appendix A of the draft EIA report), which will be made available with the draft and final EIA reports for authority and public review. A draft resolution has been signed by the Council of the Gamagara Municipality on	

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	storm-water management plan; waste management plan; PES/EIS/REC of pans to be provided; photos; landscape design plans; alternate layout that will incorporate the pans; rehabilitation plans. 58.2.3. In a later undated letter from the DW&S in regard to a request for comments on the draft scoping report dated May 2014, the DW&S reiterate the above and refers to the email correspondence of earlier and the issues which is still outstanding. The DW&S also state that clarity needs to be provided on the water use resource used and the ecological risk needs to be determined. 58.2.4. The applicant has failed to include the above documentation in the final [scoping] report and merely state that a master plan of the final layout will be submitted to DW&S for approval with the draft and Final Environmental Impact Assessment report as well as a technical report accompanying the water use licence application. The other documentation specified will form part of the outcomes of the specialist studies to be undertaken.	30 September 2014. In the resolution, the Council agreed to include the provision of access to the non-hazardous waste disposal site, sewage connection (1 Ml per day) and potable water supply (1 Ml per day) as part of the Gamagara Municipality's Municipal Bulk Services Master Plan, and to enter into Supply Agreements/ Service Level Agreements with the Kathu Supplier Park SPV.	
	58.4 Lack of specialist reports [in the scoping report] 58.4.1. No specialist reports have been included [in the scoping report] as yet on the following issues: 58.4.1.1 Wetland and hydrology study: It appears that the applicant will appoint a wetland specialist to perform wetland delineation in order to establish a buffer area around the wetland pan. The provisions of the Conservation of Agriculture Resources Act, 1983 in regard to the utilisation and protection of vlies, marshes, water sponges and water courses, were brought to the attention	<u>Scoping Phase</u>: In terms of Regulation 28(1)(n) of the EIA Regulations (2010) a scoping report must include: "*a plan of study for EIA which sets out the proposed approach to the EIA of the application, which must include-* ***(i) a description of the tasks that will be undertaken as part of the EIA process, including any specialist reports*** *or specialised processes, and the manner in which such tasks will be undertaken.*" The plan of study for the EIA (see Section 7 of the draft and final scoping reports) clearly indicated the specialist studies that will be conducted and impact assessment reports that will be made available with the draft and final EIA reports. <u>EIA Phase</u>:	

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	of the applicant by the Department of Agriculture, Land Reform and Rural Development on 8 April 2014 already and despite this the applicant failed to give any consideration to the proposed buffer zone in its final report.	According to Regulation 31(2), an EIA report must include • (q) "***copies of any specialist reports*** *and reports on specialized processes complying with regulation 32"*. The specialist impact assessment reports will be made available with the draft and final EIA reports for authority and public review. • (j) "*a summary of the* ***findings and recommendations of any specialist report*** *or report on a specialised process*. Recommendations made by the various specialists and mitigation measures to manage these impacts have been included in the draft EMP (see Appendix A of the draft EIA report). Specialist reports include air quality, noise, soils, flora and faunal, wetland, heritage resources, palaeontological, social, economic, and traffic. 58.4.1.1. Wetland and hydrology impacts were described in the scoping report (see Table 6-1 in Section 6), described and assessed in the draft EIA report (see Section 8) and mitigation measures included in the EMP (see Appendix A - EMP No 6).	

9. Conclusion

Based on the information provided in this technical report, the specialist reports and the draft EIA, the Kathu Supplier Park is considered unlikely to have a significant impact on the wetland pan.

The wetland pan will be retained and will be incorporated into the design of the Kathu Supplier Park. In addition, the wetland pan will no longer have any illegal dumping and a 32 m buffer will be maintained around it, thus the quality of the pan is likely to improve.

SAS (2014a) suggested that with rehabilitation, it is deemed likely that the PES of the wetland pan could be improved, and thus the current ecology and functionality of the pan could be improved.

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SAS, 2014a. Wetland Ecological Assessment as Part of the Environmental Assessment and Authorisation Process for the Proposed Kathu Suppliers Park in the Northern Cape Province.

SAS, 2014b. Terrestrial Ecological Assessment as part of the Environmental Assessment and Authorisation Process for the Proposed Kathu Suppliers Park in the Northern Cape Province.