

BIODIVERSITY COMPLIANCE STATEMENT:

**UPGRADE OF HALFWAY HOUSE BULK PIPELINE WITHIN THE JURISDICTION OF CITY
OF JOHANNESBURG LOCAL MUNICIPALITY IN THE GAUTENG PROVINCE**

REFERENCE	HHWU/TBIA23	
SUBMITTED TO	NSOVO ENVIRONMENTAL CONSULTING	
AUTHORS	MOKGATLA MOLEPO <i>PR. NAT. SCI</i> (009509)	

Date: 24 February 2023

DECLARATION OF INDEPENDENCE

I, Mokgatla Molepo, in my capacity as a specialist consultant, hereby declare that I:

- Act/acted as an independent specialist to Nsovo Environmental Consulting for this project.
- Do not have any personal, business, or financial interest in the project except for financial remuneration for specialist investigations completed in a professional capacity as specified by the Environmental Impact Assessment Regulations, 2014.
- Will not be affected by the outcome of the environmental process, of which this report forms part of.
- Do not have any influence over the decisions made by the governing authorities.
- Do not object to or endorse the proposed developments but aim to present facts and my best scientific and professional opinion regarding the impacts of the development.
- Undertake to disclose to the relevant authorities any information that has or may have the potential to influence its decision or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2014.



Mokgatla Molepo *Pr. Nat. Sci.* (009509)

24 February 2023

GLOSSARY OF TERMS

Ecology: The study of ecosystems and the interaction of living and non-living components within those systems;

Ecologist: A scientist who studies the relationship of organisms to each other and their environment.

Ecological process: Any of the direct or indirect interactions between species, such as grazing, predation, competition, responses to disturbance, and so on that cause spatial or temporal patterns in the distribution and abundance of the species.

Bioregional Plan: A map of Critical Biodiversity Areas and Ecological Support Areas, for a municipality or group of municipalities, accompanied by contextual information, land- and resource-use guidelines and supporting GIS data.

Gene: contains genetic information which determines the characteristics of an organism. That information may vary from individual to individual, and between groups of individuals. Gene flow occurs between individuals of a species.

Population: A group of individuals of the same species.

Species: comprises populations that inter-breed and produce fertile offspring.

Community: collection of interacting species in the same geographic area.

Ecosystem: a system embracing living and non-living components, which can be defined in terms of distinguishing characteristics (e.g. a wetland ecosystem, a freshwater ecosystem, a terrestrial ecosystem, a forest ecosystem, etc.). The boundaries between communities or ecosystems are often indistinct.

Extinction: End of an evolutionary line, measured in terms of species or subspecies.

Red Data Book or Red List: endangered species are most at risk of extinction, followed by rare and vulnerable species.

Sensitive ecosystems: areas where relatively minor disturbances may result in substantial and significant changes.

Taxa: In plural terms a group of organisms with shared similarities at any level of a taxonomic scheme (could be a species, genus, family, order, etc.) (Singular refer to Taxon).

Weed: Plant that interferes with the growth of desirable plants and is unusually persistent and pernicious. Weeds negatively affect human activities and as a result are undesirable.

Invasive: Describing an organism that has entered (invaded) an ecosystem from elsewhere, and that has the potential to spread over the area and displace indigenous species, causing environmental and/or economic harm. Thus, invasive species, invasive plant, and so on.

Fauna: The animal species living in a given area.

Flora: The plant species living in a given area.

Anthropogenic: Caused by humans; resulting from human activities.

Rehabilitation: To repair disturbed ecosystem, but not necessarily to its pre-disturbance biodiversity.

Restoration: To re-instate the pre-disturbance biodiversity pattern and process.

Introduction

The proposed Halfway House Water Distribution Sub-district will form part of the Erand and Grand Central Water District. The future developments aimed to be supplied from future Halfway House reservoir are currently partly supplied by the existing Erand and Marlboro reservoirs. Due to the anticipated future developments within this water distribution district, the GIS model from Johannesburg Water suggests an additional storage to solidify the ultimate water supply required.

This resulted in the proposal for the construction of a 25ML Halfway House Reservoir. To commission the proposed Halfway house reservoir, bulk water pipelines would be required. These bulk water pipelines comprise of the scope of work for the Halfway House Water Upgrade Project (Nsovo Environmental Consulting, 2023).

MORA Ecological Services (Pty) Ltd was appointed by Nsovo Environmental Consulting to compile a compliance statement for the proposed Halfway House Water Upgrade in Midrand, Gauteng Province (Figure 1). The document aims to provide a “Biodiversity Compliance Statement” as required for the environmental authorisation process for a proposed development. This compliance statement was completed in compliance with the protocol for the specialist assessment and minimum report content requirements for impacts on biodiversity for activities requiring environmental authorization.

According to Mucina and Rutherford (2012), the site falls with Egoli Granite Grassland (Figure 2) and falls with Ecological Support Area and Important Area (Figure 3).

Site inspection details

Date: 11 February 2023.

Duration: 01 hour.

Season: Summer.

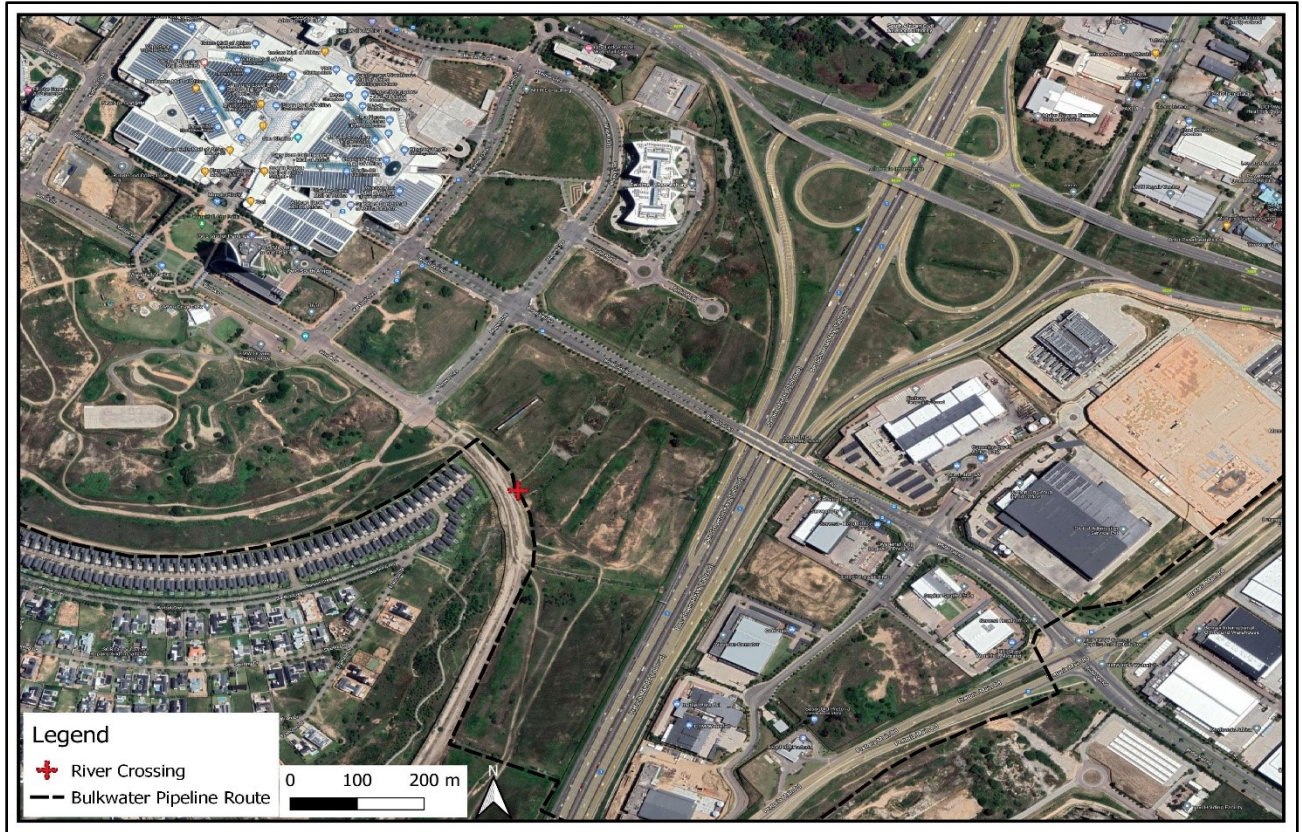


Figure 1: Location of the study area.

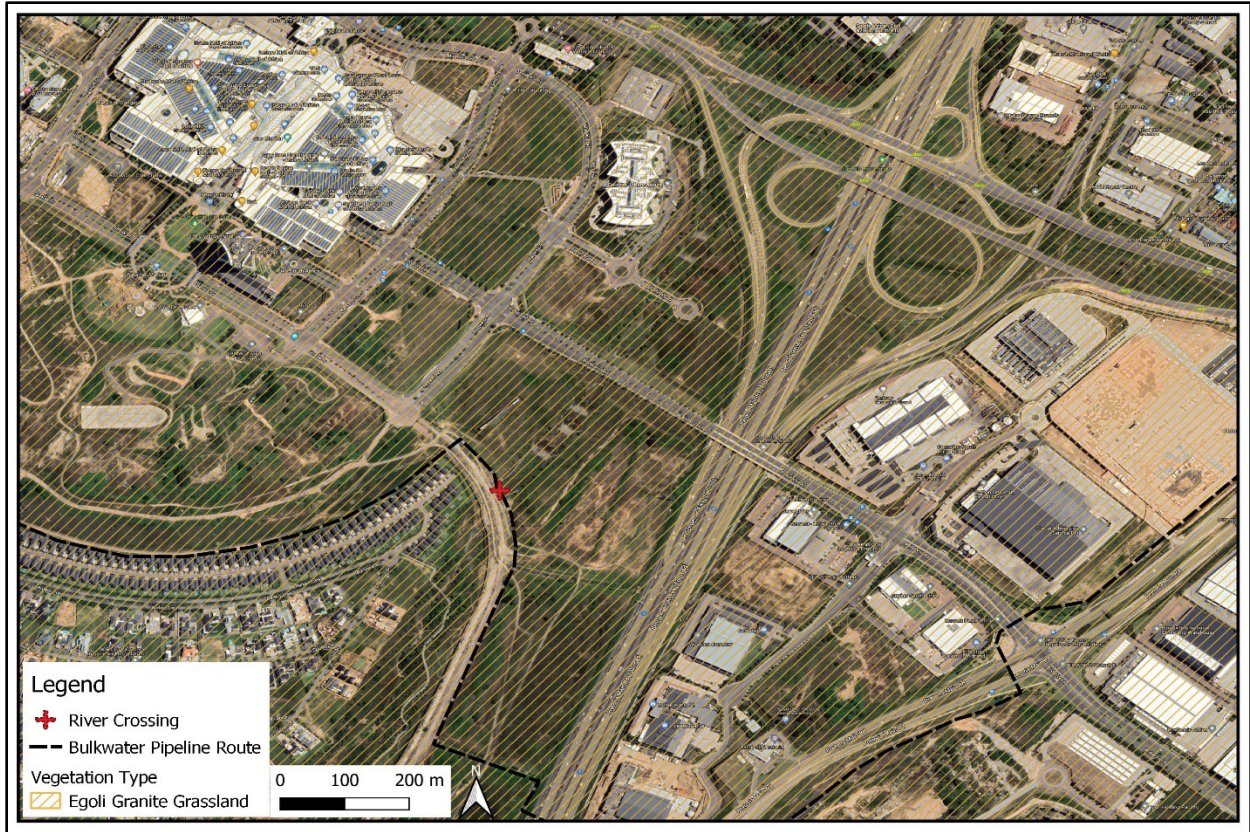


Figure 2: Vegetation of the study area.

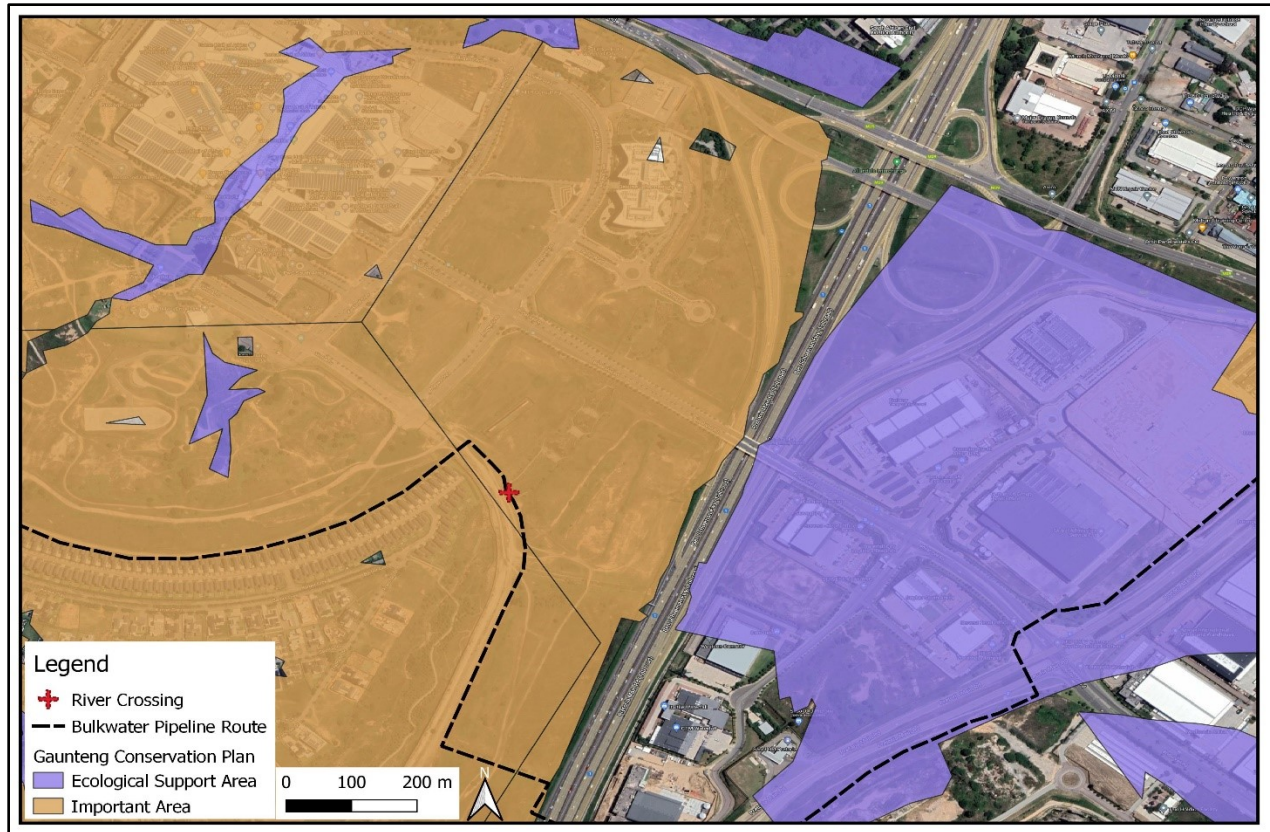


Figure 3: Conservation Plan of the study area.

Terms of Reference

Importance & Purpose: This section helps to achieve an understanding of what is expected, as a prerequisite for efficient and effective specialist involvement. Where significant specialist input is required, clear communication is supported by the development term of reference (TOR). MORA Ecological Services (Pty) Ltd developed the TOR by way of discussion and reaching an agreement with the client. The TOR addresses the type of approach and methods to be used in this report.

On 20 March 2020 the Minister repealed Appendix 6 of the Environmental Impact Assessment Regulations 2012 to provide guidance to specialist assessments and promulgated the protocol for the specialist assessment and minimum report content requirements for environmental impacts.

According to the protocol, an applicant intending to undertake an activity identified in the scope of protocol, on a site identified on the screening tool as being of “very high sensitivity”, must submit a Terrestrial Biodiversity Specialist Assessment.

An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being “low sensitivity”, must submit a Biodiversity Compliance Statement.

However, where the information gathered from the site sensitivity verification differs from the designation of “very high” sensitivity on the screening tool and it is found to be of a “low” sensitivity, then a Biodiversity Compliance Statement must be submitted.

Similarly, where the information gathered from the site sensitivity verification differs from that identified as having a “low” Biodiversity sensitivity on the screening tool, a Biodiversity Specialist Assessment must be conducted.

Project TOR: Listed below are the terms of references of the report in relation to the proposed development:

- (i) Identification of key relevant legal framework i.t.o legislation, policies and plans;
- (ii) Conduct site sensitivity verification according to the on-site environmental status quo;
- (iii) Provide evidence of the verified environmental sensitivity
- (iv) Issue an Aquatic compliance statement.

Assumption and Limitations

The following assumptions and limitations are applicable to this report:

- The findings, results, observations, conclusions and recommendations provided in this report are based on the author’s best scientific and professional knowledge as well as available information regarding the perceived impacts on terrestrial environment.
- It is assumed that information obtained from SANBI is correct.
- Other areas that were identified on a desktop level, could not be verified on site due to them being located within private properties;
- Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur.
- In order to obtain a decent understanding of the areas for the proposed development, it is necessary that field surveys for observation be conducted during various seasons. However, due to the state of the site such an approach would not be necessary.
- Screening tool like any other GIS based system, can erroneously assign, or miss environmental sensitivities based on mapping resolutions.
- It is assumed that all third-party information used (e.g. GIS data and satellite imagery) is correct at the time of generating this report. The survey was restricted to a single season, but it is not considered necessary to perform an additional season survey.
- According to the current use of the site, on-site field observations revealed no presence of any biodiversity that may require detailed investigation. The investigation was limited to

the proposed development footprint. During the time of the visit, no natural vegetation which is of conservation value was identified.

KEY LEGISLATIVE REQUIREMENTS

International law and conventions

The importance of sustainable development and the protection of environmental resources have globally become a driving factor in the construction of new legislation governing industrial practices and their impact on the environment. South Africa has signed and ratified several global treaties, protocols, and conventions, agreeing to implement the policies, which endorse sustainable development and promote a positive environmental legacy for future generations. A considerable international convention to which South Africa agrees within signatory is namely the Convention on Biological Diversity (CBD). The CBD is notably the key international convention for sustainable development. The CBD has three main objectives which lead and encourage a sustainable future. These are:

- The conservation of biological diversity;
- The sustainable use of its components; and
- The fair and equitable sharing of the benefits from the use of genetic resources.

The convention covers all possible domains that are directly or indirectly related to biodiversity and its role in development, ranging from science, politics and education to agriculture, business, and culture.

South African Constitution

The foundation of South Africans Environmental law is set in the Constitution of the Republic of South Africa (1996), specifically “Chapter 2- The Bill of Rights: section 24”. This has allowed for the rapid development of environmentally based legislations which guard, enforce, and guide all parties to maintain the human rights granted in the Constitution. These rights include:

- The right to an environment that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

National Environmental Management Act (NEMA)

The National Environmental Management Act (NEMA), Act 107 of 1998 is the fundamental environmental legislation which aims to strengthen the rights granted in the South African Constitution. The NEMA Act is the foundation of environmental law in South Africa and has set the framework for additional legislation to build on. The Act establishes principles for decision-making on environmental matters, as well as providing motive for institutions which promote

cooperative governance, and which can coordinate environmental action plans. Section 2(4) specifies that sustainable development requires the consideration of all relevant factors. In regard to biodiversity and South Africa's ecological integrity, development should not result in the disturbance of ecosystems and loss of biological diversity, if not possible, these effects must be minimised and remedied. A low-risk, cautious approach should always be applied, considering limits of current knowledge concerning consequences and actions. Always anticipate possible negative impacts on the environment and people's environmental rights, identified impacts should be prevented and where they cannot be altogether prevented, are minimised and mitigated. Outlined NEMA principles regarding biodiversity are to:

- Prevent pollution and ecological degradation;
- Promote conservation; and
- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

National Environmental Management of Biodiversity Act (NEMBA)

The National Environmental Management of Biodiversity Act (NEMBA) Act 10 of 2004 was designed to provide a management and conservation outline for biological diversity, as drafted under the NEMA. NEMBA focuses on the management and conservation of biodiversity, with its relevant components, which includes the use of indigenous biological resources in a sustainable manner, the fair and equitable sharing of benefits arising from bioprospecting, cooperative governance in biodiversity management and conservation within the structures of NEMA. The Act, in protecting biodiversity, deals with the protection of threatened ecosystems and species, the control of alien invasive species, genetically modified organisms and regulates bioprospecting.

As with NEMA, NEMBA incorporates and gives effect to international agreements relating to biodiversity. The Act gives the Minister of Environmental Affairs, Forestry and Fisheries the power to categorise any process or activity in a listed ecosystem, as a threatening process, thereafter, be regarded as an activity contemplated in Section 24(2) (b) of NEMA which states that: Specified activities may not be commenced without prior authorisation from the Minister or MEC and specify such activities. NEMBA is the most prominent statute containing provisions directly aimed at the conservation of Threatened or Protected Species Regulations, February 2007 (TOPS Regulations). The NEMBA Regulations on Threatened or Protected Species (TOPS, 2007) lists all the species (including avian) that are threatened with extinction and therefore, nationally protected under an approach to sustainable use and development. Periodically, Red Data books are published, and the data used to update these lists of protected species.

Additionally, NEMBA regulates all invasive organisms in South Africa, including a wide range of fauna and flora. Chapter 5 of the Act relates to species and organisms posing a potential threat to biodiversity. The purpose of Chapter 5 is:

- To prevent the unauthorized introduction and spread of alien species and invasive species to ecosystems and habitats where they do not naturally occur;
- To manage and control alien species and invasive species to prevent or minimize harm to the environment and to biodiversity in particular;
- To eradicate alien species and invasive species from ecosystems and habitats where they may harm such ecosystems or habitats;

According to Section 65 of the Act, "Restricted activities involving alien species":

- A person may not carry out a restricted activity involving a specimen of an alien species without a permit issued in terms of Chapter 7.

Restricted activities include the following:

- Importing into the Republic, including introducing from the sea, any specimen of a listed invasive species.
- Having in possession or exercising physical control over any specimen of a listed invasive species.
- Growing, breeding or in any other way propagating any specimen of a listed invasive species, or causing it to multiply.
- Conveying, moving, or otherwise translocating any specimen of a listed invasive species.
- Selling or otherwise trading in, buying, receiving, giving, donating, or accepting as a gift, or in any other way acquiring or disposing of any specimen of a listed invasive species.
- Spreading or allowing the spread of any specimen of a listed invasive species.
- Releasing any specimen of a listed invasive species.

Conservation of Agricultural Resources Act (Act No. 43 of 1983)

In terms of the amendments to the regulations under this Act, landowners are legally responsible for the control of invasive alien plants on their properties. The schedules provide a list of declared weeds and invaders, which have been divided into three categories, as follows:

- Category 1 plants are prohibited and must be controlled.
- Category 2 plants (commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread.
- Category 3 plants (ornamentally used plants) may no longer be planted; existing plants may remain, if all reasonable steps are taken to prevent the spreading there of, except within the flood line of watercourses and wetlands.

Methodology

Google imagery was used prior to conducting the site visit.

Data from SANBI was also studied to get the site conditions.

The study area falls within the Grassland Biome. The vegetation type found on the study site is *Egoli Granite Grassland* (Fig. 2). According to the 2021 National List of threatened terrestrial ecosystems this vegetation type is Critically Endangered. Assessment summary suggests that *Egoli Granite Grassland* is narrowly distributed with high rates of habitat loss in the past 28 years (1990- 2018), placing the ecosystem type at risk of collapse.

A brief survey was conducted along the pipeline route, and it was discovered that the pipeline will be located on areas that have been transformed due to residential and business establishment.

Results

The area was established on one vegetation type on a local scale, i.e., transformed unit of vegetation. Most of the study area has undergone vegetation transformation because of construction activities and associated roads.





W 270 NW 300 30 N 0
☉ 330°NW (T) ☉ 26°1'15"S, 28°6'36"E ±4m ▲ 1468m



Conclusion

- This compliance statement is applicable to the study area as described in the required application documentation;
- The proposed bulk pipeline will have very minimal impact on terrestrial habitats; and
- From the brief survey undertaken, and considering the proposed activities, no major environmental impacts are anticipated;
- Although, Gauteng Conservation Plan suggests that the site falls within Important Area and Ecological Important Area, due to its transformed habitat, the study area is of a low sensitivity for terrestrial animal and vegetation species.

It is recommended that all disturbed areas which will no longer be used for pipeline construction activities be rehabilitated. This should be done using indigenous species.